PRESENTED
TO
THE UNIVERSITY OF TORONTO
BY
the date
J. Brebner, Esq.
THE

POPULAR ENCYCLOPEDIA;

BEING A GENERAL DICTIONARY OF

ARTS, SCIENCES, LITERATURE, BIOGRAPHY, HISTORY,

AND

POLITICAL ECONOMY.

REPRINTED FROM THE AMERICAN EDITION OF THE "CONVERSATIONS LEXICON,"

WITH CORRECTIONS AND ADDITIONS,

SO AS TO RENDER IT SUITABLE TO THIS COUNTRY, AND BRING IT DOWN TO THE PRESENT TIME,

WITH

DISSERTATIONS

ON THE RISE AND PROGRESS OF LITERATURE,

BY SIR D. K. SANDFORD, A.M. Oxon., D.C.L.

ON THE PROGRESS OF SCIENCE,

BY THOMAS THOMSON, M.D., F.R.S.L. & E., &c. &c.

AND

ON THE PROGRESS OF THE FINE ARTS,

BY ALLAN CUNNINGHAM, Esq.

VOLUME I.—PART I.

GLASGOW:

BLACKIE & SON, 38, QUEEN STREET,

AND 5, SOUTH COLLEGE STREET, EDINBURGH.
NEW ISSUE, WITH EIGHT ADDITIONAL MAPS, 
BEING THE TWENTIETH EDITION OF ONE THOUSAND EACH.

THE POPULAR ENCYCLOPEDIA,
OR
"Conversations Lexicon;"
BEING A GENERAL DICTIONARY OF
ARTS, SCIENCES, LITERATURE, BIOGRAPHY, HISTORY, AND POLITICS,
WITH DISSERTATIONS ON THE
PROGRESS OF SCIENCE, LITERATURE, AND THE FINE ARTS,
BY THOMAS THOMSON, M.D., F.R.S., &c.
REGIUS PROFESSOR OF CHEMISTRY IN THE UNIVERSITY OF GLASGOW;
SIR DANIEL K. SANDFORD, D.C.L. &c.
PROFESSOR OF GREEK IN THE UNIVERSITY OF GLASGOW;
AND ALLAN CUNNINGHAM, Esq.
AUTHOR OF "LIVES OF BRITISH PAINTERS," ETC. ETC.

TERMS OF PUBLICATION.
The Work is printed on Royal 8vo, and will be completed, including Supplement and Index, in Fifty-six Parts, 2d. ed. each, or Fourteen Half Volumes, at 1s. Illustrated by numerous Maps, Plates, and Diagrams. A Half Volume will be published Monthly.

The "Conversations Lexicon" was originally published in Germany about fifteen years ago, under the superintendence of several distinguished German literati: and such has been its popularity, that—although a Work consisting of Twelve large volumes—it has already gone through Seven Editions in that country. It has also been translated into the Danish, Swedish, Dutch, Italian, and French Languages, and is altogether the most popular Work of an extensive nature, upon the Continent. Nor is its reputation greater than its merits: for in completeness of information, accuracy of statement, impartiality of opinion, and elegance of language, it is equalled by no Work of a similar nature in the world. Unlike other Encyclopedias, it does not pay a disproportioned attention to the Sciences and their technicalities, but preserves each and all of its subjects according to their relative importance. It partsakes, indeed, of much of that cosmopolitanism which is said to distinguish the German character, being universal in its sympathies, as it is unlimited in its scope. In Biography, History, Geography, Statistics, Commerce, and the Fine Arts, it is particularly complete; and it abounds in articles upon familiar and fire-side subjects, which are not to be found treated of elsewhere, and which bestow upon the Work a peculiar charm and interest.

In bringing out an edition of a work which has attained such unprecedented popularity on the Continent of Europe, and the United States of America, the Publishers have spared no exertion or expense to render it worthy of British patronage. Their first object has been, to present the public with a faithful edition of the original, for it is upon that certainly, that the great claims of their publication to distinction must eventually rest. No work of similar dimensions has ever enjoyed so wide a popularity in Europe as the Conversations Lexicon; and with the knowledge of this fact, the Publishers have felt the propriety of retaining in their edition almost the entire original, in the persuasion that what has been so highly estimated elsewhere, can scarcely prove valueless in this country. The recommendation which it carries with it must be applicable to every quarter. They felt more particularly when they came to prepare the work for the press. The information which it contained they found to be so new and complete—so far surpassing in extent and freshness of source, that of any British publication;—the method of arrangement and language they found to be so unexceptionable—that they considered it would be worse than useless to remodel or materially alter the work, and that any attempt of doing so would be its condemnation. They, therefore, resolved to keep very faithfully to the original; and they are thus enabled to present the British public, for the first time, with an English edition of the Conversations Lexicon.

Nearly Two Hundred of the most eminent German writers contributed to the original Work; and the American edition, upon which the present is formed, has been improved by a variety of original articles from eminent American writers, so that this edition will combine the excellencies both of the original and translated copies. To render it still more worthy of public favour, and especially to suit it to the wants and interests of this country, it is carefully revised, and such additions made to it as are considered necessary for the English reader. These, of themselves, (besides the Original Dissertations,) will constitute nearly one-fourth of the book, so that, independent of its cosmopolitan character, the reader may count on the fullest and most recent information on all subjects connected with the British empire.

In bestowing upon the present edition the title of The Popular Encyclopaedia, the Publishers consider themselves justified, not only by the nature of the Work, which is in every respect popular, being adapted to all tastes and necessities, but by the the fact of its popularity, which exceeds that of any other work of the kind in Europe. More than one hundred thousand copies have been sold in Germany alone, and it is making equal progress throughout the other countries of Europe and the States of America. This fact may be considered as a guarantee of its usefulness; but that nothing may be wanting to render the present edition acceptable, it will be illustrated with Plates and Diagrams when necessary, the want of these having been found the only desideratum in the former editions of the work. [For Reviews see following pages.]

BLACKIE AND SON, QUEEN STREET, GLASGOW:
SOUTH COLLEGE STREET, EDINBURGH; AND WARWICK SQUARE, LONDON.
The following are a few of the notices which have been taken of the present edition:

"In our opinion, the 'Conversations Lexicon' is by far the most useful and complete work of the kind which has ever been given to the world. It is concise and plain, without being imperfect or superficial. The edition before us is enriched by numerous additions, and in point of typography, &c., is altogether calculated to secure for the work, in this country, even a higher degree of success than it has met with elsewhere."—Edinburgh Evening Post.

"This work is well calculated to supply an important desideratum in the literature of the country, namely, a conciseness of language, and as it embraces the range of almost every man's means, we doubt not it will be purchased with avidity."—Grenock Advertiser.

"An examination like this cannot fail to meet with the most ample encouragement, and if the publishers proceed as they have begun, the Popular Encyclopedia will be an indispensable requisite in every family where the English language is understood, and the value of rational learning is duly appreciated."—Literator.

"A Part of this publication now lies before us, and whether we speak of the clear and enlightening descriptive matter which it contains, or notice the beauty and elegance of the plates, two of which are given with each Part, we cannot too much extol the spirit and ability of the conductors of it, nor too warmly recommend the work to the public as one of the best and cheapest Encyclopedias which has just appeared. A complete and very superior family library may thus be obtained for the small sum of four pounds. This is worth the consideration of every literary man."—York Herald.

"This Popular Encyclopedia is now submitted to the public, in a cheaper form than any former edition of it. Every body may now possess himself of one of the best Encyclopedias ever published."—Montrose Review.

"Of Encyclopedias it has been justly remarked, that they are supremely too scientific for the unlearned reader, and not enough so for the learned: this characteristic, however, does not attach itself to the present Popular Encyclopedia, which has had conferred upon it the flatterer's distinction of 'World-Renowned.'"—Aberdeen Journal.

"This is the reprint in Scotland of a valuable work, originally published in Germany, under the title of 'Conversations Lexicon,' and which obtained great fame in that and in other countries of Europe. This part is elegantly got up, the typography is clear, the engravings excellently executed, and the general style generally of a high order of merit."—Loco Mercury.

"We consider our city honoured by the reproduction of a work of so much utility, in a style of extreme neatness and elegance, the illustrations public, at least, are well fitted to fulfill."—Scottish Guardian.

"It appears to us to be the best Encyclopedia that has yet been projected or offered to the people of this country. It was we have looked over the two new public, already published. They contain much useful and interesting knowledge in a small compass; and the possession of this work, when completed, will preclude the necessity of referring to scientific and technical dictionaries. Unexcelled in this respect, it does not pay a disproportioned attention to the sciences and their technicalities, but dispenses of each and all its subjects according to their relative importance. In the arts, especially in Topography, Statistics, Commerce, and the Fine Arts, it is particularly complete; and it abounds in articles upon familiar and fireside subjects, which are not to be found treated of elsewhere, and which bestow upon the work a particular charm and interest. We have examined these numbers with some cure, and they appear to us to contain ample evidence of the redemption of the publishers' pledge of revisions and additions. If the work, in short, progresses as it has begun, it deserves, and will, we hope, merit with success and praise to the enterprise of its spirited publishers."—Scott Times.

"We have looked through the articles carefully, and we find those treated exactly in the manner that a person skilled in the subject would wish. The articles are in this regard all correct, and we think that every subject as it is brought upon the topics is not exhausted. As a book merely of reference, it is invaluable as it is amusing. The accompanying engravings are clearly done, so much so, that, with the general plan of the whole, they are beautifully elucidate. If this enterprise do not prove successful, we certainly shall think that in England good taste has retrograded, and that even the progress of civilization has made something like a pause."—Metropolitan Mag.

"For a book of reference we know of none equal to it. We are sure that it must win its way to popularity."—Metropolitan Mag. (Second notice.)

"It must prove an excellent standard book."—Evening Post.

"This is a reprint from the American Edition of the 'Conversations Lexicon,' with such additions and corrections as bring it down to the latest period, and render it suitable to this country. It has two new features—the introduction of plates and diagrams, and the addition of a series of original Dissertations on Science, Literature, and the Fine Arts. On Science, from the pen of Dr Thomson, the distinguished Professor of Chemistry, in the University of Glasgow; On the Reid and Biography of Literatures, by Sir Daniel K. Sandford, Professor of Greek in the same University. Such names would stamp any work as 'sterling.'"—Sheffield Gazette.

"The first three parts of the 'Popular Encyclopedias' are before us. They are printed on good paper, and very elegantly bound. Besides wood cuts and diagrams there are expensive steel engravings Illustrative of Architecture, Astronomy, Aeronautes, Anatomy, Amphithetre, Agriculture, and Aqueduct. These articles struck us as being extremely well written—particularly Architecture, on which there is an elaborate essay. We are also much pleased with the notices of Africa, (including Lander's discoveries, and the colony of Liberia) Academy, Emperor Alexander, Angling (the best remarks on this head we ever met), Arabian Literature, and Sir Richard Arkwright.

"These three parts comprise from A to Augustus, occupying 300 pages. In conclusion, we may say that this is one of the best Encyclopedias ever published, and at a price so low that nothing but a very great sale can repay the publishers."—Chesterfield Gazette.

"With this Number of the Conversations Lexicon is presented the commencement of a Discourse on the Progress of Physical Science by Professor Thomson of Glasgow. So far as it has yet proceeded, we must pronounce it at once an able and comprehensive treatise on the interesting subject. A man so eminently skilled in the various branches of his studies. It is written in a plain and popular manner, and while it conveys ample scientific details, it cannot fail to be intelligible to the general reader at the same time. Indeed, we venture to say it would be exactly and precisely in this way that they would best be able to characterize all the articles of a Popular Encyclopaedia."—Edinburgh Evening Post. (Second notice.)
The following Extracts, from Reviews of the American Edition, will show in what estimation the work is held in that country. A few Letters from eminent individuals are also given. It may be proper to apprise the reader that the title bestowed on the American edition is "ENCYCLOPEDIA AMERICANA."

One of the best Encyclopedias ever published. - 

* * *

This work deserves to be recommended to the great body of our people, as a library of itself;—cheap, comprehensive, exceedingly well executed, and of the highest authority. It may be doubted that it fully deserves the reputation it enjoys. A work, which has passed through so many editions at home, and has been translated into so many languages abroad, must—be it cannot be otherwise—be amongst the most readable in the country, in which it first appeared, but in every other, where it has been allowed to reappear. Men do not enter into such expensive undertakings without deliberation. They are unlike all others; and they cannot continue, year after year, unless they have something else to depend upon, than merely popular favour. Perhaps two hundred thousand copies of the original work have been distributed through Europe, in different languages, since its publication, in 1768. It is not more than a thousand years, when more than those copies of the Library of Useful Knowledge have been disposed of. This fact, alone is sufficient to convince us, that this age has produced nothing better fitted to the wants of its citizens. In every department of our present state of society, it is evident, that the circulation could not have been so extended, unless it had been regarded almost as a necessary of life. —North American Review.

This high reputation of the contributors to this work, will not fail to insure it a favourable reception, and its own merits will do the rest.—Stillman's Journal.

The appearance of the first volume of this valuable work in America, is a matter not least interesting to its coveting publishers, than it is likely to prove lastingly beneficial to the public. When completed, according to the model presented by the first volume, it will deserve to take its place amongst the productions of all the liberal states, since it comprises whatever is really desirable and necessary in them, and, in addition, a large proportion of articles entirely original, or expressly written for its pages. This is the condition of all the articles of American Biography, by Mr Walsh; those on Zoology, by Dr Godman; and those on Mineralogy and Chemistry, by a gentleman of Boston, distinguished for his successful devotion to those studies. The work abounds with interesting and useful matter. It is presented in a condensed and perspicuous style; nor is it one of its least commendations that it is to be comprised in twelve octavo volumes, which may be placed on an office table, or occupy a shelf in the parlor, without overcrowding or rendering a want of room. It is required of each, that it be read three times, to make sure of its full nature and extent. The work fills up a want much more than it effects the object of its arrival. It is to be read slowly, and in every respect well suited to augment the reader's stock of ideas, and powers of conversation, without severely taxing time, or fatiguing attention. These, at least, are our impressions based on a close and careful examination of the first volume.—Am. Daily Advertiser.


The work is a valuable addition to the literature of the age. —Amer. Acta.

The work will be a valuable possession to every family or individual that can afford to purchase it, and we take pleasure, therefore, in extending the knowledge of its merits.—National Intell.

We have seen and carefully examined the first volume of the Encyclopaedia Americana, just published by Carey, Lea, and Carey, and think our readers may be congratulated with the pleasure of making such a valuable accession to their libraries.—Aurora.

The Encyclopaedia Americana is a prodigious improve ment upon all that has gone before it; a thing for our country to be proud of; an inexhaustible treasury of useful, pleasant, and familiar learning on every possible subject, so arranged as to be speedily and safely referred to an emergency, as well as on deliberate inquiry; and better still, adapted to the understanding, and put within the reach of the multitude. * * * The Encyclopaedia Americana is a work without which no library worthy of the name can hereafter be made up.—York Journal.

The variety of topics is of course vast, and they are treated in a manner which is at once so full of information and so interesting, that the work, instead of being merely referred to, might be regularly perused with as much pleasure as any of the best works in the same line. We view it as a publication worthy of the age and of the country, and cannot but believe the discrimination of our countrymen will sustain the publishers, and well reward their liberal and patriotic contribution to American literature.—Baltimore Patriot.

The great number of Biographical Dictionaries and extensive Encyclopedias already in the libraries of opulent individuals, is not sufficient to satisfy the curiosity of the more polished and industrious part of the community; and it is very possible that some might be urged as an argument against the necessity of such a work as the Encyclopaedia Americana; but it appears to us, that, for the very purposes for which Biographical Dictionaries and Encyclopedias are written, this work is pre-eminently fitted: viz.:—as a book of frequent and ready reference. It is a fact, that most of the Encyclopedias are such heavy tomes, that they lie upon the shelves, monuments of physical and literary gravity, like the Stone Henges of England, to be gazed at for their size, and to excite admiration, less as to their usefulness than how they came there.

In forming the Encyclopaedia Americana, care has been taken to make it large enough that would be likely to arrest the attention in connection with general reading. Where the whole of a science would be necessary, the reader, instead of finding a superficial sketch, is referred once to the proper work. This is the case in the Dictionary of American Geography, where the whole of a science is necessary, and is so often the subject of inquiry, and which becomes necessary to the proper understanding of a great portion of general reading, is gathered into the Encyclopaedia Americana, and enriches every page of the book with a considerable amount of knowledge. The parts of the work that relate to American geography, biography, history, natural and physical, botany, &c. have been written in this country, by gentlemen of acknowledged talent and literary taste. We cannot doubt that the succeeding volumes will equal the first, and we hence warmly recommend the work to the patronage of the public, as being by far the best work of the kind ever offered for sale in this country.—H. S. Gratiot.

The work appears to abound in that sort of information most necessary for frequent reference.—Daily Chronicle.

We entertain no fear that our ingeniousness or judgment will be called in question for our prize, in warm terms, the plan, and, as far as may be judged by the one volume, the execution, both literary, scientific, and mechanical, of the Encyclopaedia Americana. * * * The volume before us includes the whole of the letters A, B, and C, as far as the word battle. We have been at the pains to compare it with Rees' Cyclopedia to the same extent, and feel no hesitation in saying that, while it embraces all the most interesting topics that can be found in that very voluminous and expensive Dictionary of the Arts and Sciences, they are treated with perfect perspicuity, and if not so much certainly with sufficient minuteness. Without reference to the parts of the work which can be found in Rees' Cyclopedia to be obtained, we cannot but consider the merit of the work, that what in the one extends through so many quarto, and costs such a large sum, is in the other to be comprised
in twelve volumes, at the moderate price of 21 dollars each, is in itself a recommendation which entitles the "Encyclopaedia Americana" to extensive patronage.—New York Evening Post.

We are glad to see the unanimity with which the American editors bear evidence to the value of the new "Encyclopaedia Americana," which is edited by Dr. Lieber, at Boston, with the aid of Mr. Wigglesworth. These gentlemen are eminently competent to the extensive and useful task which they have undertaken. We regard them both as literary of considerable attainments, indefatigable zeal, and sound judgment. Dr. Lieber is a German scholar sufficiently acquainted with our tongue to be able to judge to what extent the work which is to be derived from the popular Conversations Lexicon, the most recent German Encyclopaedia, of which more than eighty thousand copies have been sold in Germany, and which is of great assistance already to several of our continental languages.

It must be known to all general readers, that English bibliography embraces no good "Popular Dictionary of Arts, Sciences, Literature, History, Politics, and Biography, brought down to the present time,"—none without abundant rubbish or surpnsue,—none that furnishes accurate and copious information on all the topics likely to occupy the attention of intelligent individuals and enlightened circles. The compilation of Rees is too voluminous; much of its ingredients may be regarded as obsolete, and a number of its articles are excessively copious and heavy. According to the plan of Dr. Lieber, a desideratum is supplied; the substance of contemporary knowledge will be brought within a small compass;—and the character and use of a manual will be imparted to a kind of publication hitherto reserved, on strong shelves, for occasional reference. By those who understand the German language, the Conversations Lexicon is consulted ten times for one application to any English Encyclopaedia. It is not the mere multitude of heads, or the length and depth of treatises, which constitute the chief or proper worth of such productions; their merit and usefulness may lie principally in the judicious exclusion of matters rarely emergent, and the skilful compression of whatever belongs to the active fund of theory, fact, and literary observation. Dr. Lieber's Encyclopaedia should be enabled by it to understand all that he may perceive or hear in the ordinary routine of life; to satisfy that curiosity or need which may be casually created.—National Gazette.

Letter from George Ticknor, Esq. of Boston.

Boston, Nov. 25, 1827.

Sir,—I am not acquainted with any books in a foreign language, which, I think, may be translated into English and published in the United States, with the needful alterations, with so much success as the Conversations Lexicon, of which so many editions have been published in Germany. It seems to me to be suited, in a particular manner, to the present condition and wants of this country, because it contains more of that information which is useful and interesting to well-educated persons of all classes, than any other work with which I am conversant. It has made the fortunes of its publishers in Germany. It is about to be adapted to the wants of the rest of the Continent, in a French translation just undertaken at Brussels; and I do not doubt, a similar adaptation of it to the United States, would be as fortunate and as successful as was the original work; because, the class of persons to whom it would be interesting is much greater in this country than it is in Germany.

GEORGE TICKNOR.

Dr. Francis Lieber.

Letter from Dr. Charles Follen, Instructor in German in Harvard University.

Cambridge, Nov. 23, 1827.

Sir,—My opinion with respect to the translation, of the "Dictionary of Conversation into English," as proposed by Dr. Lieber, coincides entirely with the views which this gentleman and several eminent literary men of this country have already expressed. The "Dictionary for Conversation" over its success, as well as the signal success, principally due to the circumstance, that in Germany, one who aims at distinction in any science or art, commonly devotes himself almost exclusively to his particular pursuit. This devotion to a single object is apt to be attended by the imperfect acquisition of the branches of knowledge, and it is this defect which occasioned the editing of a work which brought within the reach of every one the most interesting results of all the different departments of learning and industry. On the other hand, the profound knowledge contained in the works of those who have made a particular pursuit the object of their life, has enabled the compilers of that Dictionary to present to the public, in a concise manner, a great number of articles which are generally interesting, without being superficial. It is satisfactory not only to the general reader and scholar, to the philosopher and the historian, but to those also who are engaged in any particular business or profession, as farmers, mechanics, merchants, physicians, lawyers, or theologians. Those articles of the work which do not fully deserve this praise, will certainly be improved in usefulness and interest for this country, by the translator and those literary men who are expected to assist him in this useful and patriotic undertaking.

CHARLES FOLLEN.

From George Bancroft, Esq. one of the Principals of Round-Hill Seminary, Northampton.


Sir,—I am very glad to hear that you seriously propose to publish the Conversations Lexicon amongst us. It is the most convenient book for general reference, with which I am acquainted; and as for its popularity, the sale of more than seventy or a hundred thousand copies of it in Germany establishes that point. It is for the past, what a newspaper is designed to be for the present,—a general summary of the most interesting things known, stated on the best authority, to which access could readily be had. There is one circumstance which I think is much in its favour. We have had Encyclopedias, compiled in France and Great Britain, each containing the current views on matters of science and letters, prevailing respectively in those countries. In the German work we shall have the materials a little differently wrought. There has been nothing of the kind at once so popular, and so trustworthy. I remain, with best wishes and sincere regards, Respectfully yours,

GEORGE BANCROFT.

From Edward Everett, Esq. Member of the House of Representatives of the United States.

Winter-Hill, Charleston, Nov. 17, 1827.

I entirely concur in the opinion expressed in the foregoing pages, of the merit of the Lexicon for Conversation. It is somewhat of the nature of an Encyclopaedia, intended, however, for convenient and popular use. Although, of the great number of articles contained in it, all are not equally well executed, no work, that I am acquainted with, contains such an amount and variety of information, in a very just and commodious form, as this or similar alterations proposed by Dr. Lieber, seem to me calculated to render it still more valuable in this country; and with them, it will be, in my opinion, the best work for convenient general use in the English language. So deeply impressed have I been with the merit of the work, that without having heard of Dr. Lieber's proposal to undertake a translation, I had determined to recommend to some of the principal book-sellers to endeavour to procure a translator of it.

EDWARD EVERETT.
ADVERTISEMENT.

The "Conversations Lexicon" was originally published in Germany about fifteen years ago, under the superintendence of several distinguished German literati; and such has been its popularity, that—although a work consisting of twelve large volumes—it has already gone through seven editions in that country. It has also been translated into the Danish, Swedish, Dutch, Italian, and French languages, and is altogether the most popular work, of an extensive nature, upon the continent. Nor is its reputation greater than its merits; for in completeness of information, impartiality of opinion, and elegance of language, it is equalled by no work of a similar nature in the world. Unlike other Encyclopedias, it does not pay a disproportioned attention to the Sciences and their technicalities, but disposes of each and all its subjects according to their relative importance. It partakes, indeed, of much of that cosmopolitanism which is said to distinguish the German character, being universal in its sympathies as it is unlimited in its scope. In Biography, History, Geography, Statistics, Commerce, and the Fine Arts, it is particularly complete; and it abounds in articles upon familiar and fireside subjects, which are not to be found treated of elsewhere, and which bestow upon the work a peculiar charm and interest.

In bringing out an edition of a work which has attained such unprecedented popularity on the continent of Europe and the United States of America, the Publishers have spared no exertion or expense to render it worthy of British patronage. Their first object has been, to present the public with a faithful edition of the original, for it is upon that, certainly, that the great claims of their publication to distinction must eventually rest. No work of similar dimensions has ever enjoyed so wide a popularity in Europe as the Conversations Lexicon; and, with the knowledge of this fact, the Publishers have felt the propriety of retaining in their edition almost the entire original, in the persuasion, that what has been so highly estimated elsewhere, can scarcely prove valueless in this country. The recommendation which it carries with it must be applicable to every quarter. This they felt more particularly when they came to prepare the work for press. The information which it contained they found to be so new and complete—so far surpassing in extent and freshness of source that of any British publication;—the method of arrangement and language, they found to be so unexceptionable—that they considered it would be worse than useless to remodel or materially alter the work, and that any affectation of doing so would be its condemnation. They,
therefore, resolved to keep very faithfully to the original; and they are thus enabled to present the British public, for the first time, with an edition of the Conversations Lexicon. Their publication, which has been long in preparation, and which was advertised more than a year ago, differs essentially from the penny Cyclopedia lately started, which profess to be founded on the basis of the Conversations Lexicon, but which are so arranged that they convey no notion of that celebrated work.

Nearly Two Hundred of the most eminent German writers contributed to the original work; and the American edition, upon which the present is formed, has been improved by a variety of original articles from eminent American writers, so that this edition will combine the excellencies both of the original and corrected copies. To render it still more worthy of public favour, and especially to suit it to the wants and interests of this country, it is carefully revised, and such additions made to it as are considered necessary for the English reader. These, of themselves, will constitute nearly one-fourth of the book, so that, independent of its cosmopolitan character, the reader may count on the fullest and most recent information on all subjects connected with the British empire. In addition, the Publishers have resolved to give a series of Dissertations on Science, Literature, and the Fine Arts.

In bestowing, upon the present edition, the title of The Popular Encyclopedia, the Publishers consider themselves justified, not only by the nature of the work, which is in every respect popular, being adapted to all tastes and capacities, but by the fact of its popularity, which exceeds that of any other work of the kind in Europe. More than one hundred thousand copies have been sold in Germany alone, and it is making equal progress throughout the other countries of Europe and the States of America. This fact may be considered as a guarantee of its usefulness; but that nothing may be wanting to render the present edition acceptable, it will be illustrated with Plates and Diagrams when necessary—these having been found the only desiderata in the former editions of the work.
AERONAUTICS

PLATE I

MONTGOLFIERS BALLOON
GARNERIN'S PARACHUTE IN ASCENDING
BLANCARD'S BALLOON

LUCARDIS BALLOON
CHARLES & ROBERT'S BALLOON
GARNERIN'S PARACHUTE IN DESCENDING

PROCESS OF INFLATING A BALLOON

Published by Blackie & Son, Glasgow
ARCHITECTURE.

MOLDINGS, &c. EXPLAINED.

PLATE 1

FIVE ORDERS OF ARCHITECTURE.

Published by Bence & Son, Glasgow.
SKETCH

OF THE

PROGRESS OF PHYSICAL SCIENCE.

By THOMAS THOMSON, M. D., F. R. S., L. & E., &c. &c.

REGENT PROFESSOR OF CHEMISTRY IN THE UNIVERSITY OF GLASGOW.
SKETCH

OF THE

PROGRESS OF PHYSICAL SCIENCE.

The cradle of the human race was beyond dispute the southern portion of Asia—a delightful climate, where the original inhabitants of the earth first lived and multiplied. Chaldea and India had attained a high degree of civilization long before the Greeks and Romans had begun to emerge from a state of barbarism; but we know comparatively little of the attainments in science which these nations had reached. The few facts which have been gleaned since the East India Company has established its dominion over Hindostan, will be stated in the course of this sketch. We are equally ignorant of the progress which mathematical and physical inquiries had made in China—not one of the treatises on Mathematics, Arithmetic, and Astronomy in the Chinese language having been translated into any of the languages of modern Europe. But the resemblance between the Chinese and the ancient Egyptians is so very striking, and so complete, that it is difficult to avoid suspecting that they had a common origin. If this were so, China, from its contiguity to India and Chaldea, and from the delicious nature of its climate, must have been first furnished with inhabitants. And the Egyptians, if ever they were a colony of Chinese, must have been transplanted into Egypt long before the commencement of history. It was from Egypt that the Greeks drew the first rudiments of their mathematical and physical science; and the scientific acquisitions of that singular people constitute every thing that we know respecting the progress which the ancients had made in the investigation of nature.

From the genial climate of the early inhabitants of the east, and the nature of the life which they led, it was natural to expect that the magnificent spectacle of the heavens would speedily attract their attention. We are certain that the Chaldeans made astronomical observations, at least as early as the 27th and 28th years of the era of Nabonasser; that is to say, 719 and 720 years before the commencement of the Christian era: for Ptolemy makes use of three observations of the eclipses of the moon, which took place during these years, and which he found in their records. Diogenes Laertius informs us that the Egyptians had preserved in their annals an account of 373 eclipses of the sun, and 532 of the moon, which had happened before the arrival of Alexander the Great in their country. Now these eclipses required between 1200 and 1300 years to happen. Alexander’s visit to Egypt took place in the year 331 before the Christian era. If we add this number to the length of time during which the Egyptians continued to observe the eclipses of the sun and moon, we obtain 1631 years before the commencement of the Christian era for the period at which the Egyptians began to record their observations. This period is rather more than a century after the death of Moses, and is about twenty-four years before the institution of the Olympic games; constituting but a small part of the 48,863 years during which they boasted that they had been engaged in making astronomical observations. But this was obviously a fable, invented for the purpose of raising themselves in the opinion of the Macedonian conqueror.

What progress the Chaldeans and Egyptians had made in astronomy, it is hard to say. They certainly had become acquainted with the planets, but whether the Egyptians had discovered, as Macrobius assures us, that Mercury and Venus revolve round the sun, is not so clear. Their notions respecting the length of the solar year, and the mean length of a lunation, must have been a near approximation to the truth. This is evident from the famous Chaldean period called Saros. It consisted of 223 lunar months, at the end of which the sun and moon were in the same situation with respect to each other, as when the period began. This period includes a certain number of eclipses of each luminary.
which are repeated every saros in the same order.

The Chaldeans appear to have divided the day into twelve hours, and to have constructed sun-dials for pointing out the hour. The sun-dial of Ahaz is mentioned in the Old Testament, on the occasion of the recovery of Hezekiah; but nothing is said about its construction. Undoubtedly, however, such sun-dials would require a certain knowledge of gnomonics, which therefore the Chaldeans must have possessed.

That the Egyptians had made some progress in mathematics admits of no doubt, as the Greeks inform us that they derived their first knowledge of that branch of science from the Egyptian priests. But that the mathematical knowledge of that people could not have been very extensive, is evident from the ecstasy into which Pythagoras was thrown, when he discovered that the square of the hypothenuse of a right angled triangle is equal to the square of the two sides. For ignorance of this very elementary, but important proposition, necessarily implies very little knowledge even of the most elementary parts of mathematics.

It was in Greece that pure mathematics first made decided progress. The works of three Greek mathematicians still remain, from which we have obtained information of all, or almost all, the mathematical knowledge attained by the Greeks. These are Euclid, Apollonius, and Archimedes.

Euclid lived in Alexandria during the reign of the first Ptolemy. Nothing whatever is known respecting the place of his nativity; though it is certain that he lived in Greece, and that he died in Egypt, after the foundation of the celebrated Alexandrian school. He collected all the elementary facts known in mathematics before his time, and arranged them in such an admirable order—beginning with a few simple axioms, and deducing from them his demonstrations, every subsequent demonstration depending on, and rigidly deduced from those that immediately precede it—that no subsequent writer has been able to produce any thing superior or even equal. His Elements still continue to be taught in our schools, and could not be dispensed with, unless we were to give up somewhat of that rigour which has been always so much admired in the Greek geometers. Perhaps, however, we carry this admiration a little too far. The geometrical axioms might be somewhat enlarged, without drawing too much upon the faith of beginners. And were that method followed, considerable progress might be made in mathematics without encountering some of those difficult demonstrations that are apt to damp the ardour of beginners.

The Elements of Euclid consist of thirteen books. In the first four he treats of the properties of lines, parallel lines, angles, triangles, and circles. The fifth and sixth treat of proportion or ratios. The seventh, eighth, ninth, and tenth treat of numbers. The eleventh and twelfth treat of solids; and the thirteenth of solids; also of certain preliminary propositions about cutting lines in extreme and mean ratio.

It is the first four books of Euclid chiefly that are studied by modern geometers. The rest have been, in a great measure, superseded by more modern improvements.

Apollonius was born at Perga in Pamphylia, about the middle of the second century before the Christian era. Like Euclid, he repaired to Alexandria, and acquired his mathematical knowledge from the successors of that geometer. The writings of Apollonius were numerous and profound; but it is upon his Treatise on the Conic Sections, in eight books, that his celebrity as a mathematician chiefly depends.

The Conic Sections, which, after the circle, are the most important of all curves, were discovered by the mathematicians of the Platonic school; though who the discoverer was is not known. A considerable number of the properties of these curves were gradually developed by the Greek geometers. And the first four books of Apollonius are a collection of every thing known respecting these curves before his time. The last four books contain his own discoveries. In the fifth book he treats of the greatest and smallest lines which can be drawn from each point of their circumference, and many other intricate questions, which required the greatest sagacity and the most unremitting attention to investigate. The sixth book is not very important nor difficult; but the seventh contains many very important problems, and points out the singular analogy that exists between the properties of the various conic sections.

The eighth book has not come down to us. The fifth, sixth, and seventh books were discovered by Borelli, in Arabic, in the library of the grand duke of Tuscany. He got them translated, and published his translation, with notes and illustrations, in the year 1661. Dr Halley published an edition of Apollonius in 1710, and has supplied the eighth book from the account given by Pappus of the nature of its contents.

Archimedes was, beyond dispute, the greatest mathematician that antiquity produced. He was born in Sicily about the year 287 before the Christian era, and is said to have been a relation of Hiero, king of Syracuse. So ardent a cultivator was he of the mathematics, that he was
acquainted to spend whole days in the deepest investigations, and was wont to neglect his food, and forget his ordinary meals, till his attention was called to them by the care of his domestics. His studies were particularly directed to the measurement of curvilinear spaces; and he invented a most ingenious method of performing such measurements, well known by the name of the Method of Examinations.

When it is required to measure the space bounded by curve lines, the length of a curve, or the solid bounded by curve surfaces, the investigation does not fall within the range of elementary geometry. Rectilinear figures are compared on the principle of superposition; but this principle cannot be applied to curvilinear figures. It occurred to Archimedes, that by inscribing a rectilinear figure within, and another without the figures, two limits would be obtained, the one greater and the other smaller than the area required. It was evident that, by increasing the number, and diminishing the sides of these figures, these two limits were made continually to approach each other. Thus they came nearer and nearer to the curve area which was intermediate between them. He observed, by thus increasing the number of sides for a great number of times successively, that he approached a certain assignable rectilinear area, and could come nearer to it than any difference how small soever. It was evident that this rectilinear area was the real size of the curvilinear area to be measured. It was in this way that he found that two-thirds the rectangle under the abscissa and ordinate of a parabola, is equal to the area contained by the abscissa and ordinate, and that part of the circumference of the parabola lying between them. In the same way he obtained an approximate measure of the area of the circle, demonstrating that if the radius be unity, the circumference is less than $3\frac{1}{3}$, and greater than $3\frac{1}{4}$. His two books on the sphere and cylinder were conducted by a similar method of reasoning. He measures the surface and solidity of these bodies, and terminates his treatise by demonstrating that the sphere (both in surface and solidity) is two-thirds of the circumscribed cylinder.

In the same spirit his Treatise on Conoids and Spheroids was conducted. These names he gave to solids formed by the revolutions of the conic sections round their axis. We pass over his researches on the spiral of Archimedes, as it is usually called, though in reality discovered by Cconon, one of his friends; but must notice the Treatise entitled Paomnites, or Aenarian. Some persons had affirmed that no number, however great, was sufficient to express the number of grains of sand situated on the sea-shore. This induced Archimedes to write his treatise in which he demonstrates that the fiftieth term of a decuple increasing progression is more than sufficient to express all the grains of sand contained in a sphere, having for its diameter the distance between the earth and sun, and totally filled with grains of sand. The treatise is short; but abstruse in consequence of the imperfect method of expressing numbers employed by the Greeks. Were our figures substituted for the Greek letters, the reasoning would be sufficiently simple and clear.

Archimedes did not confine himself to pure mathematics; he turned his attention likewise to mechanics, and may, in some measure, be considered as the founder of that important branch of physical science. He first laid down the true principles of statics and hydrostatics. The former he treats in his work entitled Isorrropca or De Equiponderantibus. His statics are founded on the ingenious idea of the centre of gravity, which he first conceived, and which has been so advantageously employed by modern writers on statics. By means of this principle, and a few simple axioms, he demonstrates the reciprocity of the weight, and the distance in the lever and in balances, with unequal arms. He determined the centre of gravity of various figures, particularly of the parabola, with great ingenuity.

His discoveries in hydrostatics were the consequence of a query put to him by king Hiero. This monarch had given a certain quantity of gold to a jeweller to fabricate a crown, and he suspected that the artist had purloined a portion of the gold, and substituted silver in its place. Archimedes was requested to point out a method of determining how much gold had been purloined, and how much silver substituted. The method, it is said, occurred to him all at once, while in the bath, and he was so transported with joy, that he ran naked through the streets of Syracuse, crying out, \textit{\emph{\textit{κακά, κακά, I have found it, I have found it.}}}. The discovery with which he was deservedly so delighted was this, \textit{\emph{\textit{Every body plunged into a fluid loses as much of its weight as is equal to the weight of a quantity of the fluid equal in bulk to the body plunged in.}}} This discovery furnished him with the method of determining the specific gravity of pure gold and pure silver. These being known, he had only to take the specific gravity of the crown, which (supposing no alteration in volume when the two metals are melted together) would enable him to discover how much gold and how much silver it contained.

This first principle being known, Archimedes deduced from it various other well-known hydro-
statical principles, which he consigned in the first book of his treatise de Insidentibus in Fluido. The second book of that treatise is occupied with various difficult questions respecting the situation and stability of certain bodies immersed in a fluid.

The ancients ascribe to him the invention of forty remarkable mechanical contrivances; but nothing more than some obscure notices of two or three of them have come down to us. His sphere, a machine by which he represented the movements of the stars and planets, is one of the most celebrated. It has been noticed by grave philosophers, and sung by poets, as may be seen in the following epigram of Claudian:

\[ \text{Jupiter, in parvo cum cernuerat athea vitru,} \]
\[ \text{Risit, et ad superos talia verba dedit;} \]
\[ \text{Hucce mortalis progressa potestia curae;} \]
\[ \text{Ecce Syracusii ludimur arte sensis.} \]

Archimedes wrote a description of this machine, under the name of Sphaeropoeia; but it is lost, and with it every thing respecting the nature of the sphere has perished.

The burning mirrors, by which he is said to have set fire to the Roman vessels in the harbour of Syracuse, were long considered as fabulous. But Buffon showed how, by placing a number of small mirrors so that every one of them should reflect the image of the sun to the same point, heat enough might be produced to kindle wood at the distance of 140 feet.

The protracted defence of Syracuse against the Romans, chiefly in consequence of the wonderful mechanical inventions of Archimedes, is too well known to be enlarged on here.

If we except the discoveries of Archimedes in statics and hydrostatics, hardly any other branch of physical science was much cultivated by the ancients. They had made, indeed, considerable progress in the knowledge of acoustics, so far as music is concerned. In optics they can scarcely be said to have made any progress of consequence; and, in astronomy, very little till the time of Hipparchus, who may be considered as, in some measure, the founder of that sublime science.

After these preliminary remarks on the progress of physical science among the ancients, we shall proceed to take a brief view of the advances which have been made in it since the revival of letters, and to describe the present state of the various branches into which it has been divided, as far at least as is consistent with the very limited length to which our observations can be permitted to extend.

There are only two methods by which the physical sciences can be advanced. These are, 1. Observation and experiment; 2. The application of mathematical reasoning to deduce new truths from facts already established. We shall take a brief view of these two instruments of investigation in the first place; beginning with mathematics; because they were first employed.

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OF MATHEMATICS.

The object of mathematics is the measurement or comparison of quantity. Now, there are two kinds of quantity, namely, number and surface. That branch of mathematics which treats of numbers is called arithmetic, that which treats of surfaces, or rather of space, is called geometry. There is a third branch of mathematics, which treats of quantity in a general way, and which, therefore, applies equally to arithmetic and geometry. To this branch, the name of algebra has been given.

1. ARITHMETIC.

The ancients employed the letters of the alphabet to represent numbers. This method seems to have originated with the Egyptians or Phenicians, or, at any rate, the Greek mode of expressing numbers was obviously borrowed from the Hebrew.

The decimal mode of numeration has been adopted by almost all nations, evidently because man has ten fingers, and because men were in the habit at first of reckoning on the fingers, and after coming to an end, they began again. If the number of the fingers had been twelve instead of ten, the mode of numeration would certainly have been duodecimal instead of decimal—and this mode would have had its conveniences, which the decimal mode wants.

The Hebrew alphabet has twenty-two letters, The first nine of these letters denoted the nine digits; thus, $\text{N, 1; D, 2; D, 3; T, 4; M, 5; C, 6; Q, 7; M, 8; D, 9}$: the next nine letters denote the nine tens; thus, $\text{P, 10; D, 20; G, 30; L, 40; Q, 50; D, 60; M, 70; D, 80; Q, 90}$. The rest of the alphabet consisted only of four letters; but there are five of the letters that have a different form when at the end of a word. These are, $\text{D, E, L, Y, which are then written T, D, F, N, Y}$. By means of the last four letters, and these five final letters, they expressed the nine hundreds: thus, $\text{D, 100; E, 200; F, 300; L, 400; Q, 500; D, 600; Q, 700; T, 800; E, 900}$. The Hebrews wrote from right to left, contrary to our method. Hence, when two numbers are placed together, that on the right hand stands for tens, and that on the left for units. Thus, $\text{D, 12; T, 105, and so on.}$
The Arabians likewise represent numbers by the letters of the alphabet, precisely as the Hebrews: the first nine letters representing the nine digits; the second nine, the nine tens; and the third nine, the nine hundreds. The twenty-eighth letter of the Arabian alphabet represents 1000.

The Greeks obviously borrowed their mode of expressing numbers from the Hebrews or Phenicians. The first five letters of the Greek alphabet represent the first five digits. As the Greeks have no letter corresponding to the Hebrew ज, which denotes six, they introduced for that purpose the mark फ or र, which they called epsilonium. The next three letters, ग, न, ध, represent 7, 8, 9, corresponding with the Hebrew characters च, छ, चें, which stand for the same numbers. The next eight letters of the alphabet correspond with those of the Hebrew, and represent the numbers, 10, 20, 30, 40, 50, 60, 70, 80. There being no letter in the Greek alphabet corresponding with the Hebrew ज, which stands for 90, the Greeks introduced for that purpose the character क, or च, or चतु, to which they gave the name of kappa, probably from the Hebrew letter kophe. The last eight letters of the Greek alphabet, beginning with ए, denote 900, 200, 300, 400, 500, 600, 700, 800. To stand for 900, they invented the mark च, which they called sampi. Thousands were denoted by the letters of the alphabet with an accent under them. Thus, अ was 1; ग, 1000; च, 3, and य 3000, and so on.

The most defective mode of notation is that of the Romans, who employed the following letters: I for 1; V for 5; X for 10; L for 50; D for 500; and M for 1000. By means of these symbols, they contrived to represent moderate numbers. But such an imperfect method was incompatible with almost any progress in the most common rules of arithmetic. Accordingly, the Romans produced no mathematicians, nor any person skilled in the science of numbers.

The mode of expressing all numbers by the ten symbols, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, with which every body is familiar, seems to have originated in India. In that country it has been used from time immemorial. Not the smallest proof remains that they ever made use of the letters of the alphabet for that purpose. The Arabians call the decimal scale of arithmetic, Hindosi, or Indian arithmetic, clearly pointing out the source from which their mode of notation was derived. Whether the Indians were the original contributors of this astonishing improvement, or whether they borrowed it from some other nation, we have no means of determining. The Chinese, it is said, possess treatises on arithmetic and geometry; but as no translation, or even abstract, of the contents of any such work has been published in Europe, we are ignorant how far their knowledge of these subjects extend. Had they been acquainted with the Indian mode of notation, it is hardly possible, considering the numerous mercantile transactions which have taken place between them and Europeans, that it should have entirely escaped our knowledge.

The Arabians became acquainted with the Indian notation when they began to prosecute science under the caliphs, and they had liberality enough to be sensible of its superiority, and to adopt it. Along with the Mahomedan religion, it made its way into Spain; which, during the dark ages, was the most enlightened country in Europe, and to which all those resorted from every country, who wished to be initiated in the rudiments of science.

About the beginning of the tenth century, the monastery of Fleuri, of the order of St Benedict, had for its abbot, Abbon, who was a zealous cultivator of the sciences, particularly of those connected with mathematics. He rendered his monastery a celebrated school of knowledge and of piety; and all the monks of St Benedict, who gave proofs of abilities, were sent thither to receive instruction. Among these was Gerbert (afterwards pope Sylvester II.), a native of Auvergne. After having acquired all the knowledge that Fleuri could furnish, he obtained leave to repair to Spain, where two celebrated schools at that time existed at Cordova and Grenada, which belonged to the Mahomedan conquerors of that country. These schools were much frequented both by Mahomedans and Christians. Gerbert made such progress in mathematical knowledge, that he soon surpassed his masters. Arithmetic, music, geometry, and astronomy, had occupied his attention; and, on his return to France, he communicated to his countrymen the knowledge which he had thus acquired. But the greatest boon which he conferred on Europe was the introduction of the Indian numbers, which he found in common use among the scientific Mahomedans in Spain. The date of this introduction must be fixed between the years 970 and 980.

With the knowledge of the Indian figures, the rules of arithmetic became also plain, and came to be familiarly understood. It is obvious from the translation of the Lilawati, by Dr Taylor, a treatise on Arithmetic and Geometry, by Bhascara Acharya, who was born in the year 1114, that in his time, the four common rules of arithmetic, the rule of three, the management of vulgar fractions, the method of extracting the square and cube roots, and most of the various rules at present met with in our books of arithmetic, were known in India. No doubt they were also taught at Cordova and Grenada,
brought by Gerbert into France. From that date, then, we may reckon the introduction of arithmetic, such as we have it at present, into common use; certainly one of the greatest boons ever conferred on mankind.

The next great improvement introduced into arithmetic, was by John Muller, better known by his Latinized name of Regiomontanus. He was born in Konigsberg, a small town in Franconia, in the year 1436. Scarcely had he reached his 14th year, when he became enamoured with the charms of mathematics and astronomy. He became the favourite pupil and friend of Purbach, who at that time was possessed of a high reputation. With him he resided till the time of his death, engaged chiefly in astronomical observations. The labours of Regiomontanus were incessant, and the reputation which he acquired was deservedly high. But we mention his name here, because it was to him that arithmetic owes the introduction of decimal fractions. Thus he gave to numerical computation its utmost degree of simplicity and arrange ment which it seems capable of reaching.

Regiomontanus was incessantly occupied with astronomical observations and calculations, which of course, rendered the perfection of trigonometry an object of the utmost importance; he did accordingly bring it nearly to the state of sim plicity which it at present possesses. But the calculations necessary for such purposes are exceedingly laborious, and their labour necessarily increased as astronomy advanced, because it became essential to obtain more and more accurate results. The sines and tangents of angles could not be expressed with sufficient correctness, without decimal fractions, extending to five or six places; and when to three such numbers, a fourth proportional was to be found, the work of multiplication and division became exceedingly laborious. About the end of the 16th century, the time and labour necessarily spent on such calculations, had become extremely burdensome to mathematicians and astronomers.

Napier of Merchiston, whose mind seems to have had a bent towards arithmetical pursuits, was the person to whom the happy thought occurred of a method by which that labour might be prodigiously diminished by substituting addition and subtraction, for multiplication and division; this he did by the discovery of logarithms, and the constructions of logarithmic tables by himself, Briggs, Gellibrand, &c.

He observed that when the numbers to be multiplied or divided, were parts of a geometrical series, or progression, provided we know the progression, the product or quotient might be got at once by inspection. Thus the 3d term of a progression, multiplied into the 5th term, would make the 8th term; and the 12th term, divided by the 3d term, would make the 9th term. He satisfied himself that all numbers might be intercalated between the terms of a geometrical progression; and he hit upon a most ingenious way of proving the truth of his proposition. What are called logarithms consist of numbers in an arithmetical progression, corresponding to all numbers supposed to exist in a geometrical progression, and various systems of logarithms may be constructed. The one which first occurred to the inventor, though the simplest, was not so convenient, as the one which occurred soon after to himself and his friend Briggs, and according to which, the tables now in use have been constructed. It is plain, that if we add together two logarithms, the logarithm constituting the sum of the two, will correspond with the number which would be obtained by multiplying the two numbers together; hence, by adding or subtracting logarithms, and looking up for the new logarithm in the tables, we find over against it, the number which would be obtained, if the numbers whose logarithms we use, were multiplied or divided by each other. What a prodigious saving of time and trouble is thus accomplished, must be evident at first sight. Nor have the benefits conferred upon mathematics by logarithms been confined to this benefit, great as it is; they have spread themselves upon other branches of the science. In 1618, Briggs published the logarithms of the first 1000 numbers, under the title of Logarithmorum chiliorum prorsa; in 1624, he published the logarithms of all numbers, from 1 to 20,000, and from 90,000 to 100,000; all calculated to the 14th decimal place. Death prevented Briggs from finishing his plan, but it was completed by Gellibrand, and published by him in his Trigonometria Britannica, in 1633.

11. GEOMETRY.

We have seen the progress which geometry had made among the ancients, and how Archimedes by the method of exhaustion, had succeeded in measuring spaces bounded by curve surfaces. This method though satisfactory, was exceedingly laborious, and being purely synthetic, it did not enable us to apply it to other discoveries of the same kind. A more compendious, and more analytical method was much to be wished for; and this great step was made by Cavalleri, in the year 1635, in his book entitled, Geometria indivisibilium continuorum nova quadam ratione promota. Cavalleri was born in Milan, in the year 1598.
He entered into the society of Jesuits, was sent to the university of Pisa, where he acquired his geometrical knowledge, and was afterwards professor of astronomy in the university of Bologna.

Cavalleri proceeded in his geometry of indivisibles, on the following principle: areas may be considered as made up of an infinite number of parallel lines; solids, of an infinite number of parallel planes; and lines, of an infinite number of points. Thus, the cubature of a solid was reduced to the summation of a series of planes; and the quadrature of a curve, to the summation of a series of ordinates. Now the rule for summing an infinite series of terms in arithmetical progression, had been long known, and the application of it to find the area of a triangle, according to the method of indivisibles, was a matter of no difficulty. The next step was, supposing a series of lines in arithmetical progression, and squares to be described on each of them, to find what ratio the sum of all these squares bears to the greatest square, taken as often as there are terms in the progression. Cavalleri showed that when the number of terms is infinitely great, the first of these sums is just one third of the second; this evidently led to the cubature of many solids. Proceeding one step further, he sought for the sum of the cubes of the same lines, and found it to be one-fourth of the greatest, taken as often as there are terms; and continuing his investigations, he was able to assign the sum of the $n$th power of a series in arithmetical progression, supposing always, the difference of the terms to be infinitely small, and the number of terms to be infinitely great. The number of curious results obtained from these investigations was prodigious. It may be considered as constituting as great a step over the calculus of exhaustions, as the integral calculus, was over the geometry of indivisibles.

The next general step, (for we are under the necessity of passing over many individual discoveries of great importance), in the extension of mathematics, was the arithmetical of infinites of Dr Wallis, first published in the year 1655. Wallis was a native of Kent, where he was born at Ashford, in the year 1616. He was appointed Savilian professor of mathematics at Oxford, in 1649; which place he occupied till the year 1703, when he died.

The origin of the arithmetic of infinites, was an attempt by Wallis to discover the quadrature of the circle, after he became acquainted with the method of indivisibles of Cavalleri. He began by observing, that if we have a series of numbers, arithmetically proportional (the natural numbers for example) beginning with 0, and proceeding regularly on, the sum of this series, is equal to half the sum of the last term, repeated as many times as there are terms in the series. Thus,

$$0+1, 0+1+2, 3 \quad 3 = 1, 0+1+2+3 \quad 6 \quad 1$$

From this it follows, that a triangle is half a parallelogram, on the same, or equal basis, and between the same parallels. For a triangle may be considered as composed of an infinite number of lines, beginning at a point or 0, and increasing arithmetically, the greatest of which is the base; while a parallelogram consists of an infinite number of lines of equal length, and all equal to the base. From this analogy he deduced the quadrature of a variety of figures.

He next shows that the sum of an infinite series of numbers, beginning with 0, and proceeding as the squares of the natural numbers, that is, the series 0, 1, 4, 9, 16, 25, 36, 49, &c., is to the last term, repeated as often as there are terms in the series, as 1 to 3. From this he shows that the compliment of a semi-parabola is to the parallelogram contained between the corresponding absciss and ordinate, as 1 to 3; and deduces from the same analogy, many other of the quadratures of curvilinear spaces.

He then shows that the sum of an infinite series of quantities, increasing from 0, as the cubes of the natural numbers, or the series 0, 1, 8, 27, 64, 125, 216, &c, is to the sum of the last term, repeated as often as there are terms in the series, as 1 to 4. This analogy furnishes the quadrature of many figures.

But it would be too tedious to attempt an analysis of the whole of this curious book, which may be considered as furnishing the first germ of the integral calculus. There are however a few other particulars which it would be improper to omit. He was led by analogy to express the denominators of fractions by means of negative powers. The numbers

$$x^3, x^2, x^1, x^0, (or \text{ 1}), \frac{1}{x^3}, \frac{1}{x^2}, \frac{1}{x^1}, \frac{1}{x^0} \quad \text{&c.,}$$

are in continued geometrical progression. This led him to express them in this way, $x^3, x^2, x^1, x^0, x^{-1}, x^{-2}, x^{-3}$. Simple as this improvement may appear, it has led to consequences of the greatest importance. It put him in possession of the measure of every space, the elements of which are reciprocally as any power of the abscissa. A prodigious number of new discoveries was the necessary consequence of these new views.

Most of the discoveries made by other mathematicians immediately after the publication of the Arithmetic of Infinites, were little else than developments of the views of Wallis. Neil
showed that the cubic parabola might be rectified by one of Wallis's methods; and Van Heuraet applied the same method to the rectification of several other parabolas.

We must pass over the discoveries of Barrow, though they are highly entitled to attention, and hasten to Sir Isaac Newton, who was destined to change the face of physical science—and who hitherto stands alone among mankind as the inventor of a theory to explain the motions of the heavenly bodies, which has stood the test of the most rigid examination, and which every subsequent improvement and discovery has served only to confirm and establish.

Newton was born in the year 1642, on Christmas, old style, at Woolsthorpe, in the county of Lincoln. The family came originally from Newton, in Lancashire, and it appears from a letter published by Dr Reid, that, by the mother's side, he was of Scottish extraction. When young, he discovered a surprising turn for making models of mechanical instruments. His mathematical knowledge came to him with incredible facility. Euclid he merely turned over, considering it to contain nothing but common things. The first mathematical book that he read was Descartes' Geometry, and the second Wallis's Arithmetic of Infinites. On these books he wrote commentaries as he read them, and reaped a rich harvest of discoveries; or, more properly speaking, he made almost all his mathematical discoveries as he proceeded in their perusal. In 1667, he was elected fellow of Trinity College, Cambridge, and in 1669, Dr Barrow resigned his mathematical professorship to him. He resigned this chair in 1703, two years after Mr Whiston had taught for him. He died in the year 1727. He was a member of the convention parliament, in 1789, and was, for a good many years, master of the mint.

His first mathematical discovery of importance was the binomial theorem. But his great mathematical discovery was the method of fluxions, or the integral and differential calculus, as it is called on the continent. This, he assures us, he was in possession of as early as 1665 or 1666. Barrow informs us, that soon after that period, there was put into his hands, by Newton, a manuscript treatise, the same which was afterwards published under the title of *Analysis per Aequationes Numero terminorum infinitas*, in which the principle of fluxions, though not fully explained, is yet distinctly pointed out. Barrow strongly exhorted Newton to publish this treasure to the world; but an excess of modesty, almost amounting to a disease, prevented his compliance.

For a long time, the mathematical discoveries of Newton were known only to his friends. The first work in which he communicated anything to the world on the subject, was the first edition of the *Principia*, in 1687, in the second lemma of the second book. The principle of the calculus is there pointed out; but nothing is said of the algorithm, which is so essential to that calculus. This only became known to the world in 1693, by the publication of the second volume of Wallis's works (p. 390, &c.) There is no evidence that this notation existed earlier than 1692, though it is highly probable that it did. It was no less than ten years after this, or in 1704, that Newton himself published a work on the new calculus, his *Quadrature of Curves*, more than twenty-eight years after it had been written.

These discoveries, however, even before they were committed to the press, could not remain altogether unknown in a country where mathematics were cultivated with such zeal and success. Barrow communicated them to Oldenburgh, secretary of the Royal Society. By him they were partly communicated to Mr James Gregory, and likewise to Leibnitz, who had become acquainted with Oldenburgh during a visit which he had made to England in 1673. At that time Leibnitz knew very little of the mathematics; but having afterwards turned his attention to that science, he was soon in a condition to make discoveries. One of the first of these was a very remarkable series, which gives the value of a circular arch in terms of the tangent. This series he communicated to Oldenburgh, in 1674, and received, in return, an account of the progress made by Newton and Gregory, in the invention of series. In 1676, Newton described his method of quadratures, at the request of Oldenburgh, in order that it might be transmitted to Leibnitz.

The method of fluxions is not communicated in these letters; nor are the principles in any way suggested; though there are, in the last letter, two sentences, in transposed characters, which ascertain that Newton was then in possession of that method, and employed, in speaking of it, the same language in which it was afterwards made known. In the following year, Leibnitz, in a letter to Oldenburgh, introduced differentials, and the method of his calculus, for the first time. This letter clearly proves, that, in 1677, Leibnitz was in full possession of the principles of his calculus, and had even invented the algorithm and notation.

From these facts, it cannot, we think, be doubted, that Newton was the first inventor of the fluxionary calculus; but that nothing was communicated to Leibnitz regarding the principles of that analysis. Leibnitz, therefore, when he invented the differential calculus, was not assisted by any communications that could give him any idea of what had been done by Newton.
Newton was the first discoverer, and Leibnitz the second; both were originals, and both independent of each other. The algorithm of Leibnitz was much more perfect than that of Newton; and it had the great advantage of being first made known to the world—an account of it having been inserted in the first volume of the Acta Eruditorum, for 1684.

Thus, while Newton's discovery was known only to a few friends, Leibnitz's was rapidly spread over the continent. John and James Bernoulli joined their talents to those of the original inventor, and illustrated the new method by the solution of a great number of difficult and interesting problems. Leibnitz's methods acquired perfection, while those of Newton remained unknown. The first work on the new geometry, was by Craig, who drew his information from the writings of Leibnitz and his friends.

Nothing however like hostility appeared between the two great discoverers, and Newton in the passage of the Principia above referred to, gives a highly favourable opinion on the subject of the discoveries of Leibnitz. A remark of Fatio de Duillier, in a paper presented to the Royal Society in 1699, lighted up a flame which a whole century has been scarcely sufficient to extinguish. In a paper on the line of swiftest descent, there occurred this sentence, "I hold Newton to have been the first inventor of this calculus, and the earliest by several years, induced by the evidence of facts; and whether Leibnitz, the second inventor, has borrowed any thing from the other, I leave to the judgment of those who have seen the letters and manuscripts of Newton." Leibnitz replied to this charge in the Leipsic Journal, without any asperity, simply stating himself to have been, as well as Newton, the inventor.

In the year 1705, on the publication of Newton's Quadrature of Curves, the same journalists insinuated, though with politeness and ambiguity, that Newton had been led to the notion of fluxions by the differentials of Leibnitz; just as Honoratus Fabri had been led to substitute the idea of progressive motion, for the indivisibles of Cavalieri. A charge so entirely unfounded, could not but call forth the indignation of Newton and his friends. In that indignation they were perfectly justifiable. But when the passions are heated, the injustice on one side is generally retaliated by an equal piece of injustice on the other. Accordingly, Keill who undertook the defence of Newton's claims, instead of endeavouring to establish the priority of his discoveries by an appeal to facts and to dates that could be accurately ascertained; undertook to prove that the communications of Newton to Leibnitz, were sufficient to put the latter in possession of the principles of the new analysis, after which he had only to substitute the notion of differentials, for that of fluxions. But in support of these charges he had nothing to offer but equivocal facts, and overstrained arguments, capable of convincing those only, who were already disposed to believe. They were accordingly received as accurate in England; rejected as absurd in Germany, and read without conviction by the mathematicians of France and Italy.

Leibnitz complained of Keill's statements to the Royal Society of London, who declined giving any opinion; but appointed a committee of its members to draw up a full and detailed report of all the communications which had passed between Newton and Leibnitz, or their friends, on subjects connected with the new analysis, from the time of Collins and Oldenburgh, to the date of Keill's letter to Sir Hans Sloane in 1711, of which Leibnitz had complained. This report forms what is called the Commercium Epistolicum. It was published the year following by order of the Royal Society; and, though in the main just and fair, seemed rather to lean to the side of their own president. Leibnitz complained of this publication, and alleged, that though nothing was inserted which was not contained in the original epistles, yet certain passages were suppressed which were favourable to his pretensions. He threatened an answer, but it never appeared. Some notes were added to the Commercium Epistolicum, which contained a good deal of asperity, and the review of this book inserted in the Philosophical Transactions for 1715, is still more liable to the same censure.

In the year 1713, a paragraph was circulated among the mathematicians of Europe, written by John Bernoulli. It amounted to this, "That there is no reason to believe that the fluxionary calculus was invented before the differential." Bernoulli was doubtless well acquainted with the subject; but he was too much connected with Leibnitz, and had contributed too much to the progress of the differential calculus, to be an impartial judge.

The German mathematicians injured their own cause by attempting to fix on Newton a charge of plagiarism, which could be so triumphantly refuted. As much were the English mathematicians to blame when they retorted the same charge upon Leibnitz. It was not indeed physically impossible that Leibnitz might have borrowed his calculus, as Newton undoubtedly preceded him; but the assertion is not supported by the slightest shadow of a proof.

"We shall pass over the subsequent defiances which passed mutually between the English and Continental mathematicians, and the harsh and
numerated epithets which they reciprocally bestowed upon each other, to the eternal disgrace of both parties, and the humiliation of mathematical science. The dispute was of a nature not capable of being decided by reasoning. Had Newton made known the nature of the fluxional calculus when it first occurred to him, his claim as a discoverer would have been universally allowed, and he would have conferred a boon of the greatest magnitude on mathematicians. Leibnitz may have been informed that Newton was in possession of an unknown calculus of the greatest power—this information may have set his invention at work, and his exertions were crowned by the discovery of the differential calculus. This discovery, as soon as made, he gave to the public; and, with the assistance of the Bernoullis, soon brought it to a considerable degree of perfection. This proceeding, was much more calculated for the improvement of science than the morbid timidity of Newton. The algorithm of Leibnitz was better; his method was taken up by men of first rate abilities, and prosecuted with astonishing success. For it would be difficult to find a series of mathematicians to be compared with the two Bernoullis, Euler, and Lagrange, who devoted in succession their unrivalled powers to the improvement and extension of the differential and integral calculus.

In England, at, or before the time of Newton, the number of profound mathematicians was great. Wallis, Brunnker, Wren, James Gregory, Barrow, were his immediate predecessors or contemporaries. Newton himself stands unrivalled, as, perhaps, the greatest mathematical genius that ever existed. Of his successors, the most remarkable is Cotes, whose Harmonia Mensurarum appeared in 1722. It contained the method of finding the fluents of fractional expressions, greatly generalized, and highly improved, by means of a property of the circle discovered by himself, and justly reckoned among the most remarkable propositions in geometry. It is curious, that this book, notwithstanding its merit, has never acquired, among English mathematicians the popularity which it deserves, while, on the continent, it seems to be very little known.

Another very original and profound writer of this period, was Dr Brook Taylor, who, in his Method of Increments, published in 1715, added a new branch to the analysis of variable quantity. A single analytical formula in his Method of Increments, has conferred a celebrity on its author which very voluminous works have often failed to bestow. It is known by the name of Taylor's theorem, and expresses the value of any function of a variable quantity, in terms of the successive orders of increments, whether finite or infinitely small. It is perhaps, without exception, the most comprehensive proposition in the whole range of mathematical science.

Maclaurin may be mentioned as another mathematician, who did credit to his country.

The mathematicians of Britain, and on the continent, though the algorithm used by each was different, yet kept pace with each other for a considerable time, except in one branch, the integration of differential or fluxional equations. In this the British mathematicians had fallen considerably behind. And the distance between them, and those on the continent, continued to increase in proportion to the number and importance of the questions, physical and mathematical, which depended upon these integrations. The habit of reading only British mathematical works, produced at first by the admiration of Newton, and afterwards continued, in consequence of the difference of notation, prevented the British mathematicians from partaking in the pursuits of the mathematicians on the continent. Prodigious improvements were made in Italy, France, and Germany, in which the natives of Great Britain had little or no share.

Other causes, perhaps, may have contributed to draw away our men of science from mathematical investigations. But by the middle of the last century, the race of British mathematicians, at one time so numerous and so splendid, was reduced to a very small number indeed. It is true that mathematics still continued to be cultivated in Cambridge; but they satisfied themselves with studying the Principia of Newton, and neglected or despised the splendid improvements and discoveries of the continental mathematicians.

A little after the middle of the last century, Mr West was appointed to teach the mathematical class in the university of St Andrews, in consequence of the illness of professor Vilant. West possessed an uncommon mathematical genius, as is evident from the slightest inspection of his Elementary System of Geometry, which he published while a teacher. His mode of teaching seems to have been admirable, and he had the merit of infusing his own spirit into a number of young men who have contributed not a little to the recovery of that high rank in mathematical science which formerly belonged to the British mathematicians. The late professor Playfair was not indeed the pupil of West, but he was his friend and contemporary, and both had been educated at the same university. It is not unlikely, therefore, that he may have been indebted for his passion for the science, to his intimacy with West. The late Sir John Leslie was a pupil of West, and indebted to him for all his mathematical knowledge. He was possessed
of a true mathematical genius, and though not familiar with the general analytical methods which are now in constant use, yet his mathematical knowledge was respectable. Mr Glennie was another of Mr West's pupils. But the man who does the highest credit to Mr West, is Mr Ivory, who has raised himself to the very highest rank as a mathematician; who has cultivated every branch of the higher calculus with the most complete success; who is critically acquainted with the whole history of mathematical discoveries, and is now universally admitted to be the first mathematician at present in Europe. Thus he has rescued Great Britain from the stigma affixed to her, of inferiority in mathematical skill to the mathematicians on the continent. Cambridge also of late years has produced different eminent mathematicians, the most celebrated of whom is Sir John Herschell.

It would be impossible in this hasty sketch, to give the slightest idea of the prodigious improvements which have been made in mathematics during the progress of the last century. The task is an herculean one. It has been frequently attempted, but never yet executed. The individual best qualified for such a task, is Mr Ivory. Were he to execute it, he would confer a boon of no ordinary magnitude upon science, and add a new wreath to those with which Great Britain is already encircled.

III. ALGEBRA.

The word algebra is Arabic, and is derived from al, the, and jebr, contortion. It was at first applied to a particular arithmetical rule, in which the terms were transposed. There is some reason for suspecting that what we now call algebra, originated in India. Diophantus who lived about 150 years after the commencement of the Christian era, has left thirteen books of arithmetical questions, which are treated in a manner that may be considered as algebraic. The science was cultivated by the Arabians during the golden age of Mahomedan science. And a knowledge of it was first brought to Europe in the 13th century, by Leonardo, a merchant of Pisa, who having made many visits to the east, brought back with him a knowledge of algebra, on which he wrote a treatise in 1202, and another in 1228, both of which still remain in manuscript.

But the first book printed in Europe on algebra, was that of Lucas de Borgo, a Franciscan, who towards the end of the 15th century, traveled into the East, and acquired a knowledge of the principles of algebra. The characters employed by him are merely abbreviations of words. The letters p and m, are used for plus and minus. And the rule is laid down, that in multiplication, plus into minus gives minus; but minus into minus gives plus. Thus algebra was originally merely an abbreviation of common language, applied to the solution of arithmetical problems.

The Indians and Arabians advanced as far as the solution of quadratic equations. Scipio Ferrei, professor of mathematics at Bologna, had, about the year 1508, found out a method of solving one of the cases of cubic equations; which he either concealed, or at least communicated only to a few of his scholars. One of these, Florido, trusting to this secret, challenged Tartalea of Brescia to contend with him in the solution of algebraic problems. Florido had at first the advantage; but Tartalea being a man of ingenuity, soon discovered his rule, and likewise another much more general, in consequence of which he came off at last victorious. By the report of this victory, the curiosity of Cardan was strongly excited. For though he was himself an accomplished mathematician, he had not been able to discover a method of solving equations higher than the second degree. By the most importunate solicitations he wrung from Tartalea the secret of his rules; binding himself at the same time, by the most solemn promise, never to divulge them. Though Tartalea did not communicate the demonstration, Cardan soon found it out, and extended it in a very ingenious and systematic manner to all cubic equations whatever.

Being thus possessed of an important discovery, which was partly his own, he forgot his promises to Tartalea, and published the whole in 1545, not concealing, however, what he owed to the latter. Thus was published the rule which still bears the name of Cardan; and which still marks a point in the progress of algebraic investigation, which all the efforts of succeeding analysts have hardly been able to pass.

Robert Recorde, an English mathematician, published about the middle of the 16th century, the first English treatise on algebra, and he there introduced the same sign of equality which is now in use.

The properties of algebraic equations were discovered very slowly. Pelltorins, a French mathematician, in 1559, first observed that the root of an equation, is the divisor of the last term. Bombell soon after published a regular treatise on algebra, in which he considered with particular attention the irreducible case of Cardan's rule, and pointed out the method of solving problems falling under it by the trisection of an arch.

Vieta, marks an era in algebraic analysis. He was a Frenchman, born at Fontenai, in Poitou, in the year 1540. Though maitre des
OF OBSERVATION AND EXPERIMENT.

It was not to be expected that mankind should at first make any rapid progress in investigating the laws, which regulate the changes that take place in the material world. The objects were too numerous, and too varied, and escaped his attention by their very regularity. Every where in the early ages of the world, we meet with descriptions of prodigies and wonders, while the regular operations of nature scarcely attracted attention. The method of investigating nature by observation and experiment was scarcely thought of, except by two individuals, who, by means of them, made some progress in mechanics and hydrostatics, and in astronomy; these were Archimedes and Hipparchus. The mechanical discoveries of Archimedes were slightly extended by Ctesibius and Hero, by Anthemius, and by Pappus; while the astronomical observations begun by Hipparchus, were continued by Ptolemy.

But at the revival of letters in the 16th century, a spirit of observation and inquiry awoke, which nothing could damp, and men began to pry into the secrets of nature, by the way of experiment. Galileo, in Italy, and Gilbert, in England, especially the former, constitute remarkable examples of successful investigation by experiment. But it was Francis Bacon, lord Verulam, who first investigated the laws according to which such experimental investigations should be conducted, who pointed out the necessity of following these laws in all attempts to extend the physical sciences, and who foretold the brilliant success that would one day repay those who should adopt the methods which he pointed out. This he did in his Novum Organum, published in the early part of the 17th century.

Before laying down the rules to be followed in his new, or inductive process, Bacon enumerated the causes of error, which he divided into four sets, and distinguished, according to the fashion of the times, by the following fanciful, but expressive names:

Idols of the tribe,
Idols of the den,
Idols of the forum,
Idols of the theatre.

The Idols of the tribe, are the causes of error founded on human nature in general. Thus all men have a propensity to find in nature, a greater degree of order, simplicity, and regularity, than is actually indicated by observation. This propensity, usually distinguished by the title of spirit of system, is one of the greatest enemies to its progress, that science has to struggle with.

The Idols of the den, are those that spring from the peculiar character of the individual. Each individual, according to Bacon, has his own dark cave or den, into which the light is imperfectly admitted, and in the obscurity of which an idol lurks, at whose shrine the truth is often sacrificed. Some minds are best adapted to catch the differences, others the resemblances
to consider the comparative value of facts as means of discovery. He enumerates twenty-seven different species; but we shall satisfy ourselves here with noticing a few of the most important of them.

1. **Instantiae solitiae** are examples of the same quality existing in two bodies, which have nothing else in common; or of a quality differing in two bodies, which are in all other respects the same.

2. The **instantiae migrantes** exhibit some nature or property of bodies passing from one condition to another, either from less to greater, or from greater to less. Thus, glass while entire is colourless, but becomes white when reduced to powder.

3. The **instantiae ostentiae** show some particular nature in its highest state of power or energy. In this way the thermometer shows the expansive power of heat, and the barometer the weight of air.

4. The **instantiae analogiae** consist of facts between which an analogy or resemblance is visible in some particulars, notwithstanding great diversity in all the rest. Such are the telescope and microscope in works of art, compared with the eye in the works of nature.

5. The **instantiae crucis** is the division of this experimental logic which is the most frequently resorted to in the practice of inductive investigation. When in such an investigation, the understanding is, as it were, placed in equilibrum between two or more causes, each of which accounts equally well for the appearances, as far as they are known, nothing remains but to look out for a fact which can be explained by the one of these causes, and not by the other. If such a fact can be found, the uncertainty is removed, and the true cause becomes apparent. Such facts perform the office of a cross, erected at the meeting of two roads, to direct the traveler which way he is to go. On this account, Bacon gave them the name of **instantiae crucis**. Suppose it were inquired into why metals become heavier when calcined, various explanations might be conceived. But the experimentum crucis of Lavoisier removed the ambiguity. He enclosed a quantity of tin in a large glass vessel, which was hermetically sealed. Heat being then applied, the tin melted and was partly calcined. The process being finished, the weight of the glass and its contents were found unchanged. But the glass being opened, a quantity of air rushed in, amounting in weight to ten grains; and the tin was found to have increased in weight ten grains. It was obvious from this, that by the calcination of the tin a portion of the air had been absorbed, which had occasioned the increase of the weight.
In cases where an experimentum crucis cannot be resorted to, there is often a great want of conclusive evidence. This is the case in agriculture, in medicine, in political economy, &c. To make one experiment similar to another in all respects but one, is what the experimentum crucis, and the principle of induction, in general, requires. But this, in the sciences just named, can seldom be accomplished. Hence the great difficulty of separating the causes, and allotting to each its due proportion of the effect. Men deceive themselves in consequence of this continually, and think they are reasoning from fact and experience, when, in reality, they are drawing their conclusions from a mixture of truth and falsehood. Facts so incorrectly apprehended only serve to render error more incorrigible.

Of the twenty-seven classes into which instance are arranged by Bacon, fifteen address themselves immediately to the understanding; five serve to correct or inform the senses; and seven to direct the hand in raising the superstructure of art on the foundation of science. The examples which we have selected, are from the first of these divisions. The other two are of inferior importance, and may be omitted in this imperfect summary.

Such are the rules laid down by Bacon for prosecuting the sciences by induction. The effects which were ultimately produced by the Novum Organum must have been very great. It may be questioned, indeed, whether those who have contributed most effectually to the advancement of the sciences, have ever rigidly adhered to Bacon's rules. And, in general, such a rigid adherence is unnecessary; because so much assistance can, in general, be derived from what knowledge has been already acquired, that a rigid natural historical detail of all the phenomena becomes unnecessary. It was only in the infancy of science that such details were requisite. Boyle often draws them up in his inquiries into the cause of various phenomena, and his investigations were of considerable use in forwarding those branches of science which he cultivated. Bacon also was mistaken in conceiving that, by investigation, mankind may become acquainted with the essences of the powers and qualities residing in bodies. So far as science has hitherto advanced, no one essence has been discovered, either as to matter or as to any of its more extensive modifications. Thus we are still in doubt whether heat and electricity be qualities or substances. Yet we have discovered many important properties or laws, by means of which heat and electricity, whether properties or substances, are regulated. And from this knowledge, probably, we derive as much advantage as could be obtained from a complete knowledge of their essence.

Such are the two methods of advancing science. By experiment or observation all the new facts in every science are acquired. By the application of mathematical reasoning to these facts they are reduced to the requisite simplicity, and the general principles which regulate every particular science determined. Let us now endeavour to trace the progress which has been made in the different physical sciences since these two powerful means of advancement were fairly applied to them.


Stevinus, an engineer in the Low Countries, is the first person who passed beyond the point at which the ancients had stopped, by determining accurately the force necessary to sustain a body on a plane inclined at any angle to the horizon. This knowledge he seems to have deduced from the fact, that a chain laid on an inclined plane, with a part of it hanging over at top in a perpendicular line, will be in equilibrio if the two ends of the chain reach down exactly to the same level. The first appearance of Stevinus's solution of this problem was in the year 1585. His works, as we now have them, were collected after his death by his countryman, Albert Gerard, and published at Leyden in 1634.

But the man to whom mechanics is indebted for the first great steps which it made in advance is Galileo, who was born at Pisa in the year 1564, and who is, perhaps, the most remarkable man that appeared in that age, so prolific in men of first-rate genius. In 1592 he published a treatise, Della Scienza Mechanica, in which he has given the theory not only of the lever, but also of the inclined plane and screw, and in which he laid down this general proposition, that small weights are able to move large ones only by a great increase of velocity, or that weights are in equilibrio when the weight of each multiplied into its velocity is the same.

While a student at Pisa, he had made experiments on falling bodies, and discovered the fact that light and heavy bodies fall to the ground in the same time, making allowance for the resistance of the air. From observing the vibrations of the lamps in the cathedral he had come to this very important conclusion, that great and small vibrations of the pendulum are performed in the same time, and that this time depends only on the length of the pendulum.

These experiments drew upon him the displeasure of his masters, who were offended that he should consult nature and experiment instead of Aristotle, and their commentaries on the dogmas of the Grecian sage. This was the origin of those persecutions, proceeding from a mixture
of bigotry and envy, with which he continued to be harassed throughout the rest of his life.

By means of the inclined plane he succeeded in demonstrating that the motion of a falling body, is a uniformly accelerated motion. His next step was to determine the path of a heavy body, when obliquely projected. He showed this path to be a parabola. The theory of the inclined plane showed that if a circle be placed vertically, the chords of the different arches terminating in the lowest point of the circle are all descended through in the same space of time.

But when Galileo applied this to account for great and small vibrations of a pendulum being performed in the same time, he fell into an error, which was first completely rectified by Huygens.

In the list of the mechanical discoveries of Galileo, may be placed the knowledge of the existence of the law of continuity, and the employment of it as a principle in his reasonings on the phenomena of motion.

Torricelli, the pupil and friend of Galileo, discovered a remarkable property of the centre of gravity, and a general principle with respect to the equilibrium of bodies. It is this: If there be any number of heavy bodies connected together, and so circumstanced, that by their motion their centre of gravity can neither ascend nor descend, these bodies will remain at rest.

Descartes, whose reputation was so great, and his pretensions so high, likewise treated of motion; but in general his opinions were so erroneous or unsound, that in the present rapid sketch they are not entitled to notice.

The laws which regulate the collision of bodies remained unknown, till they were recommended by the Royal Society to the particular attention of its members. Three papers soon appeared, in which these laws were correctly laid down, though no one of the authors had any knowledge of the conclusions obtained by the other two. The first of these was read to the society, in November, 1668, by Dr Wallis of Oxford; the next by Sir Christopher Wren, in the month following; and the third by Huygens, in January, 1669. The equality of action and re-action, and the maxim that the same force communicates to different bodies velocities which are inversely as their masses, are the principles on which these investigations are founded.

Huygens was the first person who explained the true relation between the length of the pendulum, and the time of its least vibrations, and who gave a rule by which the time of the rectilinear descent through a line equal in length to the pendulum, might from thence be deduced. He next applied the pendulum to regulate the motion of a clock, and gave an account of its construction, and the principles of it in his Horologium Oscillatorium, about the year 1670, though the date of the invention goes as far back as 1656. Lastly, he showed how to correct the imperfection of a pendulum, by making it to vibrate between cycloidal cheeks, in consequence of which its vibrations, whether great or small, become precisely equal.

The appearance of the Principia of Newton, in 1687, effected an almost total revolution in mechanics, by giving new powers and new directions to its researches. The composition of forces was treated independently of the composition of motion. From the equality of action and re-action, it was inferred, that the state of the centre of gravity of any system of bodies is not changed by the action of these bodies on each other. From this it follows, that the quantity of motion existing in nature, when estimated in any given direction, continues always of the same amount.

But the reduction of questions concerning force and motion, to questions of pure geometry, and the mensuration of mechanical action by its nascent effects, constitute the great glory of the Principia. A transition was there made from the consideration of forces acting at stated intervals, to that of forces acting continually; and from forces constant in quantity and direction, to those that converge to a point, and vary as any function of the distance from that point; the proportionality of the areas described about the centre of force, to the times of their description, the equality of the velocities generated in descending through the same space by whatever rout; the relations between the squares of the velocities produced or extinguished; and the sum of the accelerating or retarding forces, computed with a reference not to the times during which, but to the distance over which they have acted; may be mentioned as a few of the dynamical and mechanical discoveries contained in that immortal work.

Leibnitz, the rival and antagonist of Newton, made some improvements in mechanical science, which though not capable of being compared with the profound discoveries of Newton, yet require to be noticed. Leibnitz seems to have been the first who announced in general terms the principle of a sufficient reason. This principle however was not new, for it had been assumed by Archimedes, and employed by Galileo. Stript of the metaphysical garb in which it was placed by Leibnitz, it means nothing more, than that nothing exists in any state, without a reason determining it to be in that state rather than in any other. This principle, though true in itself in a limited sense, was rather brought into discredit by the way in which Leibnitz employed
it. Thus he inferred from it, that two particles
of matter cannot possess exactly the same pro-
erties; for if they did, the Supreme Being could
have no reason for employing the one more than
the other, and consequently both would be of
necessity rejected—as if we were capable of
judging in what way motives act upon the mind
of the Deity, and—as if position might not be a
sufficient motive for employing one particle
rather than another, supposing both possessed of
exactly the same properties.

Another principle brought into view by Leib-
nitz, was the law of Continuity—according to
which, nothing passes from one state to another,
without passing through all the intermediate
states. Though Leibnitz considers himself as
the first who pointed out this law, it is but fair
to state that it was distinctly laid down by
Galileo, who does not claim it as his own, but
ascribes its discovery to Plato. This principle
like the last, Leibnitz and his followers carried
to a blamable excess. Thus John Bernoulli
was induced by it to deny the existence of hard
bodies altogether; because in the collision of
such bodies a finite change must take place in
an instant, which, according to the principles of
the law of continuity is impossible. We can
obviate the objection of Bernoulli without ref-
suring, as Maclaurin does, to admit the law of
continuity, by admitting that the hard bodies
begin to act on each other before they come into
actual contact.

The last mechanical improvement of Leibnitz
introduced a controversy into mathematics, which
was discussed by the most eminent mathematici-
cans of Europe, for more than thirty years, with
great keenness, and not a little virulence; though
neither side was able to produce any change of
opinion in their antagonists. Leibnitz, in 1686,
announced in the Leipsic Journal the demonstra-
tion of a great error, committed by Descartes and
others, in estimating the force of moving bodies.
In this paper he endeavours to show that the
force of a moving body is not proportional to its
velocity simply, but to the square of its velocity.
And he supported this new doctrine by very
plausible reasoning. A body projected upwards
against gravity, with a double velocity, ascends
four times the height; with a triple velocity, to
nine times the height, and so on—the height ascended
being always as the square of the velocity.
Such was the reasoning, sufficiently simple and
satisfactory.

The subject was soon taken up keenly, and the
world of science was divided into two parties.
The mathematicians of Germany, Holland, and
Italy, adopted the opinion of Leibnitz; those of
Great Britain the old opinion, that the force is
proportional simply to the velocity; while those
of France were divided between the two opinions.
Maclaurin, Stirling, Desaguliers, Jurin, Clarke.
and Mairan, defended the old opinion; while
Bernoulli, Hermann, Poleni, 'S Gravesende, and
Muschelenbroek, supported the opinion of Leibnitz.

What may appear at first sight singular in this
dispute, is, that the two parties who adopted
such different measures of force, when any
mechanical problem was proposed concerning
the action of bodies, whether at rest or in motion,
resolved it in the same manner, and arrived
exactly at the same conclusions. It is clear from
this, that their ideas or opinions exactly coinci-
ded. In reality, the two parties advanced
positions not inconsistent with each other; and
both therefore were true. This was pointed out
by D'Alembert in his Dynamique, published in
1743.

We may measure the force of one moving
body, by its effect upon another moving body.
Hence there is no doubt that the forces of such
bodies are as the quantities of matter multiplied
into the velocities; because it is well known, that
the forces of bodies in which these products are
equal, if opposed, destroy each other. If we
employ this measure, it is evident that the forces
vary not as the squares, but simply as the
velocities.

When a moving body is opposed by pressure,
or a resistance like that of gravity, the quantity
of such resistance required to extinguish the
motion must serve to measure the force of the
body. But there are two ways of computing the
amount of these retarding forces, which lead to
different results; both of them just, and neither
of them to be assumed to the exclusion of the
other. Suppose a body to be projected perpen-
dicularly upwards, in a direction opposite to that
of gravity, we may either inquire into the retar-
dation which gravity produces during a given
time, or while the body is moving over a given
space. We may inquire how long the motion
will continue, or how far it will carry the body
before it be entirely exhausted. If we employ
the first of these for the measure of the force of
a body, that force must be proportional to the
velocity; for to this the time is manifestly pro-
portional. If we employ the second, namely the
length of the line which the moving body de-
scribes, as the measure of the force, then it must
be as the square of the velocity; because to that
quantity the length of the line is known to be
proportional.

Thus we obtain two values of the force; the
one proportional to the velocity, the other to the
square of the velocity. Who does not perceive,
that the reason of this apparent inconsistency is
the different meaning applied to the term force
in the two cases?
So far as general principles are concerned, mechanics were nearly brought to a state of perfection by Newton and the mathematicians of his time. Perhaps the principle of the conservation of living forces, introduced by John Bernoulli, ought to be mentioned.

To understand what is meant by this principle, it may be requisite to observe, that to mere pressure Leibnitz gave the name of \textit{vis mortua}, or \textit{dead force}, and to the force of moving bodies the name of \textit{vis viva}, or \textit{lving force}. By the conservation of living forces, Bernoulli meant that permanence, through all the gradual changes of any system of connected bodies, in the aggregate of the products of their masses into the square of their velocities. It abridges the solution of various problems, and was adopted by Daniel Bernoulli, as the basis of his theory of hydrodynamics, published in 1738.

The task of composing a treatise on Dynamics, full and original in every part, was taken up by Euler. He bestowed upon it all the pains and all the resources of his penetrating genius. It appeared in 1735, in two quarto volumes, entitled \textit{Mechanics, or the Science of Motion}, and contained the most elaborate and complete body of analytical investigation that had hitherto appeared.

D'Alembert published his Dynamics in 1743, and founded the whole of his reasoning upon a very simple general principle. In every system of bodies acting mutually, their several movements, at any instant of time, may be decomposed into two portions, one which is retained in the next instant, and the other spent; and since an equilibrium must obtain among the lost motions, an expression is thus obtained for the motions which are preserved. The most intricate questions in dynamics were thus reduced to mere statistical problems, and solved constantly in the same easy and uniform way. Naclaurin's method of expounding forces by co-ordinates, facilitated still further the application of this principle, which D'Alembert in 1744 and 1752 extended also to hydrodynamics.

Segner's theory of the motion of tops deserves also to be mentioned. It was published in 1750. He shows that every body having a determinate figure, which after combined impulses is abandoned in free space, will, besides its progressive motion, perform simultaneously and without the smallest interference, a constant and uniform revolution about each of three principal axes, mutually perpendicular and passing through the centre of gravity. These axes of rotation possess some curious properties, which were afterwards investigated by Euler.

In 1789, Lagrange, by combining the principle of D'Alembert with that of virtual velocities, converted the whole into an absolutely analytical science. He referred the efforts of every particle of a moving system to three mutual perpendiculars, and thence derived three several differential equations, which, being integrated, would give the final solution of the problem. But no general formula for integrating such equations has been hitherto discovered.

Such is a sketch of the gradual progress of the mathematical investigation of mechanics. To enumerate the application of these general principles to the solution of particular problems—to point out the gradual improvements which have been introduced into the construction of mechanical engines, and the immense advantages which have resulted from these improvements, especially in this country, where they have been carried to the greatest extent, would require a treatise of no ordinary length, and would be quite incompatible with the limits within which we are under the necessity of confining ourselves.

\begin{center}
\textbf{ASTRONOMY.}
\end{center}

The ancients discovered the planets, and gave them names, and noticed their motions, at a very early period. The motions of the sun and moon could not fail to attract their attention, and the changes in the seasons which depended upon these motions. The phenomena of the eclipses of these luminaries, viewed with such apprehension by the common people, necessarily attracted the attention of the first observers of the heavenly bodies: they soon observed a certain regularity in these phenomena, and became, in consequence, capable of predicting them. All these appearances could not be familiar to them without some speculations about the motions of the heavenly bodies.

The stars appeared as so many luminous points fixed in the heavenly sphere, having the earth for a centre, and revolving on an axis having that earth for a centre in the space of twenty-four hours. All the stars were found not to partake of this diurnal motion in the same degree; some were carried slowly to the east, and their paths, after a certain interval of time, returned upon themselves. The astronomers of the Alexandrian school set themselves to ascertain the general laws of these motions. This could not well be done without a hypothesis; and the simplest was, that the planets move eastwards in circles, and at a uniform rate.

It was soon found, however, that the motion eastward was not uniform. The planet began to move slower and slower, and, at last, became
stationary. It then acquired a motion in a contrary direction, and, after proceeding for a certain time westwards it became stationary, and then moved eastwards as at first. These motions were not easily reconciled with a uniform circular motion. The explanation, however, was attempted by Apollonius Pergaeus. He conceived that, in the circumference of a circle having the earth for its centre, there moved the centre of another circle, in the circumference of which the planet actually revolved. The first of these circles was called the deferent, and the second, the epicycle; the motion in the circumference of each was supposed uniform. Lastly, it was conceived that the motion of the centre of the epicycle in the circumference of the deferent, and of the planet in the epicycle, were in opposite directions; the first being towards the east, and the second towards the west. In this way, the alterations from progressive to retrograde, with the intermediate stationary points, were readily explained; and Apollonius carried his investigation so far as to determine the ratio between the radius of the deferent and that of the epicycle, from knowing the stations and retrogradations of any particular planet.

Hipparchus, the greatest astronomer among the ancients, discovered the inequality of the sun's apparent motion round the earth. To express this irregularity, he imagined an epicycle of a small radius, with its centre moving uniformly in the circumference of a large circle having the earth for its centre, while the sun revolved uniformly in the circumference of the small circle, but in a contrary direction.

As other irregularities in the motions of the moon and planets were observed, other epicycles were introduced; and Ptolemy, in his Almagest, enumerated all which then appeared necessary, and assigned to them such dimensions as enabled them to express the phenomena with accuracy.

By this contrivance the system of the heavens became extremely complicated. But it had the advantage of subjecting all the motions of the sun, moon, and planets very readily to a geometrical construction, or an arithmetical calculation of no great difficulty. Hence the predictions of astronomical phenomena, the calculation of tables, and the comparison of these tables with observations, became easy; and upon this the progress of the science depends. We have no evidence that the ancient astronomers ever considered the epicycles and deferents, which they employed in their systems, as having a physical existence, or as serving to represent these motions, they merely employed them to enable them to calculate the apparent motions of the heavenly bodies.

When Europe began to awake from the lethargy of the dark ages, astronomy was the first of the sciences which drew the attention of men of science. Purbach and Regiomontanus contributed most towards its advancement during the 15th century. Purbach resided at Vienna, under the patronage of the emperor Frederick the Third, and devoted himself to astronomical observations. He published an edition of the Almagest; and though he neither understood Greek nor Arabic, yet his knowledge of the subject enabled him to make it much more perfect than any former translation. Regiomontanus was a pupil of Purbach, and became much more celebrated than his master.

Copernicus, who had the merit of first divining the true system of the universe, was born at Thorn, in the year 1473, studied at Cracow, and ultimately went into the church. A decided taste for astronomy led him, when very young, to the study of that science. It occurred to him, at a very early period, to consider what effect the motions of the heavenly bodies would have upon a spectator, transferring that motion to the objects observed, but ascribing to it an opposite direction. It became immediately obvious, that the rotation of the earth, on its axis from west to east, would produce the apparent motion of the heavens from east to west.

In considering the objections which might be made to the system of the earth's motion he reasons soundly, though he was not aware of the full force of his own argument. Ptolemy had alleged, that if the earth were to revolve on its axis, the violence of the motion would be sufficient to tear it in pieces, and dissipate the parts. Why, says Copernicus, was he not more alarmed for the safety of the heavens, if the diurnal motion be ascribed to them, as their motion must be more rapid in proportion as their magnitude is greater?

We need not mention that Copernicus placed the sun in the centre, and taught that all the planets moved round that luminary in orbits nearly circular. The moon revolved round the earth, and the apparent diurnal revolution of the heavens from east to west was owing to the real diurnal revolution of the earth from west to east. The first edition of the Astronomia Instaurata, in which these doctrines appeared, was dedicated to the pope, and was published in 1543, a few days before the death of the author.

After Copernicus, Tycho Bræhe was the most distinguished astronomer of the sixteenth century. An eclipse of the sun, which he witnessed in 1560, when he was a young man, in consequence of the exactness with which it answered the prediction, inspired him with a veneration for the science, and an anxious desire to become acquainted with it. Unfortunately for his pro-
gress, he belonged to a noble family in Denmark—a class of men entitled, by their rank, to disclaim the pursuit of knowledge, and extremely jealous of the privilege of ignorance. But his enthusiasm enabled him to break through the trammels of his order. He even acquired the patronage of the king of Denmark, and was, in consequence, to erect an observatory in the island of Huena, supplied with far better instruments than had ever yet been applied to astronomical observations. Tycho, by means of them could measure angles to ten seconds, which was sixty times the accuracy of Ptolemy, or of any instruments that had belonged to the school of Alexandria.

His first object was a catalogue of the stars, which he was anxious to make more accurate than that of Hipparchus and Ptolemy. The great difficulty in executing this task, proceeded from the want of an easy method of determining the distance of one heavenly body east or west of another. The distance north or south was easily determined by the common method of meridian altitudes. For the equator is a plane, which, for any given place on the earth's surface, always retains the same position. But no plane passing through the poles retains a fixed position with respect to an observer. The natural substitute is the measure of time. But this was wanting both to the Greek astronomers and to Tycho. Hipparchus and Ptolemy determined the longitude of the fixed stars, by referring their places to those of the moon. Thus depending on the most irregular of the heavenly bodies for determining the position of the most fixed. Tycho made use of the planet Venus, instead of the moon; and his method, though more tedious, was more accurate than that of the Greek astronomers. His catalogue contained the place of 777 stars.

The irregularities of the moon's motion were the next subject of inquiry. The ancients had discovered the inequality of this planet, depending on the eccentricity of the centre, and now called the equation of the centre. Ptolemy had added the knowledge of another inequality in the moon's motion, to which the name of egression has been given, causing an increase of the former equation at the quarters, and a diminution of it at the times of new and full moon. Tycho discovered another inequality, which is greatest at the octants, and depends upon the difference between the longitude of the moon and of the sun. A fourth inequality, depending wholly on the sun's place, was known to Tycho, but included among the sun's equations. Besides, these observations made him acquainted with the changes in the inclination of the plane of the moon's orbit; and, lastly, with the irregular motion of the nodes, which, instead of being always retrograde at the same rate, are subject to change that rate, and even to become progressive, according to their situation in respect of the sun. These constitute all the irregularities in the moon's motion known before the development of the theory of gravitation, and all, except the two first, were discovered by Tycho.

The atmospheric refraction, by which the heavenly bodies are made to appear more elevated above the horizon than they really are, was suspected, indeed, before the time of Tycho; but not certainly known to exist. He first became acquainted with it by finding that the latitude of his observatory, as determined by observations at the solstices, and from observations of the greatest and least altitudes of the circumpolar stars, always differed about four minutes. He supposed the effect of refraction to be 34' at the horizon, and to diminish from thence upwards to 45', where it ceases altogether. This last opinion is erroneous; but at 45' it is less than 1', a quantity probably not discernible by his instruments in the altitudes measured. He contrived an instrument, on purpose to make the refraction distinctly visible. It was an equatorial circle of ten feet diameter, turning on an axis parallel to that of the earth. With the sights of this equatorial, he followed the sun on the day of the summer solstice, and found that, as it descended towards the horizon, it rose above the plane of the instrument. At its setting, the sun was raised above the horizon by more than its own diameter.

The comet of 1570 was observed by Tycho, and gave rise to a new theory of these bodies. Its parallax was 20', showing that it was three times farther off than the moon. He considered comets, in consequence, as bodies placed far beyond the range of our atmosphere, and moving round the sun. His observations on the new star of 1572, deserve also to be noticed. It appeared in Cassiopeia, on the 7th of November, all at once, and surpassed all the stars in splendour, being scarcely inferior to Venus herself. In the month of January, 1573, it was rather less than Jupiter. From this time it was constantly diminishing in splendour, and disappeared altogether in the month of March, 1574. Pliny informs us that it was the appearance of a new star which led Hipparchus to think of making a catalogue of the stars.

Tycho, notwithstanding his merit as an observer, could not prevail upon himself to adopt the Copernican system of the motion of the earth round the sun. He made the sun move round the earth, while it was at the same time the centre of the planetary motion.

Kepler followed Tycho. He was born in 1570, and at an early age applied himself to the study
of the heavens. His first discussions related to astronomical refraction, and to the calculation of eclipses.

He observed that the orbits of the planets are in planes passing through the sun, and that of consequence the lines of their nodes all intersect in the centre of that luminary. The opposition of the planets, or their places when they pass the meridian at midnight, offer the most favourable opportunities for observing them, both because they are at that time nearest the earth, and because their places seen from thence is the same as if they were seen from the sun. But the true time of opposition had hitherto been mistaken by astronomers, who held it to be at the moment when the apparent place of the planet was opposite to the mean place of the sun. It ought to have been when the apparent places of both were opposed to each other. This correction was made by Kepler, and though violently opposed by Tycho, was finally acquiesced in.

Having undertaken to examine the orbit of Mars, in which the irregularities are most considerable, Kepler discovered by comparing together seven oppositions of that planet, that its orbit is elliptical; that the sun is placed in one of the foci; and that there is no point round which the angular motion is uniform. In the pursuit of this inquiry he found that the same thing is true of the earth’s orbit round the sun. It was reasonable to conclude by analogy, that the orbits of all the other planets are elliptical, having the sun in their common focus.

The industry and patience of Kepler, in these investigations, are almost incredible. Logarithms did not yet exist, so that arithmetical calculations were extremely laborious. The computation of every opposition of Mars filled ten folio pages; and Kepler repeated each calculation ten times. Seven oppositions thus calculated filled 700 folio pages. In such calculations the introduction of hypotheses was unavoidable. Kepler rejected them whenever they appeared erroneous, without hesitation, regretting merely the time which they had uselessly cost him. He began with hypotheses, and ended by rejecting every thing hypothetical.

Though the angular motion of the planets was not found to be uniform, it was discovered that a very simple law connected that motion with the rectilinear distance from the sun, the former being every where inversely as the square of the latter. Hence it was easy to prove, that the area described by the line drawn from the planet to the sun increased at a uniform rate; and, therefore, that any two such areas were proportioned to the times in which they were described.

This was the second of Kepler’s three famous laws; the third was not less remarkable. He was of opinion that some simple relation must exist between the periodical times of the planets and their distances from the sun. After an infinite number of trials, he discovered, to his great delight, that in any two planets the squares of the times of the revolution are as the cubes of their mean distances from the sun.

It is humiliating to be obliged to state, that these great discoveries were at first underrated by astronomers, and that they even reproached Kepler for making them; because, in calculating the place of a planet, they introduced a problem too difficult to be resolved by elementary geometry.

While Kepler was thus perfecting the theory of the planetary motions, Galileo had constructed a telescope, and directed it to the moon. The appearance of that luminary, under the telescope, is now so well known, that we need not describe it. The effect produced upon the mind of Galileo may be easily conceived. He became satisfied of the resemblance between the surface of the moon and that of the earth. The telescope brought into view multitudes of fixed stars, which cannot be seen by the naked eye. In Jupiter he observed a large disc, approaching in size to the moon. Near it he saw, for the first time, three luminous points in a straight line; two of them on one side, and one on the other. By observing them, however, night after night, he found these small stars to be four in number, and to be moons or satellites accompanying Jupiter, and revolving round him as the moon does round the earth.

In Saturn he saw one large disc, with two smaller ones very near it, and diametrically opposite, and always seen in the same places. But more powerful telescopes were wanting before these appearances could be interpreted.

The horned figure of Venus, and the gibbosity of Mars, added to the evidence of the Copernican system, and verified the conjecture of its author, who ventured to say, that if the sight were sufficiently powerful, we should see Mercury and Venus exhibiting phases similar to those of the moon.

These discoveries were probably the most splendid that ever fell to the lot of any individual. In a more enlightened age they would have secured the gratitude and admiration of the whole scientific world. But Galileo had raised a host of enemies, by attempting to overturn the Aristotelian doctrines, and the church itself was roused to action, because it had staked its infallibility in support of dogmas which the discoveries and reasoning of Galileo had overturned. Galileo was twice brought before the inquisition; and a council of seven cardinals pronounced the following sentence: “That to maintain the sun to be immovable, and without local motion in
the centre of the world, is an absurd proposition, false in philosophy, heretical in religion, and contrary to the testimony of Scripture. That it is equally absurd and false in philosophy to assert, that the earth is not unmovable in the centre of the world, and, considered theologically, equally erroneous and heretical."

Here was an example, among many others that might be given, of a number of men who conceived that power was able to subdue truth. But the puny efforts of popes and cardinals are totally unable to stop the steady flow of human knowledge. The decree remains still in force among the infallible oracles of the Roman Catholic church. But who pays any regard to it? * A promise was extorted from Galileo that he would not teach the doctrine of the earth's motion, either by speaking or writing. But this promise he did not keep. His third dialogue, published long afterwards, contains a full display of the beauty of the new system, and such an exposure of the inconsistencies of Ptolemy and Tycho, as completed the triumph of the new system.

In 1663, when he was seventy years of age, he was again brought before the inquisition, and forced solemnly to disavow his belief in the earth's motion. He was condemned to perpetual imprisonment; though the sentence was afterwards mitigated, and he was allowed to return to Florence. This sentence sank heavily into his mind; he never after either talked or wrote on the subject of astronomy. But no decisions of popes or inquisitors could stop the progress of truth. The opinion that the earth is one of the planets, and that, like the others, it moves round the sun in an elliptical orbit, became more and more prevalent, and was soon universally embraced.

The time was now come when the motions of the heavenly bodies were to be compared with the laws of motion, as known on the earth. For this comparison, and for the development of a new science, the sublimest that has hitherto been exposed to the eyes of mankind, the world is indebted to Newton. In the year 1666, when he was a very young man, he was driven from Cambridge by the plague. As he sat one day in his garden, musing on the nature of the mysterious force by which the phenomena at the earth's surface are so much regulated, he observed an apple

fall from a tree. The thought occurred to him, since gravity is a tendency not confined to bodies on the very surface of the earth; but since it reaches to the tops of trees, and to the summits of the highest mountains, without its intensity suffering any sensible change, why may it not reach to a much greater distance, and even to the moon itself? And if so, may not the moon be retained in her orbit by gravity, and forced to describe a curve, like a projectile, on the surface of the earth? Here another consideration very naturally occurred. Though gravity be not sensibly weakened at small distances from the earth, yet it may be weakened at greater distances, and at the moon may be much less. To estimate the quantity of diminution, Newton seems to have reasoned thus: If the moon be retained in her orbit by the gravitation of the earth, it is probable that the planets likewise are carried round the sun, in consequence of a similar power directed to the centre of that luminary. He proceeded, therefore, to inquire by what law the gravitation of the planets to the sun must diminish, in order to correspond with Kepler's third law.

Such an investigation would have been beyond the power of most mathematicians of that age; but Newton soon discovered that Kepler's law would require the force of gravity to diminish exactly as the square of the distance increased. The moon, therefore, being distant from the earth about sixty semi-diameters of the earth, the force of gravity at that distance must be reduced to the 3600th part of what it is at the earth's surface. Was the deflexion of the moon, then, from the tangent of her orbit in a second of time, just the 3600th part of the distance which a heavy body falls in a second at the earth's surface? This question could be precisely answered, supposing the moon's distance in feet known, and her angular velocity, or the time of her revolution in her orbit also known.

Being at a distance from books, he took the common estimate of the earth's circumference then in use; according to which, a degree was held equal to sixty miles. This being an erroneous supposition, the result of the calculation did not represent the force as adequate to produce the effect. Hence Newton concluded that some other cause than gravity must act on the moon, and laid aside, in consequence, all further speculations on the subject for the time.

Some years after, his attention was again called to the subject by a letter from Dr Hooke, proposing, as a question, To determine the line in which a body let fall from a height descends to the ground, taking into consideration the motion of the earth on its axis. This led him to resume the subject of the moon's motion, and the mea-

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* In the edition of Newton's Principia Mathematica by the Jesuits, Le Seur and Jacquier, printed at Rome in the year 1742, there occurs at the beginning of the third book the following declaration, by the reverend editors: "Newton in this third book has assumed the hypothesis of the motion of the earth. The propositions of the author could not be explained without adopting that hypothesis. We were therefore forced, in consequence, to adopt the opinion of another person. But we acknowledge ourselves obedient to the decree of the pope against the motion of the earth."
sure of a degree by Norwood having now furnished more exact data, he found that his calculation gave the precise quantity for the moon's momentary deflexion from the tangent of her orbit, which was deduced from astronomical observation. The moon, therefore, has a tendency to descend to the earth from the same cause that a stone at its surface has; and if the descent of a stone in a second be diminished in the ratio of 1 to 3600, it will give the quantity which the moon descends in a second below the tangent of her orbit. Thus is obtained an experimental proof that gravity decreases as the square of the distance increases. He had already found that the times of the planetary revolutions, supposing their orbits to be circular, led to the same conclusion. He now proceeded, with a view to the solution of Hooke's problem, to inquire what their orbits must be, supposing the centripetal force to be inversely as the square of the distance, and the initial force to be any whatever. On this subject, we are told, that he composed about a dozen of propositions, probably those at the beginning of the Principia.

After this noble opening it is very surprising that he again dropped the investigation, and was not induced to take it up again till several years after, when Dr Halley paid him a visit at Cambridge, and prevailed upon him to renew and extend his researches.

He then found that the three laws of Kepler are direct consequences of the system of gravitation. He showed that they all followed from the law that the planets gravitate to the sun, with a force inversely as the square of the distances. It added much to this evidence that the observations of Cassini had proved the same laws to prevail among the satellites of Jupiter.

Did the principle which appears to unite the great bodies of the universe act only on these bodies? Did it reside merely in their centres, or was it a force common to all the particles of matter? It could hardly be doubted that this tendency was common to all the particles of matter. For the centres of the great bodies had no properties but those derived from the particles distributed around them. But the question admitted of being brought to a better test than mere abstract reasoning. The bodies between which this tendency had been observed to take place were all round bodies, and nearly spherical, and whether large or small, they seemed to gravitate towards each other, according to the same law. The planets gravitate to the sun, the moon to the earth, the satellites of Jupiter to that planet—and gravity, in all these cases, varies inversely as the square of the distances. It was, therefore, safe to infer that however small the bodies, provided they were round, they would gravitate to each other with forces varying inversely as the squares of the distances. It was probable, then, that gravity was the mutual tendency of all the particles of matter to each other. But this could not be concluded with certainty, till it was known whether great spherical bodies, composed of particles gravitating according to this law, would themselves gravitate according to the same.

This problem Newton undertook to solve. He reduced it to the quadrature of curves, and found, no doubt, with delight, that the law was the same for the sphere as for the particles which compose it. That the gravitation was directed to the centre of the sphere, and was, as the quantity of matter contained in it, divided by the square of the distance from the centre. Thus a complete expression was obtained for the law of gravity, involving both the conditions on which it must depend, the quantity of matter in the gravitating bodies, and the distance at which the bodies are placed. There could be no doubt that this tendency was always mutual, and there was no exception to the rule that action and reaction are equal. So that if a stone gravitates to the earth, the earth equally gravitates to the stone; or, in other words, the two bodies approach each other with velocities which are inversely as their quantities of matter.

Newton went further, and showed how the quantity of matter, and even the density of the planets, might be determined. In the way already explained, he was enabled to compare the intensity of the earth's gravitation to the sun, with that of the moon to the earth, each being measured by the momentary deflexion from the tangent to the small arch of its orbit. A more detailed investigation showed that the intensity of the central force in different orbits, is as the mean distance divided by the square of the periodic time. And the same intensity being also, as the quantities of matter divided by the squares of the distances, it follows that these two quotients are equal to each other; and that, therefore, the quantities of matter are as the mean distances divided by the squares of the periodic times. Supposing, therefore, that the ratio of the mean distance of the sun from the earth, to the mean distance of the moon from the earth is given; as the ratio of their periodic times is also known, the ratio of the quantity of matter in the sun, to the quantity of matter in the earth, of consequence is found. And the same thing holds in all the planets which have satellites moving round them. Hence also their mean densities, or specific gravities, become known.

The *Principia Philosophiae Naturalis*, which contained all these discoveries, was published in
the year 1687; and many years elapsed before it became generally known and understood.

The principle of gravity thus fully established, and its consequences developed, was not mentioned by Newton for the first time. Some curious references to it are found in the writings of the ancients; and Copernicus, Kepler, and Hooke entertained opinions respecting it approaching much nearer to accuracy. "I do not think," says Copernicus, "that gravity is any thing else than an appetency of the parts of the earth given by the providence of the Supreme Being, that by uniting together they may assume the form of a globe. It is probable that this same affection belongs to the sun, the moon, and the fixed stars, which are all of a round form."

Kepler, in his great work on the Motions of Mars, treats of gravity as a force acting naturally from planet to planet, and particularly from the earth to the moon. "If the moon and the earth were not retained by some animal or equivalent force, each in its orbit, the earth would ascend to the moon by a 54th part of the interval between them, while the moon moved over the remaining fifty-three parts; that is, supposing them of the same density." This passage displays a curious mixture of ignorance and knowledge respecting the planetary motions.

Hooke made a nearer approach to truth than any of his predecessors. In his attempt to prove the motion of the earth in 1674, he lays it down as a principle, that the heavenly bodies have an attraction towards their own centres, which extends to other bodies within the sphere of their activity. The force of gravity he considered as greatest nearest the body, though he could not determine the rate of variation. These were considerable advances, though his opinions were mixed with much error and much ignorance. Yet he was disingenuous enough, when Newton had determined the law according to which gravitation varies, to lay claim himself to the discovery.

Of all the physical principles that have been hitherto made known, there is none so fruitful in consequences as that of gravitation. The same sagacity that led to the discovery was necessary to trace its consequences.

The mutual gravitation of all bodies being admitted, it was evident that, while the planets were describing their orbits round the sun, they must mutually attract one another; and hence, in their revolutions some irregularities, from the description of equal areas in equal times, might be expected. But hitherto such irregularities had been observed only in the revolutions of the moon. This led Newton to inquire what the forces were, which, according to the laws just discovered, could produce the irregularities in question. The moon must be acted on not only by the earth, but also by the sun; and it was at once evident that the force which was sufficient to bend the orbit of the earth into the form of an ellipse, must have a sensible effect on the orbit of the moon. He showed that it is not the whole force which the sun exerts on the moon, but only the difference between that force and the force which the moon exerts on the earth. To obtain exact measures of the disturbing forces, he supposed the entire force of the sun on the moon to be resolved into two, of which one always passed through the centre of the earth, and the other was always parallel to the line joining the sun and earth, consequently to the direction of the force of the sun on the earth. The former of these forces being directed to the centre of the earth, does not prevent the moon from describing round the earth equal areas in equal times.

But the effect of it on the whole is to diminish the gravitation of the moon to the earth about one 358th part, to increase her mean distance in the same proportion, and her angular motion by about a 179th. He proved, by a very subtle investigation, that these forces would not sensibly change the elliptical orbit of the moon, but that the orbit itself would be rendered movable; its longer axis having an angular and progressive motion, by which it advanced over a certain arc during each revolution of the moon. This afforded an explanation of the motion of the apsides of the lunar orbit, which had been observed to go forward at the rate of 3° 4' nearly, during the time of the moon's revolution, in respect of the fixed stars.

But the exact quantity of the motion of the apsides did not correspond with the diminution of the moon's gravity, as above assigned. There was, therefore, a cloud overshadowing this part of the lunar theory, which was not dissipated till a greater advance in mathematical knowledge put it in the power of subsequent astronomers to investigate the subject completely.

The line of the lunar nodes had been observed to retrograde at the rate of 3° 10' every day. Newton showed that the second of the forces into which the solar action was resolved, being exerted not in the plane of the moon's orbit, but in that of the ecliptic, inclined to the former, at an angle somewhat greater than five degrees, its effect must be to draw down the moon to the plane of the ecliptic, sooner than it would otherwise arrive at it; in consequence of which, the intersection of the two planes would approach, as it were, towards the moon, or move in a direction opposite to that of the moon's motion, or become retrograde. From the quantity of the solar force, and the inclination of the moon's
orbit, Newton determined the mean quantity of this retrogradation, as well as the irregularities to which it is subject, and found both to agree, corresponding very accurately with observation.

The lunar inequality discovered by Tycho, and called by him the Variation, which consists in the alternate acceleration and retardation of the moon in each quarter of her revolution, was accurately determined from theory, such as it is found by observation. The same remark applies to the annual equation, which had been long confounded with the equation of time. It does not appear that Newton attempted an exact determination of the other inequalities of the lunar motion. He satisfied himself with the general truth, that the principle of the sun's disturbing force led to the supposition of inequalities of the same kind with those actually observed. The full knowledge of all these inequalities, and their exact accordance with theory, was reserved for a future period, when a more perfect state of the calculus enabled philosophers to investigate the whole subject.

The earth, in consequence of its rotation on its axis, is influenced by a centrifugal force, which must act most powerfully on the parts most distant from the axis. The amount of this centrifugal force is greatest at the equator; and being measured by the momentary recess of any point from the tangent, which was known from the earth's rotation, it could be compared with the force of gravity at the same place, measured in like manner by the descent of a heavy body in the first moment of its fall. Newton found that the centrifugal force at the equator is the 259th part of gravitation, diminishing continually as the cosine of the latitude, on going from the equator to the poles, where it vanishes altogether.

From the combination of this force with that of gravity, it follows that the plumb line cannot tend exactly to the earth's centre, and that a true horizontal line, such as is drawn by leveling, if continued from either pole in the plane of a meridian all round the earth, would not be a circle but an ellipse, having its greater axis in the plane of the equator, and its least in the direction of the axis of the earth's rotation. Now the surface of the ocean itself actually traces this level, as it extends from the equator to the poles. Hence it follows, that the figure of the earth is an oblate spheroid, or a solid generated by the revolution of the elliptic meridian about its shorter axis. To determine the proportion of the axis of this spheroid, Newton conceived that, if the waters at the pole and at the equator were to communicate by a canal through the interior of the earth, one branch reaching from the pole to the centre, and the other at right angles to it from the centre to the circumference of the equator, the water in this canal must be in equilibrio, or the weight of the fluid in the one branch just equal to that in the other. By a very subtle process of reasoning, he found that the length of the equatorial canal must be to that of the polar as 230 to 229. It was demonstrated afterwards by Maclaurin and Clairaut, that this is in fact the ratio of the two diameters of the earth, supposing its specific gravity to be homogeneous from circumference to centre. If its specific gravity increased from the circumference to the centre, so as to be infinitely great at the centre, then the difference between the two diameters would be a minimum, and would amount only to one 578th part. Mr Ivory has examined this subject with his usual sagacity and profound mathematical knowledge, and concludes that the true difference between the length of the two diameters is one 300th part. This determination, we may safely assume, as exceedingly near the truth.

From the figure of the earth thus determined, Newton showed that the intensity of gravity at any point of the surface, is inversely as the distance of that point from the centre. Its increase, therefore, in going from the equator to the poles, is as the square of the sine of the latitude, the same ratio in which the degrees of the meridian increase. As gravity diminishes in going from the poles to the equator, it follows that a pendulum of a given length would vibrate slower when carried from Europe to the torrid zone. This had been already verified by the observations of Varin and De Hayes, made at Cayenne and Martinique.

What is called the precession of the equinoxes, or the retrogradation of the equinoctial points, had been long known. Its rate had been found to amount nearly to 50" annually, so as to complete an entire revolution of the heavens in 25,920 years. Nothing seemed more difficult to explain than this phenomenon—no preceding astronomer had even thrown out a conjecture on the subject. It was reserved for the sagacity of Newton. He was directed by a certain analogy between the precession of the equinoxes, and the retrogradation of the moon's nodes, a phenomenon to which his calculus had been already successfully applied. The spheroidal shell, or ring of matter which surrounds the earth in the direction of the equator, being one half above the plane of the ecliptic, and one half below, is subjected to the action of the solar force, the tendency of which is to make this ring turn on the line of its intersection with the ecliptic, so as ultimately to coincide with the plane of that circle. This would have happened long since if the earth had not turned on its axis. The effect of the rotation of the spheroidal ring from west
to east, at the same time that it is drawn down towards the plane of the ecliptic, is to preserve the inclination of these two planes unchanged, but to make their intersection move in a direction opposite to that of the diurnal rotation, that is, from east to west, or contrary to the order of the signs; 10° appeared to be the part of the effect due to the moon's attraction, and 40° to the attraction of the sun. How Newton obtained these numbers does not appear; his data seem scarcely sufficient for the purpose; yet as his results are correct, the probability is that he was in possession of data which he has not stated to his readers. The subject was completed at the interval of a century, by the exertions of Lagrange and Laplace.

Newton next turned his attention to the phenomena of the tides, the dependence of which on the sun and moon was sufficiently obvious to common observation. That the moon has the greatest effect in producing the tide, is evident from this, that high water always occurs at a place nearly at the time when the moon is in the same meridian, and that the daily retardation of the tide is synchronous with the retardation of the moon in her diurnal revolution. It is equally evident that the sun is concerned in the tides, as the highest tides happen when the sun, moon, and earth are all three in a straight line, and the lowest tides when the lines drawn from the sun and moon to the earth make right angles with each other.

Newton perceived that the waters revolving round the earth are nearly in the condition of a satellite revolving about its primary, and liable to the same kind of disturbance from a third body. High water always takes place in the hemisphere where the moon is, and in the opposite hemisphere where the moon is not, nearly at the same time. Now if the action of the moon disturb the equilibrium of the ocean, just as the action of one planet disturbs the motion of a satellite moving round another, this is exactly what might be expected. It had been proved that the moon, when in conjunction with the sun, had her gravitation to the earth diminished, and when, in opposition to the sun, has it diminished very nearly by the same quantity. For at the new moon the moon is drawn to the sun more than the earth is, and at the full moon the earth is drawn to the sun more than the moon is, and nearly by the same quantity; the relative motion of the two bodies is, therefore, affected the same way in both cases, and the gravity of the moon to the earth is in both cases lessened.

The action of the moon on the waters of the ocean must be regulated by the same principle. In the hemisphere where the moon is, the waters are more drawn to the moon than the earth is; and its gravity being lessened, the column towards the middle of the hemisphere lengthens in consequence of the pressure of the waters, which are at a distance from the middle point of which the weight is less diminished, or at the horizon even increased. In the opposite hemisphere the earth is more drawn to the moon than the waters, and their relative tendencies are changed in the same direction, and nearly by the same quantity.

The attraction of the sun and moon conspire to elevate the waters of the ocean, whether these luminaries be in opposition or conjunction. In both cases the solar and lunar tides are added together, and the tide actually observed is the sum of both. At the quadratures these two tides are opposed to one another, the high water of the lunar tide coinciding with the low water of the solar tide, and vice versa; so that the tide actually observed is the difference between the two.

Newton had no data for measuring the lunar force in producing the tides. But a measure for the solar force, as it acts on the moon, had been obtained. It had been shown to be \( \frac{1}{3} \) th of the force which retains the moon in her orbit. This last is \( \frac{1}{3} \) th of the force of gravity at the earth's surface; and, therefore, the force with which the sun disturbs the moon's motion is \( \frac{1}{3} \times \frac{1}{3} \) of gravity at the earth's surface. This is the solar disturbing force on the moon, distant sixty semi-diameters from the earth's centre; but on a body only one semi-diameter distant from that centre (that is, on the water of the ocean) the disturbing force will be sixty times less, or only \( \frac{1}{3} \) of gravity at the earth's surface.

Now this being the mean force of the sun, is that by which it acts on the waters ninety degrees distant from the point where it is vertical, where it is added to gravity, and tends to increase the weight and lower the level of the waters. At the point where the sun is vertical the force to raise the water is about double this; and, therefore, the whole force tending to raise the level of the high above that of the low water, is three times the preceding, or about \( \frac{1}{3} \) of gravity. Newton had previously shown that the centrifugal force, amounting to \( \frac{1}{3} \) of gravity, was able to raise the level of the ocean above seventeen miles. This enabled him to conclude, that the elevation of the waters, produced by the solar force, will come out 1'92 French feet. From a comparison of the spring and neap tides, that is, of the sum and difference of the lunar and solar forces, it appears that the force of the moon is to that of the sun as 4:48 to 1. Hence the moon will raise the waters 8'63 French feet.
making together 10½ feet, which agrees pretty well with what is observed in the open sea at a distance from land.

From the force which the moon exerts on the waters of the ocean, Newton concluded that the quantity of matter in the moon is to that in the earth as 1 to 3978, or, in round numbers, as 1 to 40. He found also the density of the moon to the density of the earth as 11 to 9.

Much has been done upon the tides by Maclaurin, Bernoulli, Euler, and Laplace; but the original deduction of Newton, of which an idea has just been given, will be for ever memorable.

The motion of comets still remained to be discussed. They had only lately been placed beyond the range of the earth’s atmosphere; but with respect to their motion, astronomers were not agreed. Kepler thought that they moved in straight lines, Cassini that they moved in the planes of great circles, but with little curvature. Hevelius had shown the curvature of their path to be different in different parts, and to be greatest when nearest the sun. A parabola having its vertex in that point, seemed to him to be the line in which the comets moved. Newton, satisfied of the universality of gravitation, had no doubt that the orbits of the planets were conic sections, having the sun in one of the foci. The curve might be an ellipse, a parabola, or an hyperbola, according to the relation between the force of projection and the force tending to the centre. As the eccentricity of the orbit is very great, the portion of it that fell within our view could not differ much from a parabola. This rendered the calculation of the comet’s place, when the position of the orbit was once ascertained, more easy than in the case of the planets. From three observations of the comet, the position of the orbit could be determined, though the geometrical problem was one of great difficulty. Newton gave a solution of it, and it was by this that his theory was to be brought to the test of experiment. If the orbit thus calculated was not the true one, the places of the comet calculated on the supposition that it was, and that it described equal areas in equal times about the sun, could not agree with the places actually observed. Newton showed, by the example of the remarkable comet then (1680) visible, that this agreement was as great as could reasonably be expected. Thus another proof was given in support of the principle of universal gravitation.

We have been thus particular in tracing the discoveries of Newton, because they constitute the most memorable, the most successful, the most difficult, and the most sublime set of investigations which had hitherto been attempted. The more the doctrine of universal gravitation has been investigated, the more firmly has its truth been established. Every improvement in the infinitesimal calculus has given mathematicians (if the expression may be permitted) a firmer grasp of the universe. New effects of the mutual action of the planets on each other have been detected; but all according most harmoniously, or rather resulting as a necessary consequence of the law of universal gravitation, as laid down and investigated by Newton. No other department of science can be compared to this; no other branch of human knowledge can be specified, which is built on a foundation so firm that every succeeding investigation has served only to render it more secure. No other theory can be exhibited so perfect, that every minute fact might be deduced a priori as a consequence of it; and which does not contain a single phenomenon within the whole range of the science that is not merely not inconsistent with it, but which does not directly flow from it.

The Principia appeared in 1687; and the doctrines which they contained were immediately embraced by the small number of British mathematicians who were able to read and understand that immortal work. But on the continent it was treated at first with neglect, and an indifference bordering on contempt. The only mathematical competitor that Newton had on the continent was Leibnitz, with his disciples and staunch adherents, the two Bernoullis. The question respecting the original discoverer of the infinitesimal calculus was not yet agitated. Yet the German mathematicians do not seem to have given themselves the trouble of making themselves masters of the Principia. The cautious mode of investigation which Newton had adopted did not quite accord with the genius of Leibnitz, who was fond of metaphysics, and in the habit of introducing them into most of his investigations.

France, which has since that period produced so many eminent mathematicians, owing to the fostering care of her government, could not at that time boast of any of very great eminence. The philosophy of Descartes was everywhere prevalent; and his vortices, which it was the object of the Principia to overturn and subvert, were too dear to the French to enable them to judge of the doctrines of Newton with the requisite impartiality. Accordingly, the first mathematician who ventured publicly to defend the doctrines of Newton was Maupertuis. In the year 1732 he published a work, in which he drew a comparison between the systems of Descartes and Newton, and showed the superiority of the latter. Fontenelle, however, in his Eloge of Newton, inserted in the Memoires of the Academy for 1727, admits the infinite merit of
the Principia, and states the universal shout of admiration, which, after a long interval of years, was raised from every country in its praise. But nothing conformable to the Newtonian principle had at that period appeared in France; we suspect, indeed, that we might say that nothing conformable to it had appeared in Europe.

It is curious, and contributes not a little to lead us into the character of our lively neighbours, that the great apostle of Newton in France, the person who contributed most to make his opinions known and adopted, was Voltaire.

Fontenelle continued a Cartesian to the end of his days. Cassini and Miraldi seem to have been quite unacquainted with the Newtonian system, and continued the most vague and imaginary hypotheses for calculating the paths of comets, after Halley had computed tables from which the motions of all the comets that had ever appeared, or ever could appear, might be easily deduced.

We must now proceed to notice the most important additions which have been made to astronomy since the appearance of the Principia.

1. The aberration of the Fixed Stars. Drs Bradley and Malinieux, in the end of the year 1725, were occupied in searching for the parallax of the fixed stars by means of a zenith sector, which was erected at Kew. It was of great diameter, and furnished with a telescope twenty-four feet long, with which they proposed to observe the transits of stars near the zenith, according to a method first suggested by Hooke, and pursued by him so far as to induce him to think that he had actually discovered the parallax of $\gamma$ Draconis, the bright star in the head of the dragon, on which he made his observations. They began to observe the transits of the same star on the 3d of December, when the distance from the zenith at which it passed was carefully marked. By the observations of the following days, the star seemed to be moving south; and about the beginning of March in the following year, it had got 20° to the south, and was then nearly stationary. In the beginning of June it had come back to the same situation where it was first observed; and from thence it continued its motion northwards till September, when it was about 20° north from where it was first seen; its whole declination amounting to 40°.

This motion surprised the observers a good deal; as it lay the contrary way to what it would have done had it proceeded from the parallax of the star. But the repetition of the observations proved their accuracy. They were afterwards continued by Bradley, with another sector of smaller radius, but large enough for the purpose; which embraced a larger arch, and admitted the observation of stars which passed at a greater distance from the zenith. Even with this addition, the observations did not put Bradley in possession of the complete fact. They only gave him the motion of each star in declination, but not in right ascension.

After considering the subject with the greatest attention, and excluding all those causes which were inadequate to produce the effect, it occurred to him that the apparent motions might be produced from the progressive motion of light, combined with the motion of the earth in its orbit, If the earth were at rest, it is evident that a telescope, to admit a ray of light from a star to pass along its axis, must be directed to the star itself. But if the earth (and of course the telescope) be in motion, it must be inclined forward, so as to be in the diagonal of a parallelogram, the sides of which represent the motion of the earth and the motion of light, or in the direction of these motions, and in the ratio of their velocities. It is with the telescope just as with the vane at the mast-head of a ship. When the ship is at anchor the vane takes exactly the direction of the wind; but when the ship is under way it places itself in the diagonal of a parallelogram, of which one side represents the velocity of the ship, and the other the velocity of the wind.

The telescope, therefore, through which a star is viewed, and by the axis of which the position of the star is determined, must make an angle with the straight line drawn to the star; except when the earth moves directly to the star, or directly from it. Hence it follows, that if the star be in the pole of the ecliptic, the telescope must be pointed forwards in the direction of the earth's motion, always by the same angle; so that the star would be seen out of its true place by that angle, and would appear to describe a circle round the pole of the ecliptic, the radius of which subtended at the earth an angle, of which the sine is to unity as the velocity of the earth to the velocity of light.

These velocities Bradley took at 1 to 10313, as most suitable to his observations, which made the radius of the circle of aberration 20°, and the transverse axis of the ellipse, or the whole change of place, 40°. It was the shorter axis which Bradley had actually observed in the case of $\gamma$ Draconis, that star being very near the solstitial colure, so that its changes of declination and of latitude are almost the same.

To show the truth of his theory, he computed the aberration of different stars, and, on comparing the results with observation, the coincidence appeared almost perfect, so that no doubt remained concerning the truth of the principle on which he had founded his calculations. He did not explain the rules themselves Cliraut
published the first investigation of them in the Memoirs of the Academy of Sciences for 1737. Simpson also gave a demonstration of them in his Essays, published in 1740.

2. Figure of the earth. Newton, from the theory of universal gravitation, had shown that the figure of the earth was an oblate spheroid, flattened at the poles. But the trigonometrical measurement of France, begun by Picard in 1675, and finished by Cassini in 1716, led to a different conclusion. For the degrees on the north of Paris, instead of lengthening, as ought to have been the case, according to Newton's theory, were shorter by about \( \frac{1}{46} \)th part than those to the south of that capital. This indicated the diameter of the earth through the poles longer than the equatorial diameter, in the proportion of 96 to 95. This was laid hold of by the Cartesian in their reasonings against the Newtonian philosophy.

A clock, made by Graham, having been carried out to Jamaica in 1732, by Colin Campbell, was ascertained by astronomical observations at the Black River, in latitude 18\(^\circ\), (allowing for the influence of heat on the pendulum) to go 1' 55" every day slower than in London. Bradley found that this variation exceeded what would suit the figure calculated by Newton. He therefore, suspected some diminution of gravity in the equatorial regions. But the subsequent investigations of Maclaurin demonstrated the accuracy of the Newtonian conclusions. The French triangulation being resumed in 1740, an error was detected in the measurement of the base, and another not less considerable in the observation of the meridional arc. But the work was not terminated till the year 1754. In the extent of above eight degrees, their lengths appeared regularly to increase from Perpignan to Dunkirk by about \( \frac{1}{6} \)th part, marking obviously the oblateness of the spheroid.

Condamine, in the year 1733, urged the Academy of Sciences to send a party to measure a degree under the equator. The academy adopted the project with zeal, and were lucky enough to obtain the concurrence and support of government. In May, 1735, the academicians, Condamine, Bouguer, and Godin sailed from Rochelle to Peru, where they were joined by Juan and Ulloa, two naval officers, deputed by the king of Spain. In the month of July, 1736, they met at Quito, under the line. They chose a valley of the Cordilleras, running about 800 miles southwards from that city, and enclosed on both sides by the loftiest ranges of the Andes. Divided into two sets, they carried a series of triangles along the flanks and summits of those mountains, and connected them with the base measured below. The task was peculiarly arduous, owing to the severity of the climate, and the total want of accommodation. But eight years of indefatigable industry enabled them to finish the measurement assigned to them. Bouguer, the most eminent of them all, gave a complete narrative of all their various operations in his Treatise on the Figure of the Earth, not published till 1749; and one of the most scientific works that has ever appeared. He concluded that the earth is not only an oblate spheroid, but so considerably flattened as to have its equatorial diameter to its axis as 179 to 178.

Meanwhile Maupertuis prevailed on the French minister, Maurepas, to despatch another company, which he reluctantly consented to lead, for a similar purpose, to the arctic circle. The associates of Maupertuis were Momier, Camus, Orthier, and Clairaut, by far the most eminent of them all. They arrived in Stockholm in June, 1736, and were joined by Celsius, the professor of astronomy at Upsala, who had brought from London Graham's zenith sector and transit instruments. They proceeded to the bottom of the Gulf of Bothnia, and selected Torneao as their principal station. Their triangles extended from this town to Kittis, a distance of about sixty miles. The whole was finished in little more than a year; and the length of a degree of latitude at the Arctic circle was found to be 57,419 toises, or 349 toises longer than the corresponding measurement at Paris. This gave the ratio of 178 to 179 to the polar and equatorial diameters—very nearly agreeing with the more extensive operations afterwards performed in Peru.

But this arctic triangulation, bearing evident marks of haste, because suspected of inaccuracy; and at the suggestion of Melanderhielm, the Swedish academy, about the beginning of the present century, sent Svanberg, with proper assistants, to resume the operations. They not only rectified the former observations, but carried the measurement about forty miles farther north. It was determined that the length of a degree in Lapland is only 57,209 toises. This, compared with Cassini's measurement in France, reduces the oblateness to \( \frac{1}{44} \)th of the axis. Comparing the measurements in Lapland and Peru, we obtain the ratio of 302 to 301 for the equatorial and polar diameters.

Other measurements were made at the Cape of Good Hope, in the papal territories, in England, in the East Indies, but as they have not served to diminish, but rather to increase the anomalies, we need not notice them here. The convertible pendulum of captain Kater, which he was very sanguine would furnish an invariable standard of lineal measure, has been also employed as a means of deducing the figure of the earth. But
the results vary not less than those obtained by trigonometrical measurement. Mr Ivory, from a critical examination of all the data, has concluded the ellipticity to be \( \frac{1}{3} \). In this decision, from the consummate mathematical skill of the author of it, we are disposed to coincide.

3. Application of mathematics to calculate all the disturbances introduced by gravitation into the solar system.

The first person who improved the Newtonian theory of the moon was Calandriini, professor of mathematics in Geneva, who superintended the printing of the Jesuits' copy of the Principia in 1739 and 1742. He investigated, by a direct method, the principal lunar equations, and likewise the smaller inequalities which Newton had left undemonstrated. He revised the investigation of the motion of the apsidal; but his calculations only gave half the quantity derived from observation. Dr Matthew Stewart, professor of mathematics in Edinburgh, discovered the true motion of the line of the apsidal by a simple geometrical procedure. And in 1749, Walmesley produced a correct analytical investigation of the motion of the lunar apogee, which he extended and completed in 1753.

Clairaut began his investigations of the lunar theory in 1743. At first he was satisfied with merely studying the Newtonian procedure, and converting it into analytical expressions; but he gradually pushed his investigations farther, and in 1747 comprised all the subordinate motions of the moon under the famous general problem of the three bodies. But after prodigious labour, his solution assigned for the variation of the lunar apogee only half the measure established by observation. Euler and D'Alembert arrived at a similar conclusion about the same time. Clairaut resumed the subject, and, after incredible labour, obtained a result which acceded perfectly with observation, and thus confirmed the simple law of gravity, as laid down by Newton. The knowledge of this result induced Euler to resume his investigations, and by quite a different procedure he also obtained the true variation of the lunar apogee. D'Alembert pushed his calculations still farther, and approached still nearer the result of observation. Thus the law of attraction was for ever established on the secure basis of mathematical demonstration.

This great point being settled, mathematicians set themselves with eagerness to improve the lunar tables, which were obviously of such importance for finding the longitude at sea. Clairaut bestowed intense application on the subject, and produced a set of lunar tables, distinguished by their superior accuracy. Euler devoted to the same task the whole of his unrivalled analytical skill. But Mayer was the astronomer who distinguished himself most in this important investigation. He had been appointed director of the observatory of Göttingen in 1751, and laboured with so much intensity that he shortened his days. He derived the elements of his lunar tables from a discussion of numerous eclipses and occultations. He borrowed little from theory, though he preferred the arrangement of the elements adopted by Euler. He was the first person that employed conditional equations to find the true value of the co-efficients. His tables were inserted in the Göttingen transactions; and after the most careful corrections, he sent them in 1755 to London for the patronage of the Board of Longitude. At his death in 1762, he left two copies, greatly improved, one of which his widow transmitted to that scientific body. After protracted deliberations, the sum of £3000 was at last awarded to his family, with a present of £300 to Euler for his excellent formulas. But another more complete copy having been afterwards presented, the Board of Longitude bestowed an additional reward of £2000 at the instance of Dr Maskelyne, who zealously undertook the editing of those tables in the year 1770.

The next point to which mathematicians directed their attention, was the investigation of the disturbing influence or mutual perturbations of the larger and nearer planets. Euler, in 1747, sent to the Academy of Sciences a most ingenious memoir on the derangement of Saturn's motion, occasioned by the superior attraction of Jupiter. It was now that he discovered that there exist really no secular equations, but that all deviations from the regular course are strictly periodical, and return always in the same order, though separated at vast intervals. His first investigation was rather imperfect; but four years after he produced another dissertation, which gained the double prize of the academy. He found that the mean motions of Jupiter and Saturn are equally subject to a very slow increase or diminution, which alternates, however, in the lapse of 15,000 years. He gained the prizes for 1754 and 1756, by his theory of the inequalities in the earth's motion caused by the planets. He discovered four small anomalies to result from their combined attractions, though it was scarcely possible, for want of proper data, to assign the precise measures of these aberrations. He estimated the mean progression of the aphelion at 12" annually, and the diminution of the obliquity of the ecliptic at 49" in a century. He found that the eccentricities of the aphelion of Jupiter and Saturn are periodical, and complete their cycle in the space of 30,000 years.

The same subject was discussed by Clairaut in 1757. By comparing his formula with the ob-
The Progress of

Observations of Lacaille, he determined very nearly the masses of the principal planets, and showed that the greatest effect of their accumulated influence in deranging the earth's motion can amount only to about a minute. His estimate of the attraction of Venus has been confirmed by later and more elaborate calculation.

In 1749 D'Alambert investigated rigorously the effects arising from the moon's attracting the spheroidal prominence of the earth. By the transformation of this general expression he found the precession or conical motions of the terrestrial axis about the poles of the ecliptic to be 50" annually, and the nutation, or alternate vibration on the same plane to be only 18" during the period of the revolution of the lunar nodes. Comparing this quantity with observation, he concluded, that at the surface of the earth the attraction of the sun is to that of the moon as 3 to 7; which makes the satellite to have only the 70th part of the mass of our planet.

Astronomers now turned their attention to the motions of the comets. These bodies describe elliptic orbits with very different inclinations, and so extremely elongated as to resemble parabolas, through a considerable part of their course. Being very small, they are seen for a short space only in the vicinity of the sun, and become quite invisible when they approach the other extremity of their orbit, which is probably beyond the boundaries of our planetary system. The periodic time of comets depending upon the transverse axis of the ellipse can seldom be determined with accuracy. The few observations which can be made while it is near the perihelion are scarcely sufficient to assign its mean motion, and the places of its nodes and perihelion.

Halley applied the formulas of Newton to the computation of twenty-four remarkable comets. But his attention was particularly fixed on the nearest of them, which had been observed in 1531, 1607, and 1652, and seemed to be the same with one noticed in old chronicles in 1090, 1155, 1230, 1305, 1381, and 1456. Hence it performed its revolutions in about 75 years. He therefore ventured to predict its return about the end of 1758 or beginning of 1759. The time of the expected return approaching excited intense curiosity in the scientific world. Clairaut applied his formulas to the investigation of the progress of this comet. He found that the last revolution would be retarded 615 days longer than the preceding, from the attractions of Jupiter and Saturn. He fixed the time of its appearance to the 4th April. This exceeded that of observation by twelve days only. The discrepancy was probably owing to the influence of Uranus, which was not yet discovered. The comet was first seen by a peasant in Saxony on Christmas day; but soon became the admiration of Paris, and procured for Clairaut the enthusiasm of popular applause.

Clairaut, eager to complete a work in which he had gathered so many laurels, proceeded to calculate the disturbing influence of Jupiter and Saturn on the place of the nodes of the comet of 1652 and 1759, which has an inverted motion. Newton had shown that the perturbations in the planetary system always advance the perihelion and retract the nodes. But the case here was just reversed, and the quantity of recession thence determined agreed most exactly with observation.

But the comets in traversing our system often suffer such derangements that the most select observations are insufficient to determine, with any sort of precision, their elliptical orbits. The famous comet of 1759 was calculated by Euler and Lexell to perform its revolution in a period between 449 and 519 years, while Pigné assigned it a period of 1231 years. In some cases the observations have indicated an hyperbolic orbit. Conti, following the method of Gauss, found the comet of 1611 to revolve in 3053 years; but by a second computation, he reduced the time to 2301 years. Bessel gave the comet of 1807 a period of 1053-2 years; but afterwards brought it down to 1483-3 years.

Though the comets suffer such great derangement from the large planets, they have no sensible effect on our system. They must therefore be exceedingly small. They consist of a dark nucleus, invested with a cloudy or hazy excrecence, and usually provided with a very long tail. They have never disturbed our tides, though having sometimes approached within the third part of the distance of the moon, they would, with the same mass, exert twenty-seven times greater deranging force. But their passage was so rapid that time was not given to produce the requisite effect on the ocean.

In 1764, Lagrange, who, at the early age of 23, had invented the calculus of variations, gained the prize offered by the Academy of Sciences, for his memoir on the libration of the moon. He explained in the most satisfactory manner, from the theory of attraction, the cause why the moon always presents nearly the same face towards the earth. He again resumed the subject in 1780.

The theory of Jupiter's satellites is of great importance for finding the longitude. In 1766, Lagrange embraced the subject in its fullest extent, by introducing into his equations, not only the attractive force of the sun, but the mutual attractions of the satellites themselves. His investigation was a model of analytical research; yet it did not descend into all the practical details.
In 1773, Laplace having found that the variation of eccentricity of Jupiter’s orbit must cause a corresponding alteration in the motion of the satellites, transferred the same idea to the perturbations of our moon, and thus discovered the true theory of the secular equation, or rather of that vast cycle in which the lunar revolutions are alternately accelerated and retarded. During this discussion he demonstrated that the attractive force or gravity must be transmitted 50 million times faster than light, which travels at the rate of 200,000 miles in a second. We may therefore consider it as quite instantaneous. This conclusion is important, because it sets aside all mechanical attempts to explain gravitation by the interposition of an ether, &c., and demonstrates it to be a principle ordained by the wisdom of the supreme architect. Laplace continuing his researches, at last discovered that the secular equation of the moon affecting her mean motion, and that of her perigee and her nodes, in the ratio of 4, 12, and 3, is produced by the slow variation of the solar attraction, occasioned by the changing eccentricity of the earth’s orbit, resulting from the influence of the larger planets, though they cannot alter the great axis which determines the mean periodical revolution.

In 1785 he proved that Jupiter and Saturn can have no secular equations. But remarking that their mean periods are commensurable, and very nearly as 2 to 5, he found their reciprocal acceleration and retardation to follow the same ratio. The cycle began in 1560, and comprehends 929 years. So that, in 1780, Saturn had his period shortened 49° 44’; while that of Jupiter was lengthened by 19° 28’. In 1788 he discovered two curious laws that connect the periods of Jupiter’s satellites, and gave a complete theory of their motions, which served as the basis of Delambre’s excellent tables. In 1808, Lagrange gave a general solution of the problem of disturbing forces, and reduced his equations into a form of the utmost simplicity and elegance.

4. Lunar and solar parallaxes. The nearest celestial bodies are seen from the surface of the earth in a position somewhat different than if viewed from the centre. This difference, called parallax, is obviously greatest at the horizon, and diminishes constantly as we approach the zenith. To ascertain parallax, therefore, with tolerable precision, observations must be made at distant stations. Lacaille selected the Cape of Good Hope, where he determined the mean parallax of the moon to be 57° 39’. The parallax of the sun being very small, is more difficult to determine. Kepler had made it a minute, Halley estimated it at 23”; but succeeding astronomers had reduced it to 19”. Halley proposed a very ingenious method of determining it with accuracy from the next transit of Venus, by measuring the acceleration of the time of her passage over the disc of the sun, as viewed from remote points on the surface of the globe. Aware that his own life would not be prolonged till that event took place, he warmly exhorted his successors to prepare themselves for observing it on the 5th of June, 1761. Astronomers were accordingly despatched by the maritime powers of Europe to all the stations that were considered as most accessible and eligible: but the result did not answer their expectations; some of the stations were not well chosen, some of the most expert astronomers had not reached the station assigned them, while others were prevented from observing by the state of the weather. Pingré deduced a parallax of 10° 36’, while Short made it only 8° 4’. The uncertainty was finally removed by the numerous and skilful observations of the transit of the 3d of June, 1769. The several results differed scarcely a quarter of a second, and their concurrence fixed the parallax at 8° 575. Consequently the mean distance of the sun is 95,156,440 English miles.

5. Discovery of Uranus. Dr Herschell, who had devoted himself to the construction of telescopes, and to an indefatigable observation of the heavens, announced to Dr Maskelyne, that, on the night of the 13th of March, 1781, he observed a shifting star, which from its smallness he judged to be a comet, though it was distinguishèd neither by a nebulosity nor by a tail. The motion of the star was so slow as to require distant observations to ascertain its path. It was for several months presumed to be a comet; but the hypothesis of a parabolic orbit led to very discordant results. The president Saron was the first who conceived it to be a planet, having inferred from the observations communicated to him that it described a circle with a radius about twelve times the mean distance of the earth from the sun. Lexell, before the end of the year, had computed the elements of the new planet with considerable accuracy, making the great axis of its orbit nineteen times greater than that of the earth, and the period of its revolution eighty-four years. Bradley, mistaking it for a fixed star, had observed it on the 3d of December, 1753, and it was again seen by Mayer on the 23d of September, 1755.

Herschell gave this new planet the name of the Georgium sidus; but the term Uranus, applied to it by Bode, is almost universally adopted. Herschell discovered the satellites of this
planet, which are six in number. They revolve in a plane nearly perpendicular to the orbit of the planet, and contrary to the order of the signs. Both these primary and secondary bodies obey, in their revolutions, the laws of Kepler. The same remark applies to the satellites of Saturn, which Herschell increased to seven.

6. Discovery of four new planets. Kepler was of opinion that the harmony of our system wanted a planet between Mars and Jupiter. A similar notion was entertained by Lambert, who thought it likely that such a planet might exist, though it was dark and invisible. The distances of the planets from the sun may be denoted by the series 4, 7, 10, 16, 28, 52, 100; which numbers are convertible into English miles by multiplying by 9½ millions. The dark or deficient planet corresponds to twenty-eight, or a distance of 266 millions of miles from the sun.

In the place assigned to this dark planet, four very small bodies have been discovered; which some persons have conjectured to be only fragments disinterred from the principal, and that other similar fragments may still remain undiscovered. The discovery of these very small planets distinguished the commencement of the present century. Piazzi discovered Ceres at Palermo, on the 1st of January, 1801; Olbers discovered Pallas at Bremen, on the 29th of March, 1802; and Harding observed Juno on the 2d of September, 1804, and Vesta on the 29th of March, 1807. These small bodies differ from the other planets, not only by their diminutive size, but by the remarkable inclination of their orbits to the plane of the ecliptic; which, however, they intersect nearly in the same nodes.

7. Extent of the universe. Herschell, by means of his excellent reflecting telescopes, employed himself assiduously in observing the numerous clusters of nebulosities, and distinguished many of the changing and double stars; which, though sums of other systems, yet appear connected, and may, probably, circulate about their common centre of gravity. The subject has lately been carried a great deal further by Sir James South and Sir John Herschell, the latter of whom is preparing to go to the Cape of Good Hope, to examine the double stars of the southern hemisphere.

Sir William Herschell assuming that the instrument which he used could enable him to penetrate 497 times further than Sirius, he reckoned 116,000 stars to pass in a quarter of an hour over the field of view, which subtended an angle of only 15'. If we compute from such a narrow zone, the whole celestial vault must display, within the range of telescopic vision, the stupendous number of more than five billions of stars. If each of these be a sun to a system similar to ours, and if the same number of planets revolve round it, then the whole planets in the universe will be more than fifty-five billions, not reckoning the satellites, which may be much more numerous. What an unimportant portion of the universe is occupied by our earth, and how insignificant must its inhabitants, with all their cares, and pride, and vanity, appear to that Almighty being whose providence regulates and governs at once such a prodigious number of worlds, with all their innumerable inhabitants.

OPTICS.

The history of astronomy, the most perfect and the sublimest of all the sciences, has unavoidably extended itself to a considerable length. Optics is the next science in point of perfection. Like astronomy, it depends on observation, but is every where capable of the rigid application of mathematical calculation.

As light propagates itself in straight lines, it seems to offer itself spontaneously to the consideration of geometers. Euclid accordingly began the investigation at least fifty years before Archimedes had placed mechanics among the number of the mathematical sciences. Euclid only established two particulars: 1. That a point in any object is seen in the direction of a straight line from the eye to that object. 2. That when a point in an object is seen by reflection from a polished surface, the lines drawn from the eye and from the object to the point whence the reflection is made, are equally inclined to the reflecting surface. From a treatise on optics by Ptolemy, discovered some years ago in the king of France's library, it appears that many observations had been made on refraction, though the law followed had not been discovered.

About 1000 years after Ptolemy, or in the 11th century, Alhazen wrote his treatise on optics. In it he solved a problem of very great difficulty, to find the point in a spherical spectrum, at which a ray coming from one given point shall be reflected to another given point. Alhazen was acquainted with the anatomy of the eye, though he did not fully understand the uses of the different parts. On seeing single with two eyes, he made the very important remark, that when corresponding parts of the retina are affected we perceive but one image. Roger Bacon, who lived in the 13th century, made a near approach to the knowledge of lenses, and their use in assisting vision. The date of the discovery of spectacles, for assisting the sight, may be carried back as far as 1315, but no farther. The in-
ventor appears to have been a Florentine, called
Salvino degli Armato. He was of a Patrician
family. Maria Manni quotes the following in-
scription on his tomb, from an antiquarian
inscription: Qui diace (giace) Salvino d' Armato
del' Armati, Firenze invento de egl' Occhiali, 
anno mcccxvii.

Two centuries later Maurolicus appeared. He
was acquainted with the crystalline lens of the
eye, and formed a correct judgment of the de-
fects of short-sighted and long-sighted eyes.
Baptisto Porta, a Neapolitan, invented the camera
obscura about the year 1560. The light was
admitted through a small hole in the
shutter of a dark room, and gave an inverted
picture of the objects from which it proceeded
on the opposite wall. A lens was not employed in
the first construction of this apparatus, but
afterwards used; and Porta went so far as to
consider how the effect might be produced with-
out inversion.

Kepler was the first person who explained the
mechanical action of the eye in vision. He per-
ceived the exact resemblance of this organ to
the camera obscura, the rays entering the pupil
being collected by the crystalline lens and the
other humours of the eye into foeci which paint
on the retina the inverted images of external ob-
ts. The mind perceives these images and re-
fers them at the same time to things without.

Antonio d' Dominis, Archbishop of Spalatro,
was the first person who explained the pro-
duction of the rainbow. Having placed a bottle
of water opposite to the sun, and a little above
his eye, he saw a beam of light issue from the
underside of the bottle, which acquired different
colours in the same order and with the same brilliancy as the rainbow, when the bottle was a
little raised or depressed. From comparing all
the circumstances, he perceived that the rays had entered the bottle, and that after two refractions
from the convex part, and a reflection from the
concave, they returned to the eye tinged with
different colours, according to the angle at which
the ray had entered. The book containing this
discovery was published in 1611.

The telescope was invented about this time,
but somewhat earlier. The honour of the dis-
cov ery belongs to Middleburg, in Zealand. Two
different workmen, Zachariah Jans and John
Lapprey have each testimonies in their favour,
between which it is difficult to decide. The
former goes back to 1599, the latter comes down
to 1610. Zachariah Jans was an optician in
Middleburg, and Boreel has published a letter
from his son assigning 1590 as the date of the
invention, and another from his sister assigning
1610 as the date. From the account of Boreel
it would appear that Jans was the real inventor,
and that the discovery of the telescope had been
preceded by that of the microscope. News of
this discovery was communicated to Galileo in
1610. He immediately constructed a telescope,
turned it to the heavens, and made the interest-
ing discoveries which have been already par-
ticularized.

The theory of the telescope required that the
law of refraction should be discovered. This
discovery was the work of Snellius, a mathema-
tician of the Low Countries. To express this law
he supposed a perpendicular to the refracting
surface, at the point where the refraction is made,
and also another line parallel to this perpendicular
at any given distance from it. The refracted ray as it proceeds, will meet this parallel, and
the incident ray is supposed to be produced till it
do so likewise. Now, the general truth which
Snellius found to hold, whatever was the position of the incident ray, is, that the segments of the
refracted ray and of the incident ray, intercepted
by these parallels, had always the same ratio to
each other.

In the triangle formed by the two segments
of the rays, and by the parallel which they inter-
sect, the said segments have the same ratio with
the sines of the opposite angles; that is with the
sines of the angles of incidence and refraction.
The law, therefore, comes to this, that in the re-
fraction of light by the same mediums, the sine
of the angle of incidence has to the sine of the
angle of refraction always the same ratio. It
was first stated in this way by Descartes in his
Dioptrics, in 1637. But Snellius's law, which
comes to the same thing, had been publicly
taught in his lectures by professor Hortensius,
and must therefore have been known to Des-
cartes.

Descartes next entered upon an inquiry, in
which he was successful. In ordinary cases of
refraction, by spherical and other surfaces, the
rays are not collected into one point, but have
their foci spread over a certain surface, the sec-
tions of which are the curves called caustic
curves. The focus of opticians is only a point in
this surface, where the rays are more condensed,
and of course the illumination more intense than
in other parts of it. But if refraction is to be
employed either to produce heat or light, it would
be a great advantage to have all the rays which
come from the same point of an object united
accurately after refraction, in the same point of
the image. This led Descartes to inquire into
the figure which the superficies separating two
transparent media of different refracting powers
must have, that all the rays diverging from a
given point, might by refraction at the said
superficies be made to converge to another given
point. He showed that curves proper for gener-
ating such superficies by revolution have always
two given points from which, if straight lines be
drawn to any point in the curve, the one of these,
plus or minus that which has a given ratio to the
other, is equal to a given line. When the given
ratio is one of equality, the curve is a conic sec-
tion, and the two points its foci. The curves in
general are of the 4th or 2nd order, and have
been distinguished by the name of the ovals of
Descartes.

But no practical advantage has resulted from
this investigation. The mechanical difficulties
of working a surface into any figure but a spheri-
cal one, are so great that they have never been
overcome.

The next improver of optics was James Gre-
gorry, whose Optica Promota appeared in 1663.
It contained an account of his reflecting tele-
scope. The imperfection of the images formed
by spherical lenses led him to substitute reflec-
tion for refraction in the construction of the
telescope. Gregory thought it necessary that
the specula should have a parabolic figure; and
the execution proved so difficult, that the instru-
mment, during his lifetime, was never brought
to any perfection. After his death, the specula
were constructed of the ordinary spherical form, and
the Gregorian telescope, till the time of Her-
schell, was more in use than the Newtonian. It
is curious, that though the optics of Descartes had
been published twenty-five years, Gregory was
ignorant of the law of refraction, and found it out
by his own unassisted exertions.

Barrow's lectures on optics, delivered at Cam-
bridge in 1668, treated of all the more difficult
questions which had occurred in the then state of
the science, with the acuteness and depth which
are found in all his writings.

About this time the Jesuit Grimaldi made
known some optical phenomena, which had
hitherto escaped detection. Having stretched a
hair across a sun-beam, admitted through a hole
in the window shutter of a dark chamber, he was
surprised to find the shadow much larger than
the natural divergence of the rays could have led
him to expect. Other facts of the same kind
made known the general law of the diffraction or
inflexion of light, and showed that the rays are
acted on by bodies, and turned out of their rectilinear
course, even when not in contact, but
at a measurable distance from the surfaces or
edges of such bodies. Grimaldi gave an account
of these facts in a treatise printed at Bologna in
1665.

The dioptrics of Huygens, though a posthu-
ous work, was the production of his early youth,
and is said to have been a favourite book with
Newton himself. It contains a full development
of every thing relating to the construction of
telescopes, particularly in that which concerns
the indistinctness arising from the imperfect foci
into which rays are united by spherical lenses.
Rules are deduced for constructing telescopes,
which, though of different sizes, shall have the
same degree of distinctness, &c. Huygens was
a practical optician; he constructed telescopes
with his own hands, and some of his object
lenses were of the enormous focal distance of
130 feet.

His theory of light was communicated to the
Academy of Sciences of Paris in 1675, and af-
ferwards published with enlargements in 1690.
Light, according to him, consists of certain un-
dulations, communicated by luminous bodies to
the ethereal fluid which fills all space. This fluid
is composed of the most subtle matter, is highly
elastic, and the undulations are propagated
through it with great velocity in spherical super-
ficies, proceeding from a centre. The ingenuity
of the theory appears most conspicuous in the
explanation which it affords of the constant ratio
which subsists between the sines of the angles of
incidence and refraction in the same medium.
But the happiest application of all, is to the ex-
planation of the double refraction of Iceland
crystal, or transparent calcareous spar. This
-crystal has not only the property of refracting
light in the common manner of glass, water, and
other transparent bodies; but it has also an-
other power of refraction, by which even the rays
falling perpendicularly on the surface of the
-crystal are turned out of their course, so that a
double image is formed of all objects seen through
these crystals. This property is not confined to
calcareous spar; but belongs, in a greater or less
degree, to all substances which are both crystal-
lized and transparent.

The common refraction is explained by
Huygens, on the supposition that the undulations
in the luminous fluid are propagated in the form
of spherical waves. The double refraction is
explained on the supposition that the undulations
of light, in passing through the calcareous spar,
assume a spheroidal form; and this hypothesis,
though it does apply with the same simplicity as
the former, yet admits of such precision, that a
proportion of the axes of the spheroids may be
assigned, which will account for the precise
quantity of the extraordinary refraction, and for
all the phenomena dependent on it, which
Huygens had studied with great care, and had
reduced to a small number of general facts.

To render the theory of Huygens quite satis-
factory, a reason ought to be assigned why the
undulations of the luminous fluid are spheroidal
in the case of crystals, and spherical in all other
cases. This would render the generalization
complete. But till a connexion is clearly esta-
blished between the structure of crystallized bodies, and the property of double refraction, the theory must remain imperfect.

We now come to the discoveries of Newton, which constitute nearly as important an era in optical science as his theory of universal gravitation did in astronomy. His researches began in 1666, when he was only twenty-three years of age.

In hopes of improving the telescope, by giving to the glasses a figure different from the spherical, he had procured a glass prism, in order, as he tells us, to try with it the celebrated phenomena of colours. These trials led to the discovery of the different refrangibility of the rays of light, now too well known to require to be particularized.

Having admitted a ray of light into a dark chamber through a hole in the window-shutter, and made it fall on a glass prism, so placed as to cast it on the opposite wall, he was delighted to observe the brilliant colouring of the sun's image, and not less surprised to observe its figure, which, instead of being circular, was oblong in the direction perpendicular to the edges of the prism, so as to have the shape of a parallelogram, rounded at the two ends, and nearly five times as long as it was broad.

When he reflected on these appearances, he saw nothing that could explain the elongation of the image, but the supposition, that some of the rays of light, in passing through the prism, were more refracted than others; so that the rays which were parallel before they fell on the prism, being some of them more refracted than others, diverged from one another after refraction, the rays that differed in refrangibility differing also in colour. The spectrum would thus consist of a series of circular images, partly covering one another, and partly projecting one beyond the other, from the red, or least refrangible ray, in succession to the orange, yellow, blue, indigo, and violet, the most refrangible of all.

But he did not adopt this as the true explanation, till he had tried every other hypothesis by the test of experiment, and proved its fallacy. Even after these rejections, his explanation had still to abide the sentence of an experimentum crucis.

Having admitted the light, and applied the prism as before, he received the coloured spectrum on a board about twelve feet distant from the prism, and pierced with a small hole. The coloured light, which passed through this second hole, was made to fall on a prism, and afterwards received on the opposite wall. It was then found, that the rays which had been most refracted by the first prism were also most refracted by the second, though no new colours were produced. It was also observed, that when the rays which fell on the second prism were all of the same colour, the image formed by refraction was truly circular, and of the same colour with the incident light.

When the sun's light is thus admitted, first through one aperture, and then through another at some distance from the first, and is afterwards made to fall on a prism, as the rays come only from a part of the sun's disc, the spectrum has nearly the same length as before; but the breadth is greatly diminished; in consequence of which, the light at each point is purer, it is free from penumbra, and the confines of the different colours can be more accurately traced. It was in this way that Newton measured the extent of each colour; and taking the mean of a great number of measurements, he assigned the following proportions, dividing the whole length of the spectrum, exclusive of the rounded terminations, into 360 parts. Of these the

<table>
<thead>
<tr>
<th>Colour</th>
<th>Proportion</th>
</tr>
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<tbody>
<tr>
<td>Red</td>
<td>45</td>
</tr>
<tr>
<td>Orange</td>
<td>27</td>
</tr>
<tr>
<td>Yellow</td>
<td>48</td>
</tr>
<tr>
<td>Green</td>
<td>60</td>
</tr>
<tr>
<td>Blue</td>
<td>60</td>
</tr>
<tr>
<td>Indigo</td>
<td>40</td>
</tr>
<tr>
<td>Violet</td>
<td>80</td>
</tr>
</tbody>
</table>

Newton conceived that there was an identity between these numbers and the divisions of the monochord, by the notes of music. But it has been since observed, that the spaces occupied by these colours differ according to the kind of prism employed. Hence the relation was merely accidental.

Thus colours were found to be original properties of light, connected with the different degrees of refrangibility belonging to the different rays. Each of these colours, though primary, may be produced by a mixture of the two colours upon either side of it in the prism. Red and yellow make orange; yellow and blue make green; and so on. In general, two colours not very far distant in the natural series, when mixed, make up the intermediate colour. All of them together constitute whiteness. Natural bodies of whatever colour, if viewed by simple and homogeneous light, are seen of the colour of that light, and no other.

Thus supplied with so many new and accurate notions respecting colours, it was natural for Newton to apply them to explain the rainbow. Every thing respecting that beautiful phenomenon had been already explained, except the colours. As these colours were the same as in the solar spectrum exhibited by the prism, and in the same order, it could hardly be doubted that they were owing to the same cause. He showed this to be the case, by calculating the ex-
tent of the arch, the breadth of the coloured bow, the position of the secondary bow, its distance from the primary, and by explaining the inversion of the colours.

As all colour comes from the rays of light, we must conclude that the colour of every particular body is owing to its reflecting the particular kind of ray of which it exhibits the colour. If you cast upon a coloured body a homogeneous ray of light, it appears much more vivid; that is, it reflects much more light when the ray cast upon it is of its own colour. Transparent bodies sometimes reflect one kind of ray, and transmit another.

But here a difficulty occurs. Suppose a body to reflect red or green light, what is it that decomposes the light, and separates the red or the green from the rest? It was this difficulty that led Newton to study the colours produced by light passing through thin plates of any transparent substance. When two transparent bodies, such as pieces of glass having their surfaces somewhat convex, are pressed together, a black spot is formed at the contact of the two, which is surrounded with coloured rings, more or less regular, according to the form of the surfaces. To analyse this phenomenon, Newton made experiments with surfaces of a regular curvature, capable of being measured. He took two object glasses, one a plane convex for a fourteen feet telescope, the other a double convex for one of about fifty feet, and upon this last he laid the other, with its plane side underneath, pressing them gently together. At their contact, in the centre was a pellucid spot, through which the light passed without suffering any reflection. Round this spot was a coloured ring, exhibiting blue, white, yellow, and red. This was succeeded by a pellucid or dark ring; then a coloured ring of violet, blue, green, yellow, and red, all copious and vivid, except the green. The third coloured ring consisted of purple, blue, green, yellow, and red. The fourth consisted of green and red; those that succeeded became gradually more dilute, and ended in whiteness. It was possible to count as far as seven.

The colours of these rings were so marked by peculiarities in shade and vivacity, that Newton considered them as belonging to different orders; so that an eye accustomed to examine them, on any particular colour of a natural object being pointed out, would be able to determine to which order in this series it belonged.

Thus we have a system of rings or zones surrounding a dark central spot, and themselves alternately dark and coloured; that is, alternately transmitting the light, and reflecting it. It is evident, that the thickness of the plates of air interposed between the glasses, at each of those rings, must be a material element in the arrangement of this system. Newton, therefore, undertook to compute their thickness. Having carefully measured the diameters of the first six coloured rings, at the most lucid part of each, he found their squares to be as the progression of the odd numbers 1, 3, 5, 7, &c. The squares of the distances, from the centre of the dark spot to each of these circumferences, were therefore in the same ratio; and, consequently, the thickness of the plates of air, or the intervals between the glasses, were as the numbers 1, 3, 5, 7, &c. When the diameters of the dark or pellucid rings, which separated the coloured rings, were measured, their squares were found to be as the even numbers 0, 2, 4, 6; and, therefore, the thickness of the plates, through which the light was wholly transmitted, were as these numbers.

The curvature of the convex glass being the thickness of the plates of air which corresponded to the different rings, was computed. An inch being divided into 178,000 parts, the thickness of the air for the first series, or for the luminous rings, was 1/178000, 2/178000, 3/178000, and so on, for the second series 4/178000, 5/178000, &c. inch. For when the rings were examined, by looking through the lenses in the opposite direction, the central spot appeared white, and in other rings red was opposite to blue, yellow to violet, and green to a compound of red and violet—the colours formed by the transmitted and reflected light being what are now called complimentary, or nearly so, of one another; that is, such as when mixed produce white.

When the fluid between the glasses was different from air, as when it was water, the succession of rings was the same; the only difference was, that the rings themselves were narrower.

When experiments were made on thin plates in such a way that the plate was denser than the surrounding medium, as in the case of soap bubbles, the same phenomena were observed to take place.

To the different degrees of density, then, in transparent bodies, there seemed to be attached the powers of separating particular colours from the mass of light, and of rendering them visible, sometimes by reflection, and in other cases by transmission. Now, as there is reason to think that the atoms of bodies are transparent, they may be conceived to act on light after the manner of thin plates, and to produce, each according to its thickness and density, its appropriate colour, which therefore becomes the colour of the surface.

But these experiments led to other conclusions, new and unexpected. It was impossible to observe, without wonder, the rings alternately
luminous and dark, that were formed between the two plates of glass in the preceding experiments, and determined to be what they were by the different thickness of air between the plates, and having to that thickness the relation already specified. A plate, of which the thickness was equal to a certain quantity multiplied by an odd number, gave always a circle of the one kind; but when the thickness was the same quantity multiplied by an even number, the circle was of another kind; the light, in the first case, being reflected; in the second, transmitted.

Light penetrating a thin transparent plate, of which the thickness was \( m \), \( 3m \), \( 5m \), \&c., was decomposed and reflected; the same light penetrating the same plate, but of the thickness 0, \( 2m \), \( 4m \), \&c., was transmitted, though in a certain degree also decomposed. The same light, therefore, was transmitted or reflected, according as the second surface of the plate of air, through which it passed, was distant from the first, by the intervals 0, \( 2m \), \( 4m \), or \( m \), \( 3m \), \( 5m \); so that it became necessary to suppose the same ray to be successively disposed to be transmitted, and to be reflected at points of space separated from one another by the same interval \( m \). This constitutes what Newton called *fits of easy transmission and easy reflection*. It constitutes one of the most singular parts of his optical discoveries. It is a necessary inference from the phenomena; and though the cause cannot be assigned, it must, notwithstanding, be admitted as a general fact, which enables us to explain various phenomena that were unknown at the time when Newton lived.

Newton's explanation of refraction proceeds on the theory that light is an emanation of particles moving in straight lines with incredible velocity, and attracted by the particles of transparent bodies. When, therefore, light falls obliquely on the surface of such a body, its motion may be resolved into two; one parallel to that surface, and the other perpendicular to it. Of these the first is not affected by the attraction of the body, which is perpendicular to its own surface; and, therefore, it remains the same in the refracted as it was in the incident ray. But the velocity perpendicular to the surface is increased by the attraction of the body; and whatever be the quantity of that velocity, its square, on entering the same transparent body, will always be augmented by the same quantity. But it is easy to demonstrate, that if there be two right angled triangles, with a side in the one equal to a side in the other, the hypothenuse of the first being given, and the squares of their remaining sides differing by a given space, the sines of the angles opposite to the equal sides must have a given ratio to each other. This amounts to the same thing with saying, that, in the case before us, the sine of the angle of incidence is to the sine of the angle of refraction in a given ratio. This explanation of the law of refraction is so satisfactory, that it affords a strong argument in favour of the system which considers light as an emanation of particles from luminous bodies.

Huygens, indeed, deduced from the hypothesis of the vibrations of an elastic fluid, an explanation of refraction which is highly ingenious, but not quite so satisfactory as the Newtonian; though it be the fashion at present to give a preference to the hypothesis of Huygens, we think that very solid objections might be started against it, were this the proper place for such an attempt.

The square that is added to that of the perpendicular velocity of light, in consequence of the attractive force of the transparent substance, is properly the measure of the quantity of that attraction, and is the same with the differences of the squares of the velocities of the incident and the refracted light. This is readily deduced from the ratio of the angle of incidence to that of refraction. When this is done for different substances, it is found that the above measure of the refracting power of different bodies is nearly proportional to their densities, with the exception of those which contain much combustible matter, which is always accompanied by an increase of refracting power. Thus the refracting power, (ascertained in the way just mentioned) when divided by the density, gives quotients not very different from one another, till we come to combustible bodies, when a great increase immediately takes place. In air, for instance, the quotient is 5908, in rock crystal 5450, in common glass nearly the same; but in spirit of wine, oil, and amber, the same quotients are 10121, 12807, 13554. In the diamond he found the quotient 14556. Hence he conjectured that the diamond was, at least in part, a combustible body. The refracting power of water being great for its density, its quotient being 7845, he concluded that an inflammable substance enters into its composition—a conjecture which was verified nearly a century afterwards by the synthetical experiments of Mr Cavendish.

The reflection of light from the surfaces of opaque bodies, and from the anterior surfaces of transparent bodies, appears to be produced by a repulsive force exerted by those surfaces, at a determinate but very small distance; in consequence of which, there is stretched out over them an elastic web, through which the particles of light, notwithstanding their incredible velocity, are not always able to penetrate. In the case of a transparent body, the light which, when it arrives at this outwork is in a fit of easy reflec-
tion, is reflected back again. The particles, on the other hand, which are in a state that disposes them to be transmitted, overcome the repulsive force, and entering the transparent body, are attracted and refracted as already explained. If these rays reach the second surface of the transparent body with a certain obliquity, the attraction will not suffer the rays to emerge into the rarer medium, but will force them to return back into the transparent body. Thus the reflection of light, at the second surface of a transparent body, is produced not by the repulsion of the medium into which it is about to enter, but by the attraction of that which it was going to leave.

In consequence of these discoveries, Newton perceived a defect in the refracting telescope, proceeding from the unequal refrangibility of the different rays. This defect he was of opinion it was impossible to remedy, because he thought that the quantity of the refraction and of the dispersion in different substances bore always the same ratio to each other. Had this been so, the appearance of prismatic colours in a refracting telescope could never have been cured without destroying the refraction altogether. But this was one of the few points about which Newton was mistaken. The mistake was afterwards discovered by Dollond, who found that, by means of crown and flint glass, the dispersion might be counteracted without injuring the refraction. This great discovery enabled him prodigiously to improve the refracting telescope; and they are now reckoned so much preferable, that they are superseding the reflecting telescope altogether.

Newton turned his attention also to the inflection of light. He found that the ray, in passing the knife edge, had been both attracted and repelled, and that it had begun to be acted on at the distance of 24th of an inch from the edge of the knife. The path of the ray, in passing the knife edge, was bent in opposite directions, so as to form a serpentine line, convex and concave, towards the knife, according to the repulsive or attractive forces which acted at different distances. In his opinion, the refraction, reflection, and inflection of light are all produced by the same force differently modified, and do not arise from the collision of light with the particles of bodies.

The great improver of achromatic telescopes, after Dollond, was Fraunhofer. He observed, in examining the different-coloured rays of the spectrum, by means of a telescope, that though the coloured spaces appear not parted by any distinct boundaries, yet they are broken and subdivided by numerous white and black lines. He reckoned altogether above 600 lines; a few occur in the red; but they are numerous in the orange, yellow, green, and blue. A stripe, opened by a fine white line, divides the red; other stripes emerge at intervals between the orange and the blue, and two very broad approximating bars cross the violet. Other glass prisms, and even those filled with liquids, gave similar appearances. It would appear from this that refraction proceeds by irregular bounds, somewhat like Newton's easy fits of transmission and reflection.

We shall finish this hasty sketch of optics, with noticing the discovery of what is called polarized rays of light, by Malus, a French officer of engineers. The double refracting property of Iceland spar, which had been so carefully examined by Huygens, drew also the attention of Newton, who concluded that the ray which suffers the unusual or extraordinary refraction must have its opposite sides affected by some virtue like magnetism, which gives them a tendency to polarity. This remark lay neglected for almost a century. Malus had early turned his attention to the more difficult problems in optics; and, after his return from foreign service, he resumed his favourite studies. In one of his frequent visits to the observatory, during his residence in Paris in the summer of 1809, he was struck with the brilliant reflection of the setting sun, from one of the windows of the Luxembourg palace. On looking at the appearance through a prism of rock crystal, which he slowly turned round, he remarked, with surprise, that one of the images changed regularly to brightness from obscurity. Next morning he repeated his observation with the same results; and soon found that light, reflected at a certain angle from the surface of glass, acquires the same character as the extraordinary ray in the double refracting prism. Water showed a similar disposition, but at a different angle of incidence. The law was traced through various reflecting surfaces, and Malus was prosecuting the subject with rapid success, when his career was cut short by a lingering disease, on the 23d of February, 1812. The subject of polarization has been successfully prosecuted in this country by Herschell and Brewster; and on the continent by Biot, Arago, and Fresnel; but much still remains before it reaches the simplicity which characterizes the other branches of optics.

HYDROSTATICS, &c.

The law which determines the weight of bodies immersed in fluids had been discovered by Archimedes, and likewise the position of bodies floating on them. It was ascertained by Stevinus, that the pressure of fluids is proportional to their
A — ABACUS.

A, in all known languages, but the Ethiopic, is the first letter of the alphabet, from the reason, perhaps, that if pronounced open, as in father, it is the simplest and nearest of all sounds. This is the only mode of pronouncing it in almost every country except England. To produce this sound, the mouth is merely opened, without the contraction or extension necessarily accompanying the utterance of either of the other vowels. A is the letter with which children generally begin to speak, and it serves to express many and even opposite emotions, e. g. admiration, pain, astonishment, laughter, (with the preceding H,) disgust, pleasure, according to the mode in which it is uttered. For the same reason, a is found, in all original languages, in many words which infants utter to designate the objects with which they are most nearly connected, e. g. in the names by which they call their parents. Hence, in Hebrew, am is mother, ab father; in old Greek and Gothic, atta is father; in Latin, mamma signifies the breast. Many philologists are of opinion, that a, (as in father,) was the original vowel in most of those words which designate objects expressive of great strength, quickness, &c., as these first attracted the attention of men; and it is true, that, in original languages, a appears in very many words belonging to the class just mentioned. A (as in father,) is very rarely the predominating sound in the cries of animals. In these, the sounds ee, ow, u, and a, (as in fate,) generally prevail. We do not include the sounds of singing birds, which are inarticulate music, like that of wind instruments. The regularly arched roof of the human mouth, and the other fine organs of speech, with which the Creator has blessed mankind above all lower orders of animals, are necessary to pronounce the melodious sound a (open.) A is, generally speaking, the favourite sound of singers, because it is the most musical and most capable of expansion. Several diphthongal sounds, as i (in pine), are, in singing, to be resolved into a (open) and another simple sound. The frequent occurrence of a (open) in the Italian language, is one of the many causes which render the Tuscan dialect so favourable for music. The Scottish dialect possesses the same advantage. The English language is the only one among the cultivated modern tongues, which has four (according to others still more) sounds for the single character a. Most of the modern languages, as French, Italian, German, &c. have only the open or Italian a, pronounced short or long. Other languages have also the sound of the English a, as in all, e. g. the dialect of Finland. In Greek, this letter, when prefixed to a word, has the power of negation, like the syllable un in English, and hence it was called alpha privativum. In many English words derived from the Greek, the a has the same power.—Among the Greeks and Romans, a was used as an arithmetical sign; by the former, for 1; by the latter, for 500. When a dash was placed on the top, thus ¯, it stood for 5000. (See Abbreviations.)—A, in music, the sixth diatonic interval of the first or lowest octave of the modern scale: a indicates the same interval in the second octave. As the capital A is used in the first instance, and the small a in the next, the former is called the great octave, the other the small. A, with a line above, denotes the same interval in the third, and ì with two lines, the same interval in the fourth octave. The first of these, from each denomination of the note in the octave being designated by a line, is termed the one-lined octave, the other the two-lined, and so on. A major, is that key, in modern music, in which the sixth diatonic interval is assumed as the fundamental tone of the major key. To maintain the natural characteristic of the major, r, c, and e, must be made sharp, &c. According to Schubert's Characteristics of Music, this key conveys the expression of innocent love, content, and cheerfulness. (See Key.) If any numeral figure is added to the letter A, when prefixed to a vocal composition, it denotes the number of voices for which the piece is intended; thus, A 3 signifies for 3 voices.

Aa, Peter Van der, a bookseller of Leyden, who carried on an extensive business from 1682, until his death in 1730, during which time he compiled and published many collections of Voyages, Travels, &c. in the Dutch and French languages; the most extensive of which was his "Galerie du Monde," in 166 vols. folio.

Aargau, Aargovia, Aargau, formerly a part of the cantons of Berne and Zurich, but since 1798 a separate canton. In 1803 it received a large accession of territory. Capital Aarau; population, 135,763. Several liberals have fled, in modern times, from Germany, and lived for a while in A., protected by Government.

Aaron, (Heb. a mountaineer,) the brother of Moses, and first high-priest of the Israelites. See Moses.

Abacus signified, among the ancients, a kind of cup-board, or buffet. They were, in times of great luxury, plated with gold. It also signified a table
covered with dust, on which the mathematicians drew their mathematical figures, as the pupils of the Lancasterian schools do at present. It also signified an instrument for facilitating arithmetical operations, which was with the ancients, very necessary, as their way of writing made calculation very difficult. The instrument consisted of a number of parallel chords or wires, upon which balls or beads were strung, such wire being appropriated to units, tens, hundreds, or thousands. Thus, the year of the Christian era 1832 would be represented:

![Arabic numerals diagram]

Various other instruments for facilitating arithmetical calculations have been invented, the most recent as well as the most ingenious of which is that by Mr Babbage, which is scarcely yet completed. A accounts of these will be found under the proper head of Architecture. Architecture, Vitruvius tells us, was originally intended to represent a square tile laid over an urn, or rather over a basket. The form of the abacus is not the same in all the orders of Greek architecture. Modern architects have given different significations to the word abacus. See Architecture.

Abascia, or Abassia, the northern district of Georgia, in Asia, situated on the coast of the Black Sea.

Abatis, (Fr.) trees cut down and laid with their branches turned towards the enemy, in such a way as to form a defence for troops stationed behind them.

Abavet, Firman, was born in Languedoc, 1679. In consequence of the revocation of the edict of Nantes, his mother, who was a Protestant, took refuge with her son in Geneva. He engaged with such eagerness in his studies, that he made great proficiency in languages, theology, antiquities, and the exact sciences. At the age of nineteen, he travelled into Holland, where he became acquainted with Bayle and Basset. Thence he passed into England, where he was favourably noticed by Newton, and invited to remain by king William on very advantageous conditions. He determined, however, to return to Geneva, and, devoting himself to study, he rendered important assistance to a society engaged in translating the New Testament into French. In 1727, he was appointed public librarian in Geneva, and was presented with the freedom of the city. He died in 1767. Abavet was a profound scholar, a true philosopher, and a sincere Christian. His conversation was unostentatious, but instructive and animated. He was simple in his manners, independent and decided in his opinions, but a friend to universal toleration. He defended the Principia, and even detected an error in that work, when very few men could understand it. Newton declared him "a fit man to judge between Leibnitz and himself." Rousseau describes him as the "wise and modest Abavet." and Voltaire pronounced him "a great man." His knowledge was extensive in the whole circle of antiquities, in ancient history, geography, and chronology. In theology his researches were deep, and his moderation enabled him to avoid the violence of theological parties. His works are chiefly on theological subjects. An Essay on the Apocalypse, Reflections on the Eucharist and on the Mysteries of Religion, are his principal writings.

Abradie, James, an eminent French Protestant divine. He accompanied King William III. into England, and was first minister of a French church in London, and afterwards Dean of Killaloe in Ireland. He died in 1727, leaving a political tract in defence of the revolution, and some theological works.

As for the first French revolution, it was the title of all those Frenchmen who devoted themselves to divinity, or had at least pursued a course of study in a theological seminary, in the hope that the king would confer on them a real abbé; that is, a certain part of the revenues of a monastery. Ordained clergymen were those only who devoted themselves entirely to the performance of clerical duty: the others were engaged in every kind of literary occupation. There were so many of them, poor and rich, men of quality and men of low birth, that they formed a particular class in society, and exerted an important influence on its character. They were seen everywhere; at court, in the halls of justice, in the theatre, in the coffee-houses. In almost every wealthy family there was an abbé, occupying the post of familiar friend and spiritual adviser, and not seldom that of the gallant of the lady. They corresponded, in a certain degree, to the philosophers who helped to bring about the revolution in the time of the emperors. A round topper, a short, black, brown, or violet coat, completed the appearance of an abbé.

Abbes commandataires. The King of France had formerly the right of appointing abbots over two hundred and twenty-five monasteries. These abbots enjoyed a third part of the revenues of the monastery, but had no authority over it, the charge of superintendence being committed to a prieur claustral. According to rule, every abbé ought to receive ordination in the course of a year, but the pope dispensed with the rule, and the abbé spent his income (from 1300 to 1500, French livres, about £50 to £6000) wherever he pleased. This shocking abuse excited the indignation of the people, and was one of the causes of the revolution. The lower sinucres of this kind, the abages des envans, were used as pensions for learned men; the richer to provide for the younger sons of the nobility.

Abbeville, a town of France, situated on the river Somme, 130 miles N. W. from Paris. Its population exceeds 20,000, and its manufactures are chiefly woolens of a fine quality.

Abbazia (Lat. abbas, abbot, however) was originally the name of every aged monk; but since the 8th century, it denotes the head of a monastery. The Abbot requires unconditional obedience from his monks, and his office is to supervise the whole brotherhood, to enforce the observance of the rules of the order, and manage the property of the convent. Since the 6th century, abbots have always been priests; and, since the second council of Nice, in 787, have enjoyed the power of conferring the lower orders of priesthood; but, in the essential points of jurisdiction, were every where subject to the other clergy. The 11th century, independent of each other. The consequences of the abbots grew with the wealth of their monasteries; several, especially in those countries where the diffusion of Christianity proceeded from the monastic establishments, received episcopal titles and privileges; all held a rank next to that of bishop, and had a vote in the ecclesiastical councils. Equal privileges and rights appertained to the abbesses as the superiors of the nunneries, except that they have seldom been allowed to vote in synods; and the power of ordaining, the administration of the sacraments, and the dispensation of ecclesiastical offices, were expressly forbidden them, in the 9th century. About this time, by the favour or from the wants of the kings, abbeyes frequently came into the hands of the laity,
The abbots, as a reward of fidelity and military merit, since the kings possessed the right of patronage over all abbeys established on their crown lands or family estates, and generally over all which derived their origin from the royal bounty. Thus, in the 10th century, a number of the most considerable convents in the territory of the Roman church had lay abbots, or abbot-counts, who appropriated to their own use the income of these institutions. In cloisters fallen to such worldly masters, the spiritual supervision was discharged by laymen, who, together with the princes and princesses of the royal family, abbots were presented, to defray the expenses of their tables; the richest were retained by the kings themselves; thus Hugh Capet was abbot of St. Denis, near Paris, and of St. Martin, at Tours. Numeraries were sometimes assigned to men, and monasteries to distinguished females. But this abuse, which had crept even into the Byzantine empire, rarely survived the laymen who had received the gifts. These were called commensutory abbots, because the form of the presentation was a recommensation, and not a vicarious gift, which, in the beginning of the 10th century, urged a reform in monastic discipline, gradually succeeded in abolishing such donatives to the laity; and military abbots were now more rarely seen discharging, in person, the duties of a soldier, though the convents under royal patronage were for a long time retained, to reward the services of the crown vassals in war, by contributions of money and provisions. The superiors of the military clergy bore, in the camp, the name of field abbots, as the name of abbot was, in the middle ages, frequently used to denote not only monks, but also lay persons, of whom the abbey of Genes and secular ecclesiastical dignitaries, but also the chiefs of religious and joviial fraternities, e.g. abbas cornardorum, stultorum, the abbot of misrule. In consequence of the reform commenced at Cluny, there arose new monasteries without abbots, over which the abbots of the convent of reformed Benedictines, at this place, appointed priors or pro-abbates, or even co-abbates, who remained dependent on him. Besides the Benedictines, only the grey monks of Volumno, the Cistercians, Bernards, Feuillins, Trappists, Grandmontains, Pramunaries, and many other communities, ever denominated their superiors abbots. In the other orders, the titles magistri, ministri, priors, or rectors, were in use. Besides the female branches of the above orders, the nuns of Pontevraud and the female secular charisters have abbesses. These have always remained under the jurisdiction of their deconcan bishops. The abbots of many other convents, on the contrary, shook off the authority of the bishops, and acknowledged no master but the pope. The mitred abbots enjoyed the right, frequently conferred on the Benedictines in the middle ages by the papal legate, of adopting the episcopal title and insignia. Only a few, however, possessed the episcopal power with dioceses of their own, of whom there was not one in France. Before the period of secularization, there were in Germany, but in Germany only, princely abbots and princely abbesses. The same was the case in the papal and other principalities. By rule, the choice of abbots appertains to the chapters of their convents. In the independent abbies, this is followed by the papal confirmation; in the dependent, by the episcopai; yet, for a long time, many abbeys in Italy have been canonized by the pope, and, in France, by the king, notwithstanding the concordat of 1816. The secular clergy, who enjoy these benefits without observing the rules of the order, are termed secular abbots; on the other hand, their vocation is to be monks themselves, like all abbots of the monkish order, are called regular abbots. Younger sons of distinguished families have often entered the ranks of the secular clergy, in order to become secular abbots, and to receive the income of an abbey, without being restricted by monastic rules. As such expectants were called in France abbots, this became a general appellation for young secular clergy who were out of office. (See Abbé.) Since the revolution, which changed the abbys into national property, and took them into the hands of the clergy, the richness of their exertions, this class has diminished in France; but it is yet numerous in Italy, where young scholars are called abbots, merely from having undergone the tonsure, though not in orders. Napoleon led a whole army of Italian abbots to Corsica, where they lived on reduced incomes, till the restoration scattered them again over Italy. At the time of the reformation, several abbys and convents were retained for the benefit of the clergy and the support of unmarried females. Some protestant clergymen, therefore, still bear the title of abbé, with which dignity the institution of the convents is united; as, for example, in the Wurtemberg assembly. There are also Protestant ladies who are called abbesses. In lower Saxony, this dignity was indeed abolished, at the time of the confiscation of the cloisters, &c., under the French Westphalian government; but in some countries, e.g. in the kingdom of Hanover, it has been restored. In the Greek church, the superiors of a convent are called bígune- ni, mandoue, and the abbots general, archimandrites. AMBRO, Charles, from 1802 to 1817 speaker of the house of commons; was born in 1755, and studied at Oxford. He was a member of All Saints' church, at Colchester. Impelled by the desire of distinction, he devoted himself to the study of the law, though possessed of a considerable fortune. His object, however, was not professional reputation, though he had an extensive practice in the court of chancery. On a account of a Latin poem which he wrote on the empress of Russia, Catherine II., the Russian ambassador in London presented him, in the name of the empress, with a gold medal. He wrote some treatises on legal subjects, and was chosen in 1796, 1799, and 1802, into the house of commons, but was never elected, having himself to introduce better order into the printing and distribution of the acts of parliament; and endeavoured, though in vain, to effect a reform in the phraseology of the statutes, which should make them more perspicuous. In 1795, he supported Pitt's famous Riot Act, and always attached himself to the ministerial party. In 1796, he proposed, as chairman of the committee of finance, an amendment in the promulgation of the laws, which was accepted. In 1799, he supported the imposition of the income tax. In 1800, he proposed to impose upon the collectors of the public revenues the interest of the sums collected, in order to prevent deficits in their returns; and voted to continue the Mutiny Bill till 1807. He was successively first secretary of state in Ireland, and lord commissioner of the treasury; was made privy councillor, and in 1802 speaker of the house of commons. This commission was not lucrative, on account of the large fees for the enrolment of private bills which pass the house. These bills are referred to a committee, whose reports are almost always accepted, unless they propose an innovation on some established usage. The speaker is very watchful to prevent the disappearance of any thing informal in the wording of the bills.
and to check all personalities in debate. This super-
intendence, A. is said to have exercised with much
fear and trembling the opposite of a motion in
the house of commons to impeach lord Melville,
(Dundas) the votes were equal, and the motion
was decided in the affirmative by A.'s casting vote.
In 1797, he resigned his office of speaker, on account
of weakness in his eyes, and entered the house of
lords, having been created viscount Colchester. He
was author of a treatise on commerce and mari-
time law, according to the principles of the British
ministry, (Loud. 1802, a third edit. 1808.) Died
May 8, 1829.

Azo, George, archbishop of Canterbury, was
born Oct. 29, 1659, and studied at Oxford. When
the translation of the Bible was begun, in 1604, by
order of king James, Abbot was one of the eight
divines to whom it was committed. In 1693, he
went to Scotland to assist in effecting a union be-
tween the kirk of that country and the church of
England, and conducted the business with much moderation
and address. In Dec. 1699, he was made bishop of
Litchfield and Coventry; in Jan. 1710, bishop of
London; and in Nov. following, archbishop of
Canterbury. His enemies ascribed his rapid promotion to
flattery of the king. In 1715, however, he opposed
James's projected divorce between lady Ernestine,
Howard and the earl of Essex, and, in 1718, the
royal declaration, permitting Sunday sports, which
he prohibited the rendering of in church. His health
decaying, he went to Hampshire for recreation, and,
being invited to a hunt by lord Zouch, had the mis-
fortune to be thrown down by a game-kite while an
afternoon's sport, he aimed at a deer from a cross-bow. The accident
affected him so much, that, besides settling an an-
nuity of 20l. on the widow, he kept, during the re-
mainder of his life, a monthly fast on Tuesday, the
day of the unhappy event. Though troubled with
the gout, he performed the ceremony of crowning
Charles I. He was never much in this monarch's favour,
and was suspended from the exercise of his functions as primate, on refusing to license a sermon
preached by Dr Sibthorpe, in justification of a law
concerning the oaths of allegiance. At the opening of parli-
ament, he was restored, and died at Croyton, Aug.
5, 1633, aged 71. During his life, he published
several works, chiefly theological and many of his
letters and speeches are to be found in various col-
clections. He had a brother named Robert, who
published the same course of education with himself:
and died bishop of Salisbury, in 1617. Compar-
ing the two, Fuller says, that George was the more
plausible preacher, Robert was the greater scholar;
George the abler statesman, Robert the deeper divine.
Alniss Road, the well-known country seat of Sir
Walter Scott, destined to be in all ages a shrine for
the wandering worshippers of genius. It is situated
on the banks of the Tweed, in Roxburghshire, in
the neighbourhood of the public road between Mel-
rose and Selkirk. The great and good man who
gave a name and a glory to this spot has now gone
down in the country which he inhabited by the
whole civilized world; and although, on his demise,
were entertained that the place upon which he
had so strongly set his affections should fall into the
hands of strangers, it is now little doubted but that his
family shall be left to enjoy it, and the country saved
from the disgrace which any other event might bring
upon it. Abbotaford was erected by Sir Walter
himself, and the surrounding grounds owe much of
their beauty, as they do the interest connected with
them, to their gifted proprietor. The building is of
very extraordinary proportions, presenting to the eye
various fantastic gables, turrets, caryatids, chimneys,
balconies, &c., which although irregular in their de-
tails, are eminently striking in their general effect.
Many of its outlines and ornaments are taken from
celebrated country seats in Scotland. Abbotaford is
situated on the road from Linlithgow Palace, a roof from Restil
Chapel, a chimney piece from Melrose Abbey, a
postern from the Edinburgh Tolbooth (the Heart of
Mid Lothian), and the walls of the vestibule are
paneled with pieces of old carved oak, which for-
merly figured in Holyrood palace. The house itself
abounds in apartments, of all shapes and dimensions,
which are decorated in a singular but tasteful and
appropriate manner. Throughout these are arrang-
ed innumerable relics of the olden time, as also a
variety of striking articles of modern days. Not the
least interesting of the apartments is the Library,
which is an oblong of about fifty feet by thirty: the
roof and the bookcases are of carved oak, and the
collection of books is extensive, containing many
of a rare and valuable character. Beyond the library
is situated what was the sanctum or study of the
author, who gathered unto himself so rich a harvest
of fame. This is a small room furnished with a
writing table and two chairs only, but decorated
around the walls with several antique cabinets, busts,
targets, claymores, &c., together with two portraits,
one of Claverhouse, and a small full-length of Rob
Roy. In the corner stands a large frame, which
opens into the gardens, and which also leads,
by a private staircase, to the author's bed rooms.
The view from all the principal apartments is bea-
util. You look out from among bowers over a
lawn of sweet turf, upon the Tweed, fringed with the
wild orchard, the birch woods, and backed by the
green hills of Etrick Forest. Altogether, as an American
writer says, the place destined to receive so many
pilgrimages, contains within itself beauties not un-
worthy of the associations. Few poets ever inhab-
ited such a place; none, ere now, ever created one.
It is the realization of dreams—a romance in stone
and line.

Abbreviations; (called by the Romans notas: hence notarius, a short-hand writer.) The desire of
saving time and space, or of secrecy, led to the inven-
tion of abbreviations in writing. The abbreviations
of the Romans were of three sorts: 1. Words
and syllables were abbreviated, sigla; 2. One letter
was substituted for another, for the purpose of secrecy;
3. Arbitrary signs were used, like those of mathe-
matics. The sigla are again of three kinds, accord-
ing to the place in which they are used: 1. abbrevia-
tion of whole words, their inscriptions in sigla;
2. abbreviations which relate to syllables, to sigla of
phrases. The two last kinds of sigla are sometimes
called notae Tironiane, from Cicero's freed man, Tal-
lus Tiro. Ennius, however, had already invented
1100 of those signs, to which Tiro added the pre-
positions. Others increased their number still more,
and Lucius Annius Seneca collected and arranged
3000 of them. But even Ennius was not their in-
ventor. Every written language has such abbrevi-
ations. Many of them are indeterminate and uncer-
tain, and the contents of many old writings and
inscriptions remain, on that account ambiguous.
The oldest and most common abbreviations are those
of names, titles, and formulas; e.g. M. Mar-
cus, ed. addidit, Cos. consult, Cos. consules, &c.
The mons, in the middle ages, made use of many
abbreviations in copying the classic authors, on
which account the manuscripts of the time must
be read with a very practiced eye. These abbrevia-
tions often give rise to different readings. They
have been much less used since the invention of
printing. The Germans employed them for ordi-
nary words, in greater proportion than other civi-
lized nations. The abbreviations in the English
law are numerous; there are also a great many in
English titles. Many words in the modern language
he lived six months at Berlin, where he became intimate with both the Eulers, Mendelssohn, and Niccoli; and took an active part in the Letter an literature, (literaturbriefen.) He died in 1760, in the prime of life, at the residence of one of the minor German princes, his intimate friend and protector. A's writings exhibit acuteness, imagination, and spirit, and abound with practical philosophy, particularly his treatise on "Merit." He certainly would have been ranked among the most inimitable Victorians if he had lived till his mind was fully matured. Young as he was, he deserves to be numbered among the writers who, in the time of Lessing, laboured with united zeal to raise and refine German literature.

Abdals, a sect of fanatics in the East Indies, of a dangerous character, an eager count it meritorious to destroy those of a different religion. In the height of their enthusiasm, they sometimes rush into the streets, and stab all that they meet.

Andera, a city on the Thracian coast, which is said to have been founded by Heracleus. Though it boasted of being the native place of Democritus and Protagoras, yet it was regarded among the ancients as notorious for stupidity.

Abdication, properly speaking, is only a voluntary resignation of a dignity, particularly the supreme. Of royal abdications, the most notorious is that of Charles II., in 1701; which was made in the time of the emperors Diocletian and Maximian, in 305; of the emperor Charles V., in 1556; of queen Christina of Sweden, in 1654. They have been the most frequent in Spain. Charles IX. in 1556; Philip V., in 1724; Charles IV., in 1808; next in Savoy and Sardinia; Amadeus II. in 1410; and in the last, the emperor Charles V., in 1560; and of queen Christina of Sweden, who abdicated in favour of his brother Felix, in 1681. (See Piedmont, revolution of.) Victor Amadeus, of Sardinia, abdicated his crown on the failure of his government by force, was imprisoned by his son, Charles EmanuelIII.

Involuntary resignations also are called abdications; e. g. Napoleon's abdication at Fontainebleau. The right of a prince to resign the crown cannot be disputed; but the resignation, as some say, can affect only his personal right to the crown, and cannot prejudice his descendants; still less force upon the state another constitution, or another family.

The abdication of Charles IV. of Spain, according to them, could only take effect in favour of the legitimate successor, but could not entail foreign sacrifices, to which his abdication was made, or die, or decline the offered dignity, the right of the abdicated prince is revested. Thus Philip V. of Spain resumed the throne upon the death of his son Louis, which took place half a year after he had resigned in his favour.

Abdallatith, a celebrated Arabian philosopher and physician of the 12th century. He was born at Bagdad, and died in 1194. He published several treatises which he wrote, only one has come down to us, viz. A Compend of the History of Egypt, the MS. of which was brought to England by Dr. Pococke, and an edition of it published in Arabic and Latin, in the year 1800.

Abdome, in anatomical language, the belly.

ABEL, the second son of Adam, a twin brother of

Abdicate, to resign.
Abelard — Abelites.

Cain. The latter was a tiller of the ground, A. a shepherd. Both brought an offering before the Lord; Cain the first fruits of the ground; A. the firstlings of his flock. God accepted the offering of A.; the offering of Cain he rejected. The latter, however, continued to till the ground, and thus the earth was cursed for his sake. Thus the first murder on earth was committed. The opinion of several Christian fathers, that A. died unmarried, has given rise to the sect of Abelites or Abélinites, (q. v.) The church considers the offering of A. as the pattern of a pure and holy offering, pleasing to God, for he offered himself to the just judge. Fulbert, Peter, originally Abalard, a monk of the order of St Benedict, equally famous for his learning and for his unfortunate love of Heloise, was born in 1079, near Nantes, in the little village of Palais, which was the property of his father Berenger. His inclination led him to the study of the sciences; and in order to devote himself fully to philosophy, he ceased to his brothers his rights of prenogenture and his estates. He studied poetry, rhetoric, philosophy, jurisprudence, and theology, the Greek, Hebrew, and Latin languages, and soon became familiar with all branches of learning. His scholarship and philosophy engaged his attention. Though Bretagne then possessed many distinguished scholars, A. soon acquired all they could teach. He went therefore to Paris, the university of which attracted students from all parts of Europe. William de Champeaux was the most skilful disputant of his time. A. made so good use of his instructions, that he was often victorious over his master, in contests of wit and logical acumen. The friendship of Champeaux was soon succeeded by enmity, in which his other scholars took part, and A., who had not yet completed his 21st year, escaped with the loss of his eyesight. He fixed himself at Melun, where he was soon followed by a multitude of young men, who were induced by his reputation, to leave the schools of Paris, in order to attend his lectures. Envy pursued him here, and he left Melun for Corbeil, where he was no less admired and persecuted. In compliance with the advice of his physicians, he soon after retired his labours, for the purpose of restoring his disordered health by a journey to his native place. After two years, he returned with renewed strength to Paris, became reconciled to his former teachers, and secured the fame of which Soon deprived all the others of their pupils. He lectured on rhetoric, philosophy, and theology, and educated many distinguished scholars, among whom were the future pope, Celestin II.; Peter of Lombardy, bishop of Paris, Berenger, bishop of Poictiers, and St Bernard. At this time, there resided at Paris, a young lady, by name Heloise, niece to Fulbert, a canon of that city, then of the age of 17 years. Few ladies surpassed her in beauty, none equalled her in genius and knowledge. A., though already of the age of 30 years, was a constant lover of Heloise. His solicitude for Heloise as to forget his duty, his lectures, and his fame. Heloise was no less susceptible. Under the pretext of finishing her education, A. obtained Fulbert's permission to visit her, and finally became a resident in the house of the canon. The lovers lived several months in the utmost happiness, occupied more with their love than with their studies. But the verses in which A. celebrated his passion were circulated in Paris, and finally reached the ears of Fulbert. He separated the lovers, but too late; Heloise was already pregnant. A. fled with her to Bretagne, where she received her lodgings; A. returned to Paris to deliver a son, who was afterwards delivered, at a young age; but however, thought the reputation of his niece would be injured by this secret union, and made it known; but Heloise, valuing A.'s fame higher than her own good name, denied her marriage with an oath. Fulbert may have believed her by ill treatment; to deliver her from which, A. carried her away to his father's house, and placed her in the convent of Argenteuil. Fulbert erroneously believed it was intended for her to take the veil, and under the influence of rage, he subjected A. to an ignominious mutilation. A. became, in consequence, a monk in the abbey of St Denis, and Heloise took the veil at Argenteuil. After time had somewhat moderated his grief, he resumed his lectures, and incurred new persecutions; his enemies accused him of heresy at the council of Soissons, 1122, on account of his Essay on the Trinity. But the warmth of his enthusiasm, his remarks, and his scholastic reputation, induced his fellow monks to be reconciled to him, and he was condemned to burn it with his own hands. Continued persecutions obliged him at last to leave the abbey of St Denis, and to retire to a place near Nogent-sur-Seine, where he built an monastery, which he dedicated to the Holy Ghost, and called it Paraclete. Being subsequently appointed abbot of St Gildas de Ruyes, he invited Heloise and her religious sisterhood to reside at his chapel, Paraclete, and received them there. The lovers saw each other here again for the first time after a separation of 11 years. A. lived afterwards at St Gildas, which afforded him much happiness, and he was successful in many attempts to reform the monastery, and Struggling always with his love for Heloise, and the hatred of the monks, who even threatened his life, St Bernard, who had long refused to proceed against a man whom he esteemed, finally yielded to the repeated remonstrances of his friends, laid the doctrines of A. before the council of Sens, in 1140, had them condemned by the pope, and obtained an order for his imprisonment. A. appealed to the pope, published his defence, and went to Rome. Passing through Cluny, he visited Peter the Venerable, who considered him worthy of his love, and was so much interested in his fate, that he undertook the divine service of his reconciliation between him and his enemies; but A. resolved to end his days in retirement. The severe penances which he imposed upon himself, together with the grief, which never left his heart, gradually consumed his strength, and he died, a pattern of monastic discipline, in 1142, at the abbey of St Marcel, near Chartons-sur-Sone, at the age of 63 years. Heloise begged his body, and had him buried in the Paraclete, with the view of reposing in death by his side. In 1800, the ashes of both were carried to the museum of French monuments at Paris, and placed in a casket. Few moments of love were ever spent within the precincts of the Church of Monamy. A. was distinguished as a grammarian, orator, logician, poet, musician, philosopher, theologian, and mathematician; but he has left nothing to justify the reputation which he enjoyed among his contemporaries. He excelled in the art of disputation. His doctrines were often reprehensible, and his behaviour censurable. His love and his misfortunes have secured his name from oblivion; and the man, whom his own century admired as a profound divine, is now celebrated as the martyr of love. And A.'s life has often published, in the original and in translations. Abelites, Abélains, or Abelonians. St Augustine gives this name to a Christian sect, which probably
sprang from the Gnostics. They abstained from matrimony, to avoid propagating original sin, but adopted the fastings of the early Christians, and brought them up in their own principles. This society existed towards the end of the 4th century, among the people who dwelt near Hippo, in the northern part of Africa, and borrowed their name from Abel, the son of Adam, because he died unmarried and without children. They have found followers in the Shakers, (q. v.)

ABERBROTHICK. See Arboretum.

ABERCORN, a parish and village of Linlithgowshire, where stood one of the most ancient monasteries in Scotland, and also a castle, originally a Roman fort, of great strength. It belongs chiefly to the Hopeston family, and gives title of marquis to a branch of the house of Hamilton.

ABERCROMBY, Alexander, a Scottish lawyer and judge of the last century, was born in 1745, and died in 1795. He was brother to Sir Ralph Abercromby, and is now chiefly remembered as being a contributor to the Mirror and Lounger, two periodicals published at Edinburgh, which have taken their place among the most classical of the British essayists.

ABERDEEN, John, the author of several esteemed works on gardening, was born near Edinburgh, and going up to the college of Edinburgh, entered upon the employment in the Royal Gardens. He died in 1801. He was author of 'The Gardener's Calendar,' 'The Universal Dictionary of Gardening and Botany,' and other works on the same subjects.

ABERDEENSHIRE, a county of Scotland, on the east coast, near the north sea, on the north of Grampian, and south of Orkney and Shetland. It contains about 3600 square miles, and is divided into 85 parishes. Its western parts are rugged and mountainous, and in many places covered with extensive forests. Towards the east and north-east, the country is more level, fertile, and capable of cultivation. The mountains are chiefly composed of granite, which is the prevailing rock throughout the country, and great quantities of which are annually exported to London and other places. The principal rivers of A. are the Don, the Dee, the Isla, the Ythan, the Blackwater, the Coquet, and the Don. Nearly all these abound in salmon, much of which is sent in a fresh state to the London market. The sea-coast also abounds with excellent fish, the catching of which affords employment for a great number of fishing vessels from the ports of Fifeburgh, Peterhead, and Aberdeen. The two latter places employ a number of vessels in the whole fishery. Although generally poor as an agricultural county, Aberdeenshire is rich in natural resources, and its scenery is in many places peculiarly wild and picturesque. It also contains a number of the chief seats of Deb., nobility, besides many elegant residences belonging to private gentlemen. The population is estimated at 177,651. The capital of the shire is New Aberdeen, which is a royal burgh, and the chief city as well as principal seaport of the north of Scotland. It is a large and handsome town, situated on the Dee, about 2 miles from the new town, and not far from the Don. It was anciently an episcopal see, and it also has its university, called King's College, founded in 1494 by Bishop Elphinstone. Population of O. A. 25,107, including the parish of Old Machar.

ABERLтир, John Lewis, a landscape painter, famous for his Views of Switzerland; was born in 1723, at Winterturh. He relinquished the manner of his teacher, Meyer, an indifferent artist, went to Berne, received better instruction from John Grimm, and at first painted portraits. But his inclination for landscape painting gained the ascendancy. He went, in 1759, with his pupil Zingg, to Paris, and returned, esteemed and admired, to Berne, where he died in 1780. His manner has been very often imitated, and his sketches have always maintained the reputation of being the best in their kind.

ABERNATHY. John, an eminent Presbytery divine, was born at Londonderry in 1680, educated partly in Glasgow and partly in Edinburgh, and died in 1740. He distinguished himself chiefly by his zeal for religious liberty, and his resistance to the authority exercised over him by the Presbytery of Glasgow. He is celebrated for the manner in which he defended the presbytery's authority on the part of the Irish presbytery. Besides several sermons and controversial tracts, he was author of Discourses...
ABEKTINTH — ABR.
on the Being and Attributes of God, which are highly esteemed.

ABEKTINTH, John; a popular surgeon of the present century, who practised in London. He was born in 1763-4, but whether in Scotland or Ireland is not ascertained. Early in life he became a pupil, and subsequently the friend of the celebrated John Hunter. In 1780, he became assistant-surgeon to St Bartholomew's Hospital, and shortly afterwards took the place of lecturer on anatomy and surgery. Under his influence many of the amateurs attained a distinction which it had never before enjoyed. He published "Surgical Observations" in 2 vols., and "Lectures" in one vol., explanatory of Mr Hunter's opinions of the vital processes; besides smaller essays. In one of his essays, he gives an account of cases in which he had tied the external iliac artery, a bold and meritorious operation which established his fame. He died on the 18th of April, 1831. He was noted for his eccentric habits and the roughness of his manner in addressing patients. Exercise and diet were his principal means of cure; and it was not uncommon for him to address sickly or dyspeptic patients of the higher classes thus: — "Madam, keep your money to buy a skipping rope!" or "Sir, live on sixpence a day — and earn it!" Yet his roughness was all on the outside; for at heart he was sympathetic and generous; being known, in the midst of his eccentricity, as the only friend of the sick and unfortunate. He was a pupil of his time and talents to the poor and destitute.

ABERRATION of light. We see an object because the rays of light proceeding from it strike our eyes, and we see the place of the object in the direction in which they proceed. Let us now imagine the earth in its orbit to revolve, just in a line opposite to a fixed star, which sends off rays perpendicularly to the direction of the earth's motion. The eye of the spectator meets the rays, and, as he perceives not his own motion, he supposes the light to be moving in an opposite direction; as, when we sail in a boat, the trees on the shore appear to pass by us. Thus the eyes miss the perpendicular ray, but meets an oblique one, and thence receives the impression of the light in the direction which results from this compound motion, namely, in the diagonal of a parallelogram of which the angle formed by the real motion of the light, and the apparent one, (i. e. the motion of the earth,) which take place at the same time. The spectator sees the star in its true place only when he is either approaching it, or receding from it, in a straight line. When moving in any other direction, the star appears a little in advance of its true position in the same direction (the maximum is 20°—25°); and we call by the name of aberration of light these apparent changes in the situation of the heavenly bodies, occasioned by the motion of the earth. We easily see that these changes are common to all those heavenly bodies, and we are more striking in the case of the fixed stars. They afford an additional proof of the motion of the earth. In consequence of this aberration, the fixed stars appear, during the revolution of the earth about the sun, according as they are situated, either in the path of the earth, or just opposite to it, somewhere between them, in the first case to deviate in a straight line to the right or left of their true place, in the second to describe a circle, in the third an ellipse about that point, which further observation determines to be their real situation. This discovery we owe to Bradley. (q. v.) For the aberration of light, see the elementary works on astronomy, the dictionaries of natural philosophy by Gehler, Fischer, &c. There is a very good account of it in Biot's Traité Élémentaire d'Astronomie Physique, Paris, 1811, 2d vol., page 189, et seq. Tables of aberration, accompanied with explanations, are to be found in the baron von Zach's works, Gotha, 1806, and in the same author's Nouvelles Tables d'Aberration et de Navigation pour 1400 Étoiles; avec une Table générale d'Aberration pour les Planètes et les Comètes, Paris, 1813.

ABILDGAARD, Nicolai Abraham, historical painter to the king of Denmark, and knight of the order of the Dannebrog. He was born at Copenhagen, in 1744, and died there in 1809, director and professor of the national academy. He was undoubtedly the finest painter that Denmark ever practised, a five years' residence in Italy completed the education which he had received in the academy of arts at Copenhagen, yet his works never lost the character of originality. The creations of his productive imagination were sometimes of a gloomy, and always of a grand and solemn character. Modern painting can hardly show finer colouring. A considerable number of his large pictures in the apartments of the royal palace of Christiansburg, were burned in 1794. Several, however, still exist in and out of Copenhagen, and received the academic and public praise which, by some short essays, the object of which was partly, to correct a false taste in regard to the arts, publicly to illustrate the earlier works of art.

ABINGTON, Frances; a popular comic actress of the last century, whose maiden name was Barton, of Montmorencie, near London. She was born in 1723, and made her first appearance in 1751, at the Haymarket theatre. She afterwards performed at Drury Lane and Covent Garden with Garrick, enacting the principal characters of the comedies of Shakspeare, Ben Jonson, Congreve, Cibber, &c. In 1769 she retreated to private life, and died in 1783. The Abignians, a warlike tribe of Indians, between 28° and 30° S. lat. on the banks of Rio de la Plata, consisting of 5000 persons, who pay little attention to agriculture, but employ themselves principally in hunting and fishing. During the first six months they resort to the islands of the Rio de la Plata, or to the tops of trees. The Abignians prefer the flesh of tigers to every other meat, superstition believing that it gives new courage to the warrior. Long lances, and arrows with iron points, are their weapons. Their houses are much smaller than the Spanish ladies. The men are tall, with aquiline noses, are good swimmers, and fond of painting figures on their skin. Their canoes are, in times of peace, their judges; in war, their leaders. In peace, however, their authority is very limited. For its canoes should attempt an unpopular innovation, the multitude would leave him, and join other tribes.

ABJURATION, oath of; an oath by which a person obliged himself not to acknowledge any right in the pretender to the British throne. It signifies, also, according to 25, Charles II., an oath alleging particular doctrines of the church of Rome.

ABO, a town in Finland, which contained 11,000 houses, and 11,500 inhabitants. Here in 1748, Sweden concluded peace with Russia. Since 1817, it has ceased to be the capital of the government of Finland. In 1814, the administration of the town was undertaken by French officers, and in 1816, the town was turned into a fortress. The town, which was almost entirely burnt down by the Russian soldiers, was protected by a promontory of the gulf of Bothnia, forms the harbour of the city, which, since 1817, has been the chief place of export from Finland to Sweden, and even to the Mediterranean. It has important sugar-works, and manufactories of leather, linen, sail-cloth,
ABOLITION ADOKIR.

Some ships are built in its docks. The academy which Gusta-

vous Adolphus established in 1628 was changed by

Christina, queen of Sweden, into a university, which

was endowed still more liberally by the emperor

and became more than 500 students, a library of

30,000 vols., a botanical garden, an observatory, &c.

In the autumn of 1827, the whole city, including the buildings and

library of the university, was burnt down. The

Russian government has taken energetic measures

for rebuilding it.

ABOLITION of slavery. The society for mitigating

and gradually abolishing the state of Slavery through-

out the British dominions, commonly called the Anti-

slavery Society, was formed under the patronage of

his royal highness the duke of Gloucester, who was

president of the society. In the list of the vice-presi-

dents were the names of many of the most distin-

guished philanthropists, and, among them, that of

the great champion of the negro's cause, Mr Wilberforce.

The society published several works illustrative of

the state of slavery, and pointing out its evils in a

comprehensive, scientific, and religious light. (See

Slavery and Colonization Society.) The more

immediate objects of the society were to ameliorate

the condition of the slaves, and to facilitate the means

by which they might obtain their freedom; and for

the accomplishment of these purposes all the

laws, and all the obstacles to the emancipation of slaves:

To cause the slaves to cease to be chattels in the

eye of the law: To prevent their removal, as slaves,

colonies to colonies, and, under certain modifica-

tions, their sale or transfer, except with the land to

which they may be attached: To abolish markets

and compulsory labour on Sunday, and to make it a

day of rest, as well as of religious worship and in-

struction; and also to secure the slaves equivalent

time in each week, in lieu of Sunday, and in addition

to any time which, independently of Sunday, was

afforded, for cultivating the potatoes from

point of view.

To protect the slaves, by law, in the possession and

transmission of the property they might thus or in

any other way acquire: To enable the slave to pur-

chase his freedom by the payment at once of a fair

price for his redemption, or of a fifth part of that price

at any time, in the courts of justice, and in the courts of

law; to be employed for his own benefit: To make

the testimony of slaves available in courts of justice, both

civil and criminal cases: To relieve all negroes and

persons of colour from the burden of legally

proving their freedom, when brought into question,

and to throw on the claimant of their persons the

burden of legally proving his right to them: To

provide the means of religious instruction for the

black and coloured population, and of Christian edu-

cation for their children: To institute marriage among

the slaves, and to protect that state from violation

and from either forcible or voluntary disruption: To

put an end to the driving system: To put an end, also,

to the arbitrary punishment of slaves, and to

provide their persons as well as property under the guar-
dianship of the law: To provide that all children

born after a certain day should be free,—care being

taken of their education and maintenance until they

should be capable of acting for themselves: To

provide that no colonial governor, judge, attorney-gene-

ral, or fiscal, should be a possessor of slaves, or should

have a direct and obvious reversionary interest in such

property, or should be the agent of the inholders

of slaves: To foster and, when necessary, to propose,

that the final extinction of slavery should be accomplished by the

redemption of all females of the lowest age, to

about 40; by which means all their posterity would

be born free. The cost of this measure was cal-

culated at £300,000. The parent society was sup-

ported by many auxiliaries, as well as by the almost

universal feeling of the nation, whose voice was

strong to be resisted by an interested faction; and ministers, in 1833, brought forward a

bill for the entire abolition of slavery throughout the

British colonies. This bill, by making a sacrifice of

£20,000,000 to the slave-holders, to be distributed

among them on their complying with the provisions of

the act, was finally carried, and came into operation

on the first of August, 1834. An abstract of its

leading clauses will be given in the succeeding paper.

It is remarkable, that Mr Wilberforce died imme-

diately after the completion of this great measure.

ABORIGINES; the name given to the oldest inhabi-

tants of a country, of whose origin nothing certain is

known. The Roman historians gave this name to the

to the people who dwelt in the vicinity of Rome, before

the arrival of the Trojans. For the right of abori-

gines to the soil, see Indians, and Occupancy, right of.

ABURKIR, the ancient Canopus, is at present a

village with a church, of which the remains have

been strong castle on the western side of a spacious

bay, protected by a projecting point of land and several

small islands, and is situated on the Egyptian coast, 10

miles east of Alexandria. This place has become

distinguished, in modern times, by the naval battle,

fought between the English admiral, Nelson, annihilated

the French fleet, between the first and the third of

August, 1798. The latter sailed on May 10, 1798,

from the harbour of Toulon, to convey an army to

Egypt, under the command of general Bonaparte.

As soon as the English admiral, St Vincent, who was

cruising before Cadiz, received information of this,

he dispatched rear-admiral Nelson, with 14 ships of

the line, to the Mediterranean, with orders to seek

and attack the French fleet. Aug. 1, Nelson caught

a glimpse of the French ships in the road of A. and

gave the signal of battle. The French captains,

who were just then assembled on board the admiral's

ship, had hardly time to retire to their posts, before

the first English ship began the attack. Although

the French fleet was disposed in a curved line as

near as possible to a small island, protected by a

battery of cannon and mortars, Nelson suddenly

ordered half the ships to turn to and face the

island and the French line of battle, and to sail

under the shore, in the rear, while the other half

approached their front, and anchored within pistol

shot; so that the French ships were attacked from

all sides. At sunset, about half-past 6 o'clock in

the evening, the battle began. At the end of an

hour, 5 French ships were dismasted and taken.

The French admiral Brueys, was killed by a cannon-

ball; his ship, l'Orient, however, continued the

battle with great spirit, until she took fire. About

10 o'clock, this splendid vessel, of 120 guns, blew

up. Of 1000 men, but 70 or 80 were saved. Capt.

Cussanbana was mortally wounded, and his son,

a boy 12 years old, voluntarily remained in the

burning ship, and shared his fate. The other ships

continued the cannonade till the morning, which

witnessed the entire defeat of the French fleet. But

two ships of the line and two frigates escaped to

Malta and Corfu; 9 ships of the line were taken,

one blown up, and another, together with a frigate,

burned by the French themselves; one frigate, how-

ever, was sunk. Thus the naval power of France in

the Mediterranean was for a time annihilated. The

British flag waved triumphantly over the coast of

Alexandria; Bonaparte's communication with France

was cut off, and his enemies, with renewed force

united again, in the subsequent year, in a new con-


Abracadabra; a term of incantation, which was formerly believed to have the power of curing fevers, especially the slow fevers, the interminable of 4 days, and the hemitremus, so called by Hypocrates, which was generally fatal. At present, this word is, for the most part, interpreted by no particular meaning, like hocus pocus. According to Q. Sercenus Sannonicus, it ought to be written so as to form a magic triangle, in order to produce the supposed effect; viz.

\[ \text{Abracadabra} \]

The triangle, thus formed, reads Abracadabra, beginning with A., and thence passing over to any line you please, and standing at the last letter of the first line. Greek annulents, which bear the inscription Abracadabra, leave no doubt, that this magic word, properly, ought to be pronounced Abracadabra, though the Jews say also Abracaten. Abracadabra probably means divinae decrees, and is derived from the sacred name of the Supreme Being, Abraxas, or Abraxus. Some are of opinion that the term Abraxas took its origin from the first letters of the Hebrew words Ab, Beu, Ruach hakodesh, (Father, Son, Holy Ghost) and from the initials of the Greek words, omega naa epsilon, (salvation from the cross.) But Abraxas is a title given in Egypt, nor Greek, nor Hebrew, but a Persian name, which denotes the Persian deity, Mithras. Superstitious people, moreover, used to write the word Abracadabra, in the manner above-mentioned, on a square piece of paper; then folded it so as to cover the writing, sewed it together with white thread, hung it by a piece of tape, around the neck, so as to reach the heart, wore it for 9 days, and then, before sunrise, in profound silence, to a river which flowed to the east, took it from the neck, and threw it, without opening or reading it, over their heads into the water.

Abraham; the father, and most celebrated patriarch of the Jews, with whom their history commences, as likewise, the promises given them by God, and the miracles performed in their favour. He was born at Ur, in Chaldea, about 2000 B. C., and descended in the eighth generation from Shem, Noah's eldest son. He passed his early days in the house of his father, Terah, where he was kept from idolatry, which prevailed in his family. Obedient to the voice of God, which pointed out his noble destiny, and commanded him to settle in Canaan, he went to the court of his father, his wife, and his nephew, and fixed his abode at Haman, in Mesopotamia. After his father's death, he led a wandering life, in obedience to the will of God. He visited Sichem, Bethel, and Gerar, whence he returned to Bethel. Frequent dissensions between his servants and those of Lot caused their final separation. A., remained at Mamre, but Lot settled at Gomorrah. Afterwards, on hearing that four Arabian chiefs had invaded Gomorrah, and carried off Lot with his family and property, A. pursued them with 318 servants, conquered them, and rescued his nephew, and all that belonged to him. God revealed futurity to A., and ratified his covenant with him and his posterity, by the law of circumcision. The advanced age of A. and Sarah seemed to render doubtful the fulfilment of these promises, when three angels, in the shape of travellers, came to visit them. They were sent to punish Sodom and Gomorrah for their wickedness, and announced that old age was not necessary for the performance of the promise. Though she was 90 years old, she conceived and bore Isaac, at the time designated by the angel. When Isaac had reached his 25th year, God wished to put A.'s fidelity to a new trial, and commanded him to sacrifice his only son, on mount Moriah. The old man was ready to obey. The vision was already placed on the altar, and about to receive the fatal stroke, when God, convinced of the obedience of his servant, stopped his lifted arm. Sarah died, but A. married Keturah, who bore him 6 more children. He died at the age of 175, and was buried near Sarah, in a cave which he had bought for his sepulchre from the sons of Hezoth. Not only the Jews, but also the Arabsians, derive their origin from this patriarch; the Greek and Roman churches have introduced his name into their legends. He is also mentioned in the Koran, and some of the Mahommedan writers give him a distinct figure, and commenced the erection of the temple. The Jews have at all times honoured his tomb and his memory. His history, as given by the rabbinists, is a mixture of truth and fiction.

Abraham & Sancha Clara; born in Knieheimsitten, in Sussex, June 4, 1648. His true name was Ulrich Megele. He was distinguished as a preacher, for the originality of his conceptions. At Marienbrunn, in the south of Austria, he joined, in 1652, the barefooted friars of the order of St. Augustine, applied himself to philosophy and theology, in a monastery of his order at Vienna, was then employed as preacher in the convent of Taza, in Bavaria, and soon called to preach at the imperial court of Vienna, where he continued till the year 1709, when he died, 67 years old. His sermons are burlesque, and full of the strangest notions. His striking peculiarities, agreeable, however, to the spirit of his age, procured him a numerous audience, and his sermons were not without effect, since they treated of popular subjects, and were seasoned with much sarcasm, adapted to all ranks. The titles of some of his writings show the tone in which they are composed. The Works on the World to Come and Vice; Salutary Mixture; Abraham à Sancha Clara's Nest of newly hatched Fools, or curious Workshop of various Fools, both male and female, etc. A. was, by nature, a popular orator; he joined to an odd exterior a strong mind, endowed with a thorough knowledge of mankind, and a fervent love of truth. With the boldest frankness, he assails the follies of his age, and vigorously attacks the weak mysticism and pedantry of most preachers of his time.

Abrahamic, Abrahamians, or Deists of Bohemia, were members of certain sectarians, who could not forth from their obscurity in 1788, confiding in the edit of toleration published by Joseph II., and avowed the same belief which Abraham professed before the law of circumcision. The doctrine of the unity of God, and the Lord's prayer, were all which they regarded in the Bible. Their petition for freedom in religious worship was, however, rejected, because they refused to declare themselves Jews, or members of any of the established Christian sects. The emperor Joseph, less enlightened in matters of religion than is generally believed, drove them from their own native soil, and all their possessions, because they resisted all attempts made for their conversion, and dispersed them, by military force, from various places, on the boundaries of
Hungary, Transylvania, and Scacovia, where they were compelled to embrace the Roman Catholic faith, and the men to join the frontier militia. Many of them adhered firmly to their religious principles.

Abrasantes; a city of 3,500 inhabitants, on the right bank of the Tagus, in the province of Estremadura, in Portugal. It is considered as of great military importance, owing to its situation on a number of steep hills, forming a defile; by reason, likewise, of its old castle, converted into a chateau; and of the river, which is navigable as far as this place. The Portuguese, in this fortress, bravely defended the Spaniards, as early as 1702. In 1808, the army under Junot arrived at A., after a dangerous and tedious march along the banks of the Tagus, through the woody, mountainous, and barren Beira. Junot ordered the castle, as well as the city, which he found unassailable, to be placed in a state of defence; and, in spite of the great fatigue of his troops, hastened to Lisbon, then occupied by 15,000 Portuguese soldiers, and inhabited by 30,000 souls.

The quickness of his march, and the daring courage with which he took possession of this capital, at the head of only 1500 grenadiers, induced Napoleon to make him duke of Abrantes. At a later period, however, he committed gross mistakes. At the capture of Clastres, he was accused of cowardice, by reason of his English, who made it still stronger. It was, however, of no importance during the remainder of the war, except to Massena, who reconnoitred it at the time when he sat down before the strong position of the duke of Wellington, between Santarem and Peniche.

Abrasax Stones, or Abrasax Stones, are very numerous, and represent the human body, with the head of a cock, and the feet of a reptile. The inscription Aabrasax or Abrasax is often found on them, in Greek characters, which betray, however, a foreign origin. Bellermann, in his Essay on the Gems of the Ancients, bearing the Image of Abrasax, Berlin, 1817, declares only those having the above inscriptions to be genuine. The gems which have been imported into Europe from Egypt and Asia, and are also found in Spain in great abundance, bear the characteristic marks of the craft of the Basilians, and were used partly as means to teach secret doctrines, partly as symbols, partly as amulets or talismans. Grotefend derives the name from the Persian language; Bellermann thinks it to be a composition of the Egyptian words Aboe and Sa・sc, having secret connotations, which reminds us of the Tetragrammaton of the Jews. Different explanations have been proposed by others.

The ancient attempts to give meaning to the word by considering the letters as Greek numerals, which make together 365. — The name of Abrasax stone is, in modern times, applied to a variety of gems that exhibit enigmatical compositions, strange words in foreign characters, as Aboesathanathos, &c., and even to those which bear the emblems of Selosinam, the sun and moon, with other symbols, which want, however, the characteristic type of the Basilians. These are more properly called Araxazids. The Basilian names, seen on many stones of this class, are explained by Bellermann, by the aid of the Temytic languages. The interesting disquisition on this subject by Neander, professor at the university of Berlin, deserves to be carefully compared with their conclusions.

Atanzo, the northern extremity of the kingdom of Naples, is bounded on the north and west by the states of the church, on the east by the Adriatic, on the south by Puglia and Terra di Lavoro. It contains 628,600 inhabitants, and is divided into A. ulterior, which comprises the north-western, and A. citerior, which comprises the south-eastern part. The highest part of the chain of the Apennines crosses this enormous counter, especially, it is very lofty, with steep cliffs, and throws extraordinary obstacles in the way of internal communication. The rivers which rise in A., the Trento, Tronto, etc., generally flow in a direct course into the Adriatic, and have (the Pescaro and Tangro excepted) the character of torrents. They are often suddenly swollen by the rains, especially in the spring, and then sweep away the bridges and all means of communication. The climate of A. is severe. The summits of the mountains are covered with snow from October to April. Thick woods crown the eminences; the valleys only are productive; and even they (as the inhabitants are mostly shepherds) afford but a very scanty supply of grain. Almond, walnut, and other fruit-trees thrive everywhere; olives, in the low or regions, near the sea. The finest herds of all kinds of cattle feed on the heights and in the valleys, and constitute the only article of export. The most important cities are Aquilla, Pescara, (both fortresses,) and Sulmona. The importance of A. consists, principally, in its military sites. Projecting like a bastion 60 geographical miles, far into the territory of the church, it is of great importance from the circumstance, that but one military road, and that an extremely difficult one to an army, leads into the kingdom; therefore, had the Neapolitans a warlike spirit, the possession of A., whenever attacked, would not be obtained without a great sacrifice. But when a people is destitute of courage and energy, when the soldiers, sunk in cowardly apathy, run away at the mere idea of a battle, the most favourable ground is of no advantage. This is the reason that A. is of so little use for a defensive war; and that Naples has been the prey, sometimes of the Austrians, at other times of the French or the Spaniards. The inhabitants of A. are generally banditti, who render the frontiers of Naples and of the territories of the church extremely insecure. These banditti consist of the peasants living in the mountains, who possess property and interests, but, through poverty and agricultural concerns, make a trade of robbery. Urged by rapacity and poverty to murder and plunder, they unite, and fall upon the traveller, and not unfrequently upon the inhabitants and houses of the plains.

Ainolom, (in Danish, Axel,) bishop of Røeskilde or Roskilde, and archbishop of Denmark from 1158 to 1201; renowned as a clergyman, statesman, general, and navigator. From his early youth, he was a friend and counsellor of king Waldemar 1., whose ability in peace and war procured him the surname of Great. He was active, humane, and learned; set an example of industry to the monks, and improved the condition of the church in Denmark. In his youth, he studied at Paris. Under his direction, Saxo wrote the valuable Danish Chronicles. A. never abused his power, or the favour of the king; so that Waldemar ever remained his friend. He had the honour of being the founder of the chief city of Denmark, Copenhagen. He built the castle, called after him, Aeselburg, and the city, Aeselstadt. This castle, enlarged and improved, served the kings of Denmark afterwards for their residence till the 18th century. A. D. 1201, in the 73rd year of his age. His grave is still seen in Soroe, then a convent in Zealand.

Absentee; a word in modern times particularly applied to those land-owners and churchmen of Ireland who reside in England, or in foreign countries.
in 1715, a tax of four shillings in the pound was levied on all profits, fees, pensions, &c., derived from Ireland, in all cases where the persons receiving them should not reside in that country for six months in the year; power to grant licenses to sell alcohols being reserved to the crown. In 1753, the tax ceased.

Absolution. In the ancient christian church absolution was a judicial act, by which the priest, in the name of the community, invoking the favour of God in the name of the penitent, pronounced his remission from ecclesiastical punishment, and remission into the bosom of the church. Private absolution having become prevalent for four centuries, through priests acting in the place of the bishop, the opinion was spread among the people, that they had the power of absolving by their own authority, and without the consent of the church. But down to the 12th century, they used only the formula, “may God or Christ absolve thee?” which is still the form in the Greek church, and, in the Romish, makes a part of the ceremony. The council of Trent, sess. xxiv. cap. 3, declared the essence of the sacrament to lie in the words of absolution. Among protestants, absolution is chiefly used for a sentence, by which a person who stands excommunicated, is released from that punishment. The formula of absolution in the Romish church has been said to be absolute, in the Greek church, deprecatory, and in the Protestant churches, declarative; but this is a matter strongly contested between protestants and romansists. The fathers of the church and the best modern theologians are unanimous in the belief, that God alone can forgive and deliver from sin; and that a judicial power over the souls of christians is conferred neither on priests nor teachers.

Abstinence, is the habit of refraining from indulging in certain things or articles of food, which are regretable to our fancies or appetites. Thus the Jews were commanded by the laws of Moses to refrain from the eating of certain meats, and the Mahometans are forbidden, by their Alcoran, to eat pork or drink wine. And at the council held at Jerusalem by the apostles, the converts to the christian religion were enjoined to abstain from the flesh of animals which had been strangled, as also from blood, onions, garlic, and leavened bread. By such enactments it was intended to mortify and restrain the passions of mankind, and thereby humble them, so as to awaken their minds to a due sense of religious devotion. But by abstinence in a general sense, is also understood a sparing indulgence in diet, somewhat below what is generally considered the usual standard. In medical writings, various instances are recorded of persons, who have employed abstinence as a means of curing or alleviating severe chronic and painful diseases; such as cancers, ulcers, obstrual headaches, &c. And a book is in existence written by Cornero, a physician of Venice, giving a very extraordinary account of his own particular case and of the great benefit he had derived from the employment of abstinence;—for being, at the age of forty, abandoned by his physicians, who pronounced his recovery hopeless, he gave up medical and betook himself to a very sparse regimen, by means of which he was enabled to vanquish all his complaints, and attain to the age of ninety-nine years; thereby passing the latter half of his life in a degree of ease and comfort which he had never before experienced. Few persons probably are aware with what ease and regularity the primitive christians kept a very slender diet. The primitive christians of the east, who were induced to fly to the desert, to escape from the bloody malice of their heathen persecutors, attained to very advanced periods of life: living cheerfully and healthily upon a daily allowance of twelve ounces of coarse bread, with a beverage of water only. In this manner it is recorded by Casimiro that Anthony, the founder of the ascetic coteries, James the Hermit, to 101,—Anthony, tutor of the Emperor Arendus, 120,—St Epiphanius, 115,—Simeon the Stylite, 112:—and St Romuald, 120. Buchanan the Scottish historian has recorded that one Lawrence his countryman reached the great age of 140 years, by taken in his emperors and constant exercise. And St Kentigern, called also St Mungo or Mongay, also a Scotsman, is recorded by Spottiswood as having lived to the very extraordinary age of 185 years, by the same fumes. And, indeed, it may be safely asserted that no persons have ever attained a very advanced age, such as have in the century and upwards, who have not been in the habit of practising abstinence. This was decidedly the opinion of Dr Cheyne, who also states, that most of the chronic diseases and short lives of Englishmen may be traced up to their habits of great indulgence in eating and drinking; and, that there are but few cases of lingering or lingering lives, which have not either been cut short, cured, or alleviated by a contrary course of life. Almost all the instances of persons now a days who exceed a century in their existence, are found either amongst the poor or at least amongst those who either from necessity or inclination have adopted a very limited scale of diet. The wrestlers and gladiators of the ancients, lived in perpetual abstinence from all kinds of sensible pleasure so as to render their bodies more robust and hardy;—and when they were not cut off by violent deaths are stated to have lived to very advanced periods. In our own country, amongst the peasants themselves too much generally live to be very old. It is true that many persons have irreparably injured their constitutions by excessive parsimony; and it has been said that those who, either from design or accident, have fasted too long or too often, seldom enjoy good health afterwards; but this can only apply to such as absolutely fast altogether, not to those who are only very moderate in the use of food. And here it may be necessary to notice that serious errors have sometimes taken place in believing that particular articles of food are sufficient to support the human life, which has been repeatedly ascertained. By such beef-tea, mutton broth, and other concentrated soups and gravies would be adequate for this purpose. But the fact is, that fluid food alone, will not support human life in a state of health. Unfortunately a very foolish experiment of this kind, was made some years ago, in the Milbun Penitentary in London, by the committee, who put all the prisoners there on a soup diet only, and without any solid meat, and the consequences were very dreadful and fatal. The most terrible diseases of debility, such as seaseury, bloody flux and weakness of sight, emaciation, and the mortality which followed was quite unprecedented. But on putting these poor unfortunate wretches on a more liberal scale of diet, the pittance was stayed. Magistrates ought to know that prisoners (if worked) cannot be kept in health on a very low diet.

Absolution: an operation of the mind, by which we detach from our conceptions all those circumstances that render them particular, and thereby fit them to denote a whole rank or class of beings.

Abulfaragius, Gregory, bishop of Lucena, was born in Armenia in 1265; died 1294. He wrote several works of various kind, and is the author of an Abtractament of Universal History, which was published with a Latin version by Dr Pococke at Oxford in 1663, 2 vols. 4 to.
ABULFEDA—ABYSSINIA

Abulfeda; known by the name Ismael, prince of Hamah, in Syria, surmounted the victorious king and the pillar of religion. This Arabian, famous as an historian and geographer, was born at Damascus, in the year 1175 A.D. 1275, and proceeded from the family of the Abyuthes, which had already given birth to the famous Saladin, and was renowned for the valour of its members. While a youth, he distinguished himself in various campaigns. From his uncle he inherited the principality of Hamah; but, on an occasion of dispute with his brother, he did not come into possession of it for several years; after which he remained undisturbed therein till his death, in the year of the Hegira 732, A.D. 1333. All writers who mention him represent him as a prince of the greatest talents, equally remarkable for courage and coolness in war, and for wisdom in council. Among the cares of government, he devoted himself with zeal to study, drew the learned around him, and rendered his power and wealth subservient to the cause of science. He was well acquainted with history, jurisprudence, medicine, bogy, mathematics, and astronomy, and has bequeathed to us the fruits of his long inquiries in several valuable works, of which the history of his human race, and his geography, entitled The true Situation of Countries, are the most famous. We have several partial translations and editions of them. viz. of the historical works, 1st, ABYDOS; Le Roi d'Abdythes, (after Reisiki,) 1789—94, 5 vols. 2nd, De Vita et Rebus gestis Mohammedi, ed. Gagner, 1723, to which Schultens has annexed an appendix. For portions of his geography, we are indebted to Grevius, Reiske, Muratori, Michaelis, Rink, Eichhorn, Rosenmuller, Paulinus, and Rommel. Abulfeda's own manuscript is at Paris. He is a trust-worthy author, and his style is good.

Abydos; an ancient city of Asia, on the eastern side of the Dardanelles, famous for the bridge of boats, which Xerxes is related to have thrown here across the Hellespont, and for the love of Hero and Leander. This city defended itself with great courage against Philip of Macedon. Another Agylus was an ancient town of Upper Egypt, which contained the palace of Memnon, and the celebrated temple of Osiris built by Osymandyas. Under Augustus, the town was reduced to ruins, but to the west of it, on the high plain of El-Behi, magnificent ruins are still found.

Abya; a mountain in Africa, one of the pillars of Hercules, as they were anciently called; being directly opposite to Calpe, (now Gibraltar) in Spain, from which it is distant only 18 miles. Between these mountains are the straits of Gibraltar.

Abyssinia; an extensive kingdom of Africa, bounded on the east by the red sea, on the north by Semnar, on the west and south partly by Senmar and Cordofan, and partly by vast and barbarous regions, of which the names have scarcely reached us. Pinkerton makes Abyssinia 770 miles in length, and 550 in breadth. The number of inhabitants is from 4 to 5 millions, the greater part of whom are of Arabian extraction, mixed with Jews, Turks, and Negroes. The ancients called this country, and some of the parts adjacent, in a peculiar sense, Ethiopia. They also gave the same name, indefinitely to the interior of Africa, and even to a great part of Asia. The Ethiopian kingdoms, of which the ancients had any distinct knowledge, were two. The first, and the only one known to the earliest writers, is Meroe, or the peninsula, which they supposed to be an island, former part of the Nile river. Two streams uniting the Astaboras and the Asatus, (Blue River and Tanaze) The chief city of Meroe was placed by them on the Nile, in lat. 16° 26′; and Bruce saw near Chendi, in Semnar, immense ruins, which probably belonged to this ancient capital. The other kingdom was not known until the Greeks, under the successors of Alexander, had extended their maritime commerce to it. It was that of the Abyzumata, situated upon the Red sea, and occupying part of the Abyssinian province of Tigre. The capital, Axum, still remains, though in a state of decay. Its port, Adulis, was the channel by which the finest ivory then known was exported, and a commercial intercourse maintained with the coasts both of the Red sea and the Indian ocean.—The Abyssinians boast that their country was the Sheba of Scripture, and that it was converted to Judaism several centuries before the Christian era. It is much more certain, that, prior to the middle of the fourth century, the nation was converted to Christianity, which it has ever since professed. This is, however, more tinctured with Judaism than among other nations. Boys and girls, are circumcised; the Mosaic laws in regard to clean and unclean meats are respected; and the seventh day is their Sabbath, and all their holidays have the form of the ark of the covenant. In their dogmas, they follow the Monophysitic doctrine. (See Monophysites.) In the church service they use the Bible, with the apocryphal books, in the Tigre or Geez language, which is their language of literature. The Abyssinian king celebrates the Eucharist according to the ritual of the Greek church, of which they have all the festivals and fasts. It is, however, peculiar to the Abyssinians, that persons of rank receive larger pieces of bread at the Lord's supper, and that no one is admitted to it before his 25th year, because they pretend that no one is fit for it before that age, and that all who die prior to it are sure of salvation. They consider the bodies of the dead as unclean, and hasten their interment. Their small, round, conical churches stand on hills, near running water, surrounded by cedars, and are full of pictures. During the service every body is obliged to stand, as in the Greek churches. The shoes are left at the door, and passing horsemen must dismount. The service, like that of the Greek church, consists in reading parts of the Bible and praying. The clergy, who are very ignorant, generally marry, and are distinguished by a cross, which they wear on the breast of their dress. The head of the Abyssinian church is called Abuna, (our father,) and is generally taken from the Coptic priests, as the Abyssinians and the Copts keep up a communication with each other in Cairo. Under the abuna are the kamosots, or the chief priests of the secular clergy, the learned theologians, and monks. The latter pretend to be of the order of St Augustine, and are divided into two classes. The members of the one, living unmarried, reside in wealthy convents; those of the other, with their wives and children, live around the churches, supported by agriculture. Both sorts, as well as the numerous monks, travel about the country, trade in the markets, and do not appear scrupulously observant of their vow of chastity. The Abyssinian clergy have neither a particular dress nor peculiar privileges. A. is now divided into three separate states, Tigre, Ambura, and Ebeit. The negro, or negroes, as the king of all A. was called before its division, lives at Gongar, in Ambara, enjoying only a nominal sovereignty, and watched by the chief of that state. The pope has several times attempted to gain over A. An opportunity of reducing the Abyssinians to the obedience of Rome, with the Romans, with the Turks, in which the regent Helena sought assistance for David II., the minor negus, from the Portuguese, 1516. In 1520, a Portuguese fleet,
with soldiers and priests, arrived in A., and after the Turks and Gallas (a warlike, mountain people, in the south and west of A.) had been repulsed, by the assistance of the Portuguese, towards the end of the 16th century, the zealous catholics obtained a footing, of which the pope knew how to take advantage. He sent Jesuits to convert the inhabitants to the Roman catholic religion, and a Portu-
guese colony supported their enterprise. In the beginning of the 17th century, the Roman catholic ritual was introduced; the Jesuit, Alphonso Mendez was elected patriarch of A., in 1626, the cele-
bration of the 7th day as the Sabbath abolished, and the established religion was adapted to the ac-
catholic model. But this favourite turn of af-
fairs was of short duration. The negus Besikulis began his administration in 1632, by yielding to the wishes of the majority of the people, who were op-
posed to the Roman catholic faith. He banished the monks with the patriarch, and ordered the Jesu-
its who remained to be hanged. Almost all the catholic missionaries have since suffered death, and all the attempts of the Roman propaganda to est-
able the catholic faith in A., until the end of the last century, have proved fruitless.—In the western part of Abyssinia, there are large fairs where the Jews has long existed. They call themselves Falasha, that is, exiles; the state is called Falas-
jan. They have their own government, which is allowed by the negus, on consideration of their paying a certain tribute. Bruce found there a Jew-
ish king, Gideon, and a queen, Judith.—The cus-
toms of the Abyssinians are described by Bruce and Salt as exceedingly savage. They eat the raw and still quivering flesh of cattle, whose roaring is to be heard at their feasts. A perpetual state of civil war seems the main cause of their peculiar brutality and barbarism. Dead bodies are seen lying in the streets, and serve as food to dogs and hyenas. Marriage is there a very slight connexion, formed and dissolved at pleasure; conjugal fidelity is but little regarded. The rulers are unlimited despots in ecclesiastical and civil affairs, disposing of the lives of their subjects at pleasure.—A. is full of high ranges of mountains, in which the Nile takes its rise. The climate, on the whole, is fine, and the soil exceedingly fertile. The vegetable and animal kingdoms are very rich, and afford many species peculiar to this country. One of the most important natural products of A. is salt, which is worked in a great plain, which occupies part of the tract between Am-
phila and Massauah. The plain of salt is about four days' journey across. For about half a mile the salt is soft, but afterwards becomes hard, like snow which has been partially thawed, and consoli-
dated. It is perfectly pure: it is cut with an adze, and carried off by caravans. The country is rich in gold, iron, grain, and fruits. Commerce is in the hands of the Jews, Armenians, and Turks.

**ACACIA - ACADEMY.**

**ACACIA, Egyptian Thorn, or Binling Bean-tree;** in the Linnaean system, a species of mimosa. The flowers of this plant are used by the Chinese to pro-
duce yellow colour which we see in their silks and stuffs. They make a decoction of the dried flowers, and add alum and calcined oyster-shells. In the materia medica, acacia is the insipidized juice of the pods of the mimosa Nilotic of Linnaeus.

**ACADIA,** the name of the province of Canada, or artsists, for the promotion of the sciences or arts, sometimes established by government, sometimes voluntary unions of private individuals. The academies at Paris, Stockholm, and Berlin, are in part institu-
tions for education; but at first their only object was the one above mentioned. The mem-
bers of an academy either select their own branches of study or pursue those which the government as-
signs to them. The results of their labours are read in the regular meetings, and printed among their proceedings. The name is derived from the Athenian academy, belonging to a certain Acade-
mus, a famous school for gymnastic exercises, and the place where Plato taught. The appellation, academy, is also used to denote the various philosophical sects, whose doctrines were taught in that in-
stitution. In this sense we speak of the first, second, and third academies; the founders of which were Plato, Arcesilacus, and Lucasidas or Carneades. The first institution of antiquity, which merits the name of academy, was founded by the Banabaites at Alexandria. Attracted by the generosity of the Ptolemies, a numerous association of scholars, was collected here, who were to have laboured for the extension and perfection of human knowledge, but soon fell into idleness, or the exercise of grammatici-
cal subterfuges. From Alexandria, the Jews bor-
rowed the custom of founding academies, which were established, after the close of the first century, in the cities on the Euphrates, Sora, Nehшу, and Punbeelda. From them the Nestorians learned, in the sixth century, to value science, and impaired the study of the sciences, by the introduction of calulis, Almansor, Harun al Raschit, and Almas-
man, founded a number of academies, which were extended from Cordova to Bohchera in the farthest west, with the greatest success. At the court, too, of Charlemagne, we find an academy, founded by the emperor, at the suggestion of his instructor, Alcin, of which he was himself a member. This useful institution was dissolved after the death of Aulin, and we afterwards find no academies, pro-
perly so called, till the time of the conquest of Con-
stantinople by the Turks, when several Grecian 

**General scientific Academies.** The Academia Sec-
eretorum Naturae, founded at Naples in 1560, for the promotion of the mathematical and physical sciences, was abolished by the papal interdict. It was followed by the Accademia del Lincei, founded at Rome, by prince Cesi, about the end of the same century; of which Gallileo was a member. It 

**The Academy of the Clementine Academy,** from Clement XI. It possesses a large collection of natural curiosities and a numerous library. The Academy of Sciences at Bologna, or the Institute of Bologna, was established in 1712, by count Marsili (see Bologna) and has been chartered with the same power of benefiting the arts and sciences, as that of Rome, but is not so extensive and in so many respects as the Institute of Bologna, of which Pope Clement XI. is the nominative head, and was established at Rossano, in the territory of Naples, under the name Societ

**A.**
Academy.

Scientifica Rossenseae degl' Incuriosi, at first for the belles lettres, but since 1695 for the sciences also, The Royal Academy at Naples has existed since 1719. Its publications contain some instructive disquisitions by the principal subjects of the sciences in its academies; we would also mention those at Turin, Padua, Milan, Sienna, Verona, Genoa, all of which have published their transactions. Italy may be called the mother of academic institutions. Jarchzius enumerates 550 of them in his catalogue. — The French Academy, founded by the regent Colbert, the Academy of Leibnitz, founded in 1666, by Colbert, received the royal ratification in 1699. The members were divided into four classes — honorary members, active members or pensionaries (receiving salaries), associés and élèves. The first class was to contain ten, and each of the three others twenty persons. The president was appointed by the king out of the first class. From the second, a secretary and treasurer were selected. The duke of Orleans, when regent, abolished the class of élèves, and substituted for it two new classes, the one of which comprised twelve adjuncts, and the other, six associés. The German Academy of Sciences, of which the science was assigned. A vice-president was to be appointed annually by the king from the first class, and a director and a sub-director from the second. In 1785, the king added classes for natural history, agriculture, mineralogy, and physics; so that the whole now consisted of eight classes. He also in 1758 incorporated the associés and the adjuncts (adjoints). This academy has rendered many services to science, especially by the measurement of a degree of the meridian. Since 1699, it has, with a few late exceptions, annually published a volume of its transactions, which constitute a literature of 139 volumes. Rouille de Meslay founded two prizes, which the academy annually distributed; the first, of 2500 livres, for the promotion of physical astronomy; the second, of 2000 livres, for that of navigation and commerce. In 1793, the academy was abolished; and the National Institute took its place, and that of the other academies; but they were restored by Louis XVIII. Important academies, besides those of Paris, still exist in the principal cities of France, e.g. at Caen, since 1705; at Toulouse, the first volume of whose transactions appeared in 1782; at Bordeaux, since 1739; at Soissons, since 1674; at Marseilles, since 1726; at Lyons, since 1700; at Montauban, since 1744; at Amiens, since 1750; at Dijon, since 1740; &c. — An Academy of Arts and Sciences was founded in Berlin in 1760, by king Frederic I; some changes in it were made in 1710; principally relating to the presidency. The members were divided into four classes; the first were to devote themselves to natural philosophy, medicine, and chemistry; the second to mathematics, astronomy, and mechanics; the third to the history and language of Germany; the fourth, to the history and language of the heathen. Each class chooses a director for life. The first president was the famous Leibnitz. The institution began truly to flourish under Frederic II, who invited distinguished scholars from foreign countries, and appointed Maupertuis president. Public sessions were held semi-annually, on the birth-day of the king and the anniversary of his accession to the throne. In the latter, a prize medal of 50 ducats is adjudged to him who has best answered the question proposed by the academy. Since that time, their transactions have appeared in a volume each year, till 1728, when the series began to consist of two volumes. The subsequent volumes are called the "Académie Royale des Sciences et Belles Lettres à Berlin." They are now, however, always published in the German language. New alterations were made in 1798, in order to give a more useful direction to the labours of the academy; among other things, the royal library and the cabinet of arts were united with it. — At Munheim, in 1755, the elector Charles Thaddaeus established an academy, according to the plan of Schopfill. It consisted, at first, of two classes, the historical and physical; the latter was divided, in 1780, into the physical, properly so called, and the meteorological. The transactions in the departments of history and physics have appeared under the title "Chronica Physico-Metallurgica" or "Scriptores Meteorologiae." — The academy at Munich has existed since 1759, but was much enlarged when Bavaria was exalted to a kingdom. Its memoirs are entitled "Abhandlungen der bayerischen Akademie." — Peter the Great had projected the establishment of the Imperial Academy of Sciences at St. Petersburg, and consulted Wolf and Leibnitz on the subject; but his death prevented the execution of his project, which was completed by Catherine I. Its first sitting was held, Dec. 1725. The empress appropriated about 1000 roubles a year for the support of the academy; fifteen distinguished scholars in different departments received pensions as members, with the title of professors. The most famous of them were Nicholas and Daniel Bernouilli, the two de Lusles, Bulfinger, and Wolf. Under Peter II. the academy languished; but re- vived under the empress Anna, and declined again after her death. Under Elizabeth, it flourished anew. It was enlarged and improved, and an academy of arts added in 1747, which was separated again in 1764. Its annual income amounts to 60,000 roubles. This academy has contributed much to a more accurate knowledge of the interior of Russia, by sending men like Pallas, Gmelin, Stolberg, Guldéstadt, and Klapproth, to travel through single provinces, and has thereby given rise to some excellent works. The number of active members, besides the president and director, amounts to fifteen. In addition to these, there are four adjoints, who attend the sittings, and are admitted, on the first vacancies, to the rank of members. The academy has an excellent collection of books and manuscripts, a valuable cabinet of medals, and a rich collection in natural history. Its transactions appeared from 1728 till 1777, during which period they amounted to 14 volumes, under the title Commentarii Academia Scientiarum Imperialis Petropolitanae. From that time till 1777, they were published under the title Novi Commentarii, in 20 volumes. They were subsequently entitled Acta Academiae, and at present the new series is called Novis Acta. The Commentarii are all in Latin; the Acta are partly in Latin, partly in French. — The Royal Academy of Sciences at Stockholm originated in a private association of six learned men, among whom was Linnaeus, and held its first session, June 23, 1739. In the same year appeared its first membre, which attracted public attention, and, March 31, 1741, the king conferred on it the name of the Royal Academy of Sweden. It receives, however, no pension from the crown, and is conducted by its own members. A professor of experimental philosophy only, and two secretaries are named from the funds of the society, which are considerable, arising from legacies and donations. The presidency is held in turn by the members residing at Stockholm, each one remaining in office three months. The treatises read in the sittings appear quarterly. The first forty volumes till 1782 were published, and the subsequent volumes are called the new. The papers relating to agriculture appear under the title "Economica Acta". Prizes, consisting of money and
gold medals, are annually offered. — The Royal Academy at Copenhagen sprang from a society of six literary men, to whom Christian VI, committed, in 1742, the care of his cabinet of medals. They subsequently enlarged their plan, so as to form a regular academy. One of these literary men was the Count of Holstein, at whose suggestion Christian VI. took the academy under his protection in 1743, endowed it with a fund, and directed the members to extend their studies to natural history, physics, and mathematics. It has published fifteen volumes, the names of the works having been translated into Latin. — The Royal Irish Academy at Dublin was formed in 1782, mostly of the members of the university, who assembled weekly. Its transactions have appeared regularly since 1788. As early as 1638, there was an academy in Dublin, but, owing to the distracted state of the country, it soon declined. In 1740, a Physico-Historical Society was instituted, which published two volumes of transactions, still extant. This also soon declined. — In Lisbon, the late queen established an academy of science, agriculture, arts, commerce, and economy in general, consisting of three classes; the first, of mathematics and natural history, the second of literature, and the third of the arts. It has published Memorias de Litteratura Portugueza, Memorias Economicas, together with scientific transactions, and a Colle&eaqu0;e de Livros ineditos de Historia Portugueza.

Academies for the promotion of particular departments of science. — I. Medical. The Academia Naturalis Curiosorum at Vienna, called also Leopold's Academy, was formed in 1652. At first, it published its treatises separately, but after 1684, in volumes. Under Leopold I, who favoured it in a high degree, it adopted the name Cesareo-Leopoldina Naturalis Curiosorum Academia. Similar academies were established at Palermo, 1645; in Spain, 1652; at Venice, 1701; and at Geneva, 1715. — 2. Surgical. A surgical academy was established at Paris, 1731, which proposes annually a prize question. The prize is a gold medal of the value of 500 livres. A surgical academy was founded at Vienna in 1783. Three prize medals, each of the value of 50 guilders, are yearly adjudged to the most successful students. — 3. An academy of theology was established, in 1687, at Bologna. — 4. Coronelli founded, in the beginning of the last century, a geographical academy at Venice, under the title of the Academy of Geography; the object is to publish good maps and descriptions of countries. — 5. Historical. John King V. founded, in 1720, a royal academy of Portuguese history at Lisbon, consisting of a director, four censors, a secretary, and fifty members: the subject of their study is the ecclesiastical and political history of Portugal. In Madrid, an association of scholars was instituted about 1730, for the purpose of investigating and explaining the historical monuments of Spain. It was formed into an academy by King Philip V. in 1738. It consists of 24 members, and has published several ancient historical works; some for the first time, some in new editions. The Academy of Saxon History, at Tubingen, was established for the purpose of publishing the best historical works, and the lives of the best historians, as well as for compiling new memoirs. — 6. For the study of antiquities, a national academy exists at Genoa: the object is to elucidate the study of Etrurian antiquities; another at Upsal, in Sweden, for the elucidation of the northern languages, and the antiquities of Sweden. Both have published valuable works. The academy which Portugal established in Rome, for the same purpose, soon came to an end, and the one founded by Leo X. met with the same fate, after it had flourished some time. Others, less important, rose on their ruins, but all similar institutions were surpassed by the Academie des Inscriptions, at Paris, founded by Colbert, in 1663, for the study of ancient monuments, and for the perpetuation of the remarkable collections of their own country, by means of medals, statues, portraits, inscriptions, &c. It has been chiefly, but four members, who were chosen from those of the French academy; but in 1701, the number was fixed at ten honorary members, ten associés, ten pensionnaires, and ten élèves. They met semi-weekly in the Louvre, and held every year two public sessions. The same élève was finally appointed as president, and the academy newly appointed his president and vice-president. The secretary and treasurer held their offices for life. Their memoirs (from 1701—93) constitute 50 vols. in 8vo. It experienced the fate of all the French academies, and is now restored. The Herculaneum Academy was established at Naples in 1755, by the minister Tanucci, to explain the ancient monuments found in Herculaneum, Pompeii, &c. Their labours have appeared, since 1775, under the title Antichità di Ercolano. In 1607, Joseph Bonaparte founded an academy of history and antiquities at Naples, which has fallen into desuetude. The academy founded in the same year at Florence, for the explanation of Tuscan antiquities, has published some volumes of memoirs. In the same year, likewise, a Celtic academy was established at Paris, the objects of which were the elucidation of the history, manners, antiquities, and monuments of the Celts, especially those in France; also researches into the etymology of all European languages by the aid of the Celtic—Breton, Welsh, and Erse dialects; also with investigations respecting the Druidical worship. Lenoir is its president. Its transactions comprise summaries of 3000 pages of the Celtic-Italian — 7. For the improvement of language. The Académie della Crusca, or Academia Furturatorum, was formed in 1552, and first attracted attention by its attacks on Tasso. Its principal merit consists in having compiled an excellent dictionary, and edited with care several of the ancient poets of Italy. The Académie Française, formed in 1662, was then a private association; six years after, it was raised by Richelieu to the dignity of an academy of the French language, grammar, poetry, and eloquence. The number of members was fixed at 40, and from them a director and a chancellor were elected every two years. For thirty years, it published only other valuable works, it has published a dictionary of the French language, (first edition in 1694.) At Madrid, the duke of Escalona founded an academy for the improvement of the Spanish language, in 1714, which the king endowed with various privileges. It has done much towards purifying and perfecting the language, especially by the compilation of a dictionary. In Petersburg, an academy for the improvement of the Russian language was founded in 1763, and united with the Academy of Sciences. In Sweden, also, a royal academy of language was instituted in 1759. Many literary societies are distinguished only by name from academies. Such are the Royal Society of Sciences, at Göttingen, founded in 1750, the Royal Society of England, founded in 1645. This society has made observations and experiments on most of the works of nature; it is now, in Italy, for national, civil, and military architecture, &c. It has registered experiments, observations, &c., and, from time to time, published the most valuable, under the title of Philosophical Transactions. The Royal Society of Dublin, for the encouragement of husbandry and the arts, established in 1731, has been one of the most active establishments of the kind in Europe. The
Royal Society of Edinburgh was established in 1783. Besides these, there are the Society of Antiquaries of London, 1751; the Literary and Philosophical Society of Manchester, 1781; the literary associations of Harleian, Flushing, Rotterdam, Brussels, Amsterdam, Copenhagen, Upsal, &c. From Europe the East, the Eastern academies and societies in the U.S. of America, are the following: 1. The American Philosophical Society, Philadelphia, founded in 1769. This society has published nine volumes, 4to, of Transactions. In 1815, it appointed a large committee to superin tend an historical department, which has published one vol. 8vo.—2. The Massachusetts Historical Society, Boston, founded in 1791. It has printed 22 vols. 8vo, of Collections. 3. The Connecticut Academy of Arts and Sciences, New Haven, founded in 1781, has published one vol. of Transactions. 4. The Literary and Historical Society of New York, founded in 1813, has published two vols. 4to, of Transactions. 5. The Academy of Natural Science, Philadelphia, founded in 1816, has published five vols. 8vo. 6. The Lyceum of Natural History, New York, founded in 1818, has published two vols. 8vo. There are, besides, the Historical Society of Pennsylvania, Philadelphia; the Essex Historical Society, Salem, Massachusetts, the Columbian Institute, at Washington, D. C., and some others; but their publications have been few.

Academies devoted to the promotion of the fine arts sprung up in the middle of the 18th century. The academy of Paris has been a model for many subsequent institutions of a similar character. The earliest union of painters, for objects similar to those of modern academies of art, was the fraternity, formed at Venice in 1563, under the name of San Luca, which sprung from a society under the patronage of St. Luke. The first academy of San Luca, established at Florence, in 1350, bore the name of an academy. The Accademie di San Luca, founded at Rome in 1593, by Frd. Zuccaro, first obtained a settled character in 1715. The academy of Milan may have preceded the time of Leonardo da Vinci, who is generally regarded as its founder. The academies of Bologna, Parma, Padua, Mantua, Turin, are all of recent origin, and have never obtained the importance which such institutions acquire in large capitals, where the finest works of art serve as guides and incentives to genius. The Academy of Painting at Paris was established by Louis XIV, in 1648, and the Academy of Architecture by Colbert, in 1761. This latter now exists under the name of Ecole Spéciale des Beaux Arts, and is divided into departments, in a way which might serve as a model. Since 1391, the painters of Paris have been united in a society called the Fraternity of St Luke, which has received charters from several kings. Among the towns of France, Bordeaux had the earliest academy. We now find one in almost every town of consequence. The French academy at Rome, in the Villa Medici, is a branch of the Academy of France, and the first establishment of this kind in Germany. Its academy, founded by Sandrart, 1692, and long co-ducted by him, gained new distinction from the celebrity of Preissler. The academy of Berlin was founded in 1694, was remodelled and received a fresh impulse in 1786; that of Dresden, established in 1697, was united with those of Leipzig and Meissen in 1744, and has still the form given it by Hagedorn. The academy of the Empire German was founded by Joseph L and completed by Charles VI, in 1756; that of Munich was established in 1770; those of Dusseldorf and Mannheim are more valuable now than they were originally. Weimar, Cassel, Frankfort, Darmstadt, should not be omitted in this enumeration. The Society of the Arts and Sciences, founded in Bermuda, in 1815, is the oldest existing society of its kind; the Royal Academy of Painting at London, in 1786. A branch of the London academy has been established at Rome, which, we have reason to hope, will prove more useful than the parent society. Edinburgh has possessed a similar society since 1754. At Brussels, Amsterdam, Antwerp, there are distinguished academies. Stockholm has had, since 1733, an academy of the fine arts, founded by count Tessin. Since 1738, one has existed at Copenhagen, but its privileges were conferred on it in 1754. This academy has exercised an important influence in Denmark. The academy of Petersburg was founded in 1757, and extended in 1784. Its influence in awakening diligence and enterprise among the Russian artists has been lately very apparent.—For schools of music, see Conservatory.

Acanthus; the name of an ancient town in Egypt, also one in Caria, and another in Macedonia (near Mount Athos), &c.—Also, a genus of plants (commonly called bear's-breech), of the order angiosperma, class diadynam. The leaves of the A. are large, and very beautiful. It grows wild in Italy.—In architecture, New Hampshire and Massachusetts have adopted the leaves of the acanthus, used in the capitals of the Corinthian and Compoite orders.

Acapulco is the best Mexican harbour on the Pacific Ocean; lon. 108° 50' W., lat. 15° 50' N.; pop. mostly people of colour. Both the harbour and the road-stead are deep, with a secure anchorage from storms. It is the most considerable port on the S. W. side of Mexico. Heavily laden ships can lie at anchor, close to the granite rocks, which environ the road-stead and harbour. On account of the steepness of these rocks, the coast has a wild and barren appearance. The entire territory of the harbour is an island, named Isla de la Corina, or Grito, which forms a western entrance of 700 or 800 feet broad, and an eastern, a mile or a mile and a half broad, and from 24 to 33 fathoms deep. On the north-west lies the city, defended by fort San Diego, situated on an eminence. It has not more than 4000 inhabitants, mostly people of colour. The number used to increase much on the arrival of the galleon from Manila. Few commercial places have a more unhealthy situation. The usual heat in the day is from 80 to 90° Fahrenheit; in the night, till 3 o'clock, A. M., 78°; and from that time till sunrise, 64 to 62°. The sun's rays are reflected by the white rocks upon the city, where no creature is comfortable except the musquitoes. To procure fresh air, the Spanish government caused a passage to be cut through the rocks on the east; but neglected, what was far more necessary, to drain and dig the morass, on the same side, situated most favourable for the culture of sugar cane. About the middle of the dry season, the water disappears, and the effluvia of putrid substances infect the air. Here the yellow fever of the West Indies, and the choler, the morbus pestiferus, and the yellow fever, have been carried by strangers, and especially young Europeans. The calms under the line, which frequently continue for
ACARNANIA.—ACCENT.

A long time, are a natural obstacle, which renders a voyage from Callao to Acapulco more difficult, and often longer, than one from Callao to Cadiz. Steam-boats would be of greater advantage in this quarter. In order to take advantage of the trade-winds, it is especially important for them to keep at a distance from the line. This, however, is impracticable on a coasting voyage from Acapulco to Callao. The exports hitherto, from Acapulco have been mostly silver, indigo, cochineal, Spanish cloth, and some peltry, which comes from California and the northern part of Mexico. The imports consist of all the valuable productions of Asia.

ACARNANIA, now called Il Cornia and Il Despota; an ancient country of Epirus, divided from Eetolia by the Achelous.

ACATHOLIC, are, in general, those who do not belong to the catholic church. In certain catholic countries, protestants are distinguished by this name, which is considered less odious.

ACCENT; the law which regulates the rising and falling of sounds or tones. Music and language, which are subject to this law, both originate in the feelings; and the language being a Tartar, whether, and music remains the language of the heart, while speech, or language, properly so called, becomes the language of the mind, yet the latter does not entirely cease to speak to the heart; and music and language thus retain certain qualities in common; yet the former is partly internal, and the latter is adapted to the expression of emotions; and thence arise the movements, sometimes slow and sometimes quick, which we perceive in them. They thus become subject to quantity or time; and we distinguish sounds, with reference to quantity, into long and short. In order to express an emotion distinctly and plainly, there must be a suitable arrangement of the organs for the sounds intended to be produced; and, in a series of sounds measured by the relation of time, and regulated also by relation to some fundamental tone, there will be found a certain connexion and association which represent the emotions in their various relations and gradations; it is this also, which distinguishes correctly what is of primary importance from what is secondary, renders the unimportant subordinate to the important, and gives proper weight to that which is equivalent in importance of long and short, and becomes a musical composition, which comprehends within itself a definite meaning or sense; and, to express this, particular regard must be had to the signification and importance of single tones in connexion. The stress, which is laid on the tones, according to the gradations of meaning, constitutes what we call accent. We distinguish the acute, or rising accent, the grave, or falling, and the circumflex. The circumflex accent falls on those syllables or tones which are long in themselves; the grave properly denotes merely the absence of any stress; and thus we have only the acute left, to give a designation to tones. The reasons for designating a tone by accent, and dwelling on it longer than its established quantity requires, are either mechanical, rhetorical, or emphatical. We divide accent into grammatical and rhetorical, or the accent of words and of sentences, which last is called emphasis. The former rests on physical or mechanical causes; the latter has for its object the relations of ideas. The laws which govern both are briefly the following: A syllabic or tone of the natural length receives the grammatical or verbal accent; but there are two causes, which distinguish, besides the rest—their mechanical formation and their signification. In the word strength, for instance, mechanical causes compel the voice to dwell longer on the first syllable than on the second, and hence a greater stress is laid on that syllable. Rhetorical accent, or emphasis, is designed to give to a sentence distinctness and clearness. In a sentence, therefore, the stress is laid on the most important word, and in a speech, on the last part of the accent. This accent, sometimes attaching itself, in language, to the quantity of a word, or, in music, to a certain part of a bar, the accentual force dwells on the important part; and, in order that this force may be rendered still more distinguishable, it hastes over those parts which, though otherwise important, the context renders comparatively unimportant. It follows, from what has been said, that the accent of words and the accent of sentences, or emphasis, may be united or separated at pleasure. It may now be asked, whether emphasis destroys verbal accent and quantity; and whether, for this reason, euphony does not suffer from emphasis? In answering this question, (in which lies the secret of prosody in general, and the difference between the modern and ancient), four points come under consideration: 1. If the accent coincides with a syllable which is long from its quantity, it imparts stress to its prosodical length. 2. The accent does not render an invariably long syllable short, but deprives it, if it immediately follow the accentual syllable, of a portion of its length. The quantity, therefore, if it does not coincide with the accent, is rendered by the accentual force, which, although the accent cannot render an invariably long syllable short, it can change the relative quantity of common syllables. 4. The accent can never fall on syllables invariably short. These are the rules which are of the greatest importance, not only to the versifier, but also to the declaimer, and to the actor, so far as he is a declaimer.

The grammatical and rhetorical nomenclature of the English language is very defective and unsettled; and hence has arisen a great degree of confusion among all our writers on the subject of accent and quantity in English. We have perverted the true meaning of long and short, as applied to syllables or vowels; and, by our particular application of those terms, we have made ourselves quite unintelligible to foreign nations, who still use them according to their signification in the ancient languages, from which the English language has been formed. What is a musical, or musical accent, (Essay on Accent and Quantity,) whose own work, however, is not free from obscurity, observes, that he has found the word accent used by the same writer in four different senses—sometimes expressing elevation, sometimes prolongation of sound, sometimes a stress of voice compounded of the other two, and sometimes the artificial accentual mark. For a long series of years, however, accent, as Johnson has remarked, in English prosody has been the same thing with quantity; and another English writer of celebrity, bishop Horsley, observes, that it is a peculiarity of the English language, that quantity and accent always go together, the longest syllable, in almost every word, being that on which the accent falls. In other languages, as Miford justly remarks (Essay on the Harmony of Language), generally, the vowel character, representing indifferently a long or a short sound, still represents the same sound, long or short. A contrary method is peculiar to English orthography. With us, the same vowel sound, long and short, is rarely represented by the same character; but, on the contrary, according to the general rules of our orthography, each sound is represented by a different vowel, and the short sound of another. This is eminently observable, as Dr Johnson has remarked, in the letter i, which likewise happens in other letters,
that the short sound is not the long sound contracted, but a sound wholly different. In addition to the difficulties arising from an imperfect nomenclature, as above remarked, there is an intrinsic difficulty in the extreme delicacy of the distinctions of tone, pitch, and inflections in language, and the want of an established notation, corresponding to that which we have in music; and we may add, in the words of Hermann (De Emendanda Rationale Graeci, Gram.), "Quam pauca vero sunt, qui vel aliqua pollicitum aurium substitute ut vocum discrimina celeriter notare atque exprimere possint."—The Chinese are said to have but 350 spoken words; but these are made multiplied by the different accents or tones which affect the vowels, furnish a language tolerably copious.

Acceptance. (Law.) An acceptance is an engagement to pay a bill of exchange according to the tenor of the acceptance, and a general acceptance is an engagement to pay according to the tenor of the bill. What constitutes an acceptance is, in many cases, a nice question of law; but the general mode is for the acceptor to write his name on some conspicuous part of the bill, accompanied by the word accepted. In France, Spain, and the other countries of Europe, the signature of the acceptor is the contract is not admitted to the same extent as in England, a verbal acceptance of a bill of exchange is not valid.

Accessary, or Accessory; a person guilty of an offence by connivance or participation, either before or after the act committed, as by command, advice, or concealment, &c. In high treason, all who participate are regarded as principals. Abettors and accomplices also come, in some measure, under this name, though the former not strictly under the legal definition of accessories. An abettor is one who procures the other to commit an offence; and in many cases, as indeed in almost all cases, is now considered as much a principal as the actual offender. An accomplice is one of many persons equally concerned in a felony. The name is generally applied to those who are admitted to give evidence against their fellow-criminals, for the furtherance of justice.

Accolade (acclamatio); in Roman antiquity, a shouting of certain words by way of praise or displeasure. In ages when people were more accustomed to give full utterance to their feelings, acclamations were very common, wherever a mass of people was united by a common interest, as for instance, at the scene of Roman applause in theatres, senate, ecclesiastical meetings, elections, ataults, triumphs, &c. The senate of Rome burst into contumelious acclamations after the death of Domitian and Commodus. The theatrical acclamations were connected with music.

The form among the Jews was Hosanna! The Greek emperors were received with Agnon evxw; (good luck), or other exclamations. Because music is closely connected with the dramatic, we find its place supplied, among all nations, by acclamations. So Tacitus informs us that the Germans showed their approbation of a measure by clashing their shields and swords. The bishops, in the early times of Christianity, were long elected by acclamations, and the use of time, acclamations were admitted into the churches, and the people expressed their approbation of a favourite preacher by exclaiming, Orthodoх! Third apostle! &c. They seem to have been sometimes used as late as the age of St. Bernard. The first German emperors were elected by acclamation at a meeting of the people in the open air; and the Indians, in North America, show their approbation or disapprobation of proposed public measures by acclamations.

Accolade, a word derived from barbarous Latin, is composed of ad, to, and collum, neck, meaning, originally, an embrace. It signifies an ancient ceremony used in conferring knighthood. Antiquaries are not agreed wherein the accolade consisted. Some think it signifies the embrace bestowed on a person who conferred the honour of knighthood. It is more probable that it consisted in an imitation of a blow on the neck, or on the cheek, signifying that this should be the last blow which the new-made knight should endure. The ceremony of striking the candidate with the naked sword, which afterwards took the place of the blow with the hand, had the same meaning. The Roman master also gave a accolade to his slave, at the time of his emancipation which, therefore, was called manumission; and in those parts of Germany where the ancient corporation of mechanics still continue, the apprentice receives a blow from the oldest journeyman, when his apprenticeship is at an end. The blow or stroke was in use among all Christian nations of the middle ages in conferring knighthood. (See Chevalry.)

Accolti, Benedetto, an Italian lawyer, born at Florence in 1415. He became secretary to the republic of Florence in 1450, and was much distinguished by the popes of his day. He wrote a treatise "De Præstantia Virorum sui Ævi," and also a valuable work on the Crusades, which was serviceable to Tasso, in the composition of his Jerusalem Delivered. He died in 1540. He delineated and other eminent men connected with the family of Accolti, in particular, Bernard Accolti, a poet, and Francis and Peter Accolti, both lawyers.

Accommodation; properly, the adaptation of one thing to another; in philosophy the application of one thing by analogy to another. It is also used in theology; thus, a prophecy of Scripture is said to be fulfilled improperly, or by way of accommodation when an event happens to any place or people similar to that predicted of another. Some theologians also say that Christ said many things to his disciples by way of example, and that they, when they came to their views, and telling them only what they were capable of understanding. Others think this theory inconsistent with the purity of Christ. A., in law, if used for an amicable agreement or composition between two contending parties. These accommodations are frequently effected by means of compromise and arbitration.

Accompaniment, in music, (French, accompagnement; Italian, accompagnamento.) is that part of music which serves for the support of the principal melody (solo or obligato part.) This can be executed either by many instruments, by a few, or even by a single one. We have, therefore, pieces of music with an accompaniment for several, or only for a single instrument. The principles on which the effect of the accompaniment rests are so little settled, that its composition is perhaps more difficult than even that of the melody, or perhaps equally difficult. Frequently, the same musical thought, according to the character of the accompaniment, produces a good or bad effect, without our being able to give a satisfactory reason for the difference. Hitherto, the Italians have been most distinguished for expressive accompaniments contained in a few notes, yet producing of great effect. In this respect, the Italian music...
generally surpasses the German and French, as it never weakens the effect of the principal part by means of which French are far behind both the other nations, in respect to this part of composition, as they frequently estimate the effect by the quantity of notes. The accompaniment requires of the performer the most scrupulous study, and of the composer the greatest care and delicacy. The accompaniment of various solo instruments, e.g. the violon, flute, piano, &c., is extremely difficult, and to give it full effect requires great knowledge and skill. The Italian composers accordingly consider a piano accompanied for a full orchestra, especially in the recitativo, (q. v.) as a great problem, which they have laboured very hardly to solve. As the object of every musical accompaniment is to give effect to the principal part, the accompanier should always aim to support, and by no means to overpower and oppress it. Of all composers, Mozart, even in respect to the accompaniments, claims the first place for the simplicity and beauty with which he amalgamates the leading and accompanying parts, through his unrivalled knowledge and excellent management of the parts for every individual instrument.

Acord: in common law, an agreement, between two or more parties, to give and accept satisfaction for an offence or trespass committed, which becomes a bar to a suit.

Accorso, Francis, an Italian lawyer, who rendered himself famous by his "Perpetual Commentary," or "Great Gloss," in illustration of the code, the laws, the regulations, and the digest. The best edition of his collection is that of Lyons, 1627, 6 vols. folio. He was born in Florence in 1182, and died in 1229. His son, also an eminent lawyer, came to England and read lectures at Oxford, but subsequently died in Italy in 1232.

Accorso, Maringelo, a critic who distinguished himself by the diligence with which he sought and collated ancient manuscripts, of which he published several. He was a native of Aquila in Naples, and thrust into the 16th century.

Accouchement (French); the delivery of a woman in child-bed.

Accusation (from the Latin ad, to, and consarni, to plead); an assertion imputing to some person a crime or a fault; in law, a formal declaration, charging some person with an act punishable by a judicial sentence. In Rome, where there was no calumniator publicus, or attorney-general, every one was permitted to prosecute crimes of a public nature. Therefore accusations very often took place against innocent persons, on which account it was not considered at all disputable to be accused. Cato is said to have been accused 42 times, and as often absolved. Also in Prussia and Austria there exists, according to the codes of these countries, no public accuser. The courts accuse, try, and sentence upon information received from the police, to which private individuals apply. This is called the process by inquisition, in contradistinction to process by accusation or appeal. In the common law of Germany, the process of appeal, in which the person injured appears as the accusing party, is not general, yet not abolished (See Criminal process.) For accusation in England and France, see Jury. At Athens, if an accuser had not the fifth part of the votes on his side, he was obliged to pay a fine for each dremaunchins. Eschines, who accused Ctesiphon, was condemned to pay this fine. At Rome, a false accuser was branded with the letter K on his forehead, (used for C, i.e. calumniator.) The accuser was also watched to prevent this discriminating the judges or the witnesses. The Spanish inquisition forced the suspected person to accuse himself of the crime objected to him. In France, peers are to be accused of crimes only by fore of peer, and every peer has the right to accuse ministers, as such, before the peers. Accusing, in these cases, is called impeaching. In the United States, any officer of government, the president not excepted, is incapable, and the constitution provides the accuser and the judges. In no monarchy can the king be brought to trial for a crime, though, in some cases his conduct may be such as to amount to a virtual abdication of the throne. Blackstone says, "When king James II. invaded the fundamental constitution of the realm, the convention declared an abdication, whereupon the bill of attainder was introduced as the instrument of abdication of the crown. And so far as this precedent leads, and no farther, we may now be allowed to lay down the law of redress against public oppression."

Accohama, (Heb., a field of blood); the field purchased by the Jewish rulers with the 30 pieces of silver which Judas returned to them in despair, after betraying Christ. This field they appropriated as a burial-place for strangers. The place is still shown to travellers. It is small, and covered with an arched roof. The bodies deposited in it are, it is said, consumed in four years, or even less time.

Accipitai (handless); several sects of schismatics in the Christian church, who rebelled against their Christian head, or refused to acknowledge any; for example, the monophysite monks and priests in Egypt, who did not acknowledge the patriarch, Peter Mougus, because he had not, at the adoption of the Neonicon, in 483, expressly condemned the council of Chalcedon. They were divided into three parties, but were soon lost among the other monophysites. The Flagellants (q. v.) were also Accipitai, because, as a sect, they acknowledged no head.

This term is also applied to certain nations, represented by ancient naturalists, as formed without heads, their eyes, mouths, &c., being placed in their breasts, shoulders, &c.

Accira; an altar set up by the Romans, near the bed of a person deceased, on which his friends daily offered incense till his burial.

Accite Acid; the acid which, in a more diluted state, is called vinegar.

Achabans are properly the inhabitants of the district Achacia, in the Peloponnesus; but this name is very frequently, especially in Homer, given to all the Dorians of Attica, a son of Xuthus and Creusa, went to Thessaly with a number of followers, but was soon driven out, and compelled to withdraw to the Peloponnesus, where he settled in Sparta and Argos, the inhabitants of which were called Achæans. Of the Greek nations engaged in the siege of Troy, the Achæans were the most numerous and powerful. After the conquest of this city, being overcome by the Dorians, they retired to Ionia, on the northern coast of the Peloponnesus, gave to the country the name of Achia, and founded a republic, which was subsequently famous for the Achæan league. This league was at first formed by a few cities, for the maintenance of their security and independence; but it afterwards included all the other cities of Achaia, together with Athens, Megara, &c. Sparta, however, did not join the confederacy. After the destruction of Corinth, B. C. 146, the states composing this league were made a Roman province, under the name of Achaia.

Achæus, in ancient history,—1. A king of Lydia, deposed and hanged for extortion. Ovid. 2. The founder of the Achaean state in the Peloponnesus, son of Xuthus king of Thessaly. 3. A tragic poet of Eretria, who lived some time after Sophocles.
Another poet of Syracuse. 5. A cousin-german to Seleucus Ceraunus and Antiochus the Great, kings of Syria, who enjoyed, for many years, the dominions he had usurped from Antiochus; but at last was betrayed by a Cretan to the last-mentioned king, and his head, with that of his body, was sewed in the skin of an ass and gibbetted.

ACHAIA; properly, a narrow district of Peloponnesus, extending westward along the bay of Corinth. Early writers, particularly the poets, sometimes include all Greece under the name of Achaia. At the time of the Achaean or, the Romans applied the name of Achaia to all the country beyond the isthmus, which had entered into the league; after the dissolution of which, Greece was divided, by a decree of the Roman senate, into two provinces, viz. that of Macedonia, containing also Thessaly, and that of Achaia, including all the other states of Greece. (See Gibbon's Roman Hist. chap. 1. vol. I.)

ACHARD, Frederic Charles, born at Berlin, April 28, 1754, an eminent naturalist and chemist, principally known by his invention, in 1800, of a process for manufacturing sugar from beets, which, since that time, has been extensively employed. He was director of the department of physics, in the Royal Academy of Sciences at Berlin. To enable him to extend his manufacture, the great importance of which was acknowledged by the French Institute (July, 1800), the king of Prussia presented him with an estate at Kunern, in Silesia, where his establishment, at the time of the closing of the ports of Europe, by the decree of Berlin, was attended with such success, that, in the winter of 1811, it daily yielded 300 pounds of sirup. Achard, connected with it, in 1812, an institution for the purpose of teaching his mode of manufacture. See, Martin's Geschichte der Chemie.

ACHELAEUS; the companion of Enias, and his most faithful friend, celebrated by Virgil.

ACHELAEUS, ACHICHE, ACHEM or ACHEN; part of Su-britra, of a triangular form, and containing about 26,000 square miles. The lands between its two ranges of mountains are fertile. The Achanese are stout, taller, and darker-coloured than the other people of Ireland; and, from the latitude of their country, have more general knowledge, and deal, as merchants, in a more liberal manner. They are Mahometans; their sailors are expert and bold, and employ a multitude of vessels in trade and fishing. The government is despotic, monarchical, and hereditary; their laws are extremely severe. The capital of the kingdom is Acheen, lon. 96° 46′ E., lat. 5° 22′ N.; pop. about 35,000. Its chief trade is now with Hindostan, from whence it receives cotton goods in return for gold dust, jewels, sapan wood, betel-nut, pepper, sulphur, camphor, and benzoin. Europeans bring their opium, iron, and manufactured articles.

ACHILLES, also ACHILOPHATES, a river running between Etolia and Aeconia, has its source on Mount Pindus, flows through the first settlements of the Grecians around Dodona, and falls into the Ionian sea. The banks of this river are the only places in Europe, which formerly afforded habitation to lions.—Hesiod calls A. the son of Oceanus andTheta. Others say differently. He wrestled with Hercules for Dejania, and, when thrown to the ground, assumed the shape of a terrible serpent, then that of an ox, and after he had lost a horn, he fled, ashamed, to his waters. From the broken horn, it is said, the nymphs nurtured the horn of Phoebus. He was the father of the sirens.

ACHEWSWALL, Godfrey, born at Elbing, in Prussia, Oct. 20, 1719, first gave a distinct character to the science of statistics. He studied in Jena, Halle, and Leipsic. In 1746, he settled at Marburg, and lectured on history, the law of nature and of nations, and afterwards, also, on statistics. In 1748, he was appointed professor at Gottingen, where he remained until his death, May, 1772. A. travelled through Switzerland, France, Holland, and England, and published several books on the history of the European states, the law of nations, political economy, &c. Most of them have gone through several editions. His principal endeavour, in his learned and historical works, was to distinguish, in the long series of occurrences which are recorded in the annals of nations, every thing which might have contributed to form their character, and fix their political condition. His chief merit consists in the settled character which he has given to, and the new light which he has thrown on the science, which explains systematically the nature and amount of the active powers of a state, and hence deduces the sources of its physical and moral prosperity. He gave it the name of statistics. His most distinguished pupil, who succeeded him at the university of Gottingen, was Mann.

Acneas, Lake d', a Benedictine monk of St. Maur, born in 1609; died in 1685. He distinguished himself by his taste for antique research and the publication of scarce MSS., of which "The Spicilegium," a collection published in 1653-57 and 1725, forms a prominent example.

Acneas; the name given by the ancients to a river of the infernal regions, over which Charon conducted the souls of the dead in a boat, for which he received an obolus, placed under the tongue of the deceased. Only the shades of those who had obtained burial in the world, or had lived more than one month, when thrown upon their bodies, were carried over the river, others were obliged to wander on its banks a whole century. In ancient geography, there are five different rivers, named Acheron. The one in Epirus (now a province of Janium) flows first through the lake Acherson, then, for a short distance, through the rocks of the Cassipolean mountains, and falls, near Prevesa, into the Ionian sea. It is now called Pelori. A branch of the Nile, in the neighbourhood of Memphis, is also called Acheron, and a lake, Acheronius. Over this the Egyptians ferried their dead, to load them on an island; and, in their turn, are ferried over by the boatmen, or judge of the dead condemned them, to throw them into the water: hence the Greek fable. The cave of Cerberus, called Achersonus, is found on the banks of the river Acheron, in Bithynia, near Heraclea. There is also a swamp in Campania, between Cumae and the promontory of Miscenum, called by the ancients Acheronis. At present there are salt works on this spot.

Acheron, in ancient geography,—1. A lake in Egypt, near Memphis, over which, according to Dionysius, the bodies of the dead were conveyed for judgment. The boat was called Acheron. Hence came the Grecian fable of Charon and the Styx. 2. A river in Calabria. 3. A lake in Epirus, through which runs the river Acheron. 4. A lake between Cumae and the promontory of Miscenum. 5. A peninsula of Bithynia, on the Euxine, near Heraclea. Acheron, an Irish island, divided from Conought by a narrow channel. It is 30 miles in circumference, and from its situation and height is the resort of eagles, whence it is called Eagle Island.

Achilles; according to the poets, son of Peles, king of the Myrmidons in Thessaly, and Thetis, daughter of Nereus, grand-son of Atlas. His mother dipped him, when an infant, in the waters of the Styx, which made him invulnerable, except in the
heal, by which she held him. It had been foretold to Theis that A. would acquire immortal glory, but, at the same time, meet an early death, if he went to the siege of Troy; while, on the other hand, if he remained, he had but a few years to live. To prevent him from taking part in the war against Troy, Thetis disguised him, when nine years old, in a female dress, and sent him, under the name of Pyrrha, to the court of Lycomedes, king of Seyros, with whose daughters he was educated. The prophet Calchas, however, announced to the Grecians that Troy could not be taken without the aid of A. He was consequently sought for every where, and finally discovered by the crafty Ulysses, who came to the court of Lycomedes disguised as a merchant, and offered to the daughters of the king various female ornaments, among which arms were interspersed. The princesses seized the ornaments, but A. took the arms. It was now an easy task to persuade the ferc and ambitious hero to join the other princes of Greece in the expedition against Troy. Phoenix and the Centaur Chiron had been his instructors. The latter had taught him riding and music; the former, more especially his tutor, followed him to Troy, to render him an eloquent speaker, and a brave warrior. A. appears in the Iliad, of which he is the hero, not only as the bravest, but also as the most beautiful, of the Grecians. He sailed to Troy with 56 ships, with the Myrmidons, the Thessalians, the Hellenians, and the Hellenians, and destroyed 12 cities on the islands and 11 on the mainland. Juno and Minerva took him under their special protection. On account of a quarrel with Agamemnon, whom the princes had chosen their leader, he withdrew from the field, and permitted Hector, at the head of the Trojans, to destroy the ranks of the Grecians. He remained im- placable against the king, on account of Briseis, daughter of Brises, and wife of Mmes, king of Lynnesus, who had fallen to his share, in the division of the booty, but whom Agamemnon had taken from him, because he was obliged to restore to her father Chryses, daughter of Chryses, priest of Apollo, who had fallen to his own share, in order to avert from the Grecians the plague sent by Apollo, in answer to the prayers of the old man his priest. Neither the defeats of the Grecians, nor the offers of Agaa- memnon, nor the speeches of Olden, nor the speeches of the ancients, nor the speeches of even, permitted his friend Patroclus, in his own armour, and at the head of his own warriors, to mingle again in the combat. Patroclus fell by the arm of Hector; and, to revenge his death, A. resolved to return to the field. Thetis herself brought him new and costly arms, made by Vulcan, among which the shield was particularly beautiful. He became re- conciled to Agamemnon, received the presents which were offered, and, refreshed by Minerva with nectar and ambrosia, hastened to the battle. The Trojans fled, and a part of them rushed into the river Xan- thus, the others perished. The bodies of Hector and the corpse of Patroclus, belonging to the dead, were thrown into the river, and the dripping corpse of Hector, commanded A. to desist. Not being obeyed, he overflowed his banks, and rushed against the he- ro. Encouraged by Neptune and Minerva, A. op- posed Xanthes, who called to his aid the waters of Simois. Juno then sent Vulcan, and the west and south winds, who drove the river-god back to his proper limits. But A. pursued the Trojans to their city, which only the interference of Apollo prevented him from taking. Hector alone remained before the Scenic gate, and, having fled three times round the city, pursued by a flaming spear, which approached him. A. slew him, and, after dragging his body round the city, resigned it, for a ransom, to Priam. Here the narration of Homer ends. A., as represented by this sublime poet, is of a fiery and impetuous character, and has little of that firmness and rational valour which constitute the true hero. In this respect, the heroes of the German poem "Das Niebelungenlied" are far greater and nobler than those of Homer. The further the character of the hero approaches that of Paris. Fying in love with Polyxena, he sought her lawn, and ob- tained it; for which he promised to defend Troy. But Paris slew him with an arrow, which pierced his heel, in the temple of Apollo, where he was cele- brating his nuptials. Others say it was Apollo who killed him, or directed the blow of Paris. A bloody contest ensued about his body. The Greeks sacri- ficed Polyxena on his tomb, in obedience to his re- quest, that he might enjoy her company in the Ely- sian fields, where he is also said to have married Melan. When Alexander saw his tomb, it is said that he placed a crown upon it, exclaiming, 'that A. was happy in having, during his life-time, a friend like Patroclus, and, after his death, a poet like Homer.'

ACHILLES TATTS; a Greek novelist, or Erotic writer, so called, born at Alexandria, lived, probably, at the end of the fourth century, and taught rhetoric in his native city. In his old age, he became a convert to Christianity, and rose to the dignity of a bishop. Besides a trea- tise on the sphere, in which we know only from an ab- ridgment still extant, we possess a romance of his, in 8 books, called the Leucippe and Clitophon, which, as regards the subject and composition, is not without merit, and in some parts shows much ability. The language, though rich in rhetorical ornaments, is not free from sophistical substitution. The charge of obscenity, which has occasionally been brought against the work, is very properly met by a Greek epigram, which remarks, that the scope of the work is to be considered, namely, to teach temperance, to show the punishment of unrestrained passions, and the reward of chastity. The best editions are the following: that published at Leyden, 1610, one published at Leipsic, by Bock, with the notes of Salma- sius, 1776, and that of Mischlerch, 1792, ('Bipont.)

AICHER III, a Turkish emperor, son of Mahomet IV., reigned from 1703 to 1730. Many remarkable events took place during his reign, of which we shall here only mention, that Charles XII., after the bat- tle of Parnawa, invaded the empire. He, however, succeeded in involving A. in a war with the czar, Peter the Great, which would have had a very un- fortunate issue for him, if the prudence of Catharine, his mistress, whom he afterwards married, had not averted the impending danger. (See Peter I.) A. established the first printing press at Constantinople, in 1727. Towards the end of his reign, the janiza- ries revolted against him, and he was thrown into the same prison in which his successor, Mahomet V., had been confined, before he took A.'s place on the throne. He died in 1736.

ANCISTI; a considerable town of Upper Egypt, on the eastern bank of the Nile, called by the ancients Ochenia and Panopolis, by the Copts Smin. Though reduced from its former magnifici- ence, it is still one of the finest towns of Upper Egypt. It has some manufactories. Abuelfeda speaks of a superb temple here. The immense stones which composed it, sculptured with innumerable hierogly- phics, are now scattered about, and some are trans- ferred into a mosque. A. contains also a triumphal arch, built by the emperor Nero. This place is fa- mous also for the worship of the serpent Haroeris. A. contains five old tombs of the kings of old Egypt, which have the following characteristic properties: the greater part of them are sour taste, and most of them are very corrosive; they change the vegetable blues to red, are soluble in water, and have great affinity.
for the alkaline, earthy, and metallic oxides, with which they form neutral salts. Some acids have no
sole taste, but their affinity for the three classes of bodies above-mentioned is always characteristic. If
a few drops of sulphuric acid, nitric acid, or muriatic acid, be added to a solution of blue litmus, it becomes
red. The same is the case if they be added to other vegetable colours, as violet, &c. Hence these colours
are employed as tests of acids, that is, to ascertain when they exist in any substance. We may add the
intuition to the fluid in which we are trying to detect an acid, but a more convenient method is, to spread
it on paper, and allow it to dry. If a strip of this be put into a fluid containing a radical which is an acid, it
becomes red. Some acids appear only in a fluid state, either gaseous, as carbonic acid, or liquid, as sul-
phuric acid; others appear in a solid form, or crystallized, as benzoic acid, boric acid, &c. All acids
are compound bodies, and are sometimes divided into four classes, the three first of which are compounded
with oxygen; the fourth class consists of those which, at least according to those modern chemists, have
no oxygen; e.g. sulphuretted hydrogen.

The first class consists of acids compounded with oxygen and one other body; the second class com-
prises the acids compounded of carbon, hydrogen, and oxygen; and the third class consists of those acids which contain nitrogen, in addition to the three substances above-mentioned. The ancient chemists were acquainted with but few of the acids now known; they divided them, according to the
kinds of mixture, into mineral, vegetable, and animal acids. This division, however, cannot now
be retained, as there are some acids which appear in all the kingdoms; e.g. phosphoric acid. If the same
radical be compounded with different proportions of the acidifying principle, forming different acids, the
most powerful acid receives a name from the radical, terminating in -ic; the weaker, a name formed in
the same manner, in -ous; e.g. sulphurous acid and sulphuric acid, nitrous and nitric acid; and, where
there are intermediate compounds, the term hypo is occasionally added to the compound next above it in
point of acidity. Thus hypophosphoric acid signifies an acid between phosphorus acid and sulphuric acid;
sulphurous acid; hypophosphorous acid, an acid containing less oxygen than the phosphoric acid. (For
Prussic acid, Pyrolygous acid, &c., see Prussic, Pyrolygous,

-ACIDS; hurricanes of snow which prevail among the Cevennes, in the south of France. Villages are
sometimes so rapidly covered, that the inhabitants have no means of communication, but by cutting
passes under the snow.

ACOLOTH, or ACOLOTTE; servants of the church, who appeared in the Latin church as early as the 5th
century, but not till the 6th. Their office was to light the candles, thence they were called accessores; to carry the tapers to the festal processions, thence ceriferarii; to present the wine and water at the supper; and, in general, to assist the bishops and priests in the performance of the ceremonies. They belonged to the clergy, and had a rank immediately below the subdeacons. In the
Roman church, the consecration of an acolythus is the highest of the lower kind of ordination. The
person ordained receives a candlestick and chalice, in token of his ancient employment. The duties,
held in reference to this office, are so few that to this time have not been performed since the 7th century by menials and boys taken from the laity, who are improperly called acolythi, in the books of the liturgy of the Catholic
church. The modern Greek church no longer re-
tains even the name.

ACOUSTICS; a vegetable poison, recently extracted
fromaconitum napellus, or wolf's-bane, (properly
alkaline) by Mr Brade. The analysis has not yet
been made known.

ACOZIO, or ACONTUS, James, a philosopher,
mathematician, and divine of the 16th century. He
was a native of Trent, and died about 1505. His
principal works are one on the Stratagems of Satan,
and another on the Method of Studying the Sciences.
In these he displays a liberality and foresight beyond
the spirit of his age.

ACOSTA, Uriel, a Portuguese, of the 17th century,
who from Christian turned Jew, and from Jew unbeliever; and in consequence underwent numberless
persecutions, which terminated by his death, in 1610; and
his life, an interesting account of which has been
often published, furnishes a notable example of inter-

tolerance and bigotry on one side, and the ineffectual
of pursuing certain lines of inquiry without steady prin-

ciples, and a calm temperament on the other.

ACOUSTICS. One of our most important connexions
with external objects is maintained through the
sense of hearing; that is, by an affection which cer-
tain actions or motions, in those objects, produce on
the mind, by being communicated to it through the
ear. The peculiar excitement or motion perceptible

on the ear is called sensation, or the name for this motion, its qualities and transmissions, forms the

science of acoustics. Philosophers make a distinction
between sound and noise: thus those actions which
are confined to a single shock upon the ear, or a set
of actions circumscribed within such limits as not to
produce a continued sensation, are called a noise; while a succession of actions which produce a con-
tinued sensation are called a sound. It is evident
from the mechanism of the ear, so far as it is under-
stood, that it is a refined contrivance for conveying
a motion from the medium which surrounds it to the
auditory nerve; and that this nerve, in a great degree,
every motion excited in the tympanum. Every
motion thus excited, however, does not produce the
sensation of sound. That motions may be audible, it
is necessary that they impress themselves upon the
medium which surrounds the ear with velocities com-
prised within certain limits. These motions are com-
monly produced by disturbing the equilibrium which
exists between the parts of a body. Thus, for ex-
ample, if we strike a bell, the part which receives the
first impulse of the blow is driven nearer to the
surrounding parts; but the impulse having ceased, it
is urged back by a force of repulsion which exists
in the medium, and made to pass beyond its former
position. By the operation of another property of
the metal, namely, cohesive attraction, it is then
made to return in the direction of its first motion,
again, beyond its position of repose. Each of these
agitations influences the adjacent parts, which, in
turn, influence those beyond them, until the whole
mass assumes a tremulous motion; that is, certain
parts approach to and recede from each other; and it
only recovers its former state of repose, after having
performed a number of these sonorous vibrations.
It is evident that such vibrations are here de-
scribed must result from the combined operation of
attraction and repulsion, which, together, con-
stitute the elasticity of solid bodies. When fluids,
whose elasticity is confined to repulsion, emit sounds,
a force equivalent to that of attraction in solids is
supplied to them by external pressure, and the so-
norous vibrations of solid bodies are exceedingly curious,
and the more difficult to be understood from our
habits of measuring changes or motions by the sight;
but these motions affect very sensibly another organ,
while they are almost imperceptible to the eye; and,
as we are without the means of converting the ideas
derived from one sense into those derived from

-ACOUSTICS, 23.
another, the sensation of the motion of sound does not assist us to understand its peculiarity, or comprehend the visible movements. Thus, the ear at once perceives the difference between a grave and an acute sound; but it is only from attentive observation by the eye, that we discover the different rapidity of succession in the vibrations which produce them. The vibrations of a great many bodies, as strings, bells, and membranes, when emitting sounds, may, however, be distinctly seen, and even felt; but they may often be rendered more sensible to the eye by a little artifice, such as sprinkling the vibrating body with sand, or some light granular substance. Sounds which are produced by alternations; thus, if we pass the nail quickly over the teeth of a comb, the rapid succession of single shocks or noises produces all the effect of vibrations. It must be evident that the rapid motions here described, whether originating in vibrations, or a succession of concussions, must be communicated from the body in which they are excited, to the sheet of air, or whatever else be in contact with it, and from this again to another sheet beyond the first; thus diffusing the motion in every direction. The agitation of the sounding body must thus be communicated to the surrounding medium, and influenced upon another body situated within this distance; if this body be the ear, the tremor excited in it by these agitations will be perceived by the mind. The necessity of some medium for the transmission of sound is proved by experiment. If a bell be rung in an exhausted receiver, the sound will be hardly perceptible, while the tones will become clear and distinct, on re-admitting the air. Having thus given a general outline of the source and propagation of sound, we shall proceed to consider, with as much minuteness as the limits of this work will permit, some of the more important facts connected with them. — The most obvious characteristics, by which we distinguish different sounds, consist of differences in their degrees of what we call loudness, and acuteness, or pitch. We can produce, at pleasure, sounds having different degrees of loudness, from the same sonorous body, by making the concussions upon it more or less violent; disturbing in a greater or less degree the arrangement of its parts. So two bodies of like substance and figure, but unlike mass; when subjected to the same shock, emit sounds unlike in loudness; and, again, bodies of like mass and figure, but unlike substance, give or less loudness, and distinctly or the same shock. In this latter case, the loudness has a relation to the quantity of elasticity possessed by the bodies; and in all cases, when the disturbance of the parts is carried beyond the elastic power of the body, so as to produce a permanent change of figure, no increase of loudness is induced. From a consideration of the preceding facts, we may conclude, that loudness depends upon the quantity of motion, or sonorous vibration, in which it originates. The other principal characteristic of sound, its acuteness or pitch, depends upon the frequency with which the concussions or vibrations of the sonorous body succeed each other. That sounds may be audible to a common ear, it is necessary that the concussions upon the medium, which communicates them, should follow each other in such succession, that not more than 8192, or less than 20, distinct concussions shall be made every second; for any less, or more, would be heard as one sound. Some ears, however, can perceive sounds emanating from vibrations a little beyond the extremes to which the perception of other ears are confined. We should be careful not to confound the frequency of vibrations with the velocity of vibratory motion. A string may vibrate with greater or less velocity, as it passes its axis to a greater or less distance; yet the times of its vibrations may be all equal. The difference of velocity, and the quantity of motion, if not sensibly changed, except in the loudness of the sound. To those sounds which proceed from interfrquent vibrations, we give the name of flat or grave, those from frequent vibrations we call sharp or acute. When vibrations succeed each other in equal times, their sound excites a pleasant sensation, and they are called musical. When two bodies are made to sound together, if their vibrations are performed in equal times, the sounds are said to be in unison. When the vibrations are performed in unequal times, so that some of those of the one come within the set of vibrations of the other, the ear perceives a degree of dissonance in the sounds. If, however, the vibrations meet after short and regular intervals, the dissonance is not easily detected, and the sounds are said to accord. During the continuance of most primary sounds, however excited, we perceive other and more acute sounds co-existing with them. These are called their harmonics. They are supposed to originate in a series of secondary vibrations, more short and frequent than the principal vibration. Thus a sounding string, for example, may be supposed not to pass its axis in a simple curve, but to be made up of a number of smaller curves, each of which vibrates across its own axis, thus producing its harmonics. It is perhaps some combination of the harmonics with the primary sound, that characterizes the sound of different instruments, though of the same loudness and pitch, so that we can distinguish one from another. The air, being the common medium which surrounds the ear, is that by which sounds are usually transmitted. This transmission is performed with a velocity of about 1130 feet in a second. All other bodies, however, are capable of transmitting sound. It may be done perfectly, even by the solid parts of the head. If, for example, we hold the stem of a watch between the teeth, and cover the ears with the hands, the beats are heard more distinctly than when the instrument is held at an equal distance in the air. The rubbing together of two stones under water may be heard, by an ear in the same medium, at the distance of half a mile. When the air, or any other body of indefinite extent, is disturbed, in a point situated within it, by a sonorous vibration, it forms a wave which passes from the disturbed point, as a centre, in every direction. It follows that as the wave extends itself, it will be heard at all points no less than a radius equal to the original motion is rendered insensible from the magnitude of the mass to which it has communicated itself. The velocity with which waves, thus formed, move through any homogenous elastic medium, is always equal to that which a heavy body would acquire by falling through half the height of the modulus of elasticity. In applying this law to the transmission of sound by the air, it was for a long time found not to give the same results as were obtained by this discrepancy, however, has been most ingeniously reconciled by a small correction for the least heat made sensible by the compression; the effect of this being to increase the height of the modulus of elasticity. We ought therefore, to find that liquids, and more especially some of the solids, should transmit sound much more rapidly than air; and this agrees most perfectly with various experiments, as well as with the opinion of those who found it impossible to transmit sound with a velocity 104 times greater than air. Sound does not readily pass from one medium to another; a sound made in the air is not easily distinguished under water, although the distance be very small. It is from

* The height of the modulus of elasticity of air is 27,900 feet.
this, probably, that cork and all soft cellular bodies are bad conductors of sound, as in these the sound must, in passing through the walls of the cells and the air contained in them, change successively from one medium to another. All sounds, whatever be their loudness or pitch, are transmitted with the same velocity over a face not completely covered with cotton. To this was not long after the nature of musical performance. Were it otherwise, indeed, this beautiful art could not exist. To make this appear, it is only necessary to consider, that harmony is a combination of different sounds arranged with certain relations of time and pitch. Now, if one sounds the air, in which was varied in velocity, was prevented from diffuse itself in every direction. When this diffusion is prevented by enclosing the medium in a surface of reflecting the wave so that the sound shall be confused to one direction, the transmission from one point to another is much more perfect. Experiments have been made in this way, in which a hollow cylinder, about half a mile long was formed by cast-iron pipes. The sound was transmitted by the air, in this cylinder, with wonderful distinctness. The least whisper, at one end of the cylinder, was distinctly heard at the other end. So perfect, indeed, was the transmission, that there was absolutely necessary not to speak." Captain Parry and lieutenant Foster made several experiments, during the northern expeditions, to ascertain the velocity of sound. A table of them is given in a number of the Edinburgh Philosophical Journal. These experiments were made at Port Bowen, by means of a brass six-pounder, over a range of 12,892-89 feet. The results given are the mean of four shots in one case, of five in another, and in the rest, of six shots by each observer. The mean results varied from 117.7617 to 117.7387 and 117.5311 for the time in which the range of 12,892-89 feet was traversed by the sound. At the period of the experiment which gave the first of these results, there was a calm; during the second, the wind was light; during the third, a strong wind was blowing. The velocity per second, in feet, was, in the first instance, 1010.898; in the second, 1009.008; in the third, 1118.10. One word more on the thermometric effect. If we are given, on account of the strong wind, the mean of the other nine gives a velocity of 103519 feet, at the temperature of 17-72. Fahrenheit.—The mean of a table of velocities formed from observations made at Port Franklin, by lieutenant Kendall, who accompanied captain Franklin, in his second journey to the shore of the Polar sea, gives a velocity of 1009.28 feet per second, at the temperature of 9-14, Fahrenheit.—The science of acoustics, like the other physical sciences, has been in a constant state of advancement since the revival of learning. It appears that Pythagoras knew the relation between the length of strings and the musical sounds which they produced; but, that differently in the acoustics of relation, but, likewise, that the same relation subsists between the length of pipes and their notes, and that sound was transmitted by the atmosphere. This constituted the sum of ancient learning in this branch of science. These facts were taught by Galileo, and, moreover, that the different in the acoustics of sound depends on the different frequency of vibrations, and that the same string, if of uniform thickness and density, must perform its vibrations in equal times. But, without attempting a history of modern discoveries in acoustics, we can only mention, that the names of Taylor, Moreland, Newton, Daniel Bernouilli, D'Alembert, Euler, Robison, Lagrange, Laplace, Chladni, T. Young, and Biot, are all connected with it. Of these, Newton gave the law of transmission, which we have stated in this article, and the correction for heat was made by Laplace through his memoirs. The English statute acre is about four square rods, or 160 square poles or perches. The statute length of a pole or perch is 5½ yards, or 16½ feet; but the length of a pole, and, therefore, the size of the acre, varies in different counties in England.

The Scottish acre contains also four square rods; one square rod is 40 square feet. The English statute acre is about three rods and six falls, standard measure of Scotland; or the English acre is to the Scottish as 75,994 to 100,000. The French acre, arpent, is equal to 54,460 square English feet, of which the square metierre, on which the French can diffuse itself in every direction. When this diffusion is prevented by enclosing the medium in a surface of reflecting the wave so that the sound shall be confused to one direction, the transmission from one point to another is much more perfect. Experiments have been made in this way, in which a hollow cylinder, about half a mile long was formed by cast-iron pipes. The sound was transmitted by the air, in this cylinder, with wonderful distinctness. The least whisper, at one end of the cylinder, was distinctly heard at the other end. So perfect, indeed, was the transmission, that there was absolutely necessary not to speak. Captain Parry and lieutenant Foster made several experiments, during the northern expeditions, to ascertain the velocity of sound. A table of them is given in a number of the Edinburgh Philosophical Journal. These experiments were made at Port Bowen, by means of a brass six-pounder, over a range of 12,892-89 feet. The results given are the mean of four shots in one case, of five in another, and in the rest, of six shots by each observer. The mean results varied from 117.7617 to 117.7387 and 117.5311 for the time in which the range of 12,892-89 feet was traversed by the sound. At the period of the experiment which gave the first of these results, there was a calm; during the second, the wind was light; during the third, a strong wind was blowing. The velocity per second, in feet, was, in the first instance, 1010.898; in the second, 1009.008; in the third, 1118.10. One word more on the thermometric effect. If we are given, on account of the strong wind, the mean of the other nine gives a velocity of 103519 feet, at the temperature of 17.72. Fahrenheit.—The mean of a table of velocities formed from observations made at Port Franklin, by lieutenant Kendall, who accompanied captain Franklin, in his second journey to the shore of the Polar sea, gives a velocity of 1009.28 feet per second, at the temperature of 9.14, Fahrenheit.—The science of acoustics, like the other physical sciences, has been in a constant state of advancement since the revival of learning. It appears that Pythagoras knew the relation between the length of strings and the musical sounds which they produced; but, that differently in the acoustics of relation, but, likewise, that the same relation subsists between the length of pipes and their notes, and that sound was transmitted by the atmosphere. This constituted the sum of ancient learning in this branch of science. These facts were taught by Galileo, and, moreover, that the different in the acoustics of sound depends on the different frequency of vibrations, and that the same string, if of uniform thickness and density, must perform its vibrations in equal times. But, without attempting a history of modern discoveries in acoustics, we can only mention, that the names of Taylor, Moreland, Newton, Daniel Bernouilli, D'Alembert, Euler, Robison, Lagrange, Laplace, Chladni, T. Young, and Biot, are all connected with it. Of these, Newton gave the law of transmission, which we have stated in this article, and the correction for heat was made by Laplace through his memoirs.
At its foot is a fountain, the ancient Pyrene. The shape of the A. is that of a truncated cone. This little fortress has been several times taken and retaken in the war between the Greeks and Turks. The view from the top is one of the most charming in the world. It is thus described in the "Journal of Dr. Lieder," before whom no Christian traveller, in modern times, had probably visited it, as the Turks did not allow him to descend whilst it was in their hands:—"The view from this spot amply rewarded me for my trouble. To the north lay the high and snowy summits of Helicon and Parnassus, as described by Strabo, extending far under the clear blue of a southern sky. On the west was seen the bay of Crissa, mount Cit裁ene, and the promontory of Olimne. On the east the Saronic Gulf washes the islands of Salamis and Aegina. To the north-east lay the shore of Attica. There we could see Pentelicus, Hymettus, and Laurion, and even down to the cape of Sounium. The day was very clear, so that I could discern the acropolis of Athens. To the south I could see far into the territory of Argolis. To the west Achais and Sicories lay in sight. The view comprehended the scenes of the best displays of Greek art, science, and value.""Acropolis (Greek):" the highest part or citadel of a city, particularly that of Athens, where the treasury and were kept. It is located on a rock, and has often been the subject of contest in the late war between the Greeks and the Turks.

Acrostic (Greek): a poem, of which the first, and sometimes the final letters of the lines or verses form some particular word or words. The middle letters, also, are often used for the same purpose. An example of the three kinds united may be seen in the following Latin hexameters:

I atem cantat mecan I gniti sidera cel I, E spolit te dembra E turo Phoebus ut orb E; S lo cecas remoret IESVS caliginis umbra S. V viniscansque simul V ero proecordia mot U. Siena justitum S eae probet cum S.

The French abbies and nobles, before the revolution, often exercised their ingenuity in the composition of these poetical tributes.

Act, in law; an instrument in writing for declaring or justifying the truth of any thing. In this sense, records, decrees, sentences, reports, certificates, &c., are called acts. The French lawyers distinguished between, 1. private records (actes sous seing privé), which are not acknowledged by the parties, in order to have legal force; 2. public documents (actes authentiques), which have legal force, without being acknowledged by the parties, as long as they are not proved spurious; and, 3. executive acts (actes exécutoïres), which, until their genuineness is called in question (inscription à faux), are also binding without acknowledgment by the parties subject to their operation. Of this kind are the records of the public notaries (actes notariés), and all the official documents of the French courts of justice. In England and the United States, act implies decree; hence, an act of parliament is a decree of parliament, confirmed by the king, a statute. (See Great Britain.) At the close of each annual session, the decrees or acts of parliament are collected into one body, which forms the statute of that session, the several decrees of which are contained in separate chapters. They are quoted according to the year of the reign, and according to the chapter; e.g., the act of habeas corpus is the second chapter of the statute of the year 1678, the 31st year of the reign of Charles II., and is quoted, 31. Ch. II., c. 2. In America, there is no uniform mode of quoting statutes; each separate act is deemed a distinct statute. Generally, the acts are cited by their date and year; and, if more particularity is necessary, by the chapter, when the statutes were divided into chapters. Acts in Germany are the record of acts, and are usually called acts. They are arranged under the names of the states, especially of a lawsuit. The whole process, in that country, is carried on in writing. Nothing is received as evidence, unless laid before the court on paper. When a criminal process begins, the prisoner is brought before the judge, to make his defence. The judge asks the questions: the question is written on the left side of a folio sheet; on the right side the answer of the prisoner is set down. The same takes place with every witness. The reader can imagine to what an immense bulk these acts often increase in the course of a single process. In order to examine them, the judge, and the papers containing the minutes of their testimony are transmitted to the place of trial. The examining judge is called the judge of inquiry (inquinnsrichter). At the close of each stage of the examination, the prisoner subscribes the minutes made during that time with the words, "read in my hearing, approved and signed." He also signs his name, as do likewise the judge and the writer. When the acts are completed (closed), they are delivered to the court, who appoint another judge to report on them and move for judgment; another still acts as counsel for the prisoner. After the judge approves the pleno decides. In fact, in Germany, the whole course of administration is conducted in writing. In Saxony, such acts are almost endless. In Prussia, also, they are very numerous. All acts are preserved in archives. After sentence passed in one court, the whole file of acts is sent to a court of appeal.

Acta Eruditorum; the first literary journal that appeared in Germany. It enjoyed a long existence and great popularity. The example set by the Journal des Savans, and by the Diarium de l'Étranger, but, especially the increasing spirit of enterprise and activity among the German booksellers, induced Otto Mencke, professor at Leipzig, to lay the foundation of this periodical publication, in 1650. Having formed the necessary connections, on his travels through Holland and England, and being assisted by eminent German scholars, he commenced the journal in 1682, which increased in popularity from year to year. Among the contributors were Carpzov, Leibnitz, Thomasius, &c. Its object was, to give a faithful and particular account of books; and it was conducted on the same plan, even after a decline, as a classification, and greater independence were introduced into literary discussions in the French journals published in Holland. The German journal began, however, to decline gradually in value, and in the number of its subscribers, particularly after 1754; and the influence of its appearance became at length so great, that the last volume, for 1776, was published in 1781, exactly a century from the time when the journal was commenced. The whole consists of 117 volumes in 4to, including the supplementary volumes and indices. Leibnitz, in this journal, first gave to the world his notions respecting the potential calculus.

Acta Sanctorum; a name sometimes applied to all collections of accounts of ancient martyrs and saints, both of the Greek and Roman churches. It is used more particularly as the title of the numerous works on the lives and miracles of saints, which was commenced at the instigation of the Jesuits, in 1643, by John Bolland, a Jesuit of Antwerp, and after his death continued by other divines of the same order, known by the name of the Bollandists, (q. v.) to the year 1794, but not yet finished. (Antwerp, Brussels,
ACTEUR—ACTOR.

and Tongerloo, 1643—1794, 53 volumes in folio). Some imperfect notices of persons distinguished for their holiness and piety, contain, during the period of the persecution of Christian bishops, are found as early as the second and third centuries; particular narratives and biographies commenced with the fourth century, and were infinitely multiplied till the close of the middle ages. Since the sixth century, many works have been compiled from this immense mass of materials. The first critical collection of original legends was edited by Boninus Monnibritus, in 1474. The above-mentioned collection, however, surpasses all others of the kind in extent, fidelity, and impartiality. It is likewise distinguished for sound criticism and excellent illustrations, which will make it forever a most valuable storehouse of ecclesiastical history, if truth is critically separated from fiction and superstition, by the historian who describes the manners and the spirit of those ages.

Acrost; in fabulous history, the son of Aristaeus and Autonoë; a great hunter. He was turned into a stag, by Diana, for looking on her when she was bathing, and was torn to pieces by his own dogs. Also, a Corinthian youth, killed by Archias, one of the Heracles, in an attempt to carry him off from his father's house.

Actress, a term including private suits and public prosecutions. Actions, therefore, criminal or civil; criminal, for the punishment of crime; civil, for the obtaining of right. Civil actions are divided into real, personal, and mixed. Action real is that whereby a man claims title to lands or tenements in fee or for life. Action personal is brought upon contracts, or injury to person or estate. Action mixed lies for a thing and against the person who has it. It seeks an object, and a penalty for its detention. Many personal actions die with the person. Real actions survive. In all actions merely personal, for wrongs actually committed, and the defaimer of trespass, battery, slander, the action dies with the person, and never can be revived, either by or against the executors or other representatives. But in actions on contracts, where the right descends to the representatives of the plaintiff, and those of the defendant have received effects from the deceased sufficient to answer the demand, though the plaintiff may be discharged by the death of the parties, yet they may be revived against or by the executors. Again, actions are either local or transitory. Actions, real or mixed, for the recovery of the freehold, or for damage done to the land, or to the soil, may be brought to the court of the land itself. Actions on contracts, or for personal injuries, are not limited to a particular county. Actions are likewise joint or several; joint, where several persons are equally concerned, and one cannot bring the action, or be sued, without the other; several, in case of trespass, &c., where persons are to be severally charged. Every trespass committed by many is several.

Actium, a promontory on the western coast of Greece, in ancient Epirus, the northern extremity of Aca­­racnia (now Albania), at the entrance of the Ambracian gulf, at present called cape di Piglato, or Asio, on the gulf of Argo, is memorable on account of the naval battle fought here between Antony and Octavius, Sept. 2, B. C. 31, in sight of their armies, encamped on the opposite shores of the Ambracian gulf. The forces of Octavius consisted of 60,000 infantry, 12,000 cavalry, and 40 vessels of the fleet of Antony, 100,000 infantry, 12,000 cavalry, and 220 ships of war. Notwithstanding the advice of his most experienced generals, to meet Octavius by land, Antony, at the instigation of Cleopatra, determined upon a naval engagement. Her vessels advanced, beautifully ornamented, and remarkable for their size; those of Octavius, although smaller, were more skillfully managed. Both fleets were manned with the soldiers of the Roman legions, who considered a sea-fight like a land battle, and the ships were the same in which were to be stormed. Those of Antony threw fire-branches and missile weapons from catapults, whilst those of Octavius applied grappling-irons to the ships of the enemy, and boarded them. Soon after the beginning of the battle, before any thing decisive had taken place, the fleet Cleopatra sailed with the Egyptian ships, when she perceived the centre of Antony's fleet in an unfavourable position. Antony imprudently followed her. Octavius, perceiving his flight, proclaimed it aloud, and the deserted fleet was soon over come, notwithstanding a brave resistance, and immediately went over to the enemy. Antony's troops, which were drawn up on the shore, and had beheld with amazement the flight of their leader, followed the example of the fleet. Antony fled with Cleopatra to Egypt, where he killed himself, to avoid falling into the hands of his enemies. Augustus enlarged the temple of Apollo at Actium, in commemo­ration of his victory, dedicated to Neptune and Mars the standards which he had taken, and instituted games, to be celebrated every five years, in commem­oration of this battle, which made him master of the world.

Actus, Joseph, prime minister of Naples, was born in 1737, of Irish parents, who had settled in Besan­gon. After he had finished his education, he entered the French navy, which he soon quitted for the Tus­can, and was subsequently employed in the Spanish expedition against Barbary, in which he found an opportunity to distinguish himself. This led him to the Neapolitan navy, and then to the Neapolitan court, where he acquired the favour of queen Caro­line. He was successively appointed minister of the navy, minister of war, then director of the finances, and finally, prime minister. In 1790, he con­tracted an intimacy with the English ambassador, Sir William Hamilton, and, in concert with him, exercised a great, and by no means beneficent influence over the fortunes of Naples. His implacable hatred against France led him, during the continuance of the Italian wars, to the most extravagant measures, which always turned out disadvantageously for the royal family, and strengthened the French party, from which that of the Carbonari was afterwards formed. He accompanied the king, in 1798, on Mack's expedition against the French army. During the presence of Napoleon he had numerous suits over the remuneration of his actus, which, to satisfy its hatred against men of different political opinions, with unprecedented cruelty, sought out victims in all ranks. After the unfortunate issue of Mack's expedition, he was removed from the helm of the Neapolitan go­vernment. He died in 1808, hated and despised by all parties.

Actor, in the drama, is one who represents some part or character on the stage. Among the Greeks, with whom dramatic exhibitions originated, a simple chorus only, who sung hymns in honour of Iacchos, constituted the principal entertainments. A daemon, who received the adventures of heroes, was introduced by Thespis, for the sake of variety. Eschylus changed the declamation into the form of a dialogue between two persons, and Sophocles added a third. To this number the actors in the Greek drama were limited; and the Romans adopted the entertainment. A demi­­mor, who received the adventures of heroes, was introduced by the Greeks for the sake of variety. In comedy, the number of actors was not restricted. In modern times, the number is regulated by the nature of the piece to be performed. Actresses, in the drama, appear to have been wholly unknown to the ancients; men or eunuchs always performing the female parts. Charles VI. is
said to have first encouraged their public appearance in England; but there is evidence that the queen of James I., performed in a court theatre. Actors were long confined to the public stage; and actresses still longer, and perhaps the English were the first who admitted the most distinguished into their first circles. Instances of exemplary conduct are not wanting amongst actresses in modern times. France, England, Italy, and Germany, have had many of unblemished reputation. At Athens, actors were highly honoured. At Rome, they were despised, and deprived of the right of suffrage. The reason of this difference is, that, among the Greeks, the actors were freeborn citizens, and the dramatic performances had their origin in the sacred festivals; but, amongst the Romans, the drama was introduced by persons of the lowest class, Etruscan players and peasants of Atella. Actors and actresses continued for a long time to be treated with little regard in France, after they had been admitted into good society in England. Marriages of Englishmen of high rank with actresses are not rare. In some parts of Germany, actors were formerly buried like suicides, in a corner of the burying-ground, separated from the other graves. How much the ancients studied the dramatic art may be seen from one fact, that Polus, a famous tragedian, who lived near the middle of the 5th century, ascribes to himself a tragedy, which is preserved in the comedy of Sophocles, made use of an urn containing the ashes of his own son, to represent the funeral urn of Orestes. But here art ceased; this was again nature.

Acts of the Apostles, one of the books of the New Testament, written in Greek by St. Luke (q.v.), the author of the Gospel which bears his name. It is addressed to Theophilus, of whom nothing is known, and is evidently intended as a continuation of the Gospel, which the author himself calls his "first book." (Acts 1. 1.) It has been universally received, and is generally allowed to have been written A.D. 63 or 64, but in what place is doubtful; Jerome says at Rome; Grotius and Lardner think, in Greece; Michaelis, in Alexandria. It embraces a period of about 50 years, beginning immediately after the resurrection, and extending to the second year of the imprisonment of St. Paul in Rome. Very little information is given of any of the apostles, excepting St. Peter and St. Paul, and the accounts of them are partial and incomplete. Thus the history of St. Peter terminates with the death of Herod, although that apostle is considered to have lived and preached 24 years after the death of his master. Thus also the history of St. Paul is interrupted by the death of his founder; the fulfilment of the promise of Christ to his apostles, in the descent of the Holy Ghost; the choice of Matthias in the place of Judas, the betrayer; the testimony of the apostles to the resurrection of Jesus in their discourses, attested by miracles and sufferings; their preaching in Jerusalem and in Judea, and afterwards to the Gentiles; the conversion of Paul, his preaching in Asia Minor, Greece, and Italy, his miracles and labours. Its place is generally at the head of the apostolic, or before the epistles; but in some MSS. it is found after the 15 Catholic epistles. The style of this work, which was originally composed in Greek, is purer than that of the other canonical writers; and St. Luke, in his quotations from the Old Testament, always makes use of the Septuagint version.

Acupuncture. Kampfer made known, more than 100 years ago, the Japanese and Chinese method of curing arthritic and rheumatic complaints by acupuncture, or the introduction of fine needles into the flesh on the affected part. The opinions of the cause of relief by acupuncture are still very different. Some writers think a galvanic influence on the nerves takes place.

Adagio, used in music for a piccino, when the principal performer is at liberty to give way to his conceptions, to change the measure from quick to slow, or the contrary, without accompaniment, and to manifest his ability in the effusions of his fancy. The term is often used in the full score, to denote those parts which are not essential, and may be omitted.

Adalbert, or Adalbert; a native of Vienna, who was accused of heresy, by Boniface, the apostle of Germany, and condemned by two councils, at Soissons in 744, and at Rome in 745. Having finally made his escape from prison, he is said to have been murdered by some peasants, on the banks of the Pulda.

Adalbert, archbishop of Bremen and Hamburg, a descendent of a princely house of Saxony, received his office, in 1043, from the emperor Henry III., whose relation, friend, and follower he was. He accompanied Henry to Rome, where he was a distinguished candidate for the papal chair. Pope Leo IX., in whose behalf he had spoken at the synod of Menta, 1049, made him his legate in the north of Europe, 1050. He superintended the churches of Denmark, Norway, and Sweden, but aspired in vain to the dignity of pope, or patriarch of the North. During the minority of Henry IV., who afterwards became emperor, he was made bishop of Magdeburg, and afterwards archbishop of Cologne, the guardianship of the young prince, and the administration of the empire, and gained an ascendency over his rival, by indulging the passions of his pupil. After Henry had become of age to rule, A. exercised the government without control, in his name. A.'s pride and arbitrary administration induced the German princes, in 1066, to remove him by force from the court; but after a short contest with the Saxon nobles, who lade waste his territory, he recovered his former power, which he held till his death at Goslar, March, 17, 1072. He excelled his contemporaries in princely qualities, in talent, and in strength of mind; and if he had possessed magnanimity, and a wise spirit of moderation, he would have deserved the name of the great, which has been given him. The injustice and tyranny which stained his administration were entirely unknown in inducing the confusion and calamities in which the reign of Henry IV. was involved.

Adalbert of Prague, the apostle of Prussia proper, son of a Bohemian nobleman, was educated in the cathedral of Magdburg, between the years 973 and 982, and appointed bishop of Prague in 983. He laboured in vain to convert the Bohemians from
paganism, and to introduce among them the orde-

nances of the church of Rome. Discouraged by the
fruitslessness of his pious zeal, he left Prague, 988,
and lived in convents at Montecassino and Rome, un-
it the Bohemians, in 993, recalled him. But after two
years, he again left them, disgraced with their bar-
barism, and of their vr Germany, in 991, he
followed the emperor Otho III. to Germany; on
which journey he baptized, at Gran, St Stephen, who
subsequently became king of Hungary. After a visit to
the monasteries of Tours and Fleury, he proceeded to
Gnesen, to meet Boleslaus, duke of Poland; and beli-

ing the transcendency of their position to that of the

work of Neptune and Amphitrite, to adorn the basin of Ne-
tune at Versailles. A. was skilful in working mar-
ble; his anatomy is correct and his drapery good;
but he was less successful by the limits of his talent,
which confounded the provinces of painting and
sculpture. He died in 1759.—His brother, Nicholas
Sebastian, born at Nancy in 1703, studied the same
art, under the care of his father, and in the academy
of Paris. At the age of 18, he was employed in a
castle near Montpellier, and went, after 18 months,
to Rome, in 1726. After two years, he gained the
prize offered by the academy of San Luca, worked in
connexion with his brother, spent nine years abroad,
and was finally admitted into the academy of Paris.
His Prometheus, lacerated by the vulture was exhib-
ited as a specimen of his powers, but not finished
until some time after the exhibition. His master-
piece is the tomb of the queen of Poland, wife of
Stanislaus. In regard to his merits, what has been
said of his brother holds true of him. He died in
1778.—The third brother, Francis Gaspard, born at
Nancy in 1710, was also a pupil of his father. In
1728, he joined his brothers in Rome, and improved
greatly in their company. He then returned to
Paris, gained the first prize of the academy, and
in 1742, visited Rome again, where he completed his
studies. He then went to Berlin, instead of his bro-
ther Nicholas Sebastian, who frequently refused the
lititl thither. He laboured there several years, and
died at Paris in 1759.

ADAM. Alexander, an eminent grammarians
and writer on Roman antiquities, born in Morayshire,
1741, of humble parents, who, however, contrived to
give him a good education. He removed to Edin-
burgh, in 1758, where, after undergoing great hard-
ships in prosecuting his studies, he became, in 1761,
assistant master of the high school of Edinburgh,
and in 1771, head master of the same. In 1772, he
published his Latin Grammar, under the title of
"The French of Latin Grammar." It possesses considerabl
merit, and is well adapted for teaching the grammars of both languages at the
same time. He also compiled "Roman Antiquities,"
1791, 8vo; "Summary of Geography and History,"
1794, 8vo; "Classical Biography," and an abridged
dictionary, entitled "Lexicon Linguae Latinae Com-
pendiarium," 8vo, all of which are popular in schools.
He was a liberal in politics; and at the commence-
ment of the first French revolution, became obnoxious
for the sympathy he evinced in Gallic freedom.
The weight of his character, however, bore him up
against the political prejudices with which he had
to contend. He died of apoplexy, in 1809, and was
honoured with a public funeral. The principal fea-
tures of his character were, unshaken independence
and integrity, ardour in the cause of public liberty,
purity of manners and singleness of heart, and great
power of application to study.

ADAM, Nicholas, a French grammarian, of the
17th century, was a native of Silesia, Between 1616
and 1290, he published four vols. of "Lives of Illustrious
Men." These were afterwards printed in one vol.
ofo., at Frankfort; and though not ably written,
have been much used by subsequent collectors.

ADAM, Nicholas, a French grammarian, who pub-
lished various popular elementary works on gran-
ADAM—ADAMS

mar. He was born at Paris in 1716; was many years professor in the college of Lisieux; and died in 1792.

ADAM, Robert, an eminent architect, was born in Edinburgh in 1728. He was the second son of William Adam, before, an architect of considerable reputation. While at the university of Edinburgh, he formed intimacies and friendships with distinguished men, which smoothed the way to his future eminence. In 1754, he travelled to the continent, made a voyage to Spalatro in Dalmatia, and resided there three years in Italy. On his return, he was appointed architect to the king, an office which he held for six years, when he resigned it to become a member for Kinross-shire in the British parliament. In 1764, he published a work in large folio, enriched with plates, entitled "Ruins of the Palace of the Emperor Dioclesian, at Spalatro, in Dalmatia." By this time, in conjunction with his brother, James, he carried on an extensive professional business, being much employed by the English nobility and gentry, in constructing modern and embellishing ancient mansions. In 1773, the brothers commenced to publish their numerous "Architectures of R. and J. Adam," which contain many elegant and splendid designs. Before this they had accomplished that noble improvement in London, called after them the Adelphi (brothers). As specimens of Adam's architecture in Scotland, we may mention the register office, in Edinburgh, and the royal Infirmary in Glasgow. Robert Adam died in 1792, and was buried in Westminster abbey; his brother James, who was also eminent as an architect, died in 1794.

ADAMANT. See Diamond.

ADAMS, Charles. A stone of peculiar hardness, approaching to that of the diamond. It will cut glass easily, and mark rock crystal. It is found in China and India, and, as M. Pina alleges, in Italy.

ADAMITE; the name of a christian sect, said to have existed in the 2d century; and also of a band of heretics, which in 1421, appeared in Bohemia, during the commotions occasioned by the doctrines of Huss. They were called A. because both men and women were said to appear naked in their assemblies, either to imitate Adam in the state of innocence, or to prove the control which they possessed over their consciences. The tradition respecting the former sect of this name appears to have had its origin in a name of derision given to the Carpocratians of indifferent reputation. (See Gnostics.) The accounts of the latter A. are not to be relied upon with more certainty. These were also called Picards, from the founder of their sect, Picard, (perhaps also Bezkard.) They appeared about the year 1421, on an island in the river Lusinicz, where Ziska surprised them, but was not able to destroy the whole sect. In the following year, they were widely spread over Bohemia and Moravia, and especially hated by the Hussites (who they resembled in hatred towards the hierarchy), because they rejected the doctrine of transubstantiation. They subsequently formed one sect with the remaining Taborites, who have occasionally been confounded with the A.

ADAMS, John, a distinguished patriot of the American revolution, was born at Drimtree, Massachu-setts, October 19, 1735, being a descendant from one of the families which founded that colony. In 1761, he was admitted to the degree of barrister at law, and shortly afterwards was placed in the possession of a small landed estate by his father's devise. In 1768, he published, along a year afterwards, he removed to Boston, where he practice his profession on an extensive scale, and published in the Boston Gazette several pieces, under the title of "An Es-

say on Canon and Feudal Law," which were re-printed in London, in 1768, and called, "A Dissertation on Canon and Feudal Law." It seems to have been the principal object of the author of this work to extinguisl, as far as possible, the venerable of the institutions of his country by holding up to their abhorrence the principles of the canon and feudal law, and showing to them the conspiracy which existed between church and state, for the purpose of oppressing the people. He inculcates the sentiments of genuine liberty, as well as the necessity to the happiness and on the part of his low-citizens, in order that they might be prepared to assert and maintain their rights by force, if force should ever become necessary. It was indeed a work eminently calculated to excite the people of America to resist, at all hazards, any infringement of their liberties. In 1769, he was appointed chairman of the committee, chosen by the town of Boston, for the purpose of drawing up instructions to their representatives, to resist the encroachments of the British government, and was elected, in 1770, to the legislature of his state, as one of the representatives of the town of Boston. He is said to have possessed the same patriotism, courage, and hostility to the despotism of the mother country, by which he had always been distinguished. He took a prominent part in every public measure, and served on several committees, who reported some of the most important state papers of the time. At the time that he was in the seat in the national councils, in 1776, hostilities were active between Great Britain and the colonies. But the object of the latter was as yet merely to resist the authority assumed by the parent country to impose taxes upon them at pleasure. Few persons entertained the idea of a dissolution of connexion; yet it was the duty of the delegates in congress, seemly to desire it; but among those few, John Adams was the foremost. Such a step was unpopular. As soon as he was suspected in Philadelphia of being an advocate of the measure, he was represented in the most odious light, and even pointed at and avoided in the streets. Still, however, he persevered, made every day prosetyes, and, May 6, 1776, moved in congress a resolution which was, in fact, a virtual declaration of independence, recommending to the colonies "to adopt such a government as would, in the opinion of the representatives of the people, best conduce to the safety and happiness of the inhabitants of the United States of America." This passed, after a hard struggle, on the 15th of the same month, and was the prelude to the glorious and daring resolution, moved by Richard Henry Lee, of Virginia, on the 7th of June following, and seconded by Mr A., "that these united colonies are, and of right ought to be, free and independent states; that they are absolved from all allegiance to the British crown; and that all political connexion between them and the state of Great Britain is, and of right ought to be, totally dissolved." The debate upon this motion was of the most animating character. It continued from the 7th to the 10th, when the further discussion of the measure was postponed to the 1st of July. A committee of five was also appointed to prepare a provisional draught of a declaration of independence. The members of it were chosen by ballot, and were Thomas Jefferson, John Adams, Benjamin Franklin, Roger Sherman, and Robert R. Livingston. Mr Jefferson and Mr A. were deputed a sub-committee to prepare the instrument, the former of whom, at the earnest solicitation of the latter, became its author. On the 1st of July, Mr Lee's resolution was, and was read that day and the following day, when it was finally adopted. The draught of the declaration was then submitted for the purpose of undergo-
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ng an examination in detail. It was passed on the 4th of the same month, as prepared by Mr. Jefferson, with only a few alterations, which were made through a prudent deference to the views of some of the states. Mr. A. was duly re-elected by an almost unanimous vote.

The declaration was not adopted without serious opposition from many members of the congress, including John Dickinson, one of the ablest men in that assembly. But their arguments were completely overthrown by the force and eloquence of Mr. A., whose speech on the subject of independence is said to have been unrivalled. Mr. Jefferson himself has affirmed, "that the great pillar of support to the declaration of independence, and its ablest advocate and champion on the floor of the house, was John Adams. Speaking of his general character as an orator, the same illustrious man observed, that he was "the Colossus of that congress: not graceful, not elegant, not always fluent in his public addresses, yet came out with a power, both of thought and expression which moved his hearers from their seats."

The year following this great measure, Mr. A. proceeded with his unflinching and consistent views, and on 26th of March, 1782, Mr. A. was elected the first president of the United States under the new constitution, and re-elected as such in 1792. He discharged the duties of his office until March 4, 1797, when he succeeded to the presidency, vacated by the resignation of Mr. Washington. This great man's confidence he possessed in an eminent degree, and was consulted by him as often as any member of the cabinet. Mr. A. was the founder of the American navy. Before his administration, scarcely an American ship of war was to be seen upon the ocean; but, during this period, by his strenuous exertions, mainly, a very regular American navy was maintained. This administra-
tion, however, was not of long continuance, leaving pleased neither of the two great parties which divided the country, his measures being too strong for the democrats and too weak for the federalists. In consequence of this, after his term of four years had expired, March 4, 1801, Mr. Jefferson succeeded him, and he retired from public life. At his farm in Quincy, he occupied himself with agricultural pursuits, obtaining amusement from the literature and politics of the day. He was nominated as governor of Massachusetts, but declined being a candidate, wishing only for repose. During the disputes with England, which occurred while Mr. Jefferson was in office, Mr. A. published a series of letters, in a Boston paper, supporting the policy of the administration. His published writings, besides those which we have already mentioned, are "Discourses on Davila," composed in 1790, while he was vice-president, and printed in June and July of that year in the Gazette of the United States. In 1816, Mr. A. was chosen a member of the electoral college, which voted for the elevation of Mr. Monroe to the presidency; and, the following year, sustained the greatest affliction that he has ever been called upon to endure, by the loss of his son. He died on the 4th of July, 1826, mourning the loss of a man whom he regarded as having filled the duty incumbent upon him as such. After that, his life glided away in uninterrupted tranquillity, until the 4th of July, 1826, when he breathed his last. What is very remarkable, he died on the same day as Mr. Washington, with the expectation of Jefferson, being the 50th year of that American independence, which they had both so great a share in advancing.

ADAMS, Samuel, another remarkable man connected with the American revolution. He was born in Boston, September 27th, 1722, was educated at Harvard college, and received its honours in 1740. When he took the degree of master, in 1743, he proposed the following question: "Whether it be lawful to resist the supreme magistrate, if the commonwealth cannot be otherwise preserved?" He maintained the affirmative and this collegiate exercise furnished a very significant index to his subsequent political career.—On leaving the university, he engaged in the study of divinity, with the intention of becoming a clergyman, but did not pursue his design. From his earliest youth, his attention was drawn to political affairs, and he occupied himself, both in controversy and writing, with the political concerns of the day. He became so entirely a public man, and discovered such a jealous, watchful, and unyielding regard for popular rights, that he excited the general attention of the patriotic party, and they took the opportunity, in the year 1766, to place him in the legislature. From that period till the close of the revolutionary war, he was one of the most unwearied, efficient, and disinterested assertors of American freedom and independence. He was one of the signers of the declaration of 1776, which he honoured most indefatigably and unhesitatingly to bring forward. He was an active member of the convention that formed the constitution of Massachusetts; and, after it went into effect, he was placed in the senate of the state, and for several years presided over that body. In 1789, he was elected lieutenant-governor, and held that office till 1794, when he was chosen governor, and served three years till 1797. He then retired from public life, and died at his house in Winter street, Boston, October 2, 1803, in the 82d year of his age.

ADAM'S APPLE is a kind of orange, the citrus au-
vantium of Linnæus.—The same name is also given to the pronouenue in the former part of the throat, occasioned by the projection of the thyroid cartilages of the larynx. This name originated from the tradition, that a piece of the forbidden fruit, which Adam ate, stuck in his throat, and occasioned the swelling.

ADAM'S PEAK; the highest mountain in the island of Ceylon, called by the inhabitants Ham-ot-el. It lies under 60° 49' N., lat 80° 43' E. long., and can be seen in clear weather, from sea, at a distance of 150 miles. It has neither been measured, nor geologically examined. The chief river of the island, Minuvilenganga, the mouth of which forms, at Trin-
colomchi, the best harbour in all India, has its source in this mountain. It is considered sacred by the fol-owers of Buddha, many of whom make pilgrimages to it. The betel-leaf is exchanged by them as a sign of peace, for the purpose of strengthening the bonds of kindred, conferring friendships, and reconciling enmities. They bring the plants blessed them on the summit, and enjoin them to live virtuously at home. According to Davy, the road which leads to the sum-
mite, is, with all its windings, eight miles long, and in
some places very steep. Upon the top, the priests show a footstep which Buddha is said to have made. The place is surrounded by venerable old trees, particularly the cedars.

Adams, Patrick, a Scottish divine and Latin poet, was born in Perth, 1543. After having studied at St Andrews, he visited Paris, Padua, and other places distinguished for their universities, and at Geneva imbibed the Calvinistic doctrines from the celebrated Heem. On his return, he composed a treatise on the massacre of St Bartholomew by flight, and lay concealed a long time at Bourges, where he composed his paraphrase of Job, and some other works. On his return to Scotland, he was appointed minister of Paisley, and afterwards, by the favour and interest of the regent Morton, was raised to the archbishopric of St Andrews. In this elevated situation, he was surrounded with dangers and difficulties, and the vulture of the presbyterians was successfully directed against him, as the foremost pillar of episcopacy. James VI., however, patronized him, and sent him as his ambassador to England, where his eloquence and address gained him admirers, and raised such a tide of popularity in favour of the young king, his master, that the jealousy of Elizabeth forbade him again to ascend the pulpit while at her court. His principal objects in England were to gain friends for his master among the nobles, and to support the cause of episcopacy in Scotland. In 1584, he was recalled, and so violent was the irritation of the presbyterians against him, that, at a provincial synod, he was accused and excommunicated; and neither appeals to the king and to the states, nor protestations of innocence, would save him from the disgraceful sentence, if he had not yielded to the storm, and implored pardon in the most abject terms. His life continued a scene of persecution; even the monarch grew dead to his petitions, and alienated the revenues of his see in favour of the duke of Lennox, so that A., in addition to the indignities offered to his office, had to endure the pang of indigence, in the midst of a forlorn and starving family. He died in 1591. A 4to volume of his works has been published, containing translations of some of the books of the Bible in Latin verse, frequently composed to advantage his grief, and disarm the terrors of persecution. He also wrote a history of his native country, and various other works, which were never published.

Adams, Michael, an eminent French naturalist, was born at Aix, in Provence, of Scottish extraction, in 1727. His parents intended him for the church, but had even procured him a prebend, but his thirst for natural science induced him to resist it. He made natural history his favourite study, and chose Reaumur and Bernard de Jussieu for his guides. His emulation was raised by the brilliant success of the system of Linnaeus. In the prosecution of his favourite pursuits, he made several journeys to regions never yet visited by man. In 1748, at the age of 21, he went to the river Senegal, in the belief that the unhealthiness of the climate would, for a long time, prevent naturalists from visiting that country. He collected, with all the zeal of an enthusiastic, invaluable treasures in the three kingdoms of nature; and, perceiving the defects in the established classification of plants, endeavoured to substitute another more comprehensive. He also prepared exact maps of the countries through which he travelled, and compiled dictionaries of the languages of the different tribes with whose manners and customs he had become acquainted. After a residence of five years in an unhealthy climate, he returned to his country, in the possession of very valuable collections, and published, in 1757, Histoire Naturelle du Sénégal. Some masterly essays of his were printed in the memoirs of the French academy, and procured him the honour of being chosen a member of the institute. These essays were only preludes to his learned and comprehensive work on the natural history of Africa, published in 3 vols., 1763. This work, however, did not effect the object for which it was written,—the establishment of a new system of botany, in opposition to that of Linnaeus. He was preparing a new edition, with numerous alterations and important additions, when he formed the plan of publishing a complete encyclopedia. In hopes of receiving support from Louis XV., he began to collect materials, which, in a short time, increased to an immense mass; and, in 1775, he laid before the academy a prospectus of a work, on so large a scale as to excite general astonishment. It was carefully examined, but the result did not answer the expectations of the author. A's plan was good, but he was wrong in insisting upon the immediate publication of the whole. This obstinacy prevented the appearance of the work at all. He continued, however, to increase his materials with unceasing diligence. Some valuable essays, printed in the memoirs of the academy, are all of his writings that subsequently came before the public. The idea of executing his great work continually occupied his mind, and he employed all his means for this purpose. But the revolution reduced him to extreme poverty; indeed, at one time, he was not even one of its members, he declined the invitation because he had no shoes. A pension was then conferred upon him, which he enjoyed till his death, in 1806; continually employed in preparing his great work. The number of his printed books is small, in comparison with the mass of manuscripts which he has left.

Adams, Joseph, a distinguished English essayist, was born at Milston, Wiltshire, where his father was rector, in 1672. He received the first part of his education in his native place: at the age of eleven, his father having been appointed dean of Litchfield, he became a pupil of Mr Shaw. But we have no account of his early character, except that he distinguished himself in a barraging out. At the age of fifteen, he was entered at Queen's college, Oxford, where his Latin poem on the inauguration of William and Mary obtained his election into Magdalen college, on the establishment of the college. His Latin works may be found with this in the Museu Angelicaeus, collected by himself. In 1693, having taken the degree of master of arts, he published his first attempt in English, some verses inscribed to Dryden, with a translation of part of the fourth Georgic of Virgil, and other pieces in prose. He wrote a poem "To King William," and obtained the patronage of lord Somers, keeper of the great seal, by addressing it to him. Having declined entering into holy orders, he obtained a pension of £300 by the influence of Somers, and Montague, chancellor of the exchequer, to enable him to travel; and, in 1701, he wrote the Poetical epistle from Italy, to Montague, now lord Halifax, of which Dr Johnson says, "It is the most elegant, if not the most sublime, of his poetical compositions." During his travels, he began his tragedy of Cato, and composed the Dialogues on Medals, and, after his return, which was hastened by the loss of his pension, he published his Travels. In Johnson's opinion, this work might have been written at home. In 1704, at the request of lord Godolphin, he celebrated the victory of Hochstadt, or Blenheim, in a poem called the General Triumph, which was printed, at his own expense, and procured him the office of commissioner of appeals, in which he was the successor of Locke. About this time, he wrote also the opera of Rosmond, which was hissed from the stage, but was published with suc-
cess. The next year he accompanied Lord Halifax to Hanover, and was soon after chosen under-secretary of state. In 1705, he went to Ireland as secretary to the Earl of Wharton, and was the time appointed keeper of the records in Birmingham's tower, with an allowance of £300 per annum. While A. was in Ireland, Steele, the friend of his youth, began the publication of the Tatler, a series of essays on literature and manners: to this paper A. became a contributor. The first number of the Tatler appeared on the 22d April, 1709, and was succeeded in March, 1711, by the Spectator, which was continued daily till December, 1712. Some time afterward, the Guardian was undertaken by Steele, and to this A. contributed. His papers in the Spectator are marked by one of the letters in the name exactly, and in the Guardian, by a hand. After the publication of the Guardian, the Spectator was revived, and the eighth volume completed. In this his papers are not distinguished by any mark. The popularity of these works was very great, 20,000 copies of the Spectator being distributed at one time, and they yet stand among the classics of English literature. They may be safely said to have produced a greater effect on the mass of society than any literary productions which preceded them. By describing and criticising the manners of the times, they established character, exposed the follies, and reproving the vices which fashion countenances, they contributed much to reform the taste of the English nation, while they furnished the noblest lessons for the heart and the understanding. Their influence on English literature has been more permanent than on manners. The character of composition which they introduced, although not absolutely English in origin, has become essentially so in tone, spirit, effect, and social adaptation, and it is still to be traced in our best works, notwithstanding the temptation which men are exposed to in adopting the English manner, and the vices which fashion countenances. A.'s papers in these works, may be divided into the comic, the serious, and the critical. His humour is peculiar, his satire easy and delicate, and his wit is always on the side of truth and virtue. His serious papers are distinguished by beauty, propriety, and elegance, of style, not less than by their pure tone of morality and religion. They are a code of practical ethics. His critical essays contain many just remarks, conveyed in an easy and popular manner, and display the results of much study and delicate taste. In 1715, his tragedy of Cato was represented with great success, at 35 nights, and was always received with applause. This was undoubtedly owing to party feelings; the whigs hailing whatever was favourable to liberty in the production of a whig, and the Tories re-echoing the applause, to show that they did not feel the censure it was supposed to convey. Now, however, that it has come to be judged of apart from party feeling, its character as a dramatic composition has fallen very low, although it is admitted to contain many passages of great oratorical beauty. A.'s papers are also distinguished by a strict impartiality, particularly "The Freeholder,"—went again, as secretary of the viscount, to Ireland, and was appointed one of the lords of trade. In 1716, he married the countess of Warwick, who was won with difficulty, and whose haughty treatment of him contributed much to his happiness. Having been sent on a diplomatic mission, he was appointed secretary of state; but his inability to speak in public, and his solicitude about the elegance of his expressions, rendered him unfit for the duties of the office, and he soon retired, with a pension of £1,599. His principal work, after this, the History of the Christian Religion, was published in 1716, at the time, as recommending the subject by elegance and perspicuity to popular notice, but since superseded by more complete treatises. He died at Holmwood House, Pennington, on the 17th June, 1719. Before he expired, he sent for his pupil, lord War- wick, a young man of loose life, and addressed him in these words: "I have sent for you that you may see how a Christian can die." This scene is alluded to in the lines of Tickell on his death: "He taught us how to live, and—ah! too high The price of knowledge—taught us how to die." He was buried in Westminster abbey. He was a sincere believer in the Christian revelation; in politics earnest, but not violent, he was respected, not beloved, by individuals of both parties. Serious and reserved in his manners, modest and even timid in society, he spoke little before strangers: "I must never," said Lord Chesterfield, "see a more modest, or a more awkward man;" but he was easy, fluent, and familiar in the company of his friends. He studied all the morning, dined at a tavern, and spent the evening at Burton's, a coffee-house frequented by the wits of the time. As a poet, he is distinguished for taste and elegance, but is destitute of high poetic genius. His prose is remarkable for its purity, perspicuity, and simplicity, and for the higher graces of harmony and richness of metaphor. It is the sentiment and judgment of Dr. Johnson, that "he who would write English with correctness and elegance must give his days and nights to the study of Addison." His chief works are the tragedy of Cato, his papers in the Tatler, the Spectator, and the Guardian, and his Evidences of the Christian Religion.

ADDRESSES. In modern times, importance has been given to the manifestation of public opinion to the sovereign, in the form of addresses; and governments, in difficult emergencies, have in turn addressed the people. A communication from the rulers to the citizens is a great advantage, especially, at the time when the sovereignty of the people was acknowledged, the higher authorities sent addresses to the people. An address is essentially different from a petition, since it contains only an expression of thanks, satisfaction, or dissatisfaction, communicates information, justifies measures, &c. This practice owes its origin to the British parliament, which is accustomed to answer the king's speeches, delivered at the commencement and close of each session by a public acknowledgment of the obligations of the nation. The custom is copied from the constitutions of the several German states grant this right in a very limited sense. In Wurttemberg, it has been declared unconstitutional, in reference to the army; and in Bavaria, the estates have only the right of transmitting petitions to the king, and of complaining against the ministers of state. The right of the citizens, in associations or otherwise, to present addresses, is connected with the right of complaining, convoking assemblies, and signing in a body. It is obvious, that addresses of thanks and satisfaction, like those with which Napoleon was so much pleased, are of importance only in those cases where the expression of public opinion is free.

ADEL, a kingdom of Africa, lying on the eastern coast of that continent, and extending about 500 miles from east to west, and 300 from north to south. It formerly formed part of the realm of Abyssinia, but it is now an independent state. Adel and Zella are the chief towns, from which there is a considerable trade in ivory, gold dust, and drugs.

ADELING, John Christopher, a German scholar, distinguished for his exertions to improve the language of his country, was born at Gumbinnen, 1749. at Ponstolow, in Pomerania, where his father was a
clergyman. He received his first instruction partly at Anklam, partly at Klosterberg, near Magdeburg, and finished his education at Halle. In 1759, he was appointed professor in the protestant academy at Erfurt, but two years after, ecclesiastical disputes caused him to remove to Leipzig, where he applied himself, with indefatigable activity, to the extensive works by which he has been so useful to the German language and literature, particularly his Grammatik-brit. Wörterbuch der Hochdeutschen Mundart. Leipzig, 1787, and 1st part of the fifth. In 1787, he received, from the then elector of Saxony, the place of first librarian of the public library in Dresden. This office he held till his death, Sept. 10, 1806. His grammatical, critical dictionary, surpasses the English lection of Johnson in the accuracy and order of the definitions, and more especially in the department of etymology, but is inferior to it in the selection of classic authorities, because his pre- dilection for the Upper Saxon, or Misian authors, induced him to neglect those writers whose country or style he disliked, and his taste was so limited, that he would not allow of any deviation from the stock of the established fixed and settled laws of style. His methodi- cal mind was struck with terror at the irregularities and the flood of new words with which he thought the German language menaced, and could not ap- preciate its admirable flexibility and copiousness, in which it is equalled by the Grecian alone. Of his other works, we may mention his German grammar, his Magazin für die Deutsche Sprache, his work on German style, his Eilteste Geschichte der Deutschen, his Directorium, important for its exposition of the sources of the history of the south of Saxony, Meis- sen, 1802, 4to, and his Milchräten, in which last work he endeavoured to set up the fruits of all his in- vestigations, but finished only the first volume; for the three others, we are indebted to the lexicographic Vater, of Halle, who employed for this purpose, partly the papers of the deceased, partly the materials collected by A. and W. von Humboldt, and partly the results of his own inquiries. A. was a man of blameless morals and amiable temper. He was never married. He daily devoted 14 hours to labour.

ADERSBACH MOUNTAINS. These extend, with some interruptions, from Adersbach, a village of Bohemia, to the county of Glaza. Numerous clefs of various sizes, which among the rocks, which rise in strange forms more than 100 feet high, and consist of a remarkable kind of ferruginous sand-stone. Rain and snow, filling the cavities of the surface during the winter, form collections of water, which gradually filters through the rocks, and produces these clefs. The sand-stone itself has, in the course of time, become very brittle, especially on the sur- face. The place is a great resort for travellers.

ADEELEM, or ADELM, a learned prelate under the Saxon Heptarchy, was born in Wiltshire, in the seventh century. He was made bishop of Shreiberland, and was of a temper-relevant to his duties, with remarkable powers, and his voluntary chastity. He was, for the times, an eminent scholar, being acquainted with Grecian and Roman literature, a good writer, a poet of some merit, and an excellent musician. His works, which were numerous, are mostly lost.

Adennis, according to the latest phraseology of physics, means generally the tendency of heterogeneous bodies to stick together; but cohesion implies the attraction of homogeneous particles of bodies. Adhesion may take place between two solids, as two hemispheres of glass, or between a solid and a liquid, or a liquid and water. Thus it is said that a fluid adheres to a solid, as water to the finger dipped into it. But there is a great difference, in this respect, in different bodies; thus small par-
ADAMISTRATOR—ADMIRALTY COURTS.

The person to whom the goods of a man dying intestate are committed by the proper authority, for which he is accountable when thereunto required. For matters relating to this title, see Executor.

The commander-in-chief of a squadron or fleet of ships of war, or of the entire naval force of a country. Probably this word is of Arabic origin, and signifies originally the emir, or prince, of the waters. In the time of the crusades, the office and name were introduced into Europe. The first authentic instance that occurs of admirals in Europe is about 1284, when Philip, king of France, created Enguerrand de Coucy admiral of his fleet. In the reign of Edward I. king of England, we find a title of honour, "Admiral de la mer du roy d'Angleterre," conferred for the first time on W. de Leybourne; and about this time the jurisdiction of the English seas was committed to three or four admirals, who held the office durante bene placito. From the time of Edward II. a regular succession of admirals is to be traced; and in the 34th year of Edward III. John de Beauchamp, lord warden of the Cinque Ports, was created admiral of the English navy. The office underwent several changes, and persons of high rank, some of whom were entirely unacquainted with naval affairs, continued to fill this office until 1532, when it was first put into commission, as it remained during the protectorate of Cromwell. James, duke of York, afterwards James I., exercised the functions of lord high admiral for several years of Charles II.'s reign. Many of his regulations are observed to the present time, and evince his zeal for this most important service in England. During the reign of William and Mary, the powers of the lord high admiral were committed to lords commissioners of the admiralty. Prince George of Denmark enjoyed this dignity during a short period of the reign of Anne; since which time it has always been vested in seven lords commissioners, acting under the statute of William and Mary, till the year 1827; when the first step of Mr Canning, as premier, was to prevail on the duke of Clarence to accept the office of lord high admiral; but the duke, soon after the formation of the duke of Wellington's administration, gave up the office. The income of the first lord-commissioner is at present equal to £5,000 per annum. The surplus revenue from admiralty fines and forfeitures is applied at the pleasure of government. To the lord high admiral, or lords commissioners of the admiralty of England, belongs the power of decision in all maritime cases, both civil and criminal; a jurisdiction upon or beyond the sea in all parts of the world; upon the sea coasts in all ports, havens, or harbours, and upon all rivers below the bridge nearest to the sea: according to the terms of the patent, "To preserve all public streams, ports, rivers, fresh waters, and creeks whatsoever, within his jurisdiction, as well for the preservation of the ships as of the fish; to remove all causes of contention between merchantmen, to punish offenders; to arrest ships, mariners, pilots, masters, gunners, bombardiers, and any other persons whatsoever, able and fit for the service of ships, as often as occasion shall require, and wheresoever they shall be met with; to appoint vice-admirals, judges, and other officers durante bene placito; to remove, suspend, or expel them, and put others in their places; to take cognizance of civil and maritime laws, and of death, murder, and main." The lord warden of the Cinque Ports has, nevertheless, a jurisdiction exempt from the control of the admiralty within these ports, and also over all ships within the main, that is, a jurisdiction confined to the main sea. Between high and low water marks, the common law and the admiralty have jurisdiction by turn. By the regulations of the navy, the lord high admiral grants commissions to inferior admirals to enforce obedience in all the branches of the service; to all courts-martial for the trial of offences against the articles of war, upon which they decide by the majority of votes, a deputy judge arrives at the decision of any dispute which arises before those of most importance. To the office of lord high admiral are given, as perquisites, by the patent, "treasure, deadlocks, and relics found within his jurisdiction; all goods picked up at sea; all fines, forfeitures, ransoms, &c.; all whales and large fishes; all ships and goods of the enemy coming into port, &c., by stress of weather, mistake, or ignorance of war; all ships seized at sea, salvage, &c., together with his share of prizes." In ancient times, this officer carried a gold whistle set with precious stones. — In France, the admiral (amiral) enjoyed, until 1827, very great prerogatives; but Richelieu, deeming the influence of the office too great, abolished it. Louis XIV. re-established it in 1669 with less power. In the revolution, this office, of course, vanished with the abolition of the monarchy. Napoleon renewed the office, and invested his brother-in-law Murat with it. The highest officers in the French navy have only the title vice-admiral; after these follow the rear-admirals (contre-amiraux). — ADMIRAL OF THE FLEET; the highest naval officer under the admiralty of Great Britain, who, when he also holds the office of Cabinet minister, is distinguished by the hoisting of the union flag at the main-top-gallant-mast head. — The powers of the lord high admiral of Scotland have been vested, since the union, in the admiralty of Great Britain, which appoints a judge, or vice-admiral, who executes its duties, and presides over an admiralty court in Scotland. — Admirals, being commanders in chief of any fleet or squadron, carry their flags at the main-top-gallant-mast head, from which they are designated as admirals of the red, of the white, of the blue. They rank with field-marshal in the army. The vice-admiral carries his flag at the fore-top-mast head, and takes rank with the lieutenant-generals of the army. The rear-admiral carries his flag at the mizen-top mast head, and ranks with major-generals. — The United States have no admirals. The board of the navy directs all the affairs of the navy. The vice-admiral is a civil officer, appointed by the president of the United States, and, in admiralty, having judges and marshals under him. From his decisions, however, there is a final appeal to the court of admiralty. The place of vice-admiral of England is now a sinecure. Ireland has four vice-admirals; Scotland one; and the governors of colonies generally hold a commission to preside over vice-admiralty courts. A. is also a name given to the most considerable ship of a fleet of merchantmen, or of the vessels employed in the cod-fishery of Newfoundland. The ship which first arrives is entitled to this appellation, and some privileges; it carries during the season a flag and the mainmast being marked A. in natural history, a very beautiful shell of the volutæ genus. It is sold at a very high price. — ADMIRALTY COURTS have cognizance of civil and criminal causes of a maritime nature, including captures in war made on the high seas, and likewise of treaties, contracts, and other matters relating to maritime law. In civil suits, the judges decide unaided. In criminal cases, the judge in England is associated with three or four commissioners; in the United States, he is assisted by a jury. In the latter country, the admiralty jurisdiction is vested in the circuit and district courts of the United States. In England, the jurisdiction between the instance and the prize courts, the former being the ordinary admiralty court, the latter being constituted by a special commission, in time of war.
to take cognizance of prizes, though the individuals composing the court are the same in both cases.

Admiraity Islands; a cluster of islands to the north of New Zealand, in the South Pacific ocean, in about 28° 18' S. lat. and 140° 44' E. long. There are between 20 and 30. The Dutch discovered them in 1616. The islands are black, but not of a deep shade; tall and almost in a state of nudity. They evinced much kindness towards La Perouse. A. I. is likened to George III's Archipelago, on the north-west coast of New Norfolk, in America, between N. lat. 57° and 58° 30', and between W. lon. 133° and 135°. See Vancouver's Voyage, vol. iii.

Adolores of Nassau was elected emperor of Germany, May 1, 1292, and crowned at Aix in Chapelle, June 23. He was of a illustrious family, and of approved courage; but without any patrimony, except his sword, and destitute of those great qualities which had raised his predecessor, Rodolph of Hapsburg, to the throne. A. owed his election, in part, to the arrogant conduct of Albert of Austria; in part, to his intrigues with the electors of Cologne and Mainz, who imposed on him the hardest conditions, and forced him to resign to them cities and territories, which were not his own. But, refusing to fulfil, when emperor, what he had promised when count, he soon saw himself hated and deserted by his friends. Urged by want of money, he received 100,000l. sterling from Edward I. of England, and, in return, engaged to assist him against Philip the Fair of France; but he was by no means sorry to see the pope forbid his participation in the war. In this way he made himself contemptible in the eyes of the German princes, and became still more odious to them by taking advantage of the hatred of Albert, landgrave of Thuringia, against his sons, and purchasing this territory from him. This purchase involved him in a five years' war, in which he attempted, unsuccessfully, to subjugate the country which he had bought. Disgusted at such disgraceful conduct, and urged on by Albert of Austria, the college of electors, excepting those of Treves, Cologne, and the Palatinate, cited Adolphus to appear before it. Failing to appear, the throne was declared vacant, June 23, 1298, and Albert of Austria elected. A war already existed between the two rivals, in which Adolphus was engaged, until, being betrayed by the manoeuvres of his foe, he found himself surrounded at Gelnheim, and fell, after a heroic resistance, by Albert's own hand, July 2, 1298. His body was deposited by Henry VII. in the imperial vault at Strasburg, at the same time with that of Albert. His faults sprung mostly from the inexactness of his abilities to his situation. One mistake followed another, and when, in the latter part of his career, he wished to adopt a better course, it was too late.

Adoxa, a small state or principality on the gold coast of Africa.

Adonai, one of the many Hebrew names for God. The word properly signifies my lords, in the plural number, which is called, in the Hebrew grammar, pluralis majestatis. The Jews, who, from religious reverence, do not pronounce the name Jehovah, read Adonai in all the places in which the former name occurs. This practice commenced among the latter Jews after the Babylonish captivity, at least before the time of Josephus. See Geddes's Crit. Remarks vol. i. p. 167, and Leigh's Crit. Spec. in verb. Adonai.

Adonic. The Adonic verse consists of a dactyl and a spondee or trochee, e. g. rādā jīvantaḥ; and, on account of its animated movement, is adapted to gay and lively poetry. Long poems, however, would become monotonous if written entirely in a measure so short, and recurring with no variety. It is therefore rarely used by itself. Even the ancients always combined it with other kinds of verse; thus the last verse of the Supplices, exclaims with the wild beasts of the forest, but happening to fall in an attack upon a wild boar, he was mortally wounded by this ferocious animal. The goddess, hearing of his misfortune, hurried to his assistance, and in her haste her foot was wounded by a rose-bush, the flowers of which, formerly white, from that time took the colour of blood. When she reached the spot, she found him lifeless on the grass, and, to alleviate her grief and preserve his memory, she transformed him into the mimicone. At her request, however, Jupiter permitted A. to spend six months with her, and the other six with the Wise Woman. A full explanation of this tale may be found in Creuzer's Symbolical and Mythology der Vatier des Alterthums.

Adoption; a religious sect which asserted that Christ, as to his divine nature, was properly the Son of God; but as to his human nature, only such by adoption. This was the sense in which the word "adoptive" is used by the early church. God's mercy adopts other men also as his children; for they could not comprehend how a human being could be called the Son of God in a literal sense. Eli- pandus, archbishop of Toledo, and Felix, bishop of Urgel, in Spain, avowed this doctrine in 783, and made use of it both in Spain and France. Charlemagne condemned their heresy at the council of Ratisbon, and dismissed Felix from his office. This sentence was repeated three times; at Frankfort, 794, at Rome and at Aix la Chapelle in 799, because the bishop relapsed twice into his former error. He was then placed for the remainder of his life, under the care of the bishop of Lyons. After the death of Eliandus, the whole controversy ceased. The dispute is worthy of notice, both on account of the moderation of Charlemagne, and because the opinion of the Adoptiani has often been made use of, by those who have exerted themselves to adapt the doctrine of the divinity of Christ to the comprehension of man.

Adopros, the admission of a stranger by birth to the privileges of a child, has come down to us in the Roman law. Its purpose was the acquisition of paternal power, which could neither be ceded to the person adopting by the natural parent (adoption in the strictest sense), or be obtained by the assent of a person no longer under the patria potestas, or of his guardians. This second sort is called arrogation. According to the ancient civil law, the adopted child left the family of its parents or guardians, and became a member of the family of the person adopting it. The emperor Justinian abolished this principle in regard to adoption properly so called. Adoption was intended to supply the want of offspring in those persons who might have been parents. Eunuchs, therefore, and persons already having legitimate issue, were excluded from this privilege. The person adopting must have been at least 18 years older than the person to be adopted. Guardians were not permitted to adopt their wards, nor a poor man a rich child. Females, strictly speaking, were not permitted to adopt, but might, with the permission of the sovereign, secure the last verse of the Supplices, exclaims with the
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of Austria, 1,179; Prussian Code, part 2, tit. 2, § 646.)
The adopted child receives the name of its adopter, but does not share in his rank if he be a nobleman, except by the special permission of the sovereign. In Prussia, who wish to adopt must have lived in common without children, before they are allowed to adopt a child. The modern French law (Code civil, a. 343) also admits adoption, but only on certain conditions. The code establishes three kinds of adoption—l'adoption ordinaire, la présomptatoire, and la testamentaire.

The person to be adopted must have lived six years, or at least until his sixteenth year, before he can be adopted. Excepting in this case, the latter must be as much as fifteen years younger than the former. Adoption (excepting as before) cannot take place until the person to be adopted is of age, and must be ratified by the district court as well as by the court of appeal. There is nothing corresponding with adoption in the law either of England or America. In Asia, adoption is a very common practice. The ceremony is frequently performed merely by the act of signing a paper, by the person whose wishes to adopt are supported by the person to be adopted. The Turks declare adoption often before the cadi, and a writing regularly witnessed is drawn up. The law of Mahomet prescribes still another very curious ceremony of adoption. The person who adopts is required to pass through the shirt of the new father, and this ceremony of adoption through one's shirt is, among them, expressive of adoption. An adopted son is called akietogli, that is, the son of another life. Several writers have applied this ceremony as explanatory of many passages both of the Old and New Testaments.

A.D. 1809; originally, the expression of the highest respect either to God or man; now used, more particularly, for the act of religious homage. The word literally signifies applying the hand to the mouth; manum ad omne e ore, i.e., to kiss the hand. The word kissing is the usual idiom of the Hebrew language to signify adoration. Herodotus considers the custom of kissing the hand in adoration to have been adopted by the Greeks from the Persians. It certainly prevailed at an early period all over the East. The Roman ceremony of adoration has been thus described: the devotee, having his hands palm up, his face facing the lip; the fore finger resting on his thumb, which was erect, and, thus bowing his head, turned himself round from left to right. The kiss given was called osculum labiatum. Sometimes, however, they kissed the feet or even the knees of their gods. The Greeks generally worshipped uncovered. During their prayers, their hands were raised above their heads with the palms turned towards heaven or the statues of their god, a custom still often seen, in catholic countries, accompanying fervent prayer; but generally the Christians clasp their hands during prayer, which is still the custom in Europe, both among catholics and protestants. The first Christians often offered the kiss to the face of the east when they prayed. The Mahomedans turn the face towards Mecc. Prostration, accompanied sometimes by kissing the ground, is an ancient mode of adoring the gods, and expressing the highest respect for men. In Russia and Poland, it is still the custom for people of the lower classes to kneel down and kiss the garment of the person to whom they wish to show respect. Diocletian offered his foot to be kissed by the courtiers, and even under Charlemagne and his son, the noblemen kissed the emperor's foot. Probably, therefore, the kiss of the emperors to whose power they laid claim in succeeding to their title of sovereign pontiff. They have an embroidered cross on the slipper of their right foot, which is kissed by the catholics. When the late king of Spain was in Rome, he prostrated himself before the pontiff, and kissed the cross on his foot. There is no doubt that the Roman catholics have this custom from the East. In the primitive christian church, the kiss of honour is said to have been shown to every bishop, as it often is still in the Greek church. In kissing the bishop's foot, the words ωρίζων η είναι, and were, still are used. The Jews, being an Asiatic tribe, often prostrated themselves in the act of worship. Taking off the shoes or slippers during adoration is an custom in Asia. It is also practised on common occasions as an act of politeness. The Oriental takes off his shoes before he enters the temple, the mosque, or the apartment of a man of respectability. This custom was also adopted by the Roman catholic church in some cases. At the adoration of the cross on Good Friday, the Roman catholics walk bare-footed; and the ceremony of humiliation, when the pope and all the cardinals approach the cross bare-footed, in the Capella Sistina, makes a deep impression on the superstitious. Kneeling was in ancient times the act of paying homage to the gods, and to princes. The expression of respect from the feeling of humility in addressing a higher and mightier being. Sitting with the thighs resting on the heels, was an ancient Egyptian attitude in the act of worship. There are many statues represented in this position. Standing with the body inclining forward, and hands together, with the hands probably resting on the knees, was an early eastern attitude of adoration. Dancing, screaming, rolling on the ground, and many similar acts accompany the worship of different savage tribes. Mr. Ward, one of the Baptist missionaries at Serampore, in a work on the history and literature of the Hindoos, has given a very curious and minute account of the modes of adoration, which they call pooja. The objects of adoration have been greatly diversified. In all ages, worship has been paid to idols, but many of the worshippers have regarded the image merely as the representative of the Divinity. Protestants mistake when they impute to catholics, universally, the worship of images, as being in themselves objects of adoration, for they are regarded by that church, as they are by the wisest of the heathen, merely as visible signs of the invisible Deity. The ancients worshipped not the hands of their gods, but their images; and the catholics still offer flowers to their saints and the virgin. It was common to sleep in the ancient temples, with a view of receiving responses from the gods in dreams. The sick, in particular, slept for this purpose in the temple of Esculapius. In the Roman Catholic church, a species of adoration is offered to departed saints and martyrs, and their intercession is solicited. The Phœnicians (the first navigators) adored the winds, a practice adopted by many other nations. The Persians adored the sun and fire. The Greeks and Romans adored fire under the name of Vesta. Plato mentions the adoration of lightning by gently clapping the hands. The Egyptians adored animals, plants, and fishes; the Arabs, stones; the Scythians, swords; the Chinese, the statues of their ancestors. The Hindoos have not only an amazing variety of gods, but they worship human beings, beasts, birds, trees, rivers, fish, books, and stones. See Ward's View of the History, Literature, and Religion of the Hindoos, and Bishop Heber's Narrative of a Journey through the Upper Provinces of India, from Calcutta to Bombay, 1824—1825, with Notes upon Ceylon, and an Account of a Journey to Madras and the Southern Provinces, 1826. It must be remembered, that all adoration originates from two different sources, either from love and thankfulness, or from fear.

ADRAGANTH, in medicine, gyna dragon. It distils
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by incision from the trunk or roots of a plant which grows in the Levant. The gum is of different colours, white, red, grey, yellow, and black. Skins are great quantities, and prefer the red to the black. It is the astragalus tragacanthus of Linnaeus.

ADASTRA; a daughter of Jupiter and Necessity, the servant of eternal Justice, the punisher of all injustice, whom no mortal escapes. A is generally a mere epithet, given to Nemesis, (q. v.) She is represented sometimes with wings, sometimes with a rudder, and sometimes with a wheel.

ADASTRES, king of Argos; son of Thaumas and Eurynome. In obedience to the oracle which commanded his death, a lion and the other to a wild boar, he gave Argin to Polynice, who came to him in a lion's skin, and Deiphyle to Tydeus, who was dressed in the skin of a wild boar. He was one of the seven heroes who encamped before Thebes, and the only one who survived the siege. Ten years after this, he made a second expedition against Thebes, accompanied by the sons of his former allies, and took the city, but lost his son in the engagement, and died himself of grief.

ADAM, the African, abbot of St. Peter's, Canterbury, in the seventh century, accompanied Theobald, archbishop of Canterbury, to England. A was the preceptor of Adelph, and Bede extols the happy time when the island enjoyed his tuition, and Kent was the fountain of knowledge to the rest of England.

ADIAN, or Hadrian, Publius Aelius, a Roman emperor, the successor of Trajan, was born at Rome, A. D. 76. His father, Trajan's cousin, died when A. was ten years of age. A. showed very early great talents, and is said to have spoken the Greek language so perfectly in his 15th year, that he was called the young Greek. His memory is said to have been so extraordinary, that he could commit a book to memory by once perusing it, and that he could call all his soldiers by name. These stories may be exaggerated, but they prove the estimation in which his talents were held. He was an orator, poet, grammarian, mathematician, physician, painter, musician, and astrologer. The greater development of the sciences in modern times does not admit of distinction in so many branches. His great qualities, however, were stained by great faults, so that he never won the affection of Trajan, who was his guardian. He was raised for his elevation to the throne to the wife of Trajan, Plotina, who concealed the death of her husband until she had time to forge a testament bearing the name of the late emperor, in which he was made to adopt A. and declare him his successor. Her bribes also had in the meantime prepared the troops to espouse the cause of A. After these preparations had been made, A. sent information of the emperor's death from Antioch to Rome, pretended that the imperial dignity had been forced upon him, promised the senate that he would discharge faithfully the duties of his station, and assured the praetorian guards that they should receive twice the usual present. A. D. 117, he ascended the imperial throne, appeared in Rome, and strove at first to win the favour of the people by the mildness of his administration. It was not long, however, before he manifested a cowardly and suspicious character, tormented his enemies, and exacted from the provinces a taxation in addition to what was exacted by the ordinary officers. Among other things, he purchased peace from the Sarmatians and Roxolani, who had attacked Illyria, by the payment of a tribute. From A. D. 120 to 131, he made his famous journey on foot, and with his head uncovered, through all the provinces of his empire. Among other places, he visited Britain, and caused a wall to be built from the mouth of the Tyne to Solway Frith, to secure the Roman provinces from the incursions of the Picts and Scots. He died in the summer of 119, on the march to Egypt, after having sold his favourite Antinous (q. v.), whose death he lamented long and bitterly. During his stay of two years in Athens, he established a colony of Roman soldiers on the site of the ruined Jerusalem; and on the spot where the temple of Solomon had stood, he erected a temple to Jupiter Helius. Upon this, a dreadful insurrection broke out among the Jews, which lasted two years and a half. He embellished Athens with buildings, and finished the temple of the Olympian Jupiter, begun 560 years before. A. died at Baiae, 138 A. D. in the 63rd year of his age, and the 21st of his reign as emperor. He was a statesman of splendid qualities and great faults. He promoted literature and the arts, did many good things on his journey, established the edictum perpetuum, enacted laws against dissipation and the cruelties of the slave trade, prohibited human sacrifices, forbade the indiscriminate bathing of men and women, &c. Antoninus Pius succeeded him. It was with much difficulty that his successor could obtain a decree from the senate, granting him, according to usage, divine honours. A. wrote several books; among others a history of his own life, under the name of Ptolom, one of his freedmen, which is no longer extant. He composed several hymns long before he breathed his last, the following lines: Arinis, vagula, blandula, Hospe, conseseque corporis, Que nume abita in loca, iilida, rigidis, nudula? Nec, ut solea, tabis jacos. Pope has imitated them.

ADRIAN. There have been six popes of this name. The first, a Roman, ruled from 772 to 795, was a contemporary and friend of Charlemagne, who, on account of A.'s able defence of his claims to the crown of France, protected him with his army, 774, against Desiderius, king of the Lombards, confirmed the donation of Pepin to the territory of the church, and made further grants himself. The pope was not allowed, however, to enjoy in peace the gifts of Charlemagne till 797, after the termination of the frequent campaigns of this king against the Italian princes, who claimed the territory. By confirming the decrees of the council of Nice, 786, in favour of the worship of images, A. gave offence to Charlemaigne, who was opposed to the practice, and procured a repeal of the decree at the council of Frankfort. The refusal was A.'s, but he so carefully and skilfully avoided offending the king, that he remained his friend, and honoured him after his death, 795, with an inscription, yet preserved in the Vatican. Though by no means a profound theologian, A. obtained great influence by the correctness of his conduct, and his decision of character. By a prudent use of this influence, he greatly increased his power.—ADRIAN II., a Roman, was elected pope in 807, at the age of 75 years. He was esteemed for his virtues, and famous on account of his bold opposition to the divorce of Lothaire, king of Lombarstia, from his wife Theibergia. By interfering in Egypt, in the dispute, which arose after the death of Lothaire, between Charles the Bald and the emperor Louis, respecting the right of succession, he made the former his enemy. He had another dispute in France, where bishop Hincmar of Luon had been dismissed against his will, and then he found a powerful protector in the patriarch Photius of Constantinople, on account of his spiritual jurisdiction over Bulgaria, which diminished the authority of the pope, since the Greek church maintained its independence against him, and made Bulgaria dependent on itself. He died in 872, in the midst of his conflicts with this church.
a Roman, elected 884, was pope for one year and four months only. He was opposed to the influence of the emperors on the election of the pope, and determined, if Charles the Fat should die without heir, to give Italy a new king. — Adriano IV., an Englishman, originally named Nicholas Breakspear, rose, by his great talents, from the situation of a poor monk to the rank of cardinal, and legate in the north, where he established at Drontheim the first Norwegian archbishopric, and a second at Upsal. He was elected pope in 1154, and waged an unsuccessful war against William, king of Sicily, who, at the peace of 1156, claimed the privilege, still existing in the title of successor, to send his legate to the papal court. The permission which he gave to Henry II., king of England, to invade Ireland, on the condition that every family of that island should pay annually a penny to the papal chair, because all islands belong to the pope, is worthy of remark. On this grant the subsequent popes founded their claims on Ireland. — Adriano V., previously called Ottoboni da Picione, of Genoa, settled as legate of the pope, the dispute between king Henry III. of England and his nobles, in favour of the former; but died soon after his election to the papal chair, 1276. — Adriano VIII., son of a mechanic of Utrecht, and professor in Louvain, was, in 1507, appointed tutor of the emperor Charles V. When ambassador of the emperor Maximilian, in 1515, he persuaded Ferdinand the Catholic to nominate young Charles his successor to the Spanish throne; after which he became, in 1516, bishop of Tortosa and regent of Spain, and, in 1527, cardinal. The Spaniards were not pleased with his severe and often partial government, and expressed great joy when, at the suggestion of Charles V., he was elected to the papal chair, in 1522. He was not less hated at Rome, on account of his antipathy to classical literature, his not so honest endeavors to reform the papal courts to abolish the prevailing luxury, bribery, and other abuses; but his efforts were frustrated by the cardinals, and, if they had been successful, could not have prevented the progress of the reformation already begun in Germany. A. opposed the seal of Luther with reproaches and threats, and even attempted to expel Erasmus and Zuinglius against him; but his abilities were not equal to the existing emergency. His measures against France also were unsuccessful. Notwithstanding his honest efforts and upright charac-
ter, he died unannounced, in 1525, after a reign of one year and a half. His reign was, according to his own confession, the most unhappy period of his life. On his tomb, in the church of St Peter, is the following epitaph:

Adrianus Papa VI. Sic situs est, Qui nihil atque inficiens
Quam quod imperaret, Duxit.

Adriano (de Castello), a learned Italian, who, from a low origin, raised himself to the purple, was born at Cometa in Tuscany. He was often employed by the pope, in missions to England and Scotland; and during his stay in the former country, he acquired the friendship of Henry VII., who conferred on him the see of Hereford, and afterwards that of Bath and Wells. He, however, had other and more ambitious views than an English bishopric, for he dwelt chiefly at Rome, where he was discovered in a plot to dethrone Leo X. and elevate himself to the vacant chair. His property was confiscat-
ed, and he fled; it is said to Riva, in the bishopric of Trent, where he died. He was not only himself a learned man, but literature lost in him a liberal and discriminating patron.

Adrian, John Baptist, secretary to the republic of Florence, in the time of the council of 1511; died 1579. He is known chiefly by a History of his own Time, which was published at Florence, in 1583, fol. and Venice, 1587. 3 vols. 4to.

Adriangol, (in Turkish, Edren), the second capital and residence of the Ottoman rulers, is situated in ancient Thrace (now Rumelia), on the banks of the navigable river Hebrus (now Maritsa). On this spot a small town formerly stood, inhabited by the Bassia, a Thracian tribe. The emperor Adrian founded this city on the left bank of the Hebrus, called it after his own name, and made it the capital of the province of Adrenia. Having chosen the site of an old range of hills on which it is situated, it commands a beautiful prospect over a large and fertile plain, divided by two ranges of hills, between which the river runs. It was fortified, and resisted, in the 4th century, the violent attack of the victorious Goths, who were, however, ignorant of the mode of conducting a regular siege. To give it the appearance of a Greek origin, the writers of Byzantium called it Oretea or Oretzia. According to their accounts, it is five days' journey distant from Constantinople. In 1360, it was taken by Amurath, the Turkish sultan; and from that time it continued to be the residence of the Turkish emperors for nearly a century, until the conquest of Constantinople. The number of the houses is 16,000, and that of the inhabitants 100,000, among whom there are 30,000 Greeks, under an archbishop. It contains also an imperial palace, 40 mosques, of which that of Selim II., and of Amurath I., are the most magnificent, 22 bath establishments, with beautiful aqueducts, important manufactu-
tures, and exports, among other articles, oil of roses, which is made in its vicinity, of the best kind.

Adrian's Wall; a celebrated Roman work in the north of England. This wall was built by the Roman emperor Hadrian, known by the name of wall, which signifies a wall of stone, was only composed of earth covered with green turf. It was carried from the Solway Firth, in as direct a line as possible, to the river Tyne, on the east, at the place where the town of Newcastle now stands; so that it must have been above 60 English and nearly 70 Roman miles in length. It consisted of four parts: 1, the principal agger, mound of earth or rampart, on the brink of the ditch; 2, the ditch on the north side of the rampart; 3, another rampart, on the south side of the principal one, about five paces distant from it; 4, a large rampart on the north side of the ditch. For many ages, this work has been in so ruinous a condition, that it is impossible to discover its original dimensions with certainty. But from their appearance, it seems probable that the principal rampart was at least ten or twelve feet high, and the south one not much less; the other two were very considerably less. When taken as it passes through a lime-stone quarry near Harlow hill, appears to have been nine feet deep and eleven feet wide at the top. The north rampart was about twenty feet distant from the ditch.

Adriatic Sea {mare Adriaticum, Adriana}, now more commonly called Gulf of Venice, though
in Italian, German, and French, the old name con-
forms to an arm of the Mediterranean, included by
the coasts of Italy, Illyria, Dalmatia, Albania, and
Epirus, about 200 leagues long and 50 broad, ex-
tending from south-east to north-west. Int. 40° to
50° 59' north. It contains about 90,000 sq. miles of
water, of which 2,000 sq. miles are given to the
St. Lawrence. On the Austrian coast it has a number of
small islands, and forms many bays, the most remarkable
of which are those of Trieste, Quarnero, and Cut-
taro. It is called the gulf of Venice from the city of
this name, which formerly claimed exclusive domi-
nance. Hitherto, and in those times annually wed-
ded it on Ascension Day. The ceremony was per-
formed by the doge of Venice throwing a ring into
the sea with great pomp. The entrance of the gulf is
commanded by Corfu, one of the Ionian islands
under the British government. The coast of the A.
sea is, in many places, very dangerous. The most
important parts on the gulf are Venice (since 1829 a
free port), Trieste, Ancona, Otranto, &c.

ADULE; ADULIAN MARBLE. Adule, a city in Ethi-
opia, mentioned by ancient authors as the most
important commercial place of the Troglydotes and
Edians; it contains the entire number of Axumites,
seems to be the same with the modern Arkiko.
This city, now the residence of the Naib of Massawh,
is frequently mentioned on account of an inscription,
first copied in the Topographia Christiana, a work
partly theological, partly geographical, written by
Cosmas Indicopleustes, in the 6th century, under the
reign of the emperor Justinian.

ADULTERY. Mankind, in almost all ages, and in
all civilized countries, have regarded the violation of
the marriage-bed with abhorrence. It has been
punished in various ways and with different degrees
of severity, according to the general manners and
morals of the country; sometimes with extreme and
even cruel rigour; in other instances, with capricious
and ridiculous penalties. By the Jewish law, it was
punished with death. Strabo says the same was the
case in Arabia Felix. Among the ancient Egyp-
tians it was not common, but when it did occur, a
thousand lashes were inflicted on the man, and the
woman was deprived of her nose. In Greece, the
laws against it were severe. The rich were some-
times allowed to redeem themselves by paying a fine;
in which case, the woman's father returned the dower
which he had received from the husband. Some
suppose it was refunded by the adulterer. A fre-
tequent punishment there, was putting out the eyes.
According to Homer, adulterers were stoned to
death. By the laws of Draco and Solon, adulterers,
when caught in the act, were at the mercy of the
injured party. Adulteresses were prohibited, in
Greece, from approaching the temples, and entering
the temples. Some suppose that this offence
was made capital by a law of Romulus, and again
by the twelve tables, others, that it was first made
capital by Augustus; and others, not till the reign
of Constantine. The fact is, that the punishment
was left to the discretion of the husband and parents
of the adulteress. The most usual mode of taking
revenge was by mutilating, castrating, or cutting off
cuts or nose. The punishment assigned by the
lex Julia de adulteris, instituted by Augustus, was
banishment or a heavy fine. It was decreed by An-
toninus, that, to sustain a charge of adultery against
a wife, the husband who brought it must be innocent
himself. Under Maximus, adulterers were burned
at a stake. Under Constantine and Constans, they
were thrown into sacks and thrown into the sea.
But the punishment was mitigated under Leo
and Marcian to perpetual banishment, or cutting off
the nose; and under Justinian the wife was only to
be scourged, lose her dowry, and be shut up in a
monastery; at the expiation of two years, the hus-
band might take her again; if he refused, she was
shaven, and made a nun for life. Theodosius in-
troduced the shocking practice of public violation, which,
however, he soon abolished. In Crete, adulterers
were covered with wool, as an emblem of their effi-
minancy, and carried in that deplorable manner of
houses, and on the face of the man who had imposed on them, and they were deprived of all their privileges and their share in
public business. The punishment in use among the
Mingrelians is the forfeiture of a hog, which is,
usually eaten very unamiably by the woman, the gal-
iant, and the cuckold. In some parts of India, it is
said, that any woman may prostitute herself for an
elephant, and it is reputed no small glory to have
been rated so high. Adultery is stated to be ex-
tremely frequent at Ceylon, although punishable
with death. Among the Japanese and some other
nations, adultery is punished only in the woman.
Among the Alavians, the crime of the husband
is punished on the innocent woman. On the contrary,
in the Marian islands, the woman is not punishable,
but the man is, and the wife and her relations
waste his lands, burn him out of the house, &c.
Among the Chinese, adultery is, at capital,
and parents will even make a contract with the future
husbands of their daughters, to allow them the in-
dulgence of a gallant. In Portugal, previously to the estab-
lishment of Christianity, the criminal was carried to
the market-place, and there fastened by the testicles
with a nail; a razor was laid within his reach, and
he had the option to execute justice on himself,
or remain where he was and die. The Saxons
consigned the adulteress to the flames, and over her
ashes erected a gibbon, on which her paramour was
hanged. King Edmund the Saxons ordered adul-
tery to be punished in the same manner as homicide,
and sentenced the Dane ordered that the offender
should be banished, and the woman have her ears
deaf and nose cut off. In the time of Henry I., it was
punished with the loss of the eyes and the genitals.
Adultery is, in England, considered a spiritual of-
fence, cognizable by the spiritual courts, where it is
punished with a fine. The common law allows the party aggrieved only an action and da-
nages. The Mahommedan code pronounces adul-
tery a capital offence. It is one of the three crimes
which the prophet directs to be expiated by the
blood of a Mussulman. In France, before the revolu-
tion, all adulterers were summarily condemned to
a convent, where the husband could visit her during
two years, and take her back if he saw fit. If he
did not choose to receive her again by the expiration of this time, her hair was shaven, she took the habit of the convent, and remained there for life. Where the parties were poor, the wife might be shut up in a known prison, and held there until the marriage be completed, so they marry. (ministere monarch, of the prosecution, if the judge has been condemned for the same offence. The wife can bring an action against the husband only if he has introduced his personalty in any place where she resides. An adulteress can be imprisoned from the time she begins to two years. The husband can prevent the execution of the sentence, if he sees fit to take her back. Her partner in guilt is liable to the same punishment.

In the United States, the punishment of adultery has varied materially at different times. In the state of Massachusetts, an adulterer or adulteress may be set on the gallows for one hour, be publicly whipped, be imprisoned, or flogged. All or any of these punishments may be inflicted, according to the degree of the offence. Corporal punishment and exposure, however, are in that state always commuted into imprisonment and labour. Moreover, adultery is very seldom punished criminally in the United States.

Advent (from the Latin adventus, i.e. adventus Redemptoris) signifies the coming of our Saviour. The name is applied to the holy season which occupies the four weeks preceding Christmas. The Roman Catholics spend this season in fasting, humiliation, and prayer, as if preparing for the reception of the Saviour of the world. This holy season is first mentioned by Maximus Laurinensis, a divine, in one of his homilies, written in the middle of the 6th century, but is supposed to have been instituted by St. Peter. No nuptials could be celebrated in Advent, since the council held at Lerida, in the 6th century, in order that Christians might more frequently partake in the Lord's Supper.

Adversely, against the commerce, a writing signed by a merchant, to testify that the goods shipped on board a certain vessel belong to another person, who is to take the hazard, the subscriber signing only to oblige himself to account to him for the produce.

Adventure Island; a small island in the S. Pacific ocean; lon. 144° 18' W.; lat. 17° 5' S. There is also an Adventure Bay, on the S. E. coast of New Holland; lon. 143° 29' E.; lat. 43° 21' S.

Adventurers, the society of an ancient company of merchants, erected for the discovery of unknown regions, opening new navigation and commerce. The first London Company, termed The Company of Adventurers, originated in Burgundy, and was established by John, duke of Brabant, in 1248, for the encouragement of English and other merchants at Antwerp. It was afterwards confirmed in England by Edward III. and IV., Richard III., Henry IV., V., VI., and VII., and by patent of the last-mentioned monarch, in 1505, they received the title merchant adventurers. The influence of the English merchant adventurers at Antwerp was, in 1590, so great, that they were able to resist successfully the establishment of the Spanish in that city.

Advocate of the Crown; State Advocate. The institution of crown advocates or public attorneys (ministere public), which is found in almost all modern systems of government, has been no where so well regulated as in France. The separation of the crown advocate from the lawyer who has prepared the case, which is not only indispensable on principles of general constitutional law, but also desirable, that the people may see, in the judiciary, judges only, and not men who, by virtue of their office, are obliged to take care of the interests of the state and the government, and who, when these interests are in question, must be necessarily, at the same time, both party and judge. It is not sufficient that the judge be personally conscious of impartiality; he should be so situated, that no particular effort should be required of those who appear before the judge should have no occasion to suppose that he must be considered as a particular defect in criminal proceedings, if the judge is obliged, by his office, to occupy the place of accuser, as he must necessarily appear to be the adversary of the accused persons. To avoid these inconveniences, the office of public advocate was established in France in early days, and constituted an essential part of the establishment for the administration of justice. In France, of late, however, the state advocates are charged with being influenced too much by political differences of opinion. Some of them, in par视vocate sions, have drawn upon themselves thereby very severe animadversions. It is said that, in the trials of General Barton, of Caron and Roger, at Calmar, and others, on account of political offences, they sought to implicate persons against whom nothing could be proved but by a plausible opposition to the ministry, in accordance with the charter and the nature of a representative government. It is well known how severely Benjamin Constant expressed himself on this point, with regard to the procureur général of Sauvigny. Certainly the dependence of the crown advocates on the crown is indispensable (although certain to their official conduct. But this bias is not very pernicious, because it is a notorious and natural consequence of their official situation, and the judge is required, as well as empowered to resist it.—England has also her superior state advocates, the attorney general, and the solicitor general; but, in conformity with the English judiciary system, their sphere of action is much more limited, and is not to be compared with that of the French ministère public. In criminal causes, the prosecution is conducted, indeed, in the name of the crown; but the advocates of the crown; but a great deal depends on the injured party, and the police magistrates that is the justice of the peace. The former have it in their power, by avoiding to appear at the trial (although liable to punishment for so doing), to defeat the whole prosecution. And, in every session of the courts, a large number of accused persons are set free, because, after a public summons or proclamation in court, no person appears against them. In Scotland, the king's advocate, or lord advocate, is an officer of great power and dignity, and is empowered to prosecute any person, to try any suit, or to give any complaint presented by an injured party. In crimes of a capital nature, he has also the power of restricting the sentence to an arbitrary punishment; or a punishment at the discretion of the judge, which does not extend to death. So, in other countries, there exist officers under the names of fiscal, advocatus flaci, advocatus patriae, &c. In the United States, the attorney general is an officer under the federal constitution, corresponding substantially to the English law officer of that name. His duty, as defined by the law of congress, is, to prosecute and conduct all suits in the supreme court of the union, to which the United States shall be concerned, and to give his advice and opinion upon questions of law, when required by the president of the United States, or when requested by the officers at the head of any of the departments, touching any matter with which they have their departments. He is also required to examine all letters patent for useful inventions, and to certify to the secretary of state whether they are conformable to the law on that subject, previous to the public seal being affixed to them. The attorney general of the United States is also a member of the president's cabinet council. In addition to this law
officer, the government of the United States lies in each of the states (which, in judicial proceedings are styled districts) a district attorney, as he is called, whose duty it is, within his particular state, to prosecute the behalf of all delinquent persons for crimes and offences cognizable under the authority of the United States' laws, and all civil actions in which the United States shall be concerned, except those which come before the supreme court, in the district in which that court shall be holden. Besides the law officers of the general government, of the United States, each of the states has its attorney-general and subordinate public prosecutors, or attorneys, for its territorial subdivisions or districts; and their duties are, to prosecute and defend in all causes, criminal and civil, arising under the local laws of their respective states, and in which their own state is concerned.

Advocacy. This profession has played a conspicuous part in almost every civilized country. Among the Romans, the greatest statesmen and orators belonged to this class, devoting themselves especially to the defence of criminals in particular. Those of less consequence and of a civil character were committed to procurators. The advocates of England and France are often men of high rank, enjoying an ample income and the prospect of attaining to the highest dignities of the law. The titles of the ranks, therefore, are found in their ranks. In Germany and some of the other countries of Europe, the advocates occupy a comparatively subordinate station in the courts. The profession is there considered only as a preparatory step to public employment, and these frequently of an humble description. This is the cause of the inferiority of the German lawyers in general to those of England and France; and the whole administration of justice there suffers from the same cause. There are exceptions, however, in some of the German states, particularly in Prussia. In the French revolution, the lawyers acted the most important part in public affairs. Advocat ecclesiasticus, superintendents of the property of the church, divided, according to their several offices, into defensores, causidici, actores, pastores laici, &c., were first appointed under the consular system. In the year 1522, an act was given by the king, conferring on the bishops, abbots, and churches, the right of appointing the clergy to parochial offices, and conferring on them the supervision of the wealthy. In the middle ages, the majority of the clergy were lawyers, and the clergy, therefore, are found in their ranks.

MINOS.

Advocates (from advoco); in English law, a right of presentation to a vacant benefice, or, in other words, a right of nominating a person to officiate in a vacant church. The name is derived from advocatio, because the right was first obtained by such as were founders, benefactors, or strenuous defenders (advocates) of the church. Those who have this right are styled patrons. Advocows are of three kinds—presentative, collative, and donative: presentative, when the patron has the right of nominating his clerk to the bishop of the diocese to be instituted; collative, when the bishop is the patron, and institutes or collates his clerk by a single act; donative, when a church is founded by the king, and assigned to the patron without being subject to the ordinary, so that the patron confers the benefice. This work without presentation, institution, or induction.

Avy; the palm-tree of the island of St Thomas. Its juice supplies the place of wine among the Indians. The fruit, called abangha, is of the shape and size of a lemon, and is eaten roasted. An oil, prepared from this fruit, answers the purpose of butter.

Avon (from a, not, and 0w, to enter); the most retired and sacred place in the ancient temples, into which priests only were allowed to enter. It corresponded to the Jewish holy of holies.

Aeaces, son of Jupiter and the nymph Egea, daughter of the river god Asopus. He acquired the government of the island called after his mother, and became, by his uprightness, a favourite with the gods. In compliance with his prayers, his father speeded anew the island, which had been depopulated by the plague. The new inhabitants sprung from ants, and were termed, on that account, Myrmidons. Greece, too, was delivered, at his entreaty, from a great drought and famine. The name of his wife was Endes, and Peleus and Telamon were his children. As, on account of his love of justice, was joined with Minos and Rhadamanthus in the office
of judging the dead. His particular duty was the distribution of rewards and punishments. He is represented as seated upon a tribunal, bearing a crown and sceptre; as a distinguishing mark, he carries the key of the infernal world, given to him by Pluto.

The most ancient and distinguished of the artistes, who had the supervision of public spectacles and public edifices, and decided questions relating to the erection of buildings, and to the police of the market.

At first, there were but two, chosen from the common people (ediles plebeii). At the end of the 4th century from the foundation of Rome, two were added from among the patricians, to whom an ivory chair (sella curulis) was allowed, and who were thence called ediles curules. Julius Caesar added the third class (ediles Cereales), to whose care the public granaries were intrusted.

Edonius; in ancient mythology, a huge giant, the son of Titan and Terra, who was fabled to have had a hundred hands, with which he threw a hundred rocks at once at Jupiter, who, when he had overcome him, bound him with a hundred chains.

Erogen Sea; the ancient name of the modern Archipelago of the Ionian Sea.

Egeria; king of Athens and father of Theseus, by Ethea, daughter of Pittheus, king of Troezene. He caused him to be secretly educated at Troezene, to deceive the sons of Pallis (Pallantides), who expected to succeed him, on the supposition that he was childless. In order that he might recognize his son, he concealed a sword, and some other articles, under a stone on his departure from Troezene, and left orders that Theseus should bring them to Athens when he had reached a certain age. As soon as this young hero became acquainted with his birth, he hastened to Athens, where he was at first repulsed, and in danger of his life; but his father finally acknowledged him, and declared him successor to his throne. Under the erroneous idea that Theseus had been devoured by the Minotaur, E. plunged into the sea, from which circumstance the Archipelago, between Greece and Asia, as far as the Hellepont, received the name of the Erogen sea. (See Theseus).

Eginia, or Eingia, or Eginia; a Grecian island in the Saronic gulf, about 30 miles in circumference. In ancient times, it constituted an independent state, and was rich and flourishing by reason of its commerce. The temple of the chief god had a common temple in it, dedicated to Jupiter. The capital of this island was called also Eginia.

Eginetan Style and Monuments of Art. An association of English and German artists and lovers of the arts was formed in 1811, chiefly with a view of obtaining an architectural survey of the temple of Jupiter Pannellenius, at Ægina, which is one of the most beautiful remains of the Doric architecture. A sketch of this temple may be found in the English Journal of Science, and in Isis, a periodical edited by Oken, in Germany. This undertaking was amply rewarded by the result. The temple had a common temple in it, which once adorned the eastern and western fronts of that noble edifice. It was purchased by the king of Bavaria, in 1812, and the deficient parts restored by Thorwaldsen. Every member of the association received a cast of it carefully executed in plaster of Paris. These works are valuable as faithful imitations of nature, and for the light which they shed over one of the darkest periods in the history of art. They showed that the Eginetan style of art was independent of the Attic. Pausanias calls Smilis the Dardalus of Ægina, assures us that he was the contemporary of Phidias, and that his statues were equally antique and independence with the Attic. The language and manners of Ægina were Doric; and its sculpture has a Doric character, as distinct from the Attic (which was originally Ionic) as Doric poetry and architecture. The characteristic peculiarity and aim of the Æginetan style is the faithful and exact imitation of nature, carried even to the last details. Artic was a daughter of the Egyptian, and a striving after purity is perceptible in both. To gain a clear idea of primitive art, we must distinguish between the Egyptian, ancient Attic, Æginetan, and Etrurian styles. Rude-ness, stiffness, and meanness, belong to the first attempts in every art. In other respects, they differ from one another; for, although, at a later period, they exercise a mutual influence. The perfection of art in Phidias has hitherto appeared almost a miracle; but we now comprehend how the Æginetan school, imitating nature with almost perfect exactness, pointed out the way to the ancients. Attic, teaching it to rise from the abstract to the living, from the conventional to the natural. Thus we find the long-desired link of connexion between the ancient severe and beautiful styles. Since the creations of Phidias, the traces of the proper Æginetan style have disappeared. There was subsequently, therefore, only one perfect style of art, and that spread over all Grievas; but Æginetan became the name for primitive sculpture. Smilis was the father and founder of the Æginetan style of art; next to him came Callon, who lived during the 60th and 70th Olympiads (540-500 B.C.). About the time of Phidias, there lived the following masters, famous in this style: Anaxagoras, who made the Jupiter which was placed in Olympia at the common expense of all the Greeks, who fought victoriously at Platea, B. C. 379; Simon, the maker of the consecrated offering of a certain Phornis at Olympia; and Glauzas and Onatas, who flourished in the 78th Olympiad. The Æginetan figures now exhibited at Munich are 17. They may be divided into 4 classes: 1. upright, clothed, and female; 2. advancing, or fighting combatants; 3. kneeling, or archers; 4. lying, or wounded. The largest of these figures is Minerva. She is a little above the human size; all the others are rather below this measure. If we consider the style of these works, there prevails in every part of the bodies, the head excepted, a minute imitation of nature, without the least traces of the ideal. Still the imitation is neither poor nor offensive to the rules of art, but a good copy of beautiful nature in all its expressions; perfect as to the bones and muscles. With respect to proportion, these figures are slender, rather small at the hips, and the legs remarkably long. There is much life in the attitudes, though they are not altogether free from a certain stiffness, such as may be observed in the paintings of Giotto, Masaccio, Perugino, &c. The heads seem to belong to an earlier epoch of art; the eyes project, and are lengthened somewhat in the Chinese fashion; the mouth has prominent lips, with well marked edges; the corners of some are turned up; the nose is rather small; the ears finished with a ring. The number of the feet is generally too large. They all look alike, and exhibit not the slightest expression of passion; between conquerors and conquered, gods and men, there is not the least difference. The appearance of the hair is not natural, but stiff and conventional. The arms are rather short; the hands natural to decision; not a wrinkle of the skin is forgotten. The legs are well shaped; the knees masterly; the feet elegant; and the toes, which are rather too long, run out parallel. The drapery is close to the body, with folds artificially arranged. Though the style is hard, the execution is beautiful, and the statues are apparently made at the same time, but not by the same artist. No one of them has any support, and they are equally finished on all sides. The number
of figures originally amounted to 50 at least. They were symmetrically arranged on both fronts of the temple. The Minerva stood in the middle, the standing warriors next, then the archers, and the lying figures last. The temple was not intentionally destroyed, but was probably blown down by an earthquake. Since Æacus erected this temple to Jupiter Puteolanus, it is probable that the figures represented the battles of the Æacies, under the protection of Minerva. The two contests in which the Æacies distinguished themselves most gloriously were the Trojan war and the naval battle of Salamis: in the latter, the images of Æacus, Telamon, Ajax, and Telemacon were displayed, and regarded as supernatural protectors. According to another opinion, the group of the eastern front represented the contest around the body of Laomedon, king of Troy; and the one on the western, that around the body of Patroclus. The figures should probably be assigned to a period between the 60th and 80th Olympiads. Pindar calls Ægina the "well-fortified seat of the Æacies," probably referring to these images, for no one of the sons of Æacus then remained in the country. The marble of which they are wrought is Poros, of which kind was originally called îEginetan marble. The caryatids perceptible here and there on the figures are vermilion and azure. All the decorations and foliage of the temple, which are generally carved, were painted. The niches of the fronts in which these figures stood were azure, the partitions red, the foliage green and yellow, and even the marble tiles were painted with a kind of flower. We cannot call this system of painting barbarous; we find it even on the Parthenon. Winckelmann was the first who conjectured the existence of an ancient school of art in Ægina, from the accounts of Pausanias. See History's Berichte über die Alterthümliche Bildwerke herausgegeben, und mit kunstgeschichtlichen Anerkennungen begleitet von Schelling, 1817; Wagner's Report on the Æginetan Remains of Art, &c. Subsequently, K. Odr. Muller, in his learned and acute work, Æginetisches Jahr., Ægina, 1819, attempted to determine their relation to the other monuments still extant; and Thiersch to investigate their mythological significance. Against the idea of a peculiar Æginetan style of art, deduced from these marbles, Henry Meyer wrote in Goethe's Kunst und Alterthum, 3 Bd. 1 Heft., and opposed the derivation of Grecian art, in this kind, from the Æacians as strenuously as Winckelmann advocated it.

Ænea; the shield of Jupiter, which is called by Homer the Ægis-bearer. It derives its name from the she-goat Ægis, which sucked the god in Crete, and with the skin of which the shield was covered. Also the shield of Pallas or Minerva, in the middle of which was the head of Medusa. Thus called the cuirass of Medusa is thus called. In a figurative sense, Æ. denotes protection.

Ælfred; archbishop of Canterbury in the 10th century. He composed a Latin Saxon vocabulary, which was printed by Somner, under the title of a Glossary, Oxon. 1659. Æ. translated also most of the historical books of the Old Testament, and canons for the regulation of the clergy, which are inserted in Spelman's Concilia. He frequently assisted his countrymen against the attacks of the Danish invaders, and died highly venerat. Nov. 1. 1003.

Ælian, Claudius; a Greek author who lived at Pæneusta, about A. D. 221. He was a learned sophist, and left two works compiled in a pretty good style—a collection of stories about the beasts, and a natural history of animals. Of the first work, one of the best critical editions was published by Gronovius, at Leyden, 1731; 2 vols. 4to. Later editions have been published by Kuhn, Léris, 1780, and Corne, Paris, 1808.

Æmilius, Paulus, surnamed Macedonicus; a noble Roman of the ancient family of Æmilius. He conquered Perseus, king of Macedon, and on this occasion obtained a triumph, A. U. C. 386; B. C. 168. During the triumph, two of his sons died. He bore them with the loss, so that they had chosen them for victims to avert bad fortune from the Roman people. He was father of the renowned Scipio Africanus the younger. His father, a brave general in the second Punic war, committed suicide, and was slain at the battle of Cannae, B. C. 216.

Æneas; son of Anchises and Venus, next to Hector the bravest among the heroes of Troy. He is the hero of the Æneid, in which his life is thus described: In the night of the capture of Troy by the Greeks, Hector warned him in a dream to fly with the images of his gods. Æ. rushed, notwithstanding this warning to the fight, but fought in vain. After Priam was slain, he returned, at the command of his mother, to his home, and carried off his father, his child, and his household gods; but lost all his treasure, and his wife, Andromache. In 20 vessels, he sailed for Thrace, where he began to build the city Æneas, but, terrified by a miracle, abandoned the attempt. From thence he went to Delos to consult the oracle. Misunderstanding its reply, he went to Crete, from which he was driven by a pestilence. Thence he directed his course to the promontory of Actium, where he celebrated games in honour of Apollo. In Epirus he found Helemaus and Andromache. Thence he sailed by Italy, passed the straits of Messina, and circumnavigated Sicily to cape Drepanum, on the western coast, where Anchises died. A tempest drove him on the shore of Africa, where Dido received him kindly in Carthage, and desired to detain and marry him. Jupiter, however, mindful of the fates, sent Mercury to Æ. and commanded him to sail for Italy. Whilst the deserted Dido ended her life on the funeral pile, Æneas set sail with his companions, and was cast by a storm on the shores of Sicily, in the dominions of his Trojan friend Acestes, where he celebrated funeral games in honour of his deceased father. The wives of his companions, weary of a seafaring life, and instigated by Juno, set fire to the ships; but Æneas was resolved to go to Carthage, and hied the women and the sick. In this resolution he was confirmed by Anchises, which admonished him in a dream to descend, by the aid of the sibyl, into the infernal regions, after his arrival in Italy. He built the city Acesta, and then sailed for Italy, where he found the sibyl, near Carua, who foretold his destiny, and aided his descent into the lower world. On his return, he embarked again, and reached the eastern shore of the river Tiber, in the country of the Laurentian King Latinus. His daughter, Lavinia, was destined by an oracle to a stranger, but promised by her mother, Amata, to Turnus, king of the Rutuli. This occasioned a war, after the termination of which, Æ. married Lavinia. Thus Virgil relates the history of Æneas in his Æneid, deviating in many particulars from historical truth. His son by Lavinia, Ænobarbus, was consecrated by the archbishop of Alba longa, and of Romulus and Remus, the founders of the city of Rome. By his first wife, he had a son, Ascanius, who built Alba longa, from whose son, Iulus, the Romans derived the Julian family. For the different traditions respecting Æneas, and the probable importance of the Æadian tale among the Romans, see Niebuhr's Roman History, chapter entitled Æneas and the Trojans in Latium.

Æneid, or Æneid; a poetical philosopher, both at
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Guassous, who flourished a little later than Cicero, and taught scepticism, in Alexandria, to a greater extent than had been done before. He placed truth in the general agreement of men as to the impressions produced by external objects.

A few words on this obscure, ambiguous, and generally contradictory terms, to puzzle or exercise the wit in finding out its meaning; or an obscure discourse covering some common and well known thing under remote and uncommon terms. Many distinguished poets have written enigmas in verse. In the age of Pope, they have been in vogue, both in ancient and modern times. Estienne, who has shown a fondness for them in the infancy of its cultivation. A great part of the Egyptian writing is said to have been comprised in enigmas. In these, too, the ancient oracles often spoke. But the symbols of the ancient religions should not, as is often the case, be confounded with enigmas. (See Heroglyphics.) They were in vogue among the Jews.

Æolian Harp, or Æolus' Harp, was introduced into England about the middle of the last century. It is generally a simple box of tin, fibrous wood (often of deal), to which are attached a number of fine catgut strings, of equal size and length, and consequently unisons, stretched on low bridges at each end. Its length is made to correspond with the size of the window or other aperture in which it is intended to be placed; its width is about five or six inches, its depth two or three. It must be placed with the strings uppermost, under which is a circular opening in the centre as in the belly of the guitar. When the wind blows athwart the strings, it produces the effect of a choir of music in the air, sweetly mingling all the harmonic notes, and swelling or diminishing the sounds according to the strength or weakness of the blast. Æolian harp, invented by Mr Crossthwaite, has no sounding-board, but consists merely of a number of strings extended between two deal boards. The invention of the Æolian harp has been generally ascribed to father Kircher, but the fact is, that it was known and used at a much earlier date in the East, as Mr Richardson has proved (Essay on the Manners and Customs of the East).

Æolians; a Greek tribe in Thessaly, who took their name from Æolus, son of Hellen, and grandson of Deucalion, spread themselves there, and established several principal institutions in Asia Minor, and possessed themselves of the ancient Troas, giving the territory the name of Æolis. While united in a confederacy, which held its yearly meetings, with much solemnity, at Cunna, they long continued free; afterwards, they came under the dominion of the Lydian, then of the Persians. After they had thrown off the Persian yoke, with the help of Athens, they were again subdued by Darius Hystaspes, and, as the Greeks had afforded them repeated aid, the famous Persian war arose, B. C. 500. They regained their liberty, but once more came under the Persian dominion, and so remained till the time of Alexander; and at length, after they had been freed by the Romans from the yoke of the Syrian kings, successors of Alexander in this portion of his vast empire, they were totally subdued by Syllos, because they had assisted Mithridates. Their language, the Æolian dialect, was one of the three principal dialects of the Greek; their country was one of the most fertile in the world; agriculture and the raising of cattle were their chief occupations.

Æolipile; a spherical vessel of metal, with a pipe of small aperture, through which the vapour of heated water or other fluid could escape, and produce a noise. The ancient philosophers thought to explain by this experiment the origin of the winds. In Italy, it is said that the Æolipile is used to reheat smoky chimneys.

Æolus; in Homer, the son of Hippotas, and king of the island Lipara, to the north of Sicily. He is described as pious and just, hospitable to strangers, and the inventor of the winds; having been in love with the winds, he told the course of the winds, with the utmost exactness, from his own observation, he was said to have the power of directing their course. His history was afterwards still more embellished with fiction; the poets made him a son of Jupiter or Neptune, and god of the winds. He is represented as an old man, with a long beard, holding a sceptre in his hand, sitting on a rock, or smiting the rock with his sceptre, at which signal the winds rush out. He is represented, also, standing in a groto with a muscle in his mouth, and a pair of bellows under his feet.

Æra is used synonymously with epoch or epeola, (q. v.) for a fixed point of time, from which any computation of it is made. Æra is more correctly the range or circuit of years within certain points of time, and an epoch is one of those points itself. The word Æra has been supposed to be derived from the abridgment, or initial letters, of Æra Èra Ès Æstri Augusti, A. Æ. R. A., and is computing time in Spain from the year of the conquest of that country by the Romans; and Vossius favours this opinion. Various Æras have been given by chronologists as aids in historical research; and it was a long time before all the Christian world agreed to compute time by the Christian era. Mariana says that the Spanish Æra ceased in the year of Christ 1383, under John I., king of Castile. It continued to be used somewhat longer in Portugal. We must subtract 38 from the number of a year of the Spanish Æra to get that of the Christian. The Mahomedan Æra begins with the flight of the prophet, 16th July, 622. This is called the Hegira (q. v.) The ancient Roman Æra began with the building of the city, 750 before Christ. The Jewish Æra begins with the creation.

Aerial Perspective; that branch of the science of perspective which treats of the relative diminution of the colours of bodies in proportion to their distance from the eye.

Ærian; the followers of Aeri-us, an Arian monk and schismatic, who was exiled from Sebaste, in Armenia, because he denied the difference between the official power of a bishop and a presbyter, pronounced priests and offerings in behalf of the dead to be ineffectual and injurious, rejected the ordinance of fasting, and declared the practice, prevailing among Christians, of sacrificing a lamb on the passover, to be contrary to the spirit of their religion. Though guilty, in fact, only of opposing the abuses of the hierarchy, used by corruptions of superstition, the Aérians were condemned as heretics, and soon disappeared. The protestants were accused of Arianism by the catholics, because they maintained propositions of a similar character.

Ærodyenmics; a branch of aerology, or the science of the higher mechanisms, which treat of the powers and motion of elastic fluids. Aerodynamics are often explained in connexion with hydrodynamics, a branch of hydrology.

Æropolis; stones or masses that descend from the earth. See Meteoric Stones.

Aeronautics; the art of soaring in or navigating the air. The idea of inventing a machine, which should enable us to rise into the air, appears to have occupied the human mind even in ancient times, but was never realized until the last century. Henry Cavendish, having discovered, about 1766, the great levity of inflammable air and hydrogen gas, Dr Black, of Edinburgh, was led to the idea that a thin bladder, filled with this gas, must ascend into the air.
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Uvaroff made the requisite experiments in 1782, and found that a bladder was too heavy, and paper not air tight. Soap bubbles, on the contrary, which he filled with inflammable air, rose to the ceiling of the room, where they burst.—In the same year, the brothers Stephen and Joseph Montgolfier constructed a saucer-like balloon, of light material. On Nov. 1782, the elder Montgolfier succeeded, at Avignon, in causing a large bag of fine silk, in the shape of a paralleloped, and containing 40 cubic feet, to mount rapidly upwards to the ceiling of a chamber, and afterwards, in a garden, to the height of 36 feet, before it burst. The experiment was repeated by his brother. The two brothers soon afterwards repeated the experiment at Annony, where the paralleloped ascended in the open air 70 feet. A larger machine, containing 650 cubic feet, rose with equal success.—They now resolved to make the experiment on a large scale, and prepared a machine of linen, lined with paper, which was 117 feet in circumference, weighed 450 pounds, and carried more than 400 pounds of ballast. This they sent up, June 5, 1783, at Annony. It rose in ten minutes to a height of 6000 feet, and fell 7665 feet from the place of ascension. The machine was filled with air calculated to ascend, but did not have the effect of raising the straw fire under the aperture of the machine, in which they threw, from time to time, chopped wool. But, though the desired effect was produced, they had no clear or correct idea of the cause. They did not attribute the ascent of the vessel to the rarefaction of the air inclosed in it by the operation of the heat, but to a peculiar gas, which they supposed to be developed by the burning of the straw and wool. The error of this opinion was not discovered till a later period.—These experiments roused the attention of all the philosophers of Paris. It occurred to some of them, that the same effect might be produced by inflammable air. M. Charles, professor of natural philosophy, filled a ball of intestines, 12 feet in diameter, and coated with a varnish of gum-elastic, with such gas. It weighed 25 pounds, rose 3123 feet in two minutes, disappeared in the clouds, and descended to the earth, after three quarters of an hour, at the village of Gonesse, about 15 miles from Paris.—Thus we see two original kinds of balloons; those filled with heated air, and those filled with inflammable air.—Meantime, Montgolfier had gone to Paris, and found an assistant in Pilatre de Rozier, the superintendent of the royal museum. They completed, together, in Oct. 1783, a new machine, 74 feet in height and 48 in breadth, in which Rozier ventured for the first time to ascend, though only 50 feet. The balloon was from caution fastened by cords, and soon drawn down. Eventually, the machine, being suffered to move freely, took an oblique course, and at length sunk down gradually about 100 feet from its starting place.—By this the world was convinced that a balloon might, with proper management, carry a man through the air; and the first aeronauts were of opinion, that Balloons, like all the preceding experiments of this kind, had been exposed to considerable danger. The balloon was sagitated very violently several times; the fire had burnt holes in it; the place on which they stood was injured, and some cords broken. They perceived that it was necessary to descend without danger; and when they were on the surface of the earth, new difficulties presented themselves. The weak coal fire no longer supported the linen balloon, the whole of which fell into the flame. Rozier, who had not yet succeeded in descending, just escaped being burnt.—M. Charles, who had joined with M. Robert, soon after informed the public that they would ascend in a balloon filled with inflammable air. To defray the necessary expense of 10,000 livres, he opened a subscription. The balloon was constructed at Paris, and was furnished with silk and cotton, fastened to a varnish of gum-elastic. The car for the aeronauts was attached to several cords, which were fastened to a net, drawn over the upper part of the balloon. A valve was constructed above, which could be opened from the car, by means of cords and a pulley. This was done to afford an outlet to the inflammable air, if they wished to descend, or found it necessary to diminish it. The filling lasted several days; and, Dec. 1, the voyage was commenced from the gardens of the Tuileries. The balloon quickly rose to a height of 1800 feet, and disappeared from the eyes of the spectators. The aeronauts diligently observed the barometer, which never stood at less than 26", threw out gradually the ballast they had taken in to keep the balloon steady, and descended safely at Neuilly. Nearly 4000 yards from the ground, as Rozier stepped out, and it was thus lightened of 130 pounds. It continued to ascend with great rapidity above 9000 feet. It expanded itself with such force, that it must have been torn to pieces, had not Charles, with much presence of mind, opened the valve to accommodate the quantity of gas to the rarity of the surrounding atmosphere. After the lapse of half an hour, the balloon sunk down on a plain, about three miles from the place of its second ascent.—These successful aerial voyagers were soon followed by others. The first aerial voyage in Britain was performed by Lunardi, an Italian, who ascended from London on the 21st of Sept. 1784. In the succeeding year he ascended in Scotland, being the first person who gratified the inhabitants of Glasgow and Edinburgh with the interesting spectacle of an aerial excursion. Blanchard had already ascended several times in France, when he determined to cross the channel between England and France, which is about 23 miles wide, in a balloon filled with inflammable air. He succeeded in this bold attempt, Jan. 7, 1785, accompanied by an American gentleman, Dr Jeffries. About one o'clock, they left the English coast, and at half past two, were on the French coast. At 5 p.m., Blanchard was the first who experimented with a parachute. On his ascent from Strasburg in 1787, when he had attained an elevation of 6000 feet, he detached from the balloon the parachute, with a dog in a basket suspended from it. After being a good deal driven about by the wind, the dog reached the ground in safety. M. Garneau, whose aerial voyages were numerous and adventurous, repeatedly descended by a parachute from his balloon after it had reached a great height. Pilatre de Rozier, mentioned before as the first aeronaut, attempted June 14th, 1786, in company with Mr Romains, to pass the balloon of Jouffroy, wihout success. The attempt was unsuccessful, and the adventurers lost their lives. M. de Rozier had on this occasion united the two kinds of balloons; under one filled with inflammable air, which did not alone possess sufficient elevating power, was a second, filled by means of a coal fire under it. Rozier had chosen this combination, hoping to unite the advantages of both kinds. By means of the lower balloon, he intended to rise and sink at pleasure, which is not possible with inflammable air; for a balloon filled with this, when once sunk to the earth, cannot rise again with the same velocity. They were on the contrary, by increasing or diminishing the fire under a balloon filled with heated air, it can be made to rise and fall alternately. But this experiment
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caused the death of the projectors. Probably the coals, which were only in a glowing state near the surface of the ground, were suddenly kindled to a light flame as the balloon rose, and set it on fire. The whole machine was soon in flames, and the two aeronauts were precipitated from on high. The conditions of the experiment were carefully guarded, and it is probable that they were killed by the explosion of the gas. —

This unhappy accident did not deter others; on the contrary, the experiments were by degrees repeated in other countries. However important this invention may be, it has as yet led to no considerable results. Helvetius and his friends have been confined to observations in the upper regions of the atmosphere. In this MM. Gay Lussac, and Biot, distinguished themselves. On one occasion, M. Gay Lussac reached a height of 23,100 feet above the surface of the earth. But should we ever learn to guide the balloon at will, it might, perhaps, be employed for purposes of which we now have hardly an idea; possibly the plan of professor Robison might be accomplished by the construction of a gigantic balloon, which would enable us to perform a circumnavigation of the earth. During the French revolution, a balloon was founded at Meudon, not far from Paris, for the education of a corps of aeronauts, with the view of introducing balloons into armies as a means of reconnoitering the enemy. But this use of balloons was soon laid aside, for, like every other, it must be attended with great uncertainty, as long as the machine has to obey the wind. Among the French, Blanchard and Garnerin have undertaken the greatest number of aerial voyages; among the Germans, professor Jungius, in Berlin, in 1805 and 1806, made the first. Since that time, professor C. A. Runge has continued his experiments; his plots are extremely Staple, but grand. His art knew nothing of intrigues and danger; all his poetry reveals a lofty and ardent mind. Not the softer emotions, but terror is his ruling characteristic. He holds up the head of Medusa to the overawed spectators. His manner of treating the sublime is terrible in the extreme; in all his grandeur of his images and expressions, he resembles Dante and Shakspere. We have only seven of his tragedies remaining; their whole number is stated to have been seventy; according to some, ninety; but among these, according to the testimony of the ancients, we have some of his principal works. They are "The Prometheus Vinctus, "The Seven Before Thebes," "The Persians," "Agamemnon," "The Choriphe- re," "The Eumenides," and "The Suppliants." Disgusted at seeing inferior pieces preferred to his own, and particularly at the victory of the young sophists, or, as he called them, to the more popular account, compelled by an accusation of atheism, Eschylus left his native country, and went to Sicily, where he was received with great honours by king Hiero, and died 456 B. C., at the age of 70 years. The best editions of his works are, London, 1603 and 1664, folio, by Stanley; Hague, in 1745, 2 vols. quarto, by Paw; London, 1805, by Porson; and Halle, 1809 to 1821, 5 vols. 3d edition, by Schutz. Single plays have been published by Brunck, Herrmann, Blom- field, and others; and an English translation of him by Mr. Siddons. POTTER.

ESCLUSIPIUS; the god of ancient Greek tragedy; born in the 3d or 4th year of the 63d Olympiad (555 B. C.), at Eleusis, in Attica, of a noble family. Of the circumstances of his life we have but deficient and uncertain accounts. He fought in the battles of Marathon and Salamis, and all its glorious destruction of the power of Darius and Xerxes, and wrote his tragedies under the proud feeling of a successful struggle for liberty. In these he first raised the tragic art from the rude beginnings of Thespis to a dignified character, so that he may be considered as its real creator. Tragedy sprang from his head in full armour (says A. W. Schlegel), like Pallas from the head of Jupiter. He clothed it with becoming dignity, and gave it an appropriate place of exhibition; he invented scenic pomp, and not only instructed the chorus in singing and dancing, but appeared himself in the character of a player. He first perfected the dialogue, and reduced the lyrical part of the tragedy, which still, however, occupies too much space in his plays. His characters are sketched with a few bold and strong strokes; his plots are extremely stupendous, but grand. His art knew nothing of intrigues and devices. All his poetry reveals a lofty and ardent mind. Not the softer emotions, but terror is his ruling characteristic. He holds up the head of Medusa to the overawed spectators. His manner of treating the sublime is terrible in the extreme; in all his grandeur of his images and expressions, he resembles Dante and Shakspere. We have only seven of his tragedies remaining; their whole number is stated to have been seventy; according to some, ninety; but among these, according to the testimony of the ancients, we have some of his principal works. They are "The Prometheus Vinctus, "The Seven before Thebes," "The Persians," "Agamemnon," "The Choriphe- re," "The Eumenides," and "The Suppliants." Disgusted at seeing inferior pieces preferred to his own, and particularly at the victory of the young sophists, or, as he called them, to the more popular account, compelled by an accusation of atheism, Eschylus left his native country, and went to Sicily, where he was received with great honours by king Hiero, and died 456 B. C., at the age of 70 years. The best editions of his works are, London, 1603 and 1664, folio, by Stanley; Hague, in 1745, 2 vols. quarto, by Paw; London, 1805, by Porson; and Halle, 1809 to 1821, 5 vols. 3d edition, by Schutz. Single plays have been published by Brunck, Herrmann, Blom- field, and others; and an English translation of him by Mr. Siddons. POTTER.

ESCLUSIPIUS; the god of ancient Greek medicine. Some writers call him a son of Apollo and Arinome, daughter of Lencippus; others of Apollo and Coronis, daughter of Philegus. There are also different
accounts of the wonders which befell his infinity. According to some, he was exposed by his mother, another story was that he was a shepherd, and his divine nature recognized by a glittering halo round his head; according to others, Coronis having admitted the embraces of Ischys as well as those of Apollo, the latter in a fit of anger (or Diana in his stead), killed Coronis, but saved the child from her womb. The last story was the most common, and was confirmed by the Pythian oracle. Apollo afterwards brought his son to Chiron, who instructed him in medicine and hunting. In the former he acquired a high degree of skill, so as to surpass even the fame of his teacher. He no longer prevented the depth of his living, but even recalled the dead to life. Jupiter, however, induced by the complaints of his brother Pluto, slew E. with a thunderbolt. After his death, he received divine honours. In particular, he was worshipped at Epidaurus in Peloponnesus, (see Ar- godo), where a temple with a grove was dedicated to him. From the accurate register here kept of the most remarkable diseases and their remedies, the greatest physicians gathered experience and knowledge. Thence his worship spread over all Greece, and finally to Rome. After the plague had raged there for three years, the cured Sovereigns were led at Epidaurus by the advice of the Delphian Apollo. They had hardly appeared before the god, when a serpent crept from beneath his image, and hastened directly to the Roman ship. This serpent, which was thought to be Esculapius himself, was carried with great solemnity to Rome, upon which the plague there instantly disappeared, and the same success attended Esculapius and Podalirius, who were called Aesclapiades, and during the Trojan war made themselves famous as heroes and physicians. His daughters were Hygeia, Iaso, Panacea, and Agle; the first of whom was worshipped as the goddess of health. Esculapius is represented with a large beard, holding a knotty staff, round which was entwined a serpent, the symbol of convalescence. Near him stands the cock, the symbol of watchfulness. He is sometimes crowned with the laurel of Apollo. Sometimes his little son Telesphorus is represented beside him, with a cap upon his head, wrapped up in a cloak. Sometimes Esculapius is represented under the image of a serpent only. 

ESOP; the oldest Greek fabulist. He is said to have been a native of Phrygia, and a slave, till he was set free by his own owner. He lived about the middle of the 4th century B.C. He was an accomplished writer, and his declamations on practical morality, drawn from the habits of the inferior creation, and thus spread his fame through Greece and all the neighbouring countries. Croesus, king of Lydia, invited Esop to his court, and kept him always about his person. Indeed, he was never absent, except during his journeys to Greece, Persia, and Egypt. Croesus once sent him to Delphi to offer a sacrifice to Apollo; while engaged in this embassy, he wrote his fable of the Floating Log, which appeared terrible at first, but lost its terrors when approached. The priests of Delphi, applying the fable to themselves, resolved to take vengeance upon the author, and plunged him from a precipice. Planudes, who wrote a miserable romance, of which he makes Esop the hero, describes him as excessively deformed and disagreeable in his appearance, and given to stuttering; but this account does not agree with what his contemporaries say of him. The fables, which related of Esop and his ancients, are not entitled to credit. A collection of fables made by Planudes, which are still extant, under the name of the Gregian fabler, are ascribed to him with little foundation; their origin is lost in the darkness of remote ages. The earliest editions, the most valuable are those by Henry Stephens, Paris, 1546, 4to.; and by Hudson, Oxford, 1718. More lately they have been published from the manuscript, in a very elegant form, by R. Volck, Florence, 1809, and Leipsic, 1810; Corny, Paris, 1810; and Schneider, Breslin, 1811. The best English versions are by Croxall and Dodson. These fables have had numberless imitators.

AESOP, a celebrated actor, who flourished about the 670th year of the Olympian era. He was a contemporary of Sophocles. His lofty in spending money on expensive dishes made him as conspicuous as his dramatic talents. He is said, at one entertainment, to have had a dish filled with singing and speaking birds. When giving acting, he entered into his part to such a degree that sometimes he was seized with a perfect ecstasy. Plutarch mentions it as reported of him, that, whilst he was representing Aretaeus, deliberating how he should revenge himself on Thyestes, he was so transported beyond himself, that he snatched off his truncheon one of the servants who was crossing the stage, and killed him on the spot.

AESTHETICS (from the Greek aesthètik, perception); the science which treats of the beautiful, and of the various applications of its principles. Baumgarten, a professor in the university at Frankfort on the Oder near Berlin, in 1750, established the doctrine that beauty is a branch of philosophy, which should establish correct principles of criticism in relation to the beautiful. Since the time of Baumgarten, this word has been used in Germany, France, and Italy, and has lately been employed by some English writers. For the character of the science, and the attention which it has received, see Philosophia. 

AETHUS; an extremely fine, subtle, and elastic fluid, which philosophers have supposed to be diffused throughout the universe, and by means of which they have explained many of the great phenomena of nature, which are imaged by Aristotle. Its existence cannot be proved. Newton believed in it, and explains by it the connexion of the parts of a body, and the laws of gravity. Euler asserts that ether is almost 39,000,000 times thinner, and 1,278 times more elastic, than atmospheric air.

AETNUS; in chemistry. See Ether. 

AETNOEA. See Ethiopia. 

AETUS; one of the most zealous defenders of Arianism, born in Syria, flourished about A.D. 336, and his followers were called Aetians. 

AETNA (in Italian, monte Gibeleo); the famous volcanic mountain on the eastern coast of Sicily. The first eruption it had from Catania, in 1669, raised it more than 10,000 feet above the surface of the sea; Buffon thinks 2000 fathoms; Saussure gives 10,963 feet; Spallanzani 11,400, and Sir G. Shuckburgh 10,954. Its circumference at the base is 160 miles. On its sides are 77 cities, towns, and villages, containing about 115,000 inhabitants. From Catania to the summit the distance is 30 miles, and the traveller must pass through three distinct climates—the hot, the temperate, and the frigid. Accordingly, the whole mountain is divided into three distinct regions, called the fertile region (regione calda), the sandy region (regione setacea), and the barren region (regione arida). The lowest region extends through an ascent from 12 to 18 miles. The city of Catania and several villages are situated in the first zone, which abounds in pastures, orchards, and various kinds of fruit-trees. Its great fertility is asserted even by the lava; it is perhaps owing in part, to cultivation. The figs and fruits in general, in this region, are reckoned the finest in Sicily. The lava here flows from a number of small mountains, which are dispersed over the immense declivity of Etna. The sandy region or temperate zone, extends from eight to ten miles in a direct line.
towards the top of the mountain; it comprehends a surface of about forty or forty-five square leagues, and forms a species of forest, brightest green, amid the unexhausted foliage, exhibiting a pleasant aspect to its white and hoary head. It is called la regione selevosa, because it abounds in oaks, beeches, and firs. The soil is similar to that of the lower region. The air here is cool and refreshing, and every breeze is loaded with the balsamic exhalations from the mountain, also by the difficulty and danger of advancing amidst streams of melted snow, sheets of ice, and gusts of chilling winds. The curious traveller, however, thinks himself amply rewarded, upon gaining the summit, for the peril which he has encountered. The number of streams, springs, and brooks appearing broader than usual; the lustre of the milky way is like a pure flame that shoots across the heavens; and with the naked eye we may observe clusters of stars totally invisible in the lower regions. The scars, of which the mountain is composed, have the same kind of base, containing sand and feldspar. The first eruption of which we have any authentic account, is mentioned by Diodorus Siculus. The last eruption took place in 1819. It appears very probable that mount Etias is exhausting its volcanic powers, as the eruptions of modern times are by no means so frequent as in former ages, nor are they so tremendous in their extent and effects. Before the Christian era, there were nine eruptions, of which those in 477 and 121 B.C. are the most important: after Christ, the most important are those in 1169, 1169, 1329, 1536, 1537, 1669, 1693, 1763, 1787, 1792, 1892, 1809, 1811, and 1819. Mount Etana supplies Sicily and a large part of southern Italy with the luxury of snow and ice. The trade in these articles belongs to the bishop of Catania, who, as it is stated, makes from 3000 to 4000 dollars per annum by it. The vegetation of the woody region is exceedingly luxuriant. There is one chesnut tree, which is the most celebrated of the kind, as it may be fertilized by the sun; it therefore is called dei cento cavalli. See Denon's Voyage pittoresque en Sicile, vol. 4., and Alexander von Humboldt's Personal Narrative. Since 1824, Catania has had the Giovinan Academy (so called in honour of the chevalier Giuseppe Giovinia, author of a Lexicon Vovsienum), the object of which is to investigate the topography and natural history of Etana. 

Etolia: a country in Greece, on the northern coast of the Corinthian gulf; so called from Etoles, the brother of Epeus, king of Eles, who, escaping from Eles, made himself master of this region. Ancient Etolia was separated from Aetolia by the river Acheous, and extended thence to Calydon, or to the river Evenus. On the south lay the gulf of Corinth, and Thessaly on the north. Its extent from north to south was about forty-eight miles, and from east to west about thirty. It was transformed, and its boundaries materially enlarged by successful wars. The additions were comprehended under the name of Etolia Epidotea, and the borders of Etolia on the north were now mount Etsa and the Athamasae in Epirus. Thermopylae, Heraclea, and a great part of Thessaly also belonged to it. On the east, Doris and the coast as far as Naxopactus and Eupolia were added to it. The country was fertile and fruitful, hilly or mountainous by reason of its mountains. According to Herodotus and Aristotle, lions infested E. in the most ancient times. The original ancestors of the Etolians were Hel- lenes. Divided into small tribes, they had no principal city; they were occupied in hunting and robbery, and amased themselves fiercely on land and sea. In their state of independence, they preserved for a long time their ancient rudeness of manners. They very early formed the great Etolian confederacy, which assembled once a year at Therm, but first became remarkable in the time of the Achian league. To oppose this confederacy the Romans; and afterwards deserted them, on perceiving that their freedom was in danger from their allies. They then went over to the side of the Macedonians, with whom they were obliged at last to submit to the Roman yoke. The government of E. was republic, controlled by the Pandectum, a general council, held as occasion required. Livy says that their cavalry was at one period esteemed superior to that of any other of the Greecan states.

Apha: a weight on the Gold Coast of Guinea, equal to one ounce.

Affinity: in the theory of chemistry, when two bodies are brought into contact with each other, they will often, without the sensible operation of any external influences, combine by a spontaneous and reciprocal action, and form new bodies with different properties; a single body, modified by the action of the natural agents, color, electricity, &c., sometimes produces the same results; finally, a body not apparently acted upon by other bodies, nor by the natural agents, sometimes acquires new properties, and assumes new forms. These changes in the chemical character of bodies are produced by a force, to which we give the name of affinity. Some of the laws or modes of action of this force are, that it is exercised only in insensible distances, which distinguishes it from gravitation (see Attraction), and between heterogeneous particles, in which it differs from cohesion (q.v.) The properties of the resulting compound differ essentially from its component parts, as a salt is formed by an acid and an alkali. The forms of the elements are often changed, and the change is attended with remarkable phenomena, as the explosion of gunpowder by its conversion into gasses, the solidification of water in sloping line. One of the most important laws of affinity is, that one body has not the same affinity for different bodies, and is repelled by some, or attracts them very unequally, and some of them not at all. The knowledge of the affinities of different bodies is of great use to the chemist in effecting decompositions. Bergmann, who first, in 1775, developed the theory of affinities, distinguishes three cases in the reciprocal action of two bodies—when they are both free, which he calls simple affinity; when one of them is already in combination, elective, and when both are combined in different compounds, complex. Berthollet has much improved the theory of affinities. See Berthollet's Indice Quinique, and Berzelius' Theory of Chemical Proportions.

Affinity, in law, is that degree of connexion, which subsists between one of two married persons and the blood relations of the other. It is no real kindred. A person cannot, by legal succession, receive an inheritance from a relation by affinity; and even a person who is merely collateral, neither does it entitle him to the possession of his brother's land and wife, so as to create a mutual relation between them. The degrees of affinity are computed in the same way as those of consanguinity, or blood. By the Jewish law, marriage was prohibited within certain degrees. Nearly the same limitations are
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Adopted into the laws of Europe and America. All legal impediments, arising from affinity, cease upon the death of the survivor. This applies to all the laws which relate to the marriage of the survivor. The table of forbidden degrees of affinity is, by the ecclesiastical law of England, commanded to be hung up in all churches. The Roman church speaks of spiritual affinity, which is contracted by the sacraments of baptism and confirmation; according to which a god-father may not marry his god-daughter without a dispensation.

Affirmation signifies, in one sense, the solemn declarations of Quakers, and members of some other sects, in confirmation of their testimony in courts of law; and in their oaths on other occasions, on which the sanction of an oath is required of other persons. The English laws did not permit affirmations instead of oaths, in criminal cases, until 1828. No distinction has been made, in any of the United States, between testimonies in civil and criminal cases in this respect, it having been permitted to Quakers generally, and, for the most part, to other persons scrupulous about swearing, to give testimony upon mere solemn affirmation. Even the president of the United States is allowed to affirm instead of taking the usual oath, when inducted into office; if he avows, in any case, that he will swear. The privilege of affirmation is allowed in Prussia only to sects recognised by government, and whose principles do not permit them to make oath. False affirmation is subjected to the same penalties as perjury in England and elsewhere.

Avery, Lewis Augustinus Philip, count of, first magistrate of Switzerland after Napoleon had proclaimed himself the protector of the Helvetic confederacy, was born at Freyburg, 1743. He was early destined to a military life, accompanied his father on an embassy to the Hague, soon became adjutant in the Swiss guards, and was finally elevated to the rank of lieutenant-general. At the commencement of the revolution, he commanded the army on the Upper Rhine, till Aug. 10, 1792, when the Swiss troops having been disbanded, he returned to his country, and became a member of the secret council at Freyburg. Switzerland being menaced, in 1798, with French invasion and a revolution, he resumed the command of the troops. He acknowledged the uselessness of resistance, conducted himself with undeviating prudence, and averted as much as possible from his country the evils of war and rebellion. When Freyburg was taken by the French, he became a member of the provisions; he had no share in the insurrections of 1801 and 1802, but accepted with pleasure the appointment of deputy to Paris, when the first consul invited the Swiss to send delegates thither, and offered them his mediation. Napoleon distinguished him above the other deputies, and intrusted to him the formation of an administration, which was to ensure the peace and happiness of the ancient allies of France. Feb. 19, 1803, A. received from the first consul the act of mediation, was appointed first magistrate for this year, and invested with extraordinary powers, until the convention of a diet. He sought to promote the views of the first consul, and acted, in every thing, with the ability, the intelligence, and the experience of a thorough statesman. He died June 16, 1810.

Afganistan, or Afghanistain, the country of the Afghans, or Cabalists, also called the kingdom of the Abdallations, contains 350,000 square miles, is bounded on the north, towards Budukshan, by mount Hindoo-Koh and Parompanis; on the east, towards Hindostan, by the Indus and mount Solomon; on the south, by the vale of Bolan and the mountains near Sistan; on the west, towards Iran, by the great desert. The Hindoo-Koh is a continuation of the Himalaya range, many ranges run parallel from the Parompanis, and one from mount Solomon. The Indus is the principal river. The atmosphere is dry and healthy, and some of the valleys are very fertile. The untilled portions serve as pastures for cattle. It abounds in silver, lead, iron, sulphur, lapis lazuli, cotton, horses, asses, camels, oxen, sheep, with fat tails, goats, &c., and contains, also, several species of carnivorous animals. Of the 14,000,000 of inhabitants, 4,200,000 are Afghans, and 5,700,000 are Hindoos; the remaining part consists of Tadschiks (descendants of the ancient Persians), of Cabalists, and of a portion of the Thibetans, that is of Mahomet. Besides the capital, Cabul, which contains 80,000 inhabitants, there are other important cities; as Candahar, a fortress and commercial place, of 100,000 inhabitants; Feshavan, or Peshour, of 100,000 inhabitants, &c.; Builkh, or Balk (the ancient Bactria, now inhabited by Usbecks), and Cashmire. These are almost independent cities on the frontiers. The king is of the house of Saddosei; the throne is hereditary, but limited by the power of the chiefs of the tribes. The British couriers and travellers, who are going to Bagdad, generally prefer the way to Cabul, in consequence of the influence of the British over the people of A., the Persian court at Tehran is subjected to an unwilling dependence on the East India company, which acts as protector of Persia and of A., and has contributed much to the preservation of peace between the two nations, as far as the aristocratic character of the government of A. admits. Private quarrels, however, frequently happen between the Persian governors and the chiefs of A. The great influence of the British in the East, over the nations of the lower Indus (Seiks), is continually exerted to prevent these powerful nations from weakening one another by wars, with a view of advancing the commercial interests of the British company, and of providing a bulwark against the progress of the Russian conquests beyond the Caucasus, in Lower Persia, in Armenia, and on the Caspian sea. But in spite of these precautions, the rajah of Ahom, hoping for support from the British, has usurped the throne of Cabul, in A., and, to brave the British, has taken many Russians into his service. The Russians trade with the Afghans by way of Bucharia. Afghans, or Afghansis, signifying mountaineers, is the name of a powerful nation, called also Patons, in Europe; but the Afghansis are but a portion of Persia. They have never been a nation. They originally lived in the mountains between Persia, Hindostan, and Bactria, and are of Median descent. The A.'s are even now wandering tribes; both those of the west, who are robbers, and live in tents, and those of the east, who have more regular settlements. In the thickness of Cabul, in A., and in Cabulistan. They originally lived in the mountains between Persia, Hindostan, and Bactria, and are of Median descent. The A.'s are even now wandering tribes; both those of the west, who are robbers, and live in tents, and those of the east, who have more regular settlements. They were termed Josefins, because they were taken into the Spanish service by Joseph, after the overthrow of the usurper Intento, his principal partisans fled to France, to avoid the hatred of their countrymen. When King Ferdinand VII. re-
covered his throne in 1814, he persecuted with equal cruelty, the libertés, or adherents of the cortes, who had wrought the downfall of the French system, and the Joséphins, or adherents of the DIRECTORY, demanded their destruction in the following terms: "is it possible, sire, that the libertés and Joséphins still exist among us? Why have not a hundred scaffolds, a hundred pyres, been erected in every city and in every village of Spain, to do justice on the wretches?" May 7, 1814, a decree was issued, prohibiting the return of all exiles, and censured, more especially those who had received from the invading government, any ratification of their former offices, or any new appointment, title, rank, order, &c. In the same decree were included all generals and officers who had fought under the banners of Napoleon or Joseph, and all females who had accompanied their husbands in their emigration. The number of enigmatic libertés who lived in France was estimated at 16,000; among whom were many distinguished literary characters, and excellent civil and military officers. They published, in London, a journal (El Espíritu Constitucional), in which they laboured to convince their countrymen, that the only remedy for the misfortunes of Spain was the adoption of a liberal constitution. All others were allowed to return, but were compelled to live 50 miles from the capital, under the supervision of the police. The expiration of amnesty, published Sept. 29, 1816 (suspended again in 1817), was so constructed, that it did not ameliorate the condition of the banished Joséphins. Even the soldiers and officers, returning home after Napoleon's fall, from their captivity in France, were remanded to the frontier, through fear that they might have imbied liberal or revolutionary principles in France. The continual attempts at rebellion in Spain were, at the same time, the consequence and the cause of the continuance of these severe regulations. When Ferdinand VII. accepted the constitution of the cortes, of 1820, he promised a general amnesty, March 8, 1820, and afterwards allowed all Joséphins to reside in any part of Spain, Madrid excepted. The cortes, Sept. 21, 1820, determined that they should be restored to the enjoyment of their rights and possession of their property, in their domiciles, offices, and estates. They proceeded on the principle, that the misfortunes of them had been brought by accidental circumstances under the power of the "usurper" (intruso), but had, nevertheless, with honest intentions, prepared, in Bayonne, reforms beneficial to their country, and had exerted themselves with spirit to promote its welfare; and that afterwards, becoming involved in inextricable difficulties, they had remained faithful to their oath, King Joseph, and the constitution. The Afrancesados have always shown great moderation, and are, for this reason, even now, hated by the absolutists. See Mexico.

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AFRANUS. Lucius, a Roman comic poet, flourished in the first half of the 2d century B. C. He was pre-eminent the creator of the Roman national drama, or the fabula togata; and his delineations of the life and manners of his countrymen comprehended even the lower classes, whereas arose the fabula toletina. From the Greeks he borrowed only the outward form of their comedy, and adapted it to the Roman manners, which gave rise to the saying, that the toga of A. perfectly fitted Menander. His coarse expressions, and licentiousness have been censured by his critics, but his wit and vivacity are acknowledged by all. He wrote many pieces only a few fragments remain.

AFRICA, one of the five divisions of the globe, mentioned in history thousands of years ago, is still to us what it was to the ancients—the land of mystery. Only a small extent of sea separates Africa from Europe; its coasts lie in sight of the most civilized countries; and yet we know nothing more than its outline, and the interior the foot of a European has lately, for the first time, been visited. Under the same name which it now bears, the valley of the Nile was, in the earliest ages of history, the cradle of commerce, the arts and sciences. But even in the period of Egypt's greatest prosperity, deep night seems to have enveloped the surrounding countries, which were called Negroland. Subsequently, the Greeks (see the very minute accounts of Herodotus) and Romans became better acquainted with the Mediterranean coast of Africa, and penetrated into the interior perhaps as far as the river Nile; but their knowledge never reached beyond the confines of Numidia, and they were totally ignorant of the southern part of it. How vague was the conception which Ptolemy himself formed of this portion of the earth, though it appeared to him a large peninsula! Its outlines were not determined till the 10th century. Henry, the navigator, sailed round the farthest cape Non (peninsula ultra) of AFRICA. Diaz and Vasco de Gama discovered the cape of Good Hope, and both the western and eastern coasts were examined by European navigators.—Africa is a vast peninsula, forming a triangle, with its vertex towards the north, and containing 15,277,500 (according to Grubberg) 11,031,400) square miles, between 18° W. and 51° E. long., and from 34° S. to 37° 30' N. lat.; bounded on the north by the Mediterranean, on the east by Asia, the Red sea, and Indian ocean, and on the south and west by the Southern and Atlantic oceans. It has a great breadth, from east to west. The northern portion is much larger than the southern; the greatest breadth, from west to east, from cape Negro to cape Guardafui, is 89'. Under the equator, the breadth is 4500 geographical miles. The internal structure of Africa is marked by many peculiarities. It possesses immense chains of mountains, extending, perhaps, from the cape of Good Hope to the Mediterranean, in many parallel ranges. Such are the Atlas mountains, the mountains of the Moon, of Kong, and Lupata; those of the Cape, 5000 feet high, and covered with continuous forests; but, on the other hand, lower than any other quarter of the globe. In none other do we find such boundless deserts; and the Cobi, in the centre of Asia, is not to be compared with the Sahara. These deserts appear like oceans of sand, by no means destitute of fertile islands, the Oases (See Oases). Among the mighty streams of Africa we can now follow the Egyptian Nile to its sources. The courses of the other great rivers have not yet been satisfactorily explored. We know, indeed, where the Congo or Zaire, Conna, and Cuna or Zambese terminate, but not where they rise. The Joliba (the Niger of Herodotus), Mungo Park has informed us, flows from west to east. The Senegal, the Gambia, and the Orange are also important rivers. A contains several large lakes, such as the Dembea, Wangara, Manavi, Tschad, and Aquiliana. The climate is various, but in general extremely hot. In the lifeless atmosphere of the tracts, which last but two seasons, the wet and the dry, the heat of the sun is terrible; and Adanson tells of eggs being roasted in the sands of Guinan, and the naked feet of the negroes blistered. On the coasts, the heat is mitigated by the sea and the sea fog, by the breezes, and by incessant rains; but the atmosphere is not so healthy and pure as in the interior, which has a higher elevation. The whole tract of Barbary is warmer than the more southerly regions; and all A., compared with Europe, is a hot country. Of its winds, the
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dry, parching harramattan is peculiar to A.; it has the simoom in common with Asia, and the sirocco with Europe.—To the naturalist, this wonderful continent presents, more or less, as it respects the riches of the organic world, and the number of giant forms of animals and plants. It can enumerate five times as many species of quadrupeds as Asia, and three times as many as all America. It excels Asia in the size of its colossal river-horse (hippopotamus), gigantic giraffe, and large antelopes and apes. That giant of birds, the ostrich, is exclusively indigenous to Africa. But the most beneficent gift of nature to the African is the camel, the constitution of which is in every respect adapted to the country and climate. Among the other animals are the elephant and rhinoceros, the lion, panther, leopard, ounce, jackal, hyena, wolf, fox, dog, cat, mongoose, bat, rat, marmot (cavia capensis), hare, rabbit, jerboa, porcupine, hedgehog, mole, civet-cat, ichneumon, bear, horse, ass, zebu, sheep (some with hair and large fat tails), argalis (coppa ammon), goat, innumerable varieties of the gazelle, the buffalo, and fallow-deer. In Guinea are found the roe, swine, omn-galois, babyrussa, and other quadrupeds, whose natural history has been as yet by no means sufficiently Investigated; even the problematical unicorn is still said to exist in the interior. The varieties of birds are, as a rule, numerous, among which are the crooked bird; the most beautiful of the feathered tribes; the flamingo, king-fisher, pelican, and many kinds of parrots; the peacock, partridge, phœasant, widow, and cardinal-bird; the cuckoo, the cuculus indicator, turtle doves, pigeons, ducks, geese, &c. The class of reptiles comprises the crocodile and bon-countrie- tor, with many other serpents, some innoxious, some highly poisonous. The bays and rivers abound in fish, but the variety of the species is not so great as in the northern seas, and many of the most useful are entirely wanting. The shrubs and earth swarms with termites, ants, scale-skippers, spiders, and caterpillars, while passing armies of locusts obscure the sun like clouds. The most beautiful insects abound. Still more extraordinary is the force of vegetation. The earth renders back the seed to the cultivated increase a hundred fold, and produces those immense treasures, which the boughs of the baobab, the monkey bread-tree, whose crown of branches sometimes forms a circle 150 feet in diameter, holds the first rank; the splendid white trunk of the cebus grows almost perpendicularly from the root to the branches, 60 feet, and with its fine round-crown, rises to a height of 120 feet. In Asia, as in America, every tropical country produces plants and fruits, at the same time the most nutritious, the most refreshing, and most wholesome. The antisepetic quality appertain to the fruits of the palm, banana, orange, shaddock, pine-apple, tamarind, and to the juice and leaves of the baobab. The best butter (likewise an excellent medicine) may be procured from the shik or butter-tree, in the interior of the west of Africa, and the ground-nuts of Whitchippen within six weeks from the time of sowing. The vegetable productions, used for sustenance, are principally wheat, barley, millet, pong Abyssinian, rice, the cornutus batatas, L., yams, lotus berries, gum Senegal, dates, figs, the various kinds of spices, and especially sugar-cane; for drink, coffee is used, palm wine, from the female palm-tree, the milk of coconuts, and Cape wine; for clothing, cotton, hemp, and wool are manufactured. Here thrive the pagaye, the pomegranate, five kinds of pepper, the mandingo, the dracena Drake, from which is procured dragon's blood, the tallow-tree, the best wood for dyeing, and cabinet work, innumerable spices, &c. Madagascan is rich in the most valuable productions. Our information respecting the mineral kingdom is the most limited. Of gold, Africa has more than any other portion of the globe; and iron is found in most parts of this continent; but it wants the other metals. Of other minerals, sanders, phosphate, &c., as far as we are aware, are found all over the country, some fuller's earth, and emery in abundance; ambergris is found on the coasts. The want of salt, except in a few regions, is most severely felt.—The African races of men offer many points of interest to the inquirer. The majority of them are distinguished from the rest of the human family, not only by their black complexion and curly hair, but also by peculiarities in the construction of the bones of the head, and even of the nerves. This seems to imply that the negro is originally a distinct race. It is thought that traces of this primitive race may still be detected here and there; e.g. of the original Egyptians in the Copts, and of the Guanches (the original inhabitants of the Canaries) in the natives of Barbary. The population is probably between 100 and 110 millions. The interior of the country must be very populous, since, within two centuries and a half, it has contributed forty millions of vigorous men to the slave trade, and, notwithstanding, is any thing but depopulated. Even the countries along the coast are thickly peopled. Jackson computed the population of Morocco alone at seventeen millions; and the Barbary states, with Egypt, which extends from the Joliba to the southern extremity, comprising, notwithstanding their tawny complexions, the Hottentots, and to the Caucasian race, which includes the natives of Barbary, the Copts, the Arabs or Moors, the Agniones or Abyssinians, and the nations of Nubia. The Arabs are not to be regarded as aborigines of Africa, but they have scattered themselves, and become occupants of the greater part of the north and west. On the islands and some points of the sea-board, we find Portuguese, Spaniards, French, Dutch, British, and even Jews in particular spots; but the Falashas in Tigre, though they have been converted to the Christian religion as of Hebrew descent.—The Arabic is the leading language throughout all the north, and as far as the Joliba, where it is understood, in some degree at least, by those nations who revere the Koran. The Berber and Shelloh tongues are spoken in the Barbary states, but the Joliba is reserved for the Mandingo language is used from the Senegal to the Joliba. On the western coast, a corrupt Portuguese is heard; in the regions of Abyssinia, the Tigre and Amhara tongues prevail. The languages of the blacks are as multifarious as the nations. In Saharan, alone, forty-three dialects are said to be spoken. But of all the hundred and fifty languages (this conjectural number was adopted by Scotzen) of the African nations, we are hardly acquainted with seventy. Equally manifold are the modes of worship. Muhammadanism has diffused itself over the north; the Joliba, and most of the eastern coast, the Christian religion is professed by the inhabitants of Tigre and Amhara, by the Copts, the Nubians, and European strangers, though with great diversity of forms. The most disgusting Fezianism prevails among most of the negro nations of the interior, from the manumission, to the mysteries of the sacrifices. We do not look to A. for the triumphs of science, not even to the country which was its cradle in the infancy of man. All that the Pharaohs and Potladies had ever effected, was swept away by the storms which broke upon this unhappy region in the middle ages.
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Schools, however, are still maintained by the Mohammedans in the cities of Barbary, by the Marabout, in the countries where they have settled, and, here and there, by the Copts and Monophysites in Tigre and Amhara. The arts are exercised only on the northern coast, where the Moorish and Turkish, with much silk, cotton, leather, and linen; an active commerce is carried on by them with the maritime nations of Europe, and, by means of caravans, a traffic, full as important, with the interior, to which they convey their own products and those of Europe. Some of the most important routes pursued by the caravans are the following:—1. From Mourzouk, the capital of Fezan, to Cairo, thirty days' journey, by way of the market-places and encampments of Siwa; the market-places and encampments are Temissa, Dombou, and Kanem. 2. From Mourzouk to Bornou, sixty days' journey, by way of the deserts of Bilma and Tissi; the market-places and encampments are Dourfar, Darfur and the countries of the Gallis; and, on the western coasts, Benin, Owohre, Senegambia, and Guinea, besides the Cape Verde islands, those near Guinea, the sixteen Bisao islands, Socotrana, &c. 3. Southern Africa, with all the south-east and south-west coasts: the productions, as well as those of the interior, are of various kinds, from the most mysterious characters, innumerable annals of the history of man's progress from the earliest times down to the overthrow of the Roman empire in the East. In the entering European is discovering new sources of industry and commerce. Great Britain has already flourishing colonies established on its coasts; on which the Portuguese colonies, planted four centuries since, laid the foundation of the colonial system of Europe. It is with reason, therefore, that Africa, has, in our days, engaged the attention of geographers, and in the period before Herodotus, 150 years since, in the time of Henry the Navigator. The French expedition to Egypt (q. v.) first opened this country to modern investigation, and roused even the Turks from their sluggish apathy. British perseverence has continued. The English, unlike the caravans from Senmar and Darfur to Egypt, do not travel regularly every year, but once every two or three years; such a caravan comprises from 600 to 2000 camels. It goes about three miles an hour, and rarely travels more than seven or eight hours a day. The caravans from Darfur to Egypt are the most warlike, even where they are united into states. Their wars are exceedingly simple, and every article used by them is prepared by themselves; the cloth which surrounds their loins, the hut which protects them from the weather, the bow and arrow necessary for the hunt and self-defence, as well as all their household furniture, are manufactured by themselves; the gold which they collect from the surface of the earth, is wrought by them into ornaments, and iron into arms. Commerce, however, with Europeans has taught them many wants, and increased their list of necessities; among which may now be reckoned fire-arm, powder, brandy, tobacco, different kinds of cloth, glass, beads, cloth, &c.; for which they barter slaves, ivory, gold, and gums, the staples of Africa. The slave trade is yet of such importance, that, although many efforts have been made by the British and French, and especially by the Spaniards, to agree to prohibit it, nearly 50,000 negroes are yearly torn from the interior by the Musulmans, Portuguese, French, American, and even British dealers. Formerly, 105,000 slaves were annually introduced into the West Indies, besides those who were transported into Asia by the Kormanns, and by the North Americans into the southern states of the Union. The exports of ivory, gold dust, and gums, are also important; those of ostrich feathers, tigers skins, hides, and other natural productions, are of less consequence. Of all the states of Africa, Barbary alone, among the coast, is visited by Europeans, money rarely serves as the medium of exchange; in some, on the western coast, cowries are made to answer the purposes of coin; in others, pieces of salt.—The tropic of Cancer and the equator divide Africa into three principal parts:—1. Northern Africa, comprising Egypt, the principal states of Tripoli (including the coast of Barca), Tunis, and Algiers, the empire of Morocco, Fazanu, and the northern part of Szechuan or the Sahara, with the Axores, Cabo, and Madeira islands. 2. Central Africa, comprising, on the eastern coast, Nuba, Tigre, Amhara, Erit, Aidel, Ajan, the southern part of Szechuan, with Darfur, and the countries of the Gallis; and, on the western coasts, Benin, Owohre, Senegambia, and Guinea, besides the Cape Verde islands, those near Guinea, the sixteen Bisao islands, Socotrana, &c.
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Africa, London, 1821, who, starting from Tripoli, visited the caves of the tribes of mount Garavan, and penetrated by way of Mournouk, to Tegery, (24° 4' N. lat.) the most southern city of the kingdom of Fezaz, in company with his friend Ritchie, who died, in 1823, at Tunis, Nov. 20, 1815. In September, 1821, doctor Oudney died, near Denham, and captain Clapperton, proceeded on an expedition of a similar nature to Tripoli, in order to travel to Bornou, by way of Mourzouk, and explore the course of the Niger. Oudney died at Marmur, Jan. 12, 1822, in consequence of entering the forest, when the fever was so violent on a plain, between hills of sand, that water froze in the leather bags. His fellow-traveller, Clapperton, pursued his journey to Cano, the present capital of Houssa, and reached Soccato, the residence of the governor of Soolan. They discovered the fresh-water lake Tschad, into which two large rivers empty themselves, the Sharry from the south, the Yauou from the west. (See Narrative of Travels and Discoveries in Northern and Central Africa, by maj. Denham, capt. Clapperton, and the late Dr Oudney, in the years 1822; 23, 24, London, 1826.) In 1824, major Johnson and Mr. Clapperton, who had embarked from Tripoli to Timbuctoo. Clapperton commenced, in 1825, a new expedition into the interior from Benin, by way of Soccato, to the Tschad, in order to penetrate into Abyssinia through Timbuctoo, whence Laing was to start for Benin. He was accompanied by doctor Dicke, on the matter, Mr. Pearce, and doctor Morrison. Clapperton died of a dysentery at Soccato, April 13, 1827, and Laing is now known to have been killed near Timbuctoo in the latter part of the year 1826. Clapperton's journal of his second expedition has been published at London, 1829, together with the travels of Richard Randle, from Cano to the sea-coast. To lander the merit belongs of solving the long disputed question regarding the mouth of the Niger. Sailing down the river, he entered the sea by the outlet distinguished on maps by the name of Nun. Among the German and French adventurers, who have explored the interior of Africa, starting from Egypt, are Minutoli (q. v.), Caillaud, and since the year 1822, Ed. Ruppel, Ruppel explored, in 1825, the great Oasis in the west of Nubia, and the unknown country of Kordofan; and undertook, in 1826, a journey to the Red sea, with the object of collecting such information as is new respecting Egypt and Ethiopia, and the antiquities of the East, in von Zach's Corresp. Astron. The French Gasp, Mollien, who published a Voyage dans l'intérieur de l'Afrique aux Sources du Sénégal et de la Gambie, Paris, 1820, 2 vols., set out from St Louis, and reached the sources of the Senegal, the Gambie, and the Rio Grande, at no great distance from each other, lon. 7° 15' W., and lat. 10° 30' N. in the neighbourhood of Tdeenbo. But he was unable to reach the sources of the Niger, and also wanted instruments to give accuracy to his observations. In the connexion of those two streams by the Nericco, he has shown the route on which the caravans from the kingdoms of Oubi and Foutaidallou, in the interior, might proceed along the Senegal to fort St Louis. Much light has been shed over the south of Africa by Burchell, an Englishman who travelled five years in the interior, setting out from the Cape. Before him, the Cape itself had been explored, by Barrow, in 1797, and by John Campbell, agent of the London Missionary Society, as far as Latakoow, a settlement of the Bushwa tribe, 900 miles north of Cape Town. In 1818, Campbell undertook a second journey, in the same direction, arrived at Latakoo in 1819, and reached, in April, 1820, Old Latakoow, containing 8000 inhabitants. He here found, in a northerly direction, several populous cities, situated in a fertile and cultivated country, where he discovered the tribe of the red Caftars, and reached Kureanche (almost 24° S. lat.), a city of the Maraboutz, near the eastern coast, said to contain 16,000 inhabitants. Auguste Caillé, a French traveller, by his account reached Timbuctoo, April 15, 1828. The connexion of the great Sand desert of Sahara, which Clapperton was appointed to examine him, report that his journey is connected, in a way very advantageous for science, with those of Park, Laing, and others, who have explored A. It may be observed, however, that considerably minded and determined as to the authenticity of his statements. Thus the conquest of the western discovers has penetrated Africa, from four sides, the Cape, Senegal, Tripoli, and Egypt. North Africa has since been intersected and scientifically explored, by five or six important expeditions. But there are yet wanting communication and connexion between the 20 or 25 principal lines, which mark the routes of the discoverers. The space already explored by them in Africa is estimated at 225,000 square miles. We have, therefore, accounts more or less authentic respecting the 50th part of this vast continent. (See Johnson's Brief account of the discoveries in l'Afrique, Rev. Enc., 1824, Dec.) Ukert has compiled the latest geography of the northern half of Africa (Weimar, 1824, the 21st vol. of the Volut. Handb. der neuen Erdkunde.) A new and very complete lithographic map of Africa was published in the year 1826, by the Englishman, James Lander, of London. Its object is to explore the interior of Africa, to promote the civilization of the blacks, and the commercial interests of Great Britain. The soul of this association was the famous Sir Joseph Banks. (See Banks.) Ledyard, the American traveller, and Lucas, were the first persons sent out to explore the interior of Africa, at the expense of this association, which subsequently despatched, at different times and on different routes, major Houghton, Mungo Park, and two Germans, Hornemann and Burckhardt. (q. v.) See the results of these enterprises in the Transactions for promoting the Discovery of Africa, 1790.

AFRICAN COMPANY; a society of merchants established by Charles II., for the purpose of trading to Africa. Similar companies had been formed during the reigns of James I., and of Charles II., but did not continue long. Another was incorporated in 1662, with a charter from Charles II., securing to the British a monopoly of all commerce from Cape Blanco to the Cape of Good Hope. The last incorporation of this kind was formed in 1675, and conducted for some time a flourishing trade. At the time of the English revolution, the trade to Africa was thrown open. All private traders, however, were obliged to pay 10 per cent. towards maintaining the forts and factories already erected. In 1750, the original company being completely bankrupt, its forts and trading quarters purchased by the government, and invested, by 23 Geo. II, in the present company of merchants trading to Africa. This company cannot trade as a corporate body, nor possess transferable stock. Its duties are to maintain the forts and garrisons in good order; and any British subject may be admitted into it on the payment of 50 shillings.

AFRICAN INSTITUTION; a society in England, the first meeting of which was held, April 14, 1807. Its principal object is the abolition of the slave trade,
and the promotion of civilization among the African nations.

In this view, it labours to collect the most complete accounts of the agricultural and commercial relations of the country, and of the physical, intellectual, and political condition of its inhabitants; to form connections with them; to introduce valuable plants; to found schools; to make the natives acquainted with the useful arts of Europe, &c. The institution is governed by a president, vice-president, and thirty-six directors. But its funds have not been sufficient to accomplish much. It has, however, supported teachers in Sierra Leone, and exerted itself with zeal for the abolition of the slave trade, as may be seen from its excellent annual reports.

A tea term, signifying the near the stern of the ship.

Agai; among the Turks, the commander of a body of infantry; likewise a title of politeness. The A. of the Janizaries, their commander-in-chief, had nearly as much authority as the grand vizier, and was the only person allowed to appear before the grand seignior, without his arms crossed on his breast, in the attitude of a slave. The word aga is often used as a complimentary title in Turkey, much in the same way as captain is in some parts of the United States. Some of them in close connexion with the Khan of Thibet are also called A. The A. of Algiers is the president of the divan, or senate.

Agades (Agradost of Edris); a flourishing town of Central Africa. It appears to be the centre of the trade of the eastern part of the interior of Africa. It is 47 days' journey from Mourouk, and many of the merchants from that quarter stop at A. to change their commodities for those of Soulian, and the countries to the south of the Niger. Hornemann reports it to be the capital of an independent kingdom called Asehen.

Agamolite; a soft mineral substance, capable of being cut with the knife, of a dull greenish, red, disili, or yellowish-white colour, and consisting of silice and alumine, with a little potash. It is chiefly found in China, where it is wrought into figures and various ornaments. It has lately been recommended as a substitute for the bricks made of Cornish porcelain clay, to measure high heat in the pyrometer of Wedgewood; it being capable of standing a great heat, and of contracting its dimensions very considerably and equally.

Agamenon; king of Mycenae and Argos, son of Priam, beloved of Homer, the father of the Nereids, and of Tereus and Anaxibia. His mother is said by some to have been Erphile, by others, Aepe. Common opinion, and the authority of Homer, make him the son of Atreus. At least, the two brothers are denominated Atrides by Homer. From Tantalus, the father of the race, down to Agamemnon and his children, the members of this family of heroes were constantly persecuted by fate. (See Tantalus, Pelops, Atreus, and Thetess.) The children of A. and Clytemnestra were Iphigenia, Electra, Chrisyeenthia, and Orestes. When the Trojan war broke out, A. was appointed leader of the united army of Greeks, and manned alone 100 ships. The army assembled in the bay of Aulis in Boeotia. Here they were long detained by a calm, occasioned by the anger of Diana (see Iphigenia), but finally arrived before Troy. During the protracted siege of the city, A. appointed his son, Orestes, as president of the council of war, and maintained, under all circumstances, the dignity of a commander. His quarrel with Achilles is described under Achiilles. Returning home, after a ten years' siege, he was treacherously assassinated. 

Agis thus, when, at his departure, he had pardoned for the murder ofAEScus, and intrusted the care of his wife and children, joined with Clytemnestra, and slew him at a banquet, together with Cassandra, the daughter of Priam (who had failed to help share in the division of the captives), and their children. Thus says Homer; others say that Clytemnestra murdered him in the bath, having entangled him in a tunic. The cause of his murder is alleged by some to have been her adulterous connexion with Agis thus; by others, her jealousy of Cassandra.

Agamic Plants. See Cryptogramic.

Aganippe, likewise called Hippocrene; a fountain which, according to the Grecian poets, sprang out of the summit of Helicon, the seat of the muses, when struck by the hoof of Pegasus. This fountain had the property of inspiring with poetical ecstacy and drunke of it. Solinus distinguishes A. from Hippocrene as a different fountain.

Agape, in ecclesiastical history (from εγγυ, Gr. love); the love-feast, or feast of charity, in use among the primitive Christians, when a liberal contribution was made by the rich to feed the poor. St Chrysostom gives the following account of this feast, which he derives from the apostolical practice. He says, "The first Christians had all things in common, as we read in the Acts of the Apostles; but when that equality of possession ceased, as it did even in the apostles' times, some began to live exquisitely, others in rags, in the room of. Upon certain days, after partaking of the Lord's supper, they met at a common feast, the rich bringing provisions, and the poor, who had nothing, being invited." These love-feasts, during the three first centuries, were held in the churches without scandal, but in after times the heathen began to tax them with impurity. This gave occasion to a reformation. The kiss of charity, with which the ceremony used to end, was no longer given between different sexes, and it was expressly forbidden to have any beds or couches for the convenience of those who wished to eat at their ease. The abuses, however, became so notorious, that the holding of the A., in churches at least, was solemnly condemned at the council of Carthage, in the year 397. Some modern sects, as the Wesleyans, Sandemanians, Moravians, &c, have attempted to revive this feast.

Agarie, Agaricum, Agaric; the mushroom, a genus of the order of fungi, belonging to the class of cryptogramic, Linnaeus. The generic character is a piicus, or cap, with gills underneath, which differ in substance from the rest of the plant, being composed of two humin; the seeds are in the gills. Some have enumerated up to 630 species of this fungus, others 400. Of all these, only one species, A. comestris, common mushroom, or champignon, has been selected for cultivation in England. It is considered the most savoury of the genus, and is much in request for the table. It is eaten fresh, either stewed or boiled, and preserved either as a pickle or in powder; and it furnishes the sauce called ketchup. The field plants are better for eating, inasmuch as they are more tender than those raised on artificial beds. The wild mushrooms are found in parks and pastures, where the turf has not been ploughed up for many years, and the best time for gathering them is August and September.

Agate; a fossil compound of various substances, as chalcedony, cornelian, jasper, hornstone, quartz, &c. These different fossils do not all occur in every A., commonly only two or three of them. There are three chief kinds of A., as the fortification, the landscape, the riband, the more the third, the clouded, the zoned, the star, the fragment, the punctured, the petrifaction, the coral, and the jasper A. No country affords finer A., or in greater abundance, than Germany. It is found in great quantities at Oberstein, in that country. It is also found in France, England, Scotland, Ireland, Sicily, Siberia,
and very beautiful in the East Indies, where, however, it is confounded with onyx. It is cut into vases, mortars, snuff-boxes, cups, rings, seals, handles for knives and forks, hilts for swords, beads, smelling-boxes, &c. It was highly valued by the ancients, who executed many fine works with it. The colour of the stone is delicate shades of brown. It is said to be very hard and durable. Its internal structure is hollow and cellular, and it is said to resemble a natural hollow animal. It is said to be the most prized. These figures may, however, be produced by artificially staining the stone, so that stories of wonderful figures found on agates are not to be implicitly believed.

Agathas; an Athenian, distinguished both as a tragic and comic writer. We know only the names of some of his pieces. He is said to have been too partial to antithesis. As a tragic poet, he was once crowned at the Olympic games. He was a friend of Socrates and Euripides, and was the first who wrote on fictitious subjects. He was distinguished also for his wit and philosophy.

Agathocles was one of the boldest adventurers of antiquity. His history is principally drawn from Diodorus Siculus, books 19 and 20, and fragments of book 21, and from Justin, books 22 and 23. They derived their accounts from different sources, and differ, therefore, especially in the history of his youth. Agathocles was the son of Carcinos, who, having been expelled from Rhegium, resided at Thurii, in Sicily. On account of a mysterious oracle, he was exposed in his infancy, but was secretly brought up by his mother. At the age of seven he was again received by his repentant father, and sent to Syracuse to learn the trade of a potter, where he continued to reside, being admitted by Timoleon into the number of the citizens. He was drawn from obscurity by Dama, a noble Syracusan, to whom his beauty recommended him, and was soon placed at the head of an army sent against Agrigentum. By a marriage with the widow of Dama, he became one of the most wealthy men of Syracuse. Under the dominion of Sosistratus, he was obliged to fly to Tarasunt, but returned after the death of the latter, usurped the sovereignty, in which he steadied himself by the murder of several thousands of the principal inhabitants, and conquered the greater part of Sicily, 317 B.C. He maintained his power twenty-eight years, till 298 B.C. To strengthen his authority in his native country, and to give employment to the people, he endeavoured, like Domylius, to drive the Carthaginians from Sicily. Having been defeated by them, and besieged in Syracuse, he boldly resolved to pass over to Africa with a portion of his army. Here he fought for four years, till 307, generally with success. Disturbances in Sicily compelled him to leave his army twice, and, at his second return into Africa, he found it in rebellion against his son Archagathus. He appealed the commotion by promising the troops the booty they should win; but, being defeated, he did not hesitate to give up his own sons to the vengeance of the exasperated warriors, and expose these latter, without a leader, to the enemy. His sons were murdered; the army surrendered to the Carthaginians. He himself restored quiet to Sicily, and concluded a peace, 300 B.C., which secured to both parties their former possessions. He then engaged in several hostile expeditions to Italy, where he vanquished the Bruttii, and extended his power as far as the river Po. His latter days were saddened by domestic strife. His intention was, that his youngest son, Agathocles, should inherit the throne. This stimulated his grandson, Archagathus, to rebellion. He murdered the intended heir, and persuaded Masin, a favourite of the king, to poison him. This was done by means of a feather, with which the king cleaned his teeth after a meal. His mouth, and soon his whole body, became covered with blisters. After a long lingering death, he was thrown upon a funeral pile. According to some authors, he died at the age of 72 years; according to others, at that of 95. Before his death, his wife, Texena, and two sons, were sent to Egypt. His son-in-law, Pyrrhus, king of Epirus, inherited the throne of Sicily.

Agathocles possessed the talents of a general and a sovereign. He was proud of his ignoble descent. His cruelty, luxury, and insatiable ambition were the occasion of his ruin.

Agathodemon (Greek); a beneficent spirit, opposed to cacodemon, an evil spirit. Ancient writers give this name to a kind of serpent revered by the Egyptians.

Age, in law; the time when the law allows persons to do acts, which, for want of years, they were prohibited from doing before. Some of the rules of age are under the law of England in the following: as follows: fourteen years in a man, and twelve in a woman, is the age of discretion for consenting to marriage. At fourteen, a minor may choose a guardian. Twenty-one years is the full age. A person under the age of twenty-one may make a purchase, but may disagree to it, if he chooses, on reaching his full age.

Coke's 1 Inst. 78. The following are some of the provisions of the Code Napoleon with regard to age: forty years are required for a member of the legislature, thirty for a judge, barrister, or elector, and twenty-one for an officer in the civil service. To contract marriage, it requires that the man should be at least eighteen years old, and the woman fifteen. But marriage is not valid without the consent of parents (or, in case of their death, of the other relations in the ascending line, who take their place), until the man is twenty-five, and the woman twenty-one years old, and even then it is necessary to give the parents or other relations notice. A person adopting must be as much as fifty years old, and at least fifteen years older than the person adopted, unless the latter has saved the life of the former, in which case it is only necessary that the person adopting should be of full age, and older than the person adopted. (See Adoption.) Full age is fixed at twenty-one years for both sexes. At sixteen years, a minor can make a will. Witnesses, in a strict sense, must be of full age. Under fifteen years of age, a person can only affirm, without an oath. An innocent debitor of seventy years and upwards cannot be deprived of his personal liberty. If a criminal is under sixteen years, and the jury find that he has acted without a proper sense of his guilt, he is acquitted, except that he may be confined, for a limited time, in a house of correction. Through the changes of British and American governments, the United States of America, the rules of the English law respecting age have, in most cases, been adopted.
where applicable. To be chosen president of the U.S., a man must be at least thirty-five years old, and in the case of the federal Senate, at least sixty-five years old. Every free white male citizen, of eighteen years, is obliged to serve in the militia till he reaches the age of forty-five years, unless exempted for some special reason. See age in Criminal Law.

Ages. We find the ages of the world mentioned by the earliest of the Greek poets. They compared the existence of mankind to the life of an individual, and the earliest period of the world to the tranquility and happiness of youth. Hesiod speaks of five distinct ages: 1. The golden or Saturnian age, when Saturn ruled the earth. The people were free from the restraint of laws; they had neither ships nor weapons, wars nor soldiers; the fertile fields needed no cultivation, and perpetual spring blessed the earth, 2. The silver age, which he describes as licentious and wicked. 3. The brazen age; violent, savage, and warlike. 4. The heroic age, which seemed an approximation to a better state of things. 5. The iron age, when justice and honour had left the earth. The poet supposed this to be the age in which he himself lived. Ovid retained, in his Metamorphoses, the division of Hesiod, with this difference—he omitted the heroic age, and placed the four ages before the flood of Deucalion. This idea, first used as a poetical embellishment, was also introduced into philosophy. The ages were looked upon as a part of the great year of the world, the revolution of which was to bring the heavenly bodies to their first position. Mythology must be brought into the closest connexion with astronomy. The first, or golden age, was under the dominion of Saturn; the second, of Jupiter; the third, of Neptune; and the fourth, of Pluto, or, as some say, of Apollo. The time of the completion of the great year of the world, or of the heavens, was fixed by some at 3000 solar years; by others, at the mysterious number 7777 solar years. Cicero estimated it at 12,954; Heracleitus, at 18,000, and Orpheeus, at twelve months, consisting each of 100,000 years. The Sibylie books divided it into ten equal months, or the four seasons of the year. Spring was the golden age; Summer, the silver; Autumn the brazen, which was interrupted by Deucalion's flood; and Winter, the iron age; and then the cycle began with Spring again. The idea of ages of the world is so deeply fixed in the nature of man, that it is interwoven with the four ages before the flood, and the ideas of the ages of the world, are parts of almost every nation on the globe. We find examples of it in the millennial reign of the Apocalypse, and in the Yugs of the East Indians. The idea of four ages of the world prevailed among the Brahmins. The first, a kind of golden age, lasted, according to their tradition, 1,729,000 years; the men of this period lived 400 years, and were all giants; in this period, the god Brahma was born. In the second period, which lasted 1,596,000 years, their rajas were born; men lived only 300 years, and vice began to creep into the world. During the third age, which lasted 8,064 years, men lived only 200 years, owing to the increase of vice. Of the last age, in which we now live, 4,027,213 years are already gone, and the life of man is sunk to one fourth of its original duration.

Ages. For the different ages of life, see Life; see also Old Age.

Age of Aquarius, A.D. 1650, so denominated from a place in which they met, about thirty leagues distant from Baden in Hungary. More than 300 rabbies, and many other Jews, of different nations, attended. The object of the assembly was to debate the question whether the Messiah had appeared. The negative of the question was carried, and it was agreed that his coming was delayed on account of their sins and impenitence. It is said that he would be born of a virgin, would come as a great conqueror, would deliver the Jews from every foreign yoke, and alter nothing in the Mosaic religion. Some ecclesiastics from Rome attended this meeting, but the multitude would not hear them.

Age of Aquarius, or Azamogland, are children purchased from the Tartars, or raised every third year, by way of tribute, from the Christians tolerated in the Turkish empire. They are circumcised and instructed in the religion of their masters, and in military exercises. From them the janizaries were recruited. See Janizaries.

Agenda, among divines, sometimes signifies things which a man is bound to perform, in opposition to credenda, which he is bound to believe. It also denotes the service or offices of the church. A is also used to signify church books compiled by public authority, prescribing the order to be observed by the ministers and people, in the ceremonies and devotions of the church; e.g. the ritual, liturgy, missal, &c. In Prussia, the new A. (in the last sense), arbitrarily introduced by the king, but rejected by many clergymen, and congregations, has occasioned some trouble of late years. Homilies and prayers induced many of the clergy to adopt it, but others remained firm in their opposition. The city of Berlin and the famous professor Schleiermacher were very complaisant in resisting it. In all the churches of which the king was patron, it was introduced.

Agincourt, a king of Sparta, 300—306, B. C.; elevated to the throne after the death of his brother Agis, by Lysander, who afterwards formed a conspiracy to depose him; but the plan was discovered and frustrated. Called by the Ionians to their assis- tance against the Persians, he was taken prisoner in those times. His prudence, however, saved the city, without the hazard of a battle. He delivered it anew, at the age of eighty years, though it was actually in the hands of the Persians. On his return from his last campaign in Egypt, loaded with honours and titles, he was overtaken by a storm on the coast of Libya, and perished, being then in his 84th year. In person, he was small and insignificant. He was, nevertheless, a noble prince, and almost adored by his soldiers, though he sometimes violated the virtue of justice, in cases in which he could be useful to his country or friends.

Aggregations, in physics; a species of union, whereby several things, which have no natural dependence or connexion with one another, are collected together, so as, in some sense, to constitute one. Thus, a heap of sand, or a mass of ruins, are bodies by aggregation.

Agur, or Athurim; a village in the county of Galway, in Ireland, memorable for a decisive battle fought in the neighbourhood, July 12, 1691, between the forces of William III., amounting to 20,000 men, commanded by general Ginkel, and those of James II., amounting to 15,000 men, commanded by the French general St. Ruth. The forces of William were victorious.

Agincourt, or Agincourt; a village in the district Saint-Pol, in the department Pas de Calais, famous for the battle of Oct. 25, 1415, between the French and English. Henry V., king of England, eager to conquer France, landed at Harfleur, took
the place by storm, and wished to march through Picardy to Calais, in order to fix his winter-quarters in its neighbourhood. With a powerful force, the latter's advance was only checked by the treatment he received from the enemy. The English, however, being destitute of everything, and reduced by sickness, Henry asked for peace on disadvantageous terms. The French refused his proposals, and succeeded in throwing themselves between Calais and the English. The latter consisted of 2000 men at arms, and 12,000 archers, and were ranged in order of battle between two hills, with the archers on the wings. Sinks, of which every man carried one, were fixed in front of them. The French, commanded by the constable d'Albert, numbered 100,000 troops, of whom 8000 were men at arms. They arranged themselves in two divisions, with the men at arms, of whom 2000 were mounted, in front. The English first put themselves in motion. The French horse instantly hastened after them, but were repelled with such a shower of arrows by the archers, that they fell back on the first division, and threw it into confusion. The light-armed archers seized their clubs and battle-axes, and broke into the ranks of the knights on foot, who could not move on account of their heavy coats of mail. The closeness of their array. The English horse flew to assist the archers; the first French division retreated; the second could not sustain the charge of the victors; and the whole French army was soon entirely scattered. The victory was complete. Henry thought that the French would rally and renew the battle; and, being alarmed also by the report, that a party of peasants, in arms, were plundering his baggage, he ordered all the prisoners to be massacred. The command was already executed, when he discovered the groundlessness of his fear. The victorious army, however, in the pursuit of the flying enemy, took 14,000 prisoners more, 10,000 Frenchmen lay dead on the battlefield. Among them was the constable, with six dukes and princes. Five princes, among whom were the dukes of Orleans and Bourbon, were taken prisoners. The English lost 1000 men killed; among them the dauphin of France, Henry d'Alençon slew at his side, while pressing towards the king. He had already dashed the crown from Henry's head, and lifted his hand for a more effectual blow, when the king's attendants surrounded him, and he fell covered with wounds. After the battle, the English continued their march to Calais, and thence sailed for England, to assemble an army for a new invasion.

Agio is the difference in value between bank money and coin or other currency. The term is in most frequent use in Holland and Venice. It is, however, used in Hamburg and other places in Germany. It is synonymous with premium, when the bank money is worth more than the nominal amount of the current coin, and with discount, when its value is less. The agio at the bank of Amsterdam was from three to four per cent. before the French invasion in 1795; that of Venice was formally fixed at 20 per cent.; the bank money of each of those places being so much more valuable than the current coin. This difference in value arises often from the circumstance, that the current coin is depreciated by wearing and clipping. The agio of the bank-money of London is regulated by weighing and clipping. The agio of the bank-money of Hamburg is regulated by weighing and clipping. The agio is sometimes used to signify the premium or discount on bills of exchange.

Agnus IV., King of Acajomen, and colleague of Leopold the governor of Spiring, was the son of Eunhumidas, and a lineal descendent of Aegialus. Historians affirm that he was, in youth, of singular promise, and that, in untutored age, he prepared, by the introduction of new laws, to correct the abuses which had crept into the Spartan government. This he found a measure of peculiar difficulty, but he was supported by his maternal uncle Aegialus, though with a selfish design, and likewise by many of the citizens. They obtained a law for the equalization of property, and A. himself shared a valuable estate with the community. In consequence of his exertions, Leopold was disposed and banished. The people, however, soon became dissatisfied with the projected reform, and while A. was leading an army to aid the Achaeans, the indiscretion of his uncle Aegialus during his absence, occasioned a conspiracy for the restoration of Leopold. The conspirators, having succeeded, forced A. to take refuge in a temple, which he never left but for the purpose of battling. On one of these occasions, he was surprised and dragged to prison. The epiphori having there questioned him respecting his views in altering the law, A. asked the Achaeans, by the virtue of restoring those of Lycurgus. Sentence of death was passed upon him; but the ministers of the law, until forced by Dennochares, refused to conduct him to a chamber reserved for the execution of criminals. He was there strangled, and he submitted to his sentence with heroic firmness. The grandmother and mother of A. shared the same fate.

Agitators, in English history, were persons elected by the army, in 1647, to watch over its interests, and to control the parliament, at that time sitting at Westminster. Two private men, or inferior officers, were appointed as troop commanders, and this body, when collected, was presumed to equal the house of commons; while the peers were represented by a council of officers of rank. Cromwell at first made use of them, but afterwards issued orders for suppressing them. These associations, so dangerous to the constitution, gave rise to the act which forbids any member to enter either house of parliament armed—a regulation enforced with jealousy to this day. Hume's Hist. chap. lix. The term Agitator has been applied in later days to political demagogues.

Agnus (agnato), according to Hesiod, one of the three graces, daughter of Jupiter and Eurynome; according to others, the mother of the graces, and wife of Vulcan. (See Graces.)

Agnano; a lake lying west of Naples. In its neighbourhood are the famous grotto del Cane and the baths of St Janumius. The former is noted for the suffocating vapours of carbonic acid gas, which ascend from its bottom. The baths are beneficial in cases of gout, syphilis, &. Their reputation has been increased, of late years, by the way in which they have been applied by Mr Young of Greenwich to restore the weakened electricity of the sick.

Agnatus (agnato), in the civil law; relations on the male side, in opposition to cognates, relations on the female side. In the Scottish law, A. are understood to be those persons nearest related by the father, though females of the same name, (as, for example, A. of A. and A. of B.) who suffered martyrdom at the time of the persecution of the Christians, in the reign of the emperor Diocletian. Her festival is celebrated on the 29th of January. Domenichino has painted her at the moment of her execution. Two churches of the name of St Agnus, the other near the city, are remarkable buildings. In front of the latter, the
feast of the sainl is celebrated with much observance. Many cattle, horses, &c. are brought there and blessed by the priests, who are paid for their services. This ceremony is supposed to protect them against sickness during the following year.

AGNES, St; one of the Cassterides, or Scilly isles, (q. v.) This island is commonly called Lighth- house island, because it has a light-house. W. lon. 6° 29'; N. lat. 49° 53'.

AGNES Sorel, the mistress of Charles VII., king of France, was born 1409, of a noble family, and was one of the most beautiful and accomplished women of her time. As lady of honour to Isabella of Lor- rain, she accompanied that princess, in 1431, to the French court. Her beauty attracted the favour of the young king, and he appointed her one of the queen's ladies of honour.

After some resistance, A. yielded to the passion of the monarch. The English then had possession of half of France; and Charles VII., though naturally bold, became depressed and inactive under the weight of his misfortunes. A. alone was able to rouse him from his apathy, and make him feel what he owed to himself and his people. The eventual success of his arms increased his passion for his mistress, who died, however, and left this power over him. She retired, in 1445, to Loches, where Charles had built her a castle. He afterwards conferred on her the county of Pontchiffre, in Bretagne, the seigniories of Roche-Serviere and Issodune, in Berri, and the chateau de Beaudet, on the banks of the Marne; whence she received the name of dame de beaudet. She had lived here about five years, frequently visited by the king, when she invited him again to court, in 1449, A. consented, and to be nearer the king, proceeded to the castle of Mansal-la-Belle, where she died, in 1450, so suddenly as to afford ground for the suspicion that she was buried in the collegiate church of Loches where her monu- ment was to be seen in 1792. She left the king three daughters, who were acknowledged by him, and portioned at the expense of the crown.

Agnes, Maria Gaetana, a learned Italian lady, was born at Milan, in 1718. In her ninth year, she spoke Latin with correctness, and also delivered an oration in this language, in which she maintained that the study of the ancient languages was proper for females. This oration was printed at Milan, in 1727. In her eleventh year, she is said to have spoken Greek fluently as her mother tongue. She now proceeded to perfect herself in the most important Oriental languages, so that she was usually called a living polyglot. She next studied geometry and speculative philosophy. Her father fostered her love of learning by assembling at his house, at certain times, learned societies, in which Maria proposed and de- fended philosophical theses. The president de Bros- ses asserts, in his Letters on Italy, that nothing can be imagined more delightful than these conversa- tions with one of the prettiest and most learned females of the time. In her twentieth year, she ap- pears to have become tired of these erudite disputa- tions, the substance of which was afterward pub- lished by her father. They fill a quarto volume. Mathematics now attracted her attention, and she composed a treatise on conic sections; besides which, in her thirtieth year, she published a treatise on the elements of analysis, which has been considered as the best in Italy until this time. This work, and was translated into English, in 1801, by the reverend John Colson, professor of mathematics at Cambridge. It gained her so much reputation, that she was appointed, in her thirty-second year prof- essor of mathematics at the university of Bologna. Her deep study of this science seems to have cast a
gown over her spirits. She secluded herself alto- gether from society, retired to the strict order of the nuns, and devoted the remainder of her life to the protection of the poor and the education of neglected children. Her sister, Maria Theresa, set to music several cantas, and the three operas, Sophonieka, Ciro in Ar- menia, and Niorti, with applause.

AGNOMEN, in ancient Rome, a name or epithet given to a person by name of prayer, or dispraise, or from some remarkable event in his history. Such names remained peculiar to the person, and not de- scendible to his issue. Thus one of the Scipios ob- tained the A. of Africaus, and the other of Asiati- cus, from their achievements in Asia and Africa.

The Romans often had three names besides the A.; the praenomen, corresponding to our Christian name, distinguishing the individual from others of the same family; the second, or nomen, marked his clan; and the third, or cognomen, expressed his family; to these the A. e. g. Atheneus, Censorius, Germanicus, &c. was added.

AGNA DEI (Latin; the Lamb of God). 1. A prayer of the Roman liturgy, beginning with the words Agnas Dei, generally sung before the com- munion, and according to the regulation of pope Sergius I., in 688, at the close of the mass. 2. A round piece of wax, on which is engraved a figure of the sacred Lamb, with the banner of the cross, or of St John, with the year and name of the pope. The pope consecrates and distributes a great num- ber of them. It was originally customary, in the churches of Rome, to distribute the remains of the Paschal taper consecrated on Easter eve, in small pieces, among the people, who burned them at home, as an antidote against all kinds of misfortune. But when the number of candidates became too large to be all satisfied, the above expedient was adopted. A. D. is also the name of that portion of the mass, which is introduced, in Roman catholic churches, at the distribution of the host.

Agows, in geography; the inhabitants of a prov- ince of Abyssinia. They are, in their manners, ferocious, and in their religion, superstitions. They are heathens, and adore the spirit residing in the Nile. (See Agows.) Bruce's Travels, vol. i. 401, vol. iii. 577.

AGRA: a province of Hindostan Proper, situated between 25° and 28° N. lat.; the capital of which, of the same name, is in the possession of the British. Several rajahs, allies of the British, possess the western and north-western districts, the part of the province north of the Chumbul is under the dis- minion of the Mahatts. No part of Hindostan affords a richer soil; grain of all kinds, sugar, indigo, and cotton, are yielded with little labour in all the British districts. Formerly the province was also famous for its silks. It furnishes superior horses. It contains six millions of inhabitants. A., the city, N. lat. 27° 12', and E. lon. 77° 50', is connected with the whole of the modern history of India. The Ma- hommedians call it Akbarabad. It is ornamented with splendid edifices, of which the Taji Mahal, or Crown of Edifices, an unrivalled tomb of the memory of Shah Jahan, who died 1632, is the most famous. This is wholly built of the finest white marble. General lord Lake took A. in 1803, from the Mahatts. A. is 137 miles from Delhi, and 830 from Calcutta.

AGRARIAN LAWS; laws enacted in ancient Rome for the division of public lands. In the valuable work on Roman history by Mr Niebuhr, it is sat- isfactorily shown, that these laws, which have so long been considered in the light of unjust attacks on private property, had for their object only the dis- tribution of lands which were the property of the state, and that the troubles to which, they gave rise.
were occasioned by the opposition of persons who had settled on these lands without having acquired any title to them; for the Romans were so intimately connected with their system of establishing colonies in the different parts of their territories, that, to attain a proper understanding of them, it is necessary to bestow a moment’s consideration on that system. According to Dionysius of Halicarnassus, their plan of sending out colonists, or settlers, began as early as the time of Romulus, who generally placed colonies from the city of Rome on the lands taken in war. The same policy was pursued by the kings who succeeded him; and, when the kings were expelled, it was continued by the senate and the people, and then by the dictators. There were several reasons inducing the Roman government to pursue this policy, which was continued for a long period without any intermission; first, to have a check upon the conquered people; secondly, to have a protection against the incursions of an enemy; thirdly, to augment their population; fourthly, to free the city of Rome from an excess of inhabitants; fifthly, to quiet seditions; and, sixthly, to reward their veteran soldiers. These reasons abundantly appear in all the best ancient authorities. In the latter part of the republic, a public, a private motive for establishing colonies was to have the means of disposing of soldiers, and rewarding them with donations of lands; and such colonies were, on this account, denominated military colonies. Now, for whichever of these causes a colony was to be established, it was necessary that some law respecting it should be passed, either by the senate or people; which law, in either case, was called lex agraria, an agrarian law, which will now be explained.—An agrarian law contained various provisions; it described the land which was to be divided, and the classes of people who were to receive of it; the amount, and by whom, and in what manner, and by what bounds, the territory was to be parcelled out. The mode of dividing the lands, as far as we now understand it, was twofold; either a Roman population was distributed over the particular territory, without any formal erection of a colony, or general grants of lands were made to such citizens as were willing to form a colony there. The lands which were thus distributed were of different descriptions; which we must keep in mind, in order to have a just conception of the operation of the agrarian laws. They were taken from the enemy, and not actually treated by the government as property or lands which were regarded and occupied by the Roman people as public property; or public lands which had been artfully and clandestinely taken possession of by rich and powerful individuals; or, lastly, lands which were bought with money from the public treasury, for the purpose of being distributed. Now, all such agrarian laws as comprehended either lands of the enemy, or those which were treated and occupied as public property, or those which had been bought with the public money, were carried into effect without any public commissions; but those which operated to disturb the opulent and powerful citizens in the possession of the lands which they unjustly occupied, and to place colonists (or settlers) on them, were never promulgated without creating great disturbances. The first law of this kind was the lex agraria Curiata; and the same measure was afterwards attempted by the tribunes of the people almost every year, but was as constantly defeated by various artifices of the nobles; it was, however, at length passed. It appears, both from Dionysius and Varro (de rustica, lib. 1), that, at first, Roman citizens never made more than 50 jugera (about one and a fourth acre) of the public lands to each man; then Numa divided the lands which Romulus had taken in war, and also a portion of the other public lands; afterwards, several other laws, by which Romulus and Numa had appropriated to the private expenses of the regal establishment; then Servius distributed among those who had recently become citizens, certain lands which had been taken from the Vetucies, the Carritae, and Tarquins; and, upon the expulsion of the kings, it appears that the lands of Tarquin the Proud, with the exception of the Campus Martius, were, by a decree of the senate, granted to the people. After this period, as the republic, by means of its continual wars, the repeated necessity of distributing the lands among settlers, those lands were either occupied by colonists or remained public property, until the period when Surius Cassius, twenty-four years after the expulsion of the kings, proposed a law (already mentioned), by which one part of the land taken from the Hernici was allotted to the Latins, and the other part to the Roman people; but, as this law comprehended certain lands which he accused private persons of having taken from the public, and as the senate also opposed him, he could not accomplish the passage of it. This, according to Livy, was the first proposal of an agrarian law of which he had ever made mention; and down, to the period of his retirement, without very great public commotions. Dionysius informs us, further, that this public land, by the negligence of the magistrates, had been suffered to fall into the possession of rich men; but that, notwithstanding this division of the lands would have taken place under this law, if Cassius had not included among the receivers of the bounty the Latins and Hernici, whom he had but a little while before made citizens. After much debate in the senate upon this subject, a decree was passed to the following effect: that commissioners, called decemvirs, appointed from among the persons of consular rank, should mark out, by boundaries, the public lands, and should designate how much should be let out, and how much should be distributed among the common people; that, if any land had been acquired by joint services in war, it should be divided, according to treaty, with those allies who had been admitted to citizenship; and that the choice of the commissioners, the apportionment of the lands, and all other things relating to this subject, should be committed to the care of the succeeding consuls. Seventeen years after this, there was a vehement controversy about the lands to be made of lands then unjustly occupied by the rich men; and, three years after that, a similar attempt on the part of the tribunes would, according to Livy, have produced a ferocious controversy, had it not been for the address of Quintus Fabius. Some years after this, the tribunes proposed another law of the same kind, by which the estates of a great part of the nobles would have been seized to the public use; but it was stopped in its progress. Appian says, that the nobles and rich men, partly by getting possession of the public lands, partly by buying out the shares of indigent owners, had made themselves owners of all the lands in Italy, and had thus, by degrees, accomplished the removal of the common people from their possessions. This abuse stimulated Tiberius Gracchus to revive the Lucianian law, which prohibited any individual from holding more than 500 jugera, or about 900 acres; but, having artfully, cunningly, compell[e] the owners to relinquish all the surplus to the use of the public; but Gracchus proposed that the owners should be paid the value of the lands relinquished. The law, however, did not operate to any great extent, and, after having cost the tribune their lives, was, by degrees rendered wholly ineffectual. After this period,
various other agrarian laws were attempted, and with various success, according to the nature of their provisions and the temper of the times in which they were proposed. One of the most remarkable was that of Railus, which gave occasion to the celebrated oration against him by Cicero, who prevailed upon the people to reject the law. From a careful consideration of these laws, and the others of the same kind on which we have not commented, it is apparent, that the whole object of the Roman agrarian laws was, the lands belonging to the state, the public lands or national domains, which, as already observed, were acquired by conquest or treaty, and, we may add, the Roman colonies, occupied by the state, the public estates by different factions, either for lawful or unlawful causes; of the last of which we have a well-known example in the time of Sylla’s proscriptions. The lands thus claimed by the public became naturally a subject of extensive speculation with the wealthy capitalists, both among the nobles and other classes. In our own times, we have seen, during the revolution in France, the confiscation of the lands belonging to the clergy, the nobility, and emigrants, lead to similar results. The sales and purchases of lands, by virtue of the agrarian laws of Rome, under the same circumstances, must have never existed in such cases, and the attempts by the government to resume or re-grant such as had been sold, whether by right or by wrong, especially after a purchaser had long been in possession, under a title which he supposed the existing laws gave him, naturally occasioned great heat and agitation; the subject itself being intrinsically one of great difficulty, even when the passions and interests of the parties concerned would permit a calm and deliberate examination of their respective rights. From the combinations which usually attended the proposal of agrarian laws, of cases of exact attention to the true object, there has long been a general impression, among readers of the Roman history, that those laws were always a direct and violent infringement of the rights of private property. Even such men, it has been observed, as Machiavelli, Montesquieu, and Adam Smith, have shared in this misconception of them. This erroneous opinion, however, has lately been exposed by the genius and learning of Niebuhr, in his Roman history, above mentioned, a work which may be said to make an end in that department of learning, and in which he has clearly shown, that the Roman agrarian laws were not the object of a combination, but was the distribution of the public lands only, and not those of private citizens. Of the Lician law, enacted about 376 B. C., on which all subsequent agrarian laws were modelled, Niebuhr enumerates the following as among the chief provisions: 1. The limits of the public land shall be accurately defined. Portions of it, which have been encroached on by individuals, shall be restored to the state. 2. Every estate in the public land, not greater than this law allows, which has not been acquired by violence or fraud, and which is not on lease, shall be good against any third person. 3. Every Roman citizen shall be competent to occupy a portion of newly acquired public land, within the limits prescribed by this law, provided this land be not divided by law among the citizens, nor granted to a colony. 4. No one shall occupy of the public land more than five hundred jugera, nor purchase more than five hundred jugera of such land. 5. Those who occupy the public land shall pay to the state the tithe of the produce of the field, the fifth of the produce of the fruit-tree and the vineyard, and for every head of large stock, and for every head of stock, in all cases, a tax. The public lands shall be farmed by the owners to those willing to take them on these terms. The funds hence arising are to be applied to pay the army. — The foregoing were the most important and permanent provisions of the Licinian law, and, for its immediate effect, it provided that all the public land occupied by individuals, over five hundred jugera, should be divided by lot in portions of seven jugera to the plebeians. But we must not hastily infer, as some restorers of Niebuhr’s work have done, that these agrarian laws did not in any manner violate private rights. This would be quite as far from the truth as the prevailing opinion already mentioned, which is now exploded. Besides the argument we might derive from the very nature of the case, we have the direct testimony of ancient writers to the injustice of such laws, and their violation of private rights. It will suffice to refer to that of Cicero alone, who says, in his Office, c. ii., “Those men who wish to make themselves popular, and who, for that purpose, either attempt agrarian laws, in order to drive people from their possessions, or who maintain that creditors ought to forgive debtors what they owe, undermine the foundations of the state; they destroy all concord, which cannot exist when money is taken from one man to be given to another; and they set aside justice, which is said to be violated when the public suffer to retain what is his own.” — which reflections would not have been called forth, unless the laws in question had directly and plainly violated private rights. The various modes in which those rights might be violated would require a longer discussion, and one which would partake more of legal investigation, than might be admissible in the present work. But as the republic of the United States, like that of Rome, has also been much occupied in legislating upon the subject of its public lands, and as laws have been made, in some of the states, bearing a considerable resemblance, in their operation, to the Roman agrarian laws, which will afford room for a useful and interesting comparison between the laws of the two republics, we shall make some further remarks upon this subject under the head of Public Lands. See Lands, Public.

AGRICOLA. Cneius Julius; a Roman consul under the emperor Vespasian, and governor in Britain, the greater part of which he reduced to the dominion of Rome, about 70 A. D.; distinguished as a statesman and general. His life has been excellently written by his son-in-law, the famous Tacitus, who holds him up as an excellent model of virtue. A. D. in addition to its excellence as a piece of biography, contains information interesting to the British antiquarian.

AGRICOLA, John, properly Schneider, the son of a tailor at Eisleben, was born in 1492, and called, in his native city, master of Eisleben (magister lobis), also John Eisleben. He was one of the most active among the theologians who propagated the doctrines of Luther. He studied at Wittemberg and Leipzig; was afterwards rector and preacher in his native city, and, in 1526, at the diet of Spire, chaplain of the elector John of Saxony. He subsequently became chaplain to count Albert, of Mansfeld, and took a part in the delivery of the confession of Augsburg, and in the signing of the articles of Smalcald. When professor in Wittemberg, whither he went in 1537, he stirred up the Antinomian controversy with Luther,arger Ther and Mansfeld. He afterwards lived at Berlin, where he died in 1566, after a life of controversy. Besides his theological works, he published a work explaining the common German proverbs. His patriotic spirit, its strict morality, and pithy style, place it among the first German prose compendiums of the time, at the close of Luther’s translation of the Bible. In conjunction with Julius
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Pliny and Michael Hedingus, he composed the famous "Interpreta Taurorum," the art of cultivating the earth in such a manner as to cause it to produce, in the greatest plenty and perfection, those vegetables which are useful to man, and to the animals which he has subjected to his dominion. This art is the basis of all other arts, and in all countries coeval with the first dawn of civilization. Without agriculture, mankind would be savages, thinly scattered through in- terminable forests, with no other inhabitations than caverns, hollow trees or huts, more rude and inconvenient than the most ordinary hovel or cattle shed of the present day. It is the most universal as well as the most ancient of all arts, and requires the greatest number of operators. It employs seven-eighths of the population of almost every civilized community.—Agriculture is not only indispensable to national prosperity, but is eminently conducive to the welfare of those who are engaged in it. It gives health to the body, energy to the mind, is favourable to virtuous and temperate habits, and to knowledge and purity of moral character, which are the pillars of good government and the true support of national independence.—With regard to the history of agriculture, we must first turn to ourselves. The first mention of agriculture is found in the writings of Moses. From them we learn that Cain was a "tiller of the ground," that Abel sacrificed the "firstlings of his flock," and that Noah "begged to be a husbandman, and planted a vineyard." The Chinese, Japanese, Chaldæans, Egyptians, and Phœnicians, appear to have held husbandry in high estimation. The Egyptians were so sensible of its blessings, that they ascribed its invention to superhuman agency, and even carried their gratitude to such an absurd excess as to worship the ox, for his services as a laborer. The Cæthagianus carried the art of agriculture to a higher degree than other nations, their contemporaries. Mago, one of their most famous generals, wrote no less than twenty-eight books on agricultural topics, which, according to Columella, were translated into Latin by an express decree of the Roman senate.—Hesiod, a Greek writer, supposed to be contemporary with Homer, wrote a poem on agriculture, entitled "Weeks and Days," which was so denominated because husbandry requires an exact observance of times and seasons. Other Greek writers wrote on rural economy, and Xenophon among the number, with great simplicity, and a great degree of truth and utility, have been preserved to us by the lapse of ages.—The implements of Greek agriculture were very few and simple. Hesiod mentions a plough, consisting of three parts—the share-beam, the mould-pole, and the plough-tail; but antiqua- riou s are not agreed as to its exact form; also a cart with low wheels, and ten spans (seven feet six inches) in width; likewise the rake, sickle, and ox-goad; but no description is given of the mode in which they were constructed. The operations of Greek agriculture, according to Hesiod, were neither numerous nor complicated. The ground received three ploughings—one in autumn, another in spring, and a third immediately before sowing the seed. Manures were applied, and Pliny ascribes their invention to the Cæthagian king Angoras. Theophrastus mentions six different species of manures, and adds, that a mixture of self-produced manures had the same effects as manures. Clay, he observes, should not be mixed with manures, but burned with clay. Seed was sown by hand, and covered with a rake. Grain was reaped with a sickle, bound in sheaves, threshed, then winnowed by wind, laid in chests, bins, or granaries, and taken out as wanted by the family, or be poured in mortars or quern mills into meal.—The mixture of self-produced manures and manures, ploughed, and, in the earliest and purest times of the republic, the greatest praise which could be given to an agricultural character was to say that he was an industrious and a good husbandman. M. Cato, the censor, who was celebrated as a statesman, orator, and general, having conquered nations and governed provinces, derived his highest and most durable honours from having written a voluminous work on agriculture. In the Georgics ofVirgil, the magnificence of verse and the harmony of numbers add dignity and grace to the most useful of all topics. The cele- brated Columella flourished in the reign of the emperor Claudius, and wrote twelve books on husbandry, which constituted a complete treatise on rural affairs. Virgil, Pliny, two of the distinguished Romans who wrote on agricultural subjects.—With regard to the Roman implements of agriculture, we learn that they used a great many, but their particular forms and uses are very imperfectly described. From what we can ascertain re- specting them, they appear more worthy of the notice of the curious antiquarian, than of the practical cul- tivator. The plough is represented by Cato as of two kinds—one for strong, the other for light soils, Varro mentions one with two mould-boards, with which he says, "when they plough, after sowing the seeds, to make a second furrow;" another plough with one mould-board, and others with a coul- ter, of which he says there were many kinds.—Fol- lowing was a practice rarely deviated from by the Romans. In most cases, a fallow and a year's crop succeeded each other. Manure was collected from nearly, or quite as many sources as have been re- sorted to by the moderns. Pigeons' dung was es- teemed of the greatest value, and, next to that, a mixture of night soil, screenings of the streets, and urine, which were applied to the roots of the vine and olive. The Romans did not bind their corn into sheaves. When dry, it was cut directly to the area to be threshed, and was separated from the chaff by throwing it from one part of the floor to the other. Feeding down grain, when too luxuriant, was prac- tised. Virgil says, "What commendation shall I give to him, who, lest his corn should lodge, pastures it, while young, as soon as the blade equals the furrow!" (Geor., lib. i. l. 111.) Watering on a large scale was applied both to arable and grass lands. Virgil advises to "bring down the waters of a river upon the sown corn, and, when the field is parched and the plants drying, convey it from the brow of a hill to that part of the field, which is the most effectual, and management most approved of by the scientific husbandman of Rome was, in general, such as would meet the approbation of modern cultivators. The importance of thorough tillage is illustrated by the following apologue: A vine-dresser had two daugh- ters and a vineyard; when his oldest daughter was married, he gave her a third of his vineyard for a portion, notwithstanding he had the same quantity of fruit as formerly. When his youngest daughter was married, he gave her half of what re- mained; still the produce of his vineyard was undi- minished. This result was the consequence of his bestowing as much labour on the third part left after his daughters had received their portions, as he had been accustomed to give to the whole vineyard.— The Romans, unlike many conquerors, instead of desolating, improved the countries which they subdued by introducing new sown, and settled the conquered countries, but laboured to civilize the in- habitants, and introduce the arts necessary for pro- moting their comfort and happiness. To facilitate communications from one district or town to another, seems to have been a primary object with them, and they had orders to build arteries of various kinds in numerous places. By employing their troops in this
way, when not engaged in active service, their commanders seem to have had the advantage over our modern generals. The Roman soldiers, instead of loitering in camps, or rioting in towns, developing their strength, and corrupting their morals, were kept in constant motion, always on the alert, and to the interests of those whom they subjugated.

In the ages of anarchy and barbarism which succeeded the fall of the Roman empire, agriculture was almost wholly abandoned. Pasturage was preferred to tillage, because of the facility with which sheep could be raised and cared for, as compared on the approach of an enemy. The conquest of England by the Normans contributed to the improvement of agriculture in Great Britain. Owing to that event, many thousands of husbandmen, from the fertile and well-cultivated plains of Flanders and Normandy, settled in Great Britain, obtained farms, and employed the same methods in cultivating them, which they had been accustomed to use in their native countries. Some of the Norman barons were great improvers of their lands, and were celebrated in history for their skill in agriculture. The Norman clergy, and especially the monks, were more in this way than the nobility. The monks of every monastery retained such of their lands as they could most conveniently take charge of; and these they cultivated with great care under their own inspection, and frequently with their own hands. The famous Thomas Becket, who was killed, in the year 1170, for his exertions in defending the prerogatives of the English church, was a great improver of the soil. It is related of him, that he went out into the field with the monks of the monastery where he happened to reside, and join with them in reaping their corn and making their hay. The implements of agriculture, at this period, were similar to those in most common use in modern times. The various operations of husbandry, such as ploughing, sowing, harrowing, reaping, threshing, winnowing, and the like, were performed by men. The first English treatise on husbandry was published in the reign of Henry VIII., by Sir A. Fitzherbert, judge of the common pleas. It is entitled the Book of Husbandry, and contains directions for draining, clearing, and enclosing a farm, for enriching the soil, and rendering it fit for cultivation, and, finally, of sowing, and fallowing: these are strongly recommended. "This is the first Book of Husbandry," says Mr. Loudon, "writes from his own experience of more than forty years, and, if we except his biblical allusions, and some vestiges of the superstition of the Roman writers about the influence of the moon, there is very little of his work which should be omitted, and not a great deal that need be added, in so far as respects the culture of corn, in a manual of husbandry adapted to the present time."—Agriculture attained some eminence during the reign of Elizabeth. The principal writers of that period were Tusser, Googe, and Sir Hugh Platt. Tusser, Five Hundred Points of Husbandry was published in 1558, and conveys much useful instruction in metre. The treatise of Barnaby Googe, entitled Whole Art of Husbandry, was printed in 1558. Sir Hugh Platt's work was entitled Jewel Houses of Art and Nature, and was printed in 1594. In the former work, says Loudon, are many valuable hints on the prospects of husbandry in the early part of the reign of Elizabeth. Among other curious things, he asserts that the Spanish or Merino sheep were originally derived from England.—Several writers on agriculture appeared in the latter half of the seventeenth century, and notices of their works, may be seen in Loudon's Encyclopedia of agriculture. From the restoration down to the middle of the eighteenth century, agriculture remained almost stationary. Immediately after that period, considerable improvement in the process of culture was introduced by Jethro Tull, a gentleman of Berkshire, who began to drill wheat and other crops about the year 1701, and whose Horsehoeing Husbandry was published in 1751. Though this practice was in some respects erroneous, yet even his errors were of service to the exciting inquiry, and calling the attention of husbandsmen to important objects. His hostility to manures, and attempting, in all cases, to substitute additional tillage in their place, were prominent defects in his system.—After the time of Tull's publication, a great alteration in British agriculture took place, till Robert Bakewell and others effected some important improvements in the breed of cattle, sheep, and swine. By skilful selection at first, and constant care afterwards to breed from the best animals, Bakewell at last obtained a variety of sheep, which, for early maturity, and the property of returning a great quantity of mutton for the food which they consume, as well as for the small proportion which the weight of the offal bears to the four quarters, were without precedent. Cally, Cline, lord Somer—

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Ville, Sir J. S. C. Elphinstone, David Beaver, Young, &c., have all contributed to the improvement of domestic animals, and have left little to be desired in that branch of rural economy.—Among other works on agriculture, of distinguished merit, may be mentioned the Farmer's Letters, Tour in France, Agriculture, &c., by the celebrated Arthur Young; Marshall's numerous and excellent works, commencing with Minutes of Agriculture, published in 1787, and ending with his Review of the Agricultural Reports in 1816; Practical Agriculture, by Dr. R. W. Dickson, &c. The writings of Kaines, in Works of Agriculture, &c., by the illustrious Sir John Sinclair to carry their ideas into execution. To the indefatigable exertions of that worthy and eminent man, the British public are indebted for an institution, whose services cannot be too highly appreciated. It made farmers, residing in different parts of the kingdom, acquainted with one another, and caused a rapid dissemination of knowledge amongst the whole profession. The art of agriculture was brought into fashion, old practices were amended, new ones introduced, and a degree of exertion called forth heretofore unexampled among agriculturists in this country. Our authors, who have left such marks on the agriculture of different countries of Europe and of the United States.—French Agriculture began to flourish early in the 17th century, under Henry IV., and a work on that subject was published by Olivier de Serres. In 1761, 13 agricultural societies were instituted in France, and 19 auxiliary societies. Those of Paris, Amiens, and Bordeaux, have distinguished themselves by their memoirs. Du Hamel and Buffon made the study of rural economy fashionable, and other writers contributed to the advancement of husbandry; but it was not until 1776, when Count Lestevre has written a valuable work on sheep-husbandry. The celebrated Arthur Young made an agricultural survey of France in 1787—89.
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Since that time, several French and English writers have given the statistics of different districts, and the husbandry of different modes of culture, and the dissemination of plants. He also greatly enlarged and enriched that extensive institution, the National Garden, whose professor of culture, the chevalier Thouin, is one of the most scientific agriculturists in Europe.—The lands in France are not generally enclosed and subdivided by hedges or earlier fences. Some enclosures near towns, but, in general, the whole country is open, the boundaries of estates being marked by slight ditches or ridges, with occasional stones or heaps of earth, trees in rows, or thinly scattered. Depredations from passengers on the highways are prevented by garde champêtres, which are established throughout all France.—Since the time of Colbert, the French have paid attention to sheep, and there are considerable flocks of Mertins owned by individuals, besides the national flocks. That of Rambouillet, established in 1766, is, or last, the largest. He was the first to establish an eminent writer on agriculture. Sheep are generally housed, or kept in folds and little yards or enclosures. Mr Birkbeck considers the practice of housing or confining sheep as the cause of foot-rot, a disease very common among them in France. Where flocks remain out all night, the sheep are kept in a thatched hut, or portable house, placed on wheels. He guides the flock by walking before them, and his dogs guard them from wolves, which still abound in some parts of the country. In the south part of France, and within the mountains, are frequent use in husbandry. A royal stud of Arabian horses has been kept up at Aurillac, in Limousin, for more than a century, and another has been more recently established near Nièmes. Poultry is an important article in French husbandry. Mr Birkbeck thinks that the consumption of poultry in towns may be equal to that of mutton. The breed of swine is in general bad; but fine lams are made in Bretagne from hogs reared on acorns, and fattened with Indian corn.—The French implements of agriculture are generally rude and unskilful, and the operations of husbandry are performed. The vine is cultivated in France in fields and on terraced hills, in a way different from that which prevails elsewhere. It is planted in hills, like Indian corn, kept low, and managed like a plantation of raspberries. The white mulberry tree is very extensively cultivated for feeding the silk-worm. It is not placed in regular plantations, but in corners, in rows by the sides of roads, &c. The trees are raised from the seed in nurseries, and sold, generally, at five years' growth, when they have strong stems. They are planted, staked, and trellised as polards. The eggs of the silk-worm are hatched in boxes, or in means of stoves to 18° of Reaumur (72° Fahn.) One ounce of eggs requires one hundred weight of leaves, and will produce from seven to nine pounds of raw silk. The hatching commences about the end of April, and is completed within about a month. Second broods are procured in some places. The silk is wound off the cocoons, in little balls, by women and children. The olive, the fig, the almond, and various other fruits are also extensively cultivated in France.—Agriculture in Germany. The earliest German writer on husbandry was Conradus Heresbacchus, who lived and died in the 16th century. His work, De Re Rustica, was an avowed compilation from all the authors who had preceded him. No other books on agriculture, of any note, appeared previous to the 17th century. With regard to the produce of Germany, we would remark, that the country is very extensive, and presents a great variety of soils, surface, climate, and culture. Its agricultural produce is, for the most part, consumed within its limits; but excellent wines are exported from Hungary and the Rhine together with flax, linens, greese, silk, &c. The culture of the mulberry and the rearing of the silk-worm are carried on as far north as Berlin. The theoretical agriculturists are well acquainted with all the improved implements of Great Britain, and some of them have been introduced into Germany, especially in Holstein, Hanover, and Westphalia; but, generally speaking, the ploughs, waggon, &c. are unwieldy and inefficient. Fish are carefully bred and fattened in some places, especially in Prussia, and poultry is everywhere attended to, particularly in the neighbourhood of Vienna. The culture of forests likewise receives particular attention in that country, as well as in France. The common agriculture of Germany is everywhere improving. Government, as well as individuals, have formed institutions for the instruction of youth in its principles. Professor Thuner is the head of the Geographical Institute at Presburg, and that of professor Tauer, in Prussia, may be numbered among recent institutions of this description.—Agriculture in Italy. The climate, soil, and surface of Italy are so various as to have given rise to a greater diversity of culture than is to be found in the whole of Europe besides. Corn, grass, butcher meat, cheese, butter, rice, silk, cotton, wine, oil, and fruits of all kinds are found in perfection in this fertile country. London asserts that only one-fifth of the surface of Italy is considered suitable, while only one-fifth of the surface of France is considered fertile. The population of Italy is greater, in proportion to its surface, than that of either France or Great Britain. Among the writers on the rural economy of Italy are, Arthur Young, in 1783, Sigismondi, in 1801, and Chateaubriant, in 1812.—In Lombardy, the lands are generally farned by metayers (from metà, half). The landlord pays the taxes and repairs the buildings. The tenant provides cattle, implements, and seeds, and the produce is divided. The irrigation of lands, in Lombardy, is a remarkable feature of the agriculture. The land here from rivers are the property of the state, and may be carried through any man's land, provided they do not pass through a garden, or within a certain distance of a mansion, on paying the value of the ground occupied. Water is not only employed for grass-lands (which, when fully watered, are mowed four and sometimes five times a-year, and, in some cases, as early as March), but is conducted between the narrow ridges of corn-lands, in the hollows between drilled crops, among vines, or to flood lands, to the depth of a foot or more, which are sown with rice. In the interior parts of Italy, the lands are irrigated. The implements and operations of agriculture in Lombardy are both imperfect. The plough is a rude contrivance, with a handle 13 or 14 feet long. But the cattle are fed with extraordinary care. They are tied up in stalls, bled once or twice, cleaned, and agitated with oil, afterwards combed and brushed twice a day. Their food in summer is clover or other green herbage; in winter, a mixture of elm-leaves, clover-hay, and pulverized grass.
wheat, rye and oats, and barley and salt added. In a short time, the cattle cast their hair, gained in remarkable strength, and so improved as to double their value to the butcher.—The tomato or love-apple (Solanum lycopersicum), so extensively used in Italian cookery, forms an article of field-culture near Pombelli, and especially in Sicily, from whence it is sent to Naples, Rome, and several other Italian cities. The following is a concise sketch of this CULTURE OF THE UNITED STATES OF AMERICA. The territory of the United States is very extensive, and presents almost every variety of soil and climate. The agriculture of this wide-spread country embraces all the products of European cultivation, together with some (such as sugar and indigo) which are rarely made objects of tillage in any part of Europe. A full description of the agriculture of these states would require a large volume. We shall confine ourselves to such sketches as we may deem of most practical importance to those who are or intend to become cultivators of North American soil.—The farms of the Eastern, Northern, and Middle States consist, generally, of from 50 to 200 acres, seldom rising to more than 300, and generally falling short of 200 acres. These farms are enclosed, and divided either by stone walls, or rail fences made of timber, hedges not being common. The building first erected is a log-house on a log foundation, and yet cleared from its native growth of timber, is what is called a log-house. This is a hut or cabin made of round, straight logs, about a foot in diameter, lying on each other, and notched in at the corners. The intervals between the logs are filled with slips of wood, and the crevices generally stopped with mortar made of clay. The fire-place commonly consists of rough stones, so placed as to form a hearth, on which wood may be burned. Sometimes these stones are made to assume the form of a chimney, and are carried up through the roof; and sometimes a hole in the roof is the only substitute for a chimney. The roof is made of rafters, forming an acute angle at the summit of the erection, and is covered with shingles, commonly split from pine-trees, or with bark, peeled from the hemlock (Picea Canadensis).—When the occupant or “first settler,” looks upon himself in “conspicuous and comfortable circumstances,” he builds what is styled a “frame house,” composed of timber, held together by tenons, mortises, and pins, and beaded, shingled, and clap-boarded on the outside, and often painted white, sometimes red. Houses of this kind generally contain three stories, the first being a kitchen, the second or farm-rooms on the same floor. They are rarely destitute of good cellars, which the nature of the climate renders almost indispensable. The farm-buildings consist of a barn, proportioned to the size of the farm, with stalls for horses and cows on each side, and a threshing-floor in the middle; and the more wealthy farmers add a cellar under the barn, a part of which receives the manure from the stables, and another part serves as a store-room for roots, &c. for feeding stock. What is called a corn-barn is likewise very common, which is built exclusively for storing the ears of Indian corn. The sleepers of this building are generally set up four or five feet from the ground, on smooth stone posts or pillars, which rats, mice, or other vermin cannot ascend. With regard to the best manner of clearing forest-land from its natural growth of timber, the following observations may come off, the lumber may be cut in those parts of the country where wood is of but little value, the trees are felled in one of the summer months, the earlier in the season the better, as the stumps will be less apt to sprout, and the trees will have a longer time to dry. The trees lie till the following spring, when such limbs as are not very near the ground should be cut off, that they may burn the better. Firmly put to them in the driest part of the month of May, or if that month prove wet, it may be applied in the beginning of June. Only the bodies of the trees will remain after burning, and some of them will be burned into pieces. Those which require to be made shorter may be cut to a length drawn together by oxen, piled in close heaps, and burned, such trees and logs being reserved as may be needed for fencing the lot. The heating of the soil so, destroys the green roots; and the ashes made by the burning are so beneficial as manure to the land, that it will produce a good crop of wheat or Indian corn without ploughing, hoeing, or manuring.—If new land lie in such a situation that its natural growth may turn to better account, whether for timber or fire-wood, it will be an unpardonable waste to burn the wood on the ground. But if the trees be taken off, the land must be ploughed after clearing, or it will not produce a crop of any kind.—The following remarks on this subject are extracted from some observations by Samuel Preston, of Stockport, Pennsylvania, a very observing cultivator. They were first published in the New England Farmer, Boston, Massachusetts, and may prove useful to any one undertaking to convert to such lands, Mr Preston advises,—"1st. Take a view of all large trees, and see which way they may be felled for the greatest number of small trees to be felled along-side or on them. After felling the large trees, only lay down their limbs; but all such as are felled near them should be cut in suitable lengths for two men to roll and pile about the large trees, by which means they may be nearly all burned up, without cutting into lengths, or the expense of a strong team, to draw them together. 2d. Fell all the other trees parallel, and cut them into suitable lengths, that they may be readily rolled together without a team, always cutting the largest trees first, that the smallest may be loose on the top, to feed the fires. 3d. On hill-sides, fell the timber in a level direction; then the logs will roll together; but if the trees are felled down-hill, all the logs must be turned before they are cut, or there will be stumps in the way. 4th. By following these directions, two men may readily heap and burn most of the timber, without requiring any team; and perhaps the brands and the remains of the log-heaps may all be wanted to burn up the old, fallen trees. After proceeding in this direction, the ground will be clear for a team and sled to draw the remains of the heaps where they may be wanted round the old logs. Never attempt either to chop or draw a large log, until the size and weight are reduced by fire. The more fire-heaps there are made on the clearings, the better, particularly about the old logs, where there is rotten wood. The best time of the year to fell the timber in a great measure depends on the season’s being wet or dry. Most people prefer having it felled in the month of June, when the leaves are of full size. Then, by spreading the leaves and brush over the ground (for they should not be heaped), if there should be a very dry time the next May, fire may be burned through it, and will burn the leaves, limbs, and top of the ground, so that a very good crop of Indian corn and pumpkins may be raised among the logs by hoeing. After these crops have come off, the land is then ploughed with rye and timothy grass, or with oats and timothy in the spring. If what is called a good barn cannot be had in May, keep the fire out until some very dry time in July or August; then clear off the land and sow wheat or rye and timothy, harrowing seve-
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rival times, both before and after sowing; for, after the
fire has been over the ground, the soil of timothy
should be introduced as soon as the other crops will
admit, the perennial leek, onions, fire-cherries, etc.
from springing up from such seeds as were not con-
sumed by the fire. The timothy should stand four
or five years, either for mowing or pasture, until the
small roots of the forest-trees are rotten; then it
may be ploughed, and the best mode which I have
observed is to break up the ground very fine, and
lay it to permanent pasture, which will yield him an
annual profit, without requiring much labour.

The climate and soil of the United States are adapt-
ted to the cultivation of Indian corn, a very valuable
vegetable, which, it has been supposed, could not be
raised to advantage in this country. * This entirely
and very advantageously supersedes the field culture of the horse-bean (vicia faba), one of the
most common fallow crops with us. The root hus-
bandry, or the raising of roots for the purpose of
feeding cattle, is likewise of less importance in the
United States than in Great Britain. The winters are
so severe in the northern section of the Union, that
turnips can rarely be fed on the ground, and all
sorts of roots are with more difficulty preserved and
dealt out to stock, in that country, than in those
which possess a milder climate. Besides, hay is more
easily made from grass in the United States than
in Great Britain, owing to the season for hay-making
being generally more dry, and the sun more power-
ful.

There are many other circumstances which favour the American farmer, and render his situation
more eligible than that of the European. He is
generally the owner as well as the occupier of the
soil which he cultivates; is not burdened with
titles; his taxes are light; and the product of his
labour, though seven or eight months behind the
British market, is almost as much in demand as the
furriers, and innocent luxuries of life.—The American
public seem, at present, fully aware of the impor-
tance of spirited and scientific agriculture. The
state of Massachusetts has appropriated considerable
sums to add to the funds of the agricultural societies
in that commonwealth, institutions for the promo-
tion of husbandry, cattle shows, and exhibitions of
manufactures are common in every part of the Union.

A periodical publication, entitled the American
Farmer, is established at Baltimore, and another,
called the New England Farmer, is published in
Boston. Men of talents, wealth, and enterprise
have distinguished themselves by their laborious
and liberal efforts for the improvement of American
husbandry. Merino sheep have been imported by
general Humphreys, chancellor Livingston, and
others, and are now common in the United States.

The cattle of this country are generally imported by
colonel Powel of Powelton, near Phila-
delphia; and there prevails a general disposition,
among men of intelligence and high standing in the
community, to promote the prosperity of American
agriculture.—We shall conclude with a few brief
notes of some of the most prominent forecasts and
improvements which modern science has contributed
to the art of agriculture. The husbandmen of anti-
quity, as well as those of the middle ages, were des-
titute of many advantages enjoyed by the modern
cultivator. Neither the practical nor the theoretical
agriculturists of those periods had any correct knowl-
edge of geology, mineralogy, chemistry, botany,
vegetable physiology, or natural philosophy; but
these sciences have given the modern husbandman
the command of important agents, elements, and
principles, of which the ancients had no idea. The
precepts of their writers were conformable to their
experience; but the rationale of the practices they
prescribed they could not, and rarely attempted to
explain. Nature's most simple modes of operation
were to them inexplicable, and their ignorance of
causes often led to erroneous calculations with re-
spect to the results, which are indebted to science
for the following among other improvements,
1. A correct knowledge of the nature and properties
of manures, mineral, animal, and vegetable; the
best modes of applying them, and the particular
crops for which particular sorts of manures are best
suited. 2. The method of using all manures of ani-
mal and vegetable origin while fresh, before the
air, and rain, or other moisture, has robbed them of
their most valuable properties. It was formerly the
practice to place barn-yard manure in layers or
masses for the purpose of rotting, and turn it over
frequently with the plough or spade, till the whole
had become a mere cauput mortuum, devoid of al-
most all its original fertilizing substances, and
deteriorated in quality almost as much as it was reduced
in quantity. 3. The knowledge and means of ches-
ically analyzing soils, by which we can ascertain
their constituent parts, and thus determine what
substances are wanted to increase their fertility. 4.
The introduction of the root husbandry, or the raising
of potatoes, turnips, mangel-wurzel, &c. extensively, by
field husbandry, for feeding cattle, by which a given
quantity of land may be made to produce much more
nourishing food than it could have furnished if it were occupied
in grass crops, and the health as well as the thriving
of the animals in the winter season greatly promoted.
5. Laying down lands to grass, either for pasture or
mowing, with a greater variety of grasses, and with
kinds adapted to a greater variety of soils; such as

* Mr Cobbett has lately attempted to raise Indian corn in
England, which will be published in London, 1809. A Treatise on Cobbett's Corn, he professes to have met with
much success in the culture of it.
In plate II. representations will be found of the Rotheram or Swing-Plough, the Wheel or Norfolk Plough, and Finlayson’s Improved Plough. The swing-plough, with a featheredock, has been laid aside, except in a few of the least improved counties, where it is still found useful when the soil is encumbered by roots and stones. The swing-plough is drawn with less power than wheel-ploughs, the friction not being so great; and it probably admits of greater variations in regard to the breadth and depth of the furrow-size. This plough is sometimes made in such a manner that the mould-board may be shifted from one side to the other when working on hilly grounds; and it is then called a turn-across plough. The present improved swing-plough was little known in Scotland till about the year 1764, when Small’s method of constructing it began to extend. This improved mechanism formed the mould-board upon distinct and intelligible principles, and afterwards made it of cast-iron. His appendage of a chain for strengthening the beam has since been laid aside. It has been disputed whether he took the Rotheram or the old Scottish plough for the basis of his improvements. The swing-plough has been since varied a little from Small’s form, for the purpose of adapting it more completely to particular situations and circumstances. Of late, it has been made entirely of iron. The Argyleshire plough is a simple swing-plough, which acts without a coulter; instead of the draft-plate, a large flat plate is fixed to the share, in a vertical plane, corresponding with the land-side of the plough; and the advanced edge of this is sharpened to cut the ground. The object of this change is to remove the resistance necessary to make the vertical inclination farther back from the point of draft than if a coulter were used; and also to avoid the choking of the plough by weeds and rubbish, which sometimes lodge before the coulter, beneath the beam. The Argyleshire plough has a rod of iron in place of the chain of the chain-plough, to strengthen the beam; it is attached at one end to the middle of the beam, and connected at the other with the rack from which the horses draw. In some ploughs two iron rods are used, and they extend quite to the end of the beam, and are attached to a hook near the handles. Wheel-ploughs, in a great variety of forms, are used in many parts of England. They require less skill in the ploughman to manage, but they are more expensive, more heavy in the draught, and more liable to be put out of order than the swing-ploughs. In plate II. will be found a representation of the Wheel or Improved Norfolk Plough. The share is connected to the beam by a chain of wrought iron; and the coulter is wedged into an iron socket at the side of the beam, without weakening the beam by a mortise. At the top of the uprights of the carriage are eyes to conduct the reins by which the ploughman guides the horses. In the same plate will be found a representation of Finlayson’s Patent Self-cleaning plough. This is the construction of Mr John Finlayson, farmer at Muirkirk, and is found well adapted to coarse old swains. It clears itself from obstructions without often requiring the aid of the ploughman, and it turns over the furrow in a complete and workman-like manner, wherever the common plough fails. It does not, however, seem to possess any advantages over the common plough upon land under a regular course of cultivation. Two-furrow ploughs are used in a few places, but are not likely ever to become general. They are constructed either with or without wheels. A plough of this kind is strongly recommended by lord Somervell, and used by his lordship and others apparently with some advantage. Various other implements have been used for stiring the soil—such as the Miner, for following in the furrow of a common-plough, and loosening the ground to a greater depth, without bringing up the subsol; the Farthing Plough,
the Mole, and other sorts of ploughs for draining. Many implements are in use for stirring and pulverizing the soil, and a labourer is often one of them and in preparing it for the seed, and others, as horse-hoes, between drilled crops. One of them, called a Gavassa, from its efficiency in bringing weed roots to the surface, differs from the harrow, by having the iron teeth made with sharp edges, and bent forward like so many coulters. It is heavier than the harrow, but covers less surface. It is constructed with triangular sharp-edged dipping feet, four cast-iron wheels, two handles, &c. Sir John Sinclair strongly recommends it, as being useful in working fallow, or in stirring land on which potatoes have grown, so that a crop may be sown in spring without use of the plough. It is made of different sizes, and worked by four or two horses. —The Harrow. Common harrows are of an oblong shape, each containing twenty tines five or six inches long beneath the bulls or bars in which they are inserted. Most harrows are drawn corner-wise, by which contrivance their teeth do not follow each other in rows, but scratch the surface more effectually. The brake, as usually constructed, is nothing more than a heavier harrow, sometimes in one piece, and sometimes in two pieces joined together, which have been lately invented, and which are found to be very efficient, especially in soils where weed-roots abound. They will be found represented in Plate II. The one is by Mr Finlayson, the inventor of the self-cleaning plough already mentioned, and the other by Mr Samuel Morton, agricultural implement maker, Edinburgh. The latter is called the Revolving Brake Harrow, and is excellently adapted for bringing roots to the surface, and pulverizing the land when under fallow, so as to save one or two ploughings. —DRILL-MACHINES. These are used in depositing the seed in equi-distant rows on a flat surface; on the top of a narrow ridge; in the interval between two ridges; or in the bottom of a common furrow. Corn when drilled is usually sown in the first of these ways, turnips in the second, and peas and beans in the third or fourth. One of the best for sowing all kinds of corn was invented by Mr Bailey of Chillingham, but the practice of drilling corn does not seem to be gaining ground. The drill-machine is universally used in Scotland for sowing turnips, on ridges about 30 inches broad. In some cases, the machine is made to sow two of these ridges at once, and two rollers are used for smoothing the tops of the ridges before the seed is deposited, and the other for compressing the soil and covering the seed. The front roller is now made concave, which leaves the ridges in a better form for receiving the seed. The machine is drawn by one horse, walking between the ridges. A representation of it will be seen in Plate II. —REAPING MACHINES. Many endeavours have been made to introduce reaping machines, but hitherto without success. This is to be regretted, as whatever tends to abridge manual labour, although possibly injurious to individuals for a time, tends in the end to elevate humanity. Despict in reaping, besides, is a matter of great importance in a climate so variable as that of Britain. The most promising reaping machines of which we have heard, are those of Mr Smith, of the Deanston Cotton Works, Perthshire, and of the Rev. Patrick Bell, Forfarshire. Mr Smith first tried his on a small scale in 1811, and continued to prosecute his experiments for several years with satisfactory results, but has latterly, we understand, been induced to suspend or abandon his speculation. Mr Bell’s machine is of more recent construction, and promises every success. It was tried at Gowrie in Forfarshire in 1829, in cutting down grain on ground of uneven surface. It is about 5 feet broad, and embraces with its knife as much breadth of corn. The cut corn was deposited in the manner of a Wesleyan apsidal; it accomplished about an imperial acre in the hour. It was driven by one horse, and may cost about £20. These present at the trial considered this machine perfectly triumphant, and that it would speedily come into general use. A representation of it will be seen in Plate II.
AGrippa—AGUESSEAU.

AGrippa, Henry Cornelius, born in 1486, at Colonge, was a man of talents, learning, and eccentricity. In his youth, he was secretary to the emperor Maximilian, subsequently served seven years in Italy, and was knighted. He says that he was acquainted with the sciences, and devoted himself to science, and made pretensions to an acquaintance with magic. In certain lectures, he advanced opinions which involved him in contests with the monks for the remainder of his life. In 1530, he wrote a treatise On the Vanity of the Sciences, which was a caustic satire upon the futility of the common modes of instruction, and upon the monks, theologians, and members of the universities. At a subsequent period, he produced another treatise at Antwerp, "On the Occult Philosopher." This was a sketch of mystical theology, explaining, on the principles of the emanaative system, the harmony of the elementary, celestial, and intellectual worlds. His pretensions to skill in occult science, particularly alchemy, led to his receiving numerous invitations from royal personages and others of high rank, and his inability to answer their absolute demands, and to keep their promise, made great neglect of him. After an active, varied, and eventful life, he died at Grenoble, in 1539.

AGrippa, Marcus Vipsanius; a Roman, the son-in-law of Augustus, with whom he was twice consul. Although not of high birth, his talents soon raised him to honour. He distinguished himself as a general, and commanded the fleet of Augustus in the battle of Actium. As the minister and friend of the emperor, he rendered many services to him and the Roman state. He was impartial and upright, and a friend of the arts. To him Rome is indebted for three of its principal aqueducts, and for several other works of public use and ornament. (See Augustus.)

AGrippina. 1. The wife of the emperor Tiberius, who very reluctantly divorced her, when obliged to marry Julia, the daughter of Augustus, after the death of her first husband, Agrippa. A. was subsequently married to Asinius Gallus, whom Tiberius, still retaining his love for his former wife, condemned to perpetual imprisonment, in the spirit of a jealous rival.—2. The daughter of Marcus Vipsanius Agrippa, by Julia, daughter of Augustus; wife of C. Cæcilius Metellus, and died with great virtues. She accompanied her husband in all his campaigns, and accused Tiberius, before the senate, of compassing his death. The tyrant, who hated her for her virtues and popularity, banished her to the island of Pandataria, where she starved herself to death. The cabinet of antiquities at Dresden possesses four famous busts of this A.—3. A daughter of the last mentioned A., and sister of Caligula, born at Cologne, which she enlarged, and called Colonii Agrrippinae. She had the misfortune to become the mother of Nero, by Domitian Athemorbas. Her father died was the emperor Claudius, brother of her father, who married her after he had divorced Messalina. She was distinguished for ability and political experience, but her ambition was boundless, and her disposition cunning and dissolute. She was murdered by Nero, her son, to whom she was troublesome after he had become emperor. It is said, that she begged the assassins to stab her first in the womb, that had brought forth such a monster.

Ague, in medicine; a disorder belonging to the class of intermittent fevers (febris intermittentes). It may be followed by serious consequences, but, generally, the disease passes off to be cured. In ancient times it was sometimes even considered salutary. According to the length of the apresia, or intermission between one febrile paroxysm and another, agues are denoted quotations, tertians, quartans; which latter are much the most obstinate, being generally attended with a greater degree of visceral obstruction than those, the attacks of which return at shorter intervals. The quartan ague is apt to terminate in dropsy. An ague paroxysm, in some divinity, called the hot, and the sweating stages. The feeling of extreme cold, in the first stage, cannot be prevented by fire or the heat of summer. Generally, after the sweating stage, in which there is a profuse exhalation from the pores of the skin, with a flow of urine, and depositing of a lateritious or brick dust appearance, the patient falls into a restful sleep, from which he awakes without any remains of indisposition, except a slight degree of languor and debility. Agues occur chiefly in situations where there are shallow, stagnant waters. Hence their frequency in Holland, in the East and West Indies, in the flat, marshy parts of England, and the thinly settled parts of the United States, where they diminish with the clearing of the woods and the draining of the lands. The neighbourhood of rivers or marshes, therefore, is carefully to be avoided by persons afflicted with ague paroxysms. They are divided into quartans, which, at the same time that they exert a tonic influence, produce and keep up an impression upon the system greater than that communicated by the causes of the disease; such as Peruvian bark, various bitter and astringent drugs, certain metallic salts, &c.

Ague-cake; a name sometimes given to a hard tumour on the left side of the belly, lower than the false ribs, said to be the effect of intermittent fever.

AGUESSEAU, Henry Francis d', a man distinguished in the annals of French eloquence and jurisprudence, was born at Limps, and evinced distinguished talents. His father, intendant of Languedoc, was his first instructor. The intercourse of d'A with Racine and Boileau formed his taste for poetry. He was, in 1691, avocat général at Paris, and at the age of thirty-two years procureur général of the parliament. In this office, he effected many improvements in the laws and the administration of justice, and took particular care of the government of hospitals. During a famine in the winter of 1709, he employed all his power to relieve the suffering. As a steady defender of the privileges of the nation and the Gallican church, and of their common defence, he opposed the rejection of the decrees of Louis XIV., and the chancellor Voisin, in favour of the papal bull Unigenitus. Under the government of the duke of Orleans, he was made chancellor in 1717, but fell, in 1718, into disgrace, on account of his opposition to Law's destructive system of finance, and retired to his country seat at Fresnes. He there passed, according to his own words, the happiest days of his life, employed in reading the Bible, projecting a code, and instructing his children. Mathematicians, agriculturists, and the arts and sciences occupied his leisure hours. In 1716, his Law's commentaries against French laws were revised throughout France, and it was thought that a man like d'A., who possessed the love of the nation, was necessary to allay the general discontent. He was, therefore, replaced in his former dignity. This period of his life did not add to his renown; for he accepted his office from Law, and gave his consent to certain weak and injurious plans, which the parliament rejected; he finally suffered the same punishment to be exiled to Pontoise. In 1722, he was banished a second time, for opposing the cardinal Dubois, but was recalled in 1727 by the cardinal Fleury, and died at Pontoise in 1737. He formed the design of introducing uniformity into the execution of the ancient laws, and of adding what was wanting. But this work surpassed the ability of
a single man. He died in 1731, after resigning, in 1729, the office of chancellor. His works, which have passed through several editions, are said, by Bouterwek, to be models of their kind; full of spirit, judicious, elegant, yet powerful, and rich in valuable instruction for statesmen and lawyers. His discourses, with which he adorned the sittings of the parliament, are excellent.—His nephew, the marquis d'Aguerre (Heary Cardin Jean Baptiste), peer of France, and member of the academy of sciences, died at Paris, January 22, 1826. He was a lawyer, member of the first national assembly, and senator under Napoleon; afterwards, a faithful adherent of the king.

Aguirre, Joseph Saenz de, a Benedictine, and learned man, was born in 1630. He was a censor and secretary of the supreme council of the inquisition in Spain, and professor in the university of Salamanca. He published commentaries on Aristotle's Ethics, and died at Rome in 1699.

Austini, in mineralogy; a term by which professor Tremolagon has designated a supposed new earth, discovered by him in 1808. It bears a great resemblance to alumina.—Annales de Chimnie, XXXIV. p. 135.

Aversi, the cavia aguti of Linnaeus; an American animal, much resembling the Guinean pig. There are three varieties, all indigenous to South America and the West Indies. They live on vegetables, in habit hollow trees, and burrow in the ground. They eat like the squirrels, grow fat, and are used as food in America. They propagate very fast.

Alanta; a kingdom on the Gold Coast of Africa, extending from the Aucobra to the Chamah; bounded on the west by Apollonia, and on the east by the Fante territories. It is the richest, and in every respect the most improved district upon this coast. The principal towns are Axim, Dixcove, and Sue-coude.

Anabases, in Scripture history; a king of Persia, the husband of Esther, to whom the Scriptures ascribe a singular deliverance of the Jews from extermination, which they commemorate to this day, by an annual feast, that of Purim, preceded by what is called the fast of Esther. Different opinions have been entertained by Scaliger, Prideaux, and others as to which of the kings of Persia mentioned in other historical books may be the A. of the Bible.—Anaco-

sura; a c. Scripture name for Cambyses, the son of Cyrus, Ezra xvi. I., and for Astyages, king of the Medes, Dan. ix. 1.

Antophra; one of king David's counsellors, and highly esteemed for his political sagacity. He was certainly one of the first men of his age, both for wisdom and wickedness. His advice to Absalom, who followed the wicked part of it, but left the wise part unaccomplished, together with the tragical end of the politician, the first suicide recorded in history, are well known.

A-Nula; the situation of a ship when all her sails are furled on account of the violence of a storm, when, having lashed her helm on the lee-side, she lies nearly with her side to the wind and sea, her head being somewhat inclined to the direction of the wind.

Ard; a subsidy paid, in ancient feudal times, by vassals to their lord, on certain occasions.

Agnan, Stephen, a poet and author, born in 1773, at Beaugency, on the river Loire, and since 1814 a member of the French academy, has distinguished himself by successful translations of the Iliad, and of Pope's Essay on Criticism, into verse. The translation of the Iliad is the first in the French language. He also translated the Odyssey, but we know not whether the version has been published. He translated, likewise, some English tales, e. g. the Vicar of Wakefield. His original writings consist of a tragedy, Brunehaut; an opera, Nephtali, with music by Blangini; and some excellent political essays, Sur le jury; De l'état des protestants en France, depuis le XV. siècle, jusqu'à nos jours, &c. and on Paris, 1818, and Sur les corps d'état; the reconciliation of merit to the Minerve Française. He was liberal in his views, wrote well and independently, but with moderation. He showed remarkable courage in publishing his tragedy, La Mort de Louis XVI., his first poem, a few weeks after the execution of the king. He held several public offices during the reign of terror and oppression, in some cases successfully, the tyranny of the administration. He died at Paris, June 23, 1824.

Aiglen, duke d'; peer of France, and minister of foreign affairs under Louis XV.; distinguished, as a councillor, by his ready wit, but destitute of almost all the qualities that constitute the statesman. During his ministry the partition of Poland took place; and till it was actually accomplished, d'A. knew nothing of this profligate project. Even Louis XV. exclaimed, when it came to his knowledge, to his chancellors, who this partition of Poland have taken place?" D'A. was born in 1750. When he first appeared at the court of Louis, he struck the fancy of the duchess of Chartesouuax, mistress of the king. She obtained him an appointment in the navy in Italy. After experiencing many altercations of favour and disgrace, he was admitted, through the influence of the countess de Barry, into the ministry with the abbé Terail and the chancellor Mapecou, after Choiseul's downfall. His administration of the department of foreign affairs was disgraceful to France, which, under him, degenerated from the high diplomatic character she had hitherto sustained. He boasted of having brought about the revolution of Sweden in 1772, which now is made a matter of reproach to him. At the accession of Louis XVI. he was removed from the ministry. His place was supplied by the count of Vergennes, in 1774. D'A. was hated the universal, and was exiled in 1775, and died in banishment in his 80th year.

Aikins, John, M. D., an English miscellaneous writer, born in Leicestershire, 1747; died at his residence in Stoke Newington, 1822. He practised as physician at Chester, Warrington, and latterly at Yarmouth; and published various works of miscellaneous cast, some in conjunction with his sister, Mrs Barbauld (q. v.). His most elaborate work is his "General Biographical Dictionary," begun in 1799, and finished in 1815. He was editor of the Monthly Magazine from 1796 till 1806, in which capacity he distinguished himself as a very sensible and entertaining essayist.

Aldman, William, an eminent portrait painter of the last century, was born in Scotland, and early enjoyed the patronage of John duke of Argyle, and the earl of Burlington. He also enjoyed the friendship of most of the writers of his time, especially Swift, Pope, Gay, Somerville, and his countrymen, Arbuthnot, Thomson, Smollett, and Allan Ramsay. His best portraits are those of the Buckinghamshire family and the Royal family. He died in 1731, aged 49.

Alnwick, a barony island in the Frith of Clyde, between the coasts of Ayr and Cantyre, of a conical form. It is a conspicuous object, 940 feet high, seven miles from the shore, about two miles in circumference; lon. 5° 56' W., lat. 55° 18' N. Immuneable sea-fowl, many of which are good for the table. The island, being in the French influence, was inquisit; it; a few rabbits and goats live on its sterile surface. A ruinous castle stands on its summit, and
is useful as a sign-mark. Excellent banks, well stocked with fish, surround it. Ailsa Craig is celebrated in Scottish song, and has commanded the admiration of several poets. Among the latest tributes to it is the following splendid sonnet, by John Keats:

Hearken, thou craggy ocean pyramid!
Give answer from thy voice, the sea-fowls' screams,
When were thy thunders mantled in huge streams?
When from the sun was thy broad forehead hid?
How long is'since the mighty Power bid
There beant to airy sleep from falling dreams?
Sleep on the lap of thunder or sunbeams—
Or when grey clouds are thy cold coverlid—
Then unaware rest, for thou art not asleep;
Thy life is but two dread existences;
The last is in the deep.
First with the whales, last with the eagle skyes;
Drownd w'st thou till an earthquake made thee sleep;
Another cannot bow thy giant size!

Ainos, or Airis; the aborigines of Jesse and Saghalin, commonly called wild Kuriats, and supposed to be covered with hair in unnatural profusion. They are nearly black, and resemble the Kamtschanlais, but have more regular features. The Chinese and Japaneze say that they have immanuel beards; captain Broughton, who anchored at Endermo harbour, in Jesse, in 1797, remarks, that the bodies of the men resemble those of the aborigines of New Granada. By Krusenstern, the Russian navigator, mentions that a child of this description was seen in 1805, but that the parents had no such characteristics, and he denies that it is general. Other testimony, e. g. that of the early missionaries at Japan, seems to confirm this peculiarity of the A. The women are very ugly. The A. are of a mild, liberal disposition; their manners, however, are very little known. Polygamy is practised among them. Agriculture they know very little of. They fatten bears for winter provision. The A. were formerly independent, but are now in subjects to the Japanese.

Aisworth, Dr Henry, an Englishman, who distinguished himself, about 1690, among the Brownists. His knowledge of Hebrew, and his annotations on the Holy Scriptures, gained him much reputation. He died about 1692, in Amsterdam. He is said to have restored to a Jew a valuable diamond which he had lost. The only compensation which he asked was a conference with some Jewish rabbies on the prophecies of the Old Testament relating to the Messiah. The Jew promised to bring it about, but failing of success, is said to have poisoned A. through shame and vexation.

Aix-la-Chapelle, or Aachen, born at Wood-yale, in Lancashire, 1660, was master of a boarding-school at Bethnal-Green, whence he removed to Hackney and other places in the neighbourhood of London. After acquiring a moderate fortune, he lived privately till 1743, when he died. He compiled the well-known Latin and English Dictionary, published in 1766; and in 1752, the fourth edition, under the care of Dr Ward and William Younge, was enlarged to 2 vols. folio. Many editions with improvements have followed.

Aion; a group of 15 islands in the eastern seas, off the N. coast of Waggion, and surrounded by a reef 50 miles in compass, which is penetrated by a deep channel on the north-west side. Aion Bath is the largest, about 5 miles in circuit, 500 feet high, long. 128° 29' E., lat. 0° 32' N. Fish, turtle, and tropical fruits abound in these islands. They have commerce with the Chinese.

Aiu, (Greek, aip); Latin, aip, in natural philosophy, is that fluid, transparent substance which surrounds our globe, reaching to a considerable height above its surface; perhaps 40 miles; and this ocean of air is the great laboratory in which most of the actions of life go on, and on the composition of which they depend. Though invisible, except in large masses, without smell or taste, yet it is a substance possessing all the principal attributes of matter; it is impenetrateable, ponderable, compressible, dilatable, perfectly elastic, and its particles are operated on like those of other bodies, by chemical action. To prove the impenetrateability of the air, a very simple experiment is sufficient. Plunge a glass receiver perpendicularly into water, after having put under the receiver a piece of cork. However deep you may plunge the vessel, the water never reaches the top of it, though it diminishes the volume of the air; the liquid, therefore, cannot penetrate the air. The cork serves to show how high the water rises. In fact, the most common occurrences give constant proofs of the impenetrateability of the air, and the theory of salling of windmills, &c. is based on that property of this fluid. (See Wind.) To prove that the air is ponderable, it is only necessary to weigh a large balloon, first empty, and afterwards filled with air. It has been found, that 100 cubic inches of air, very dry, taken at the temperature of 60°, and under the barometrical pressure of 20 inches, weighs 30-5 grains; and this weight is to that of water as 1 to 770. Galileo first discovered that air is ponderable, though he was not able to determine, what weight the air, or any given place, had of some unknown quantity. (See Galileo, Torricelli, Barometer.) In consequence of this quality of air, the atmosphere which surrounds us exerts a pressure on all the points of the globe proportionate to its weight; this is the cause of the rise of liquids in viking-pumps, siphons, and the barometer.

To show this pressure, plunge the orifice of an exhausted tube, closed at the other end, into a liquid. The liquid, yielding to the pressure of the external air, rises in the tube till the weight of its column is equal to that of the atmospheric column. In this experiment, water will rise 33 feet, and mercury 29 inches, provided the place where the experiment is tried is nearly on a level with the sea; for the height varies with the weight of the column of air, which diminishes in proportion as we ascend above the level of the sea. The height of the column of mercury in barometer, therefore, affords a good means of determining the elevation of any given place. The weight of the column of air, which presses constantly on a man of middle stature, is equal to 32,344 lbs pounds. But this weight does no injury, because it is counterbalanced by the reaction of the fluids, which fill the interior cavities of the body. The air is perfectly equally possible, and that the space which it occupies corresponds always to the pressure on it, has been shown by Mariotte. He took a bent glass tube, with legs of unequal length, exactly graduated; after having sealed the orifice of the shorter leg, he introduced a small quantity of mercury, sufficient to rise to an equal height in both legs. The air enclosed in the shorter leg then counterbalanced the atmospheric column. By raising the mercury in the longer leg to the height of 29 inches, the air in the shorter leg was compressed into half the space which it occupied at first. In other words, the weight of two atmospheres (the column of mercury being equal to one) compressed the air to this degree. Mariotte continued to pour mercury into the long leg, and found that the weight of 2, 3, 4, &c. atmospheres reduced the air confined in the shorter leg to $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, &c. of its primitive height, until it reached the depth of the large stream of water. It is necessary to give time to the caloric which is disengaged to pass off. It seems as if the compression of air would be indefinite, if we had sufficiently powerful means; but as yet we have only been able to reduce its volume to one-eighth. (See Compressio, Air-guns.) The dilatibility of air consists in
the tendency of a volume of confined air to occupy a greater space. In consequence, it presses equally in all directions on the sides of the vessel containing it, and this pressure increases or diminishes in proportion as the enclosed air is condensed or rarefied, provided the temperature remains the same. The dilatation of air has, according to the preceding experiment, no limits. A bladder, almost empty, will become inflated if placed in an exhausted receiver. Elasticity being the property of a body to resume its original form as soon as the force which changes it ceases, it is evident, from what we have said, that the dilatation of air is of a different kind. The different applications made of air in the different branches of art are so various and numerous, that we cannot possibly enumerate them. Of the chemical properties of air, it will be sufficient to mention the following: the ancients believed it a simple body, one of the four elements; modern chemists have discovered that it is composed of two bodies, apparently elementary,—oxygen and azote. The most accurate experiments have shown that this fluid, taken from different parts of the globe, and even at a great height, is composed of 21 parts of oxygen, 78 of azote; one part of air being pure azote and oxygen. The air refracts the rays of light, and its power of refraction is in the ratio of its density. (See Refraction.) It is capable of acquiring electricity, and it refuses, when very dry, a free passage to the electricity which tends to escape from electrified bodies. (See Electricity.) When subjected to great heat or cold, it is dilated or condensed, but undergoes no change of properties. If it is suddenly compressed, much heat is engendered, with a bright light. It enters bodies through the most minute pores, and adheres to them strongly; coal, particularly, absorbs a great quantity of it. When it is deprived of all the liquids always contain it, and it can only be expelled by a strong heat. Almost all combustible bodies decompose at this high temperature, which varies with the different substances. They absorb its oxygen with the disengagement of more or less caloric and light, and form acids or oxides: phosphorus, however, combines at a low temperature with the oxygen and azote of the air, and produces, with the former, phosphorous acid; with the latter, phosphurated nitrogen; the moisture of the air and the melting of the phosphorus favour these combinations. Nor is this brought into operation only, by animal and vegetable substances, it changes them immediately, particularly if it is moist, and gives to some of them acid properties; it bleaches flax, hemp, silk, and increases the brilliancy of many colours. It is indispensable to the life of all organic beings; animals respire it incessantly, and decompose it; a part of its oxygen is transformed into carbonic acid, and this combination produces caloric, which contributes principally to the preservation of animal heat. (See Respiration.) Vegetables imbibe the carbon, which the carbonic acid, diffused through the air, contains. The air is the agent of combustion; the particles of bodies combine with its oxygen, and evolve heat and light. (See Combustion.) Finally, the air is the principal medium of sound. (See Acoustics.) For further information, see the articles Air, Atmosphere, Gas, and Contagion.

Air, in painting, by the most accurate study of the artist, particularly of the landscape painter, as it is the medium through which all objects are seen, and its density or transparency determines their appearance, both in respect to size and colour. It softens, and renders them more or less decided or charaterised, producing technically called tone. The appearances produced by the interposition of the air differ with the climate, the season, and the time of the day; and landscape painters, who, in other respects, are not masters, have given the greatest charm to their pictures by a happy imitation of these appearances, even where the objects painted possess in themselves very little attraction. Hackert, a German, who was a long time painter to the late king of Naples, excels, perhaps, in this branch of art, all modern painters. His views on this subject are given in his life by Goethe.

Air, fixed. See Gas.

Air, in music (in Italian, aria), at the present day, means a continuous melody, in which some lyric subject is introduced, and generally opposed to the irregular declamation of recitative, or the more staid action of choral music. Spanzunne regards the term as derived from the Latin aera. The air appertained, consequently, to measured music, and, whether constituted of one or of more voices, this measured style (if not choral) was denominated air. But in modern times, by way of distinction, the lyric melody of a single voice, accompanied by instruments, is its proper form of composition. Thus we find it in the higher order of musical works; as in cantatas, oratorios, operas, and also, independent, either to be constituted of euphonic simple lyric strains. An air formerly supposed as its ground-work a particular state of feeling or emotion, of a certain duration, expression, and interest, to which the recitative is generally preparatory. Formerly, too, as essential to an air, a symphony, expressing the burden of the stanzas or couplets of the song (riornetto, or refrain), was introduced as tributary to the leading melody, which was followed by another and less elaborate part, forming the antithesis, to which was subsequently added a repetition of the first part. Sometimes the days of Gluck and Mozart, these have declined, and other forms have been adopted, particularly by Mozart, more conformable to poetry, and more expressive of the sentiments and situation of the singer. Still Mozart could not entirely withstand the prevailing taste, with reference to which he produced numerous bravura airs, not always in character, yet not wanting in expression and effect. Another form of airs are the cavatinas (or single stanzas), lately introduced by the Italians, and calculated to add grace and embellishment to the song. At the present day, the Germans either adopt this or make use of other forms, as the da capo arioso (for which see the preceding article) less elaborate air, designed to express a more simple and transient emotion.—Arioso is also applied to music resembling the aria, and is inserted in single lyrical passages to vary the recitative.

Air-guns; an instrument for the projection of bullets by means of condensed air. The ancients were acquainted with the principles of its construction, and an instrument of this description was invented by Cesbius of Alexandria, who flourished about 120 B.C. The first modern account of an air-gun, which we meet with, is in the Elements d'Artillerie of David Rivaut, preceptor to Louis XIII. of France.

Air-pipes; a recent invention for the ventilation of ships by means of the revolving power of heat. Mr. Sutton, a brewer of London, is the inventor. If the usual aperture to any fire be closed with a sheet of glass, and another vessel placed by the side of the first place, it will attract the current of air into that direction; and the copper, or boiling-places of ships, are well known to be placed over two holes, separated by a grate, the one for the fire, the other for the ashes; there is also, in some discharging canals, a grate like Mr. Sutton's pipes, now, are introduced into the ash-place, and carried through the hold to any part of the vessel. The two holes
before alluded to are closed up by strong iron doors; a continued draught of air supplies the fire, and creates a salutary circulation through any part of the vessel into which the pipes may be directed. They are made either of copper or lead.

AIR-PUMP: a machine for the purpose of withdrawing the air from some vessel or cavity, and thereby making what is called a vacuum. It is one of the most curious and useful of philosophical instruments. By experiments with it, the weight, elasticity, and many other properties of air may be shown in a very simple and satisfactory manner.—Let R be the section of a glass bell, closed at the top T, but open at the bottom, and having its lower edge ground smooth, so as to rest in close contact with a smooth brass plate, of which SS is a section. This glass is called a receiver, because it receives and holds substances on which experiments are to be made. If a little unctuous matter be rubbed upon the edge of the receiver R, and it be pressed with a slight circular motion upon the plate SS, it will be brought into such close contact as to be air-tight. In the middle is an opening A, which communicates by a tube AB with a hollow cylinder or barrel, in which a solid piston P is moved. The piston-rod C moves in an air-tight collar D, and at the bottom of the cylinder a valve V is placed, opening freely outward, but immediately closed by any pressure from without. There is thus a free communication between the receiver R, the tube AB, and the exhausting barrel BV. This communication extends in the same manner to a second similar barrel XV. When the piston CP is pressed down, and has passed the opening at B, the air in the barrel BV will be enclosed, and will be compressed by the piston. As it will thus be made to occupy a smaller space than before, its density, and consequently its elasticity, will be increased. It will therefore press downwards upon the valve V with a greater force than that by which the valve is pressed upwards by the external air. This superior elastic force will open the valve, through which, as the piston descends, the air in the barrel will be driven into the atmosphere. If the piston be pushed quite to the bottom, the whole air in the barrel will be thus expelled. The moment the piston begins to ascend, the pressure of the air from without closes the valve completely. None of the external air can enter; and, as the piston ascends, a vacuum is left beneath it; but, when it rises beyond the opening B, the air in the receiver R and the tube AB expands, by its elasticity, so as to fill the barrel BV. A second depression of the piston will expel the air contained in the barrel, and the process may be continued at pleasure. The communication between the barrels and the receiver may be closed by a stop-cock at G, E. It is only in consequence of the elasticity of the air that it expands and fills the barrel, diffusing itself equally throughout the cavity in which it is contained. The operation of the machine depends, therefore, on the elasticity of the air, and it is obvious that a perfect vacuum cannot be formed by it in the receiver, as only a part of the air is each time expelled, and a portion must always remain after each depression of the piston. The degree of rarefaction produced by the machine may, however, be easily calculated. Suppose that the barrel contains one third as much as the receiver and tube together, and, therefore, that it contains one-fourth of the whole volume, namely, a. V. Upon one depression of the piston, this fourth part will be expelled, and three-fourths of the original quantity will remain. One-fourth of this remaining quantity will in like manner be expelled by the second depression of the piston, which is equal to three-sixteenths of the original quantity. Continuing in this way, it will be found that after thirty depressions of the piston, only one 3096th part of the original quantity will be left in the receiver. The rarefaction may thus be carried so far that the elasticity of the air pressed down by the piston shall not be sufficient to force open the valve. To show how far the exhaustion has been carried at any particular point of the process, a barometer-gauge is connected with the machine. This is a glass tube, opening at E into the receiver, and at F immersed in a cistern of mercury. As the rarefaction proceeds, the mercury rises from the pressure of the external air, and indicates how far this pressure exceeds that from within the receiver, that is, the degree of exhaustion. Both pistons are worked by the wheel H and winch Y, by means of the rack or tooth-work on the piston- rods. When one piston is raised, the other is depressed. The winch is fixed in the opposite turned in the opposite direction, and the piston which has been raised is depressed, and the other raised. When the rarefaction of the air within the barrels is considerable, the pressure of the atmosphere upon each piston is not resisted from within, and therefore opposes its ascent. But this pressure is not felt by the operator, as the pressure upon one piston counterbalances that upon the other. The elasticity of the air is proved by the action of the machine. Its pressure is proved by the great firmness with which the receiver is pressed upon the plate SS during the rarefaction of the air within. If any animal is placed beneath the receiver, and the air exhausted, the same immediate effect is produced as if a lighted candle under the exhausted receiver immediately goes out. Air is thus shown to be necessary to animal life and to combustion. A bell, suspended from a silken thread beneath the exhausted receiver, on being struck, cannot be heard. If the bell be in one receiver, from which the air is not exhausted, but which is within an exhausted receiver, it still cannot be heard. Air is therefore necessary to the production and to the propagation of sound. A shrivelled apple or cranberry, placed beneath an exhausted receiver, becomes as plump as if quite fresh. They are thus shown to be full of elastic air. A great variety of experiments may be made, which are very interesting, but too numerous to be described.—The air-pump was invented by Otto de Guericke, burgo-
master of Magdeburg, about the year 1654. Modifications and improvements were afterwards made by Boyle, Hawksbee, Morton, and many others. It is made in various forms, one of the simplest of which is that already described.—The following cut represents the air pump as it is usually constructed.

Air-trunk; a contrivance by Dr Hales to prevent the stagnation of putrid effluvia in jails, or any apartments where many people are collected. It consists of a long, square trunk, open at both ends, one of which is inserted into the ceiling of the room, and the other extends a considerable distance beyond the roof. Through this trunk a continued circulation is carried on, because the putrid effluvia are much lighter than the pure atmosphere. Dr Keil estimates these effluvia arising from one man in twenty-four hours at not less than thirty-nine ounces. These trunks were first tried in the English house of commons, where they were nine inches wide within, and over the court of king's bench, where they were six inches wide.

Assiz (Denois), a lady well known for her romantic adventures and unhappy fate, was born in Circassia, 1659, and was purchased by the count de Ferriol, the French ambassador at Constantinople, when a child of four years, for 1500 livres. The seller declared her to be a Circassian princess. She was of great beauty. The count took her with him to France, and gave her an education, in which nothing was neglected but the inculcation of virtuous principles. Her disposition was good, but her life immoral. She sacrificed her innocence to the solicitations of her benefactor. On the other hand, she resisted the splendid offers of the duke of Orleans. Of her numerous suitors, she favoured only the chevalier Aky, This love decided her fate. Aky had taken the vows at Malax; he wished to disengage himself from them; but his mistress herself opposed the attempt. The fruit of her love was a daughter, born in England. She was subsequently a prey to the bitterest remorse; she resisted her passion in vain, and lived in a continual struggle with herself, which her weak health was unable long to sustain. She died in 1757, aged thirty-eight. Her letters are written in a pleasant and fluent strain, and exhibit a lively picture of the author's feelings. They contain many anecdotes of the prominent personages of her times. They first appeared with notes by Voltaire, subsequently with the letters of Messiaens de Villars, Lafayette, and de Tencin, 1806, 3 vols.

Air-trunk—Aix la Chapelle.

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Assiz (Denois), a lady well known for her romantic adventures and unhappy fate, was born in Circassia, 1659, and was purchased by the count de Ferriol, the French ambassador at Constantinople, when a child of four years, for 1500 livres. The seller declared her to be a Circassian princess. She was of great beauty. The count took her with him to France, and gave her an education, in which nothing was neglected but the inculcation of virtuous principles. Her disposition was good, but her life immoral. She sacrificed her innocence to the solicitations of her benefactor. On the other hand, she resisted the splendid offers of the duke of Orleans. Of her numerous suitors, she favoured only the chevalier Aky. This love decided her fate. Aky had taken the vows at Malax; he wished to disengage himself from them; but his mistress herself opposed the attempt. The fruit of her love was a daughter, born in England. She was subsequently a prey to the bitterest remorse; she resisted her passion in vain, and lived in a continual struggle with herself, which her weak health was unable long to sustain. She died in 1757, aged thirty-eight. Her letters are written in a pleasant and fluent strain, and exhibit a lively picture of the author's feelings. They contain many anecdotes of the prominent personages of her times. They first appeared with notes by Voltaire, subsequently with the letters of Messiaens de Villars, Lafayette, and de Tencin, 1806, 3 vols.
bronze. On the spot where, in ancient times, a Roman castle stood, the kings of the Franks built a royal palace, which was burnt by the Emperor Henry IV. It was restored, A.D. 882, by the Normans, restored by the emperor Louis II of Burgundy, and used in the 14th century as the town-house. This building contains many relics of old German art, the hall where the emperors were crowned, the bust of Napoleon and his first empress, painted by David, a tower of Roman origin, &c. The minster was erected between the years 796 and 804, by the emperor Charlemagne, and was ornamented with great splendour. In the middle rises the monument of Charlemagne, with the simple inscription, Carolo Magno. A hole in the base, formerly a cell for the coronation crown of silver and gilt copper, a donation of Frederick I., which serves as a chandelier for forty-eight candles. Here is to be seen the chair of white marble, on which several emperors have sat at the time of their coronation. It was formerly overlaid with gold. The church of the Franciscans is distinguished by a beautiful picture of Rubens, the Descent from the Cross, which was carried to Paris, but has been brought back. The inhabitants are for the most part catholics, many of whom are actively engaged in manufactures. The cloths of A. are famous on the continent. To these the name of the town is indebted about the middle of the 16th century, by Gauthier Wolmar, formerly employed more than 15,000 workmen, but in the year 1808 only 8000. A. contains fifteen charitable institutions; it has seven mineral springs, six of them warm. The most famous is the imperial spring, the vapour of which, if confined, deposits sulphur. The rooms for bathing are excellent, with baths from four to five feet deep, in massive stone, after the old Roman fashion; the greater part have bed-chambers with chimneys. At a distance of 500 paces from A. lies the village of Burscheid, which also contains hot springs. The upper springs are in the village itself, the lower in the valley, in the open air. The water is useful for washing and dyeing cloths. The upper springs contain no hepatic gas, and deposit no sulphur; in this respect they differ from the lower, and those of A. There are also in Burscheid manufactures of broadcloth, cassimere, and needles. The coal-mines and pyrites in the surrounding country account for the hot-wells of A. and B. The names of several streets, Alexander, Francis, Wellington street, remind us of the congress of A. in 1818. (See the following article.) The rest of A.'s manufacture consists of building materials, silk with B., and Spa, by Aloys Schreiber, Heidelberg, 1824, is the best guide-book for travellers on the Rhine.

AIX LA CHAPELLE. Congress at. In modern politics, the congress at A. in Oct. and Nov., 1818, is of high importance. The principal measures determined on at this meeting of the great powers which had conquered Napoleon, were the following: 1. The army of the allies, consisting of 150,000 British, Russian, Austrian, Prussian, and other troops, which, since the second peace at Paris, had remained in France, to which over its tranquillity, was withdrawn after France had paid the contribution imposed at the peace of 1815. The king of France was then admitted into the holy alliance. Thus the congress of A. restored independence to France. 2. The five allies, the emperors of Austria and Russia, and the king of Prussia, issued an order in arms on 29th May, 1818, at this time the famous declaration of Nov. 15, 1818, a document of very dangerous tendency, too indefinite to settle any of the important political questions then pending, but full of the personal views and feelings of the monarchs, and the legitimate offspring of the holy alliance concluded Sept. 30, 1814, at Paris. The friends of absolute government in Europe, who confounded the idea of the reigning family with that of the crown and the government, admired the paternal professions of the sovereignty in this instrument, which is principally of a religious character; but sagacious politicians and the friends of justice foresaw all the evils which it afterwards produced. Its vagueness admitted of a great latitude of construction, and it was soon followed by a breach of the law of nations in the invasion of Italy and Spain under the newly-declared droit d'intervention armée, promulgated at Layboch, a direct consequence of the doctrines advanced at A. The holy alliance, with all the declarations of the succeeding congresses, affords the first instance of an avowedly personal alliance between many monarchs to maintain certain principles of government, and attack every nation within their reach which adopts a different political creed. After the termination of the struggle against Napoleon, in which princes and people were firmly united, the former anxiously separated their interests from those of the latter, and at the congress at A. they openly manifested the designs which every succeeding congress has developed more clearly. (See Holy Alliance.) The king of France, at this congress, had the unique honour of being received by the emperor of the holy alliance, only in his personal character, not as the constitutional chief of the French government, following the example of George IV. then prince regent of Great Britain. In fact, the accession of these two sovereigns was only to avoid appearing directly opposed to the alliance. 3. From the congress of A. are to be dated all the decisive measures of the German governments against the liberal spirit which had spread among their subjects since the wars of Napoleon. In A. it was first seen how unwilling the King of Prussia was to fulfil his promises of liberal institutions, and how anxiously Austria desired to suppress whatever tended to give force to public opinion, to secure the rights of the people, or promote the cause of representative government. At A. M. Sontzau, a Russian subject, published his influential work, Mémoire sur l'État actuel de l'Allemagne. The congress at A. in Carlsbad (q. v.) was an immediate consequence of the congress at A. It had reference, however, only to Germany. History will point out the period of these congresses as the era of violent political bigotry, corresponding to the former ages of religious bigotry in its principles as in its measures. (See M. de Pradt's D'histoire actuelle de l'Europe, vol. 13, 1818.) For the congress at A. in 1748, see the following article.

AIX LA CHAPELLE. Treaties of peace concluded at. The first, May 24, 1668, put an end to the war carried on against Spain by Louis XIV., in 1667, after the death of his father-in-law, Philip IV., in support of his claims to a great part of the Spanish Netherlands, which he urged in the name of his queen, the infanta Maria Theresa, pleading the fas devolutionis, prevailing among private persons in Brabant and Namur. Condé had already conquered Franche-Comté, and Turenne had taken ten fortresses, when the triple alliance, concluded by de Witt and Sir William Temple (see Witt and Temple), determined France to make peace with Spain, on conditions which were very far from being satisfactory to the allies, and ratified at A. Spain had the option to surrender either the Franche-Comté or the fortified places in the Netherlands. She chose to give up the ancient Burgundy, the Spanish fortresses Lille, Chanteco, Binch, Donin, Tourma, Oudenaarde, and...
six others, together with their appendages (See Scholl, Hist. des Traitéz, &c. 1. 381.). The second peace of A. Oct. 18, 1748, terminated the Austrian war of succession (See Austria), in which the parties were at first Louis XV. of France and the emperor Maria Theresa, and, in the sequel, Spain on one side, and Great Britain, Maria Theresa, and Charles Emanuel, king of Sardinia, on the other. In this war, the united Netherlands were engaged as allies of Great Britain and Austria, Modena and Genoa as allies of Spain. Maria Theresa surrendered to Philip, infant of Spain, Parma, Piacenza, and Modena, while the fourth line of the house of Bourbon, that of Parma (since 1817 established in Lucua), took its origin. On the whole, the state of possession before the war was restored, the pragmatic sanction and the succession of the house of Hannover in Great Britain guaranteed, and Silesia and Glatz secured to the king of Prussia. A Russian auxiliary army of 37,000 men, under prince Repnin, in the pay of the naval powers, approaching, in the spring of 1748, from Bohemia to the Rhine, accelerated the conclusion of the peace. The plenipotentiaries of France, Great Britain, and the Sardinian, met at Aix-la-Chapelle, and on 30th July 1748, signed the preliminaries, four copies of which were presented to the other powers engaged in the war, and signed by them separately. Charles Stuart, the eldest son of the pretender, protested, at Paris, July 16, against the exclusion of his father, who called himself James III. from the British throne. The above-named three powers first signed, in like manner, the definitive peace, whereupon Spain, Genoa, and Modern, July 20, and Austria, July 23, (by her plenipotentiary, count, afterwards prince Kaunitz), did the same. (See Scholl, i. 411, et seq.)

AJAZZO, an island in the gulf of Gaeta.

AJAZZO (see A.); a celebrated Samian conqueror in the first century of the Hegira, who overran Africa from Cairo to the Atlantic ocean. A general revolt among the Greeks and Africans recalled him from the west, and occasioned his destruction. He founded Cairo in the interior of Africa, to check the barbarians and secure a place of refuge to the families of the Saracens.

AJAR, or Ajab, Mohammed, sovereign of India; the greatest Asiatic prince of modern times. He was born at Amrakot, in the year of the Hegira 940 (1542 of the Christian era), and, after the death of his father, ascended the throne, at the age of thirteen, and governed India under the guardianship of his minister, Beyram. His great talents were early developed. He fought with distinguished valour against his foreign foes and rebellious subjects, among whom his Beyram himself. The treatment of the last mentioned was remarkable for its mildness and the greatest toleration towards all sects. Though compelled by continued commotions, to visit the different provinces of his empire at the head of his army, he loved the sciences, especially history, and was indefatigable in his attention to the internal administration of his empire. He instituted inquiries into the population, the nature and productions of each province. The result of his statistical labours were collected by his minister, Abul Fazl, in a work, entitled Ayeen Ajabhi, printed in English, at Calcutta, 1788, 3 vols, and reprinted in London. A. died after a reign of 39 years, in 1017 (1604, A. D.). His splendid sepulchral monument still exists near Agra, with the simple inscriptions, Ajab the Admirable. He was succeeded by his son Selum, under the name Djaungir.

AJEBI, Mark, a poet and physician, was born in 1721, at Newcastie-upon-Tyne. His father, a butcher, of the presbyterian sect, intended him for a clergyman, and placed him, at the age of 18, in the university of Edinburgh, to qualify him for that office. The taste of A. was not inclined to that profession; and he abandoned the study of theology for that of physic. Having received some assistance from the funds employed by the Dissenters in the education of young men intended for the ministry, he very honourably refunded the amount when he relinquished his theological studies. After three years residence at Edinburgh, he went to Leyden, and in 1744, received his degree, De Ortu et Incrcimento Factus Humani, he proposed a new theory, which has been since confirmed and received. In the same year, he published the Pleasures of Imagination, which was written during his residence at Edinburgh. In the following year, he published a collection of odes, along, bound as a captive. Some accounts add, that she caught hold of the statue of the goddess, and that A. dragged her away by the hair; others, that he violated the prophetess in the temple of the goddess. Ulysses accused him of this crime, when he exulted himself with an oath. But the anger of the goddess at last overtook him, and he perished in the sea. Ajax deplored his error, and near the island of Telamon, from Salamis, and a grandson of Ares. He, also, was a suitor of Helen, and sailed with 12 ships to Troy, where he is represented by Homer as the boldest and handsomest of the Greeks, after Achilles. He used Beerym himself to his government how to act. He was frank, and full of noble pride. After the death of Achilles, when his arms, which Ajax claimed on account of his courage and relationship, were awarded to Ulysses; he was filled with rage, and, driven by despair, threw himself on his sword.
and the epistle to Curio, a satire on Pulleney. After having unsuccessfully attempted the practice of his profession at Hampton and Hampstead, he was invited by Mrs. le Poer Tasma to the island of Mauritius, from which he received a pension of £300 a-year. Here he became a fellow of the royal society, was admitted into the college of physicians, and read the Gulstonian lectures in anatomy, but never obtained a very extensive practice. He was, however, nominated physician to the queen. While at London, he wrote little poetry, but published several medical essays and observations. His discourses on the dysentery (1764) has been much admired for the elegance of its Latinity. He died in 1770, in the 49th year of his age, of a putrid fever. A. was a man of religion and strict morals; a philosopher, a scholar, and a fine poet. His conversation is described to have been of the most delightful kind, learned and instructive, without any affectation of wit, cheerful and entertaining. Yet his pride, insolence, and insolvency involved him in frequent disputes, and prevented his success in the practice of his profession. His favourite authors were Plato and Cicero among the ancients, and Shaftesbury and Hutchinson among the moderns. The ridicule cast upon him by Smollett, in the novel of Peregrine Pickle, where he figures as the giver of a feast after the manner of the ancients, is not to be supposed to entitle him to a very high rank in lyric poetry; his epistle to Curio is written in a tone of vigorous and poignant satire. He is particularly distinguished as a didactic poet, and has left in his Pleasures of Imagination one of the most pleasing didactic poems in our language. The periods are harmonious, the cadence graceful, and the measure dignified. It is replete with elevated sentiments, with images of poetic beauty and high philosophy. The sentences are sometimes extended to too great length, splendid imagery too much accumulated, and the thought sometimes too thickly overlaid with words. These faults he endeavoured to correct in the new edition, in which many other changes are introduced; but the original will always be more read and admired.

Akersblad, John David; by birth a Swede. When very young, he accompanied the Swedish embassy to Istanbul, and there received the leisure which his station afforded, he employed in travelling through the East. He visited Jerusalem and the Troad in 1792 and 1797; and has offered some suggestions respecting the situation of the city of Troy, in the German translation of Le Chevrelier's travels through Asia Minor. He translated many works of the learned orientalist. For some time, about the year 1800, he lived in Gottingen, and then went to Paris, as Swedish chargé d'affaires. Discontent at the changes in his native country is said to have induced him to throw off all connexion with Sweden, and retire to Rome, where he received from the duchess of Devonshire, and other friends of literature, the means of living in literary leisure. He died at Rome, Feb. 8, 1819. His writings display a great knowledge of the oriental and western languages, which he could speak as well as interpret. Among them are his Lettre à M. Silvestre de Sacy, sur l'Écriture cursive Copte (Mag. Encyc., 1801, tom. v.); the Lettre à M. de Sacy, sur l'Inscription Egyptienne de Rosette (id. 1802, tom. iii.); his famous explanation of the inscriptions on the lions at Venice, Notice sur deux Inscriptions en Caractères Chinois (1801); and the Câdences et Romanizages, avec les Remarques de M. d'Ausse de Villiosa; Equally important, both for the knowledge of ancient writings and of inscriptions, is the Inscription Grecque sopra una Laminia di piombo Trovato in un Sepolcro nelle Vicinanze d'Atene (Rome, 1813, 4to), in improving which he was employed when surprised by death. The last of his works, that appeared in print, was a Lettre sur une Inscription de Phenicienne trouvée à Athines (Rome, 1814, 4to.), addressed to count Jutinsky. The national Institute at Paris chose him a corresponding member of their society. He lies buried near the pyramid of Cestius, at Rome.

Ackerman, or Ackerman (the ancient Julia Alba and Hercules Poecilus); a town in Bessarabia, a province of Russia, on the coast of the Black sea, at the mouth of the Dniester, 65 miles S.E. of Bender, 68 S.W. of Otchakow; lon. 30° 44' E.; int. 46° 12' N.; pop. stated very differently; formerly at 20,000, more recently at 8000. It contains a number of mosques, one Catholic and one Armenian church, and has some trade. A. has recently acquired some celebrity by the treaty between Russia and Turkey, there concluded, Oct. 6, 1826, in which the latter power agreed to the 82 points of the Russian ultimatum. This treaty is a supplement to the peace of Bucharest. The país bordered north and east by Russian Nichelas has all the fortresses in Asia of which it had previously demanded the restoration, and acknowledged the political organization (if we dare use this expression for so rude a state of politics) which Russia had determined on for Servia, Moldavia, and Wallachia. But Russia is but the instrument of a great power, and then not to the satisfaction of Russia. This furnished the ostensible reason of the late war between the two great eastern powers.

Alabama, one of the United States of America; bounded N. by Tennessee, E. by Georgia, S. by Florida and the gulf of Mexico, and W. by Mississippi; lon. 85° to 88° 50' W.; int. 30° 10' to 35° 4' N.; 330 miles long, from N. to S., and 174 from E. to W.; square miles, about 51,000; pop. in 1810, less than 10,000; in 1816, 29,683; in 1818, 70,544; in 1820, by the imperfect census at first returned, 187,951; by the census as subsequently completed, 149,317; in 1827, 244,041, of whom 129,178 were whites, 93,308 slaves, and 555 free persons of colour. The last estimate of the number of Indians within the territory of the United States, by the war department, in 1829, states that there are 13,500 Indians in the state of A. — The part of the country into which this state was divided in 1820, was 24; and in 1828, 36. Tuscaloosa is the present seat of government. Cahawba was formerly the capital. Mobile is the principal port, (q.v.) — The principal rivers are the Alabama, Tombecoke, Mobile, Black-water, Tallapoosa, and Warrior, a number of which connect to the Mobile, Tallapoosa, Perdido, Cahawba, and Conoeub. — The southern part of the state, which borders on the gulf of Mexico and Florida, throughout a space fifty or sixty miles wide, is low and level, covered with pine, cypress, and lobolly; in the middle it is hilly, with some tracts of open land or prairies; in the northern part it is something broken and mountainous. The Alleghany mountains terminate in the north-east part. The forest-trees in the middle and northern divisions are post, black, and white oak, hickory, poplar, cedar, chesnut, pine, mulberry, &c. — The soil is various, but a large part of it is excellent. In the south it is generally sandy and barren; and a part of the high lands are unfit for cultivation. A large portion of the country which lies between the Alabama and Tombecoke, of that part watered by the Coosa and Tallapoos, and of that on the Tennessee, contains the very finest land. On the margin of the rivers there is a quantity of clay, and a great deal of land of great fertility, generally from one-half to three-fourths of a mile wide. On the outside of this is a space which is low, wet, and intersected by stagnant water. Next to this river swamps, and elevated ten
ALABAMA in a (see Cahawba, and commerce, produced soil, the feet long. The Coosa was a navigable river in the state. The junction of the Cahawba, about 150 miles, the river has four or five feet of water. From the mouth of the Cahawba to the junction of the Coosa and Tallapoosa, the navigation generally continues good, the river affording three feet of water in the shallowest places. The river is subject to great variation by rising and falling.

ALABAMA; a tribe of Indians so called, which formerly inhabited the eastern side of the Mobile river.

ALABASTRERS (in Greek, alabastrai; in Latin, alabaster), in mineralogy; (see Gypsum.) In sculpture, the common name, among ancient and modern artists, for gypsum and the calc-sinter of modern mineralogy. A., has a greater or less degree of transparency, according to its goodness; has a granular texture, is softer than marble, does not take so fine a polish, and is usually of a pure white colour. In Europe, it is found near Colnhausen in Germany; in the neighbourhood of Chiny, in France; in Italy, near Rome. Some of the A. near this city is particularly celebrated for its whiteness and the size of its blocks, which are large enough for a statue of the same size of life.

There are, also, many quarries of the gypsum, which is used for the manufacture of plaster of Paris, in Nottinghamshire and Derbyshire. To prepare the plaster, the gypsum is burned and ground. Moulds and casts from statues and other sculptures are formed from this valuable material, and are sometimes found and used in building. The elevated country, the climate is very fine; the winters are mild, and the summers pleasant, being tempered by breezes from the gulf of Mexico. The population of this state, from the time when the first settlement was commenced, has increased with remarkable rapidity. Occupying the valley of the Mobile and its tributary streams, the Alabama and Tombigbee, its position, in an agricultural and commercial point of view, is highly advantageous; and from the fertility of its soil, and the value of its productions, it may be expected to become an important part of the Union. The Cherokee Indians occupy the N. E. corner of the state, the Creeks the eastern part, and the Chickasaws and Choctaws some portions of the western. Alabama originally belonged to the state of Georg.; in 1800, the country including the present states of Mississippi and Alabama was formed into a territory, the part of Florida between Pearl and Perdido rivers, being taken possession of by the United States in 1812, and annexed to this territory, emigration into it immediately commenced. During the years 1813 and 1814, it was harassed by the attacks of the savages, who were reduced by submission to general Jackson. In 1817, the western portion of the territory became the state of Mississippi, and the eastern the territory of Alabama, which by an act of congress, March, 1819, was admitted into the Union as an independent state. By its constitution, adopted July, 1819, the legislative power is vested in two houses, chosen by universal suffrage. Many of the settlers in this state are rich planters. Some of the lands were sold for 50 dollars an acre in a state of nature. The fertility of the soil, the general salubrity and mildness of the climate, the great facilities for internal navigation and foreign commerce, sufficiently account for the rapid increase of its population.

ALABAMA; a river which gives its name to the state so called; (see the preceding article). It is formed by the junction of the Coosa and Tallapoosa, and, flowing S. S. W., unites with the Tombigbee, forty-five miles above Mobile bay, to form the river Mobile. From the junction to Clairborne, sixty miles, it is navigable at all seasons for vessels drawing six feet. From Clairborne to the mouth of the Cahawba, about 150 miles, the river has four or five feet of water. From the mouth of the Cahawba to the junction of the Coosa and Tallapoosa, the navigation generally continues good, the river affording three feet of water in the shallowest places. The river is subject to great variation by rising and falling.

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ALAMANS; a range of hidden rocks, shoals, and banks, in the gulf of Mexico, near the coast of Yucatan. Lon. 90° W.; lat. 22° 30' N.

ALAMO, ALADA by ALA. 'East,' a cluster of small islands in the bay of Bengal, belonging to what is sometimes called the Mergui Archipelago, near the coast of Siam. They run from 9° 5' to 9° 40', N. Int., and are in 97° 52', E. lon.

ALAMANNI, Luigii; a famous Italian poet, born at Florence, in 1455, of one of the noblest and most distinguished families of the republic. An able statesman, he was so zeally devoted to the party of the Medici, and he himself stood in high favour with the cardinal Giulio, who governed in the name of pope Leo X.; but, conceiving himself to have been injured, he joined a conspiracy formed against the life of the cardinal. Being discovered, he was condemned to die in Venice, and, when the cardinal ascended the papal chair, under the name of Clement VII., he took refuge in France. But the misfortunes which befell this pope giving Florence an opportunity to become free, in 1527 A. returned thither. His country sent him an embassy to Genoa. Here he became the friend of Andrea Doria, with whose fleet he went to Spain. Charles V. soon after sailed in the same fleet from Spain to Italy, to arrange the affairs of Florence, and subject it to the Medici. After this new revolution, A., proscribed by the duke Alessandro, went to France, where the favours of Francis I. retained him. Here he composed the greater part of his works. The King esteemed him so highly, that, after the peace of Crespy, in 1544, he sent him as ambassador to the emperor Charles V. A. discharged his office with great skill. He was held in like esteem by the king of France, Henry II., who also employed him in several negotiations. He followed the court, and was with it at Amboise, when he was attacked with the dysentery, which terminated his life. His principal works are a collection of poems, elegoes, odes, satire, elegies, fables, &c., part in blank verse, the invention of which is contested with him
by Trissino; Ope re Toscan, a didactic poem; La Coltivazione, to which he is mostly indebted for his fame; Gionne il Cortese, a heroic poem, in 24 can-
tos, from an old French poem of the same name; La Avarichile, an epic, in which he describes, in a few thousand lines, the devastation of Bourges (Avaricum) likewise in 24 cantos; Flora, a comedy in versi siciliosci (see Rhyme); and a number of epigrams. The writings of A. are recom-
manded by ease, perspicuity, and purity of style, but often want strength and poetic elevation.

A LAMIRE, in music, an Italian method to de-
terminate the key of A, by its dominant, and subdomi-
nant A E D. In the Guidonian scale of music, a-
la-mi-re is the octave above a-re, or A in the first
space in the base.

ALAN, or Allen, William, was born in Lancashire,
in 1539. Being warmly attached to the Roman cat-
tholic religion, he left England on the accession of
Elizabeth; and, though he soon after returned, he
lived in the greatest privacy, and finally fled to
Flanders. He was, both during this concealment in
England and his residence abroad, actively engaged in
narrating and distributing picromaratical traditions
one of the ablest advocates of Rome. He asserted
the necessity of desposing Elizabeth, maintained that
hereby absoluted subjects from their allegiance, and
recommended the invasion of England by the
Spaniards. For these services he was created a car-
dinal, and continued to reside at Rome till his death,
in 1564.

ALAND, a cluster of islands in the gulf of Both-
nin; 59° 47' to 60° 32' N. lat., and 18° 47' to 21°
37' E. long. They contain 13,340 inhabitants, of
whom more than 5000 belong to the principal island
of the same name, which is forty miles long, and
thirty broad. Above eighty of these islands and
rocks are inhabited. They contain some good har-
bours. In 1809, this cluster of islands, together with
Finland, was made over by Sweden to Russia. The
government founded a city there, and fortified some
spots. The ground is so stony, and the soil so thin,
that the crops sometimes wither in hot summers.
Several circumstances conspire to make the Aland
isles the principal rendezvous of the Russian fleets,
which ride there secure in fortified harbours. These
circumstances are, the early breaking of the ice in
spring; the lateness of the period till which the har-
bours can be utilized; the marked reverse of true
ice, on account of the strong currents which cross there
from the gulf of Bothnia and Finland; the facility
of observing the ships entering Lake Maler, and of
watching the Swedish coasting trade along the right
coast of the gulf of Bothnia, as well as of protecting
the Russian coasting trade on the left shore of the
same gulf.

ALAN, or ALANS; one of the warlike tribes
which migrated from Asia westward at the time of
the decline of the Roman empire. They appear to
have lived along the heart Caucas. A part of the
tribe (about 375 A. D.) was conquered by the Huns;
another part turned their steps towards the west,
probably drove the Vandals and Suevi from their
abodes, and passed with them over the Rhine into
France and Spain (about 407). The Visigoths
drove them from hence or reduced them to subjec-
tion, and, since 412, they are lost among the Van-
dals. (q. v.)

ALARIC, king of the Visigoths; the least barbar-
ian of all the conquerors who ravaged the Roman
empire. History first mentions him about A.D.
395, when the Goths were united with the armies
of Theodore I. In Great, he conquered the crops
in Roman, who menaced the western empire. This alliance
disclosed to A. the weakness of the Roman empire,
and inspired him with the resolution of attacking it
himself. The dissensions between the two sons and
successors of Theodosius, Arcadius, and Honorius,
and their ministers, Rufinus and Stilicho, facilitated
the execution of his purpose; and, though the brave
flight of Stilicho was only to the city of
Boulogne (Avaricum) likewise in 24 cantos; Flora, a
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ALAND, a cluster of islands in the gulf of Both-
nin; 59° 47' to 60° 32' N. lat., and 18° 47' to 21°
37' E. long. They contain 13,340 inhabitants, of
whom more than 5000 belong to the principal island
of the same name, which is forty miles long, and
thirty broad. Above eighty of these islands and
rocks are inhabited. They contain some good har-
bours. In 1809, this cluster of islands, together with
Finland, was made over by Sweden to Russia. The
government founded a city there, and fortified some
spots. The ground is so stony, and the soil so thin,
that the crops sometimes wither in hot summers.
Several circumstances conspire to make the Aland
isles the principal rendezvous of the Russian fleets,
which ride there secure in fortified harbours. These
circumstances are, the early breaking of the ice in
spring; the lateness of the period till which the har-
bours can be utilized; the marked reverse of true
ice, on account of the strong currents which cross there
from the gulf of Bothnia and Finland; the facility
of observing the ships entering Lake Maler, and of
watching the Swedish coasting trade along the right
coast of the gulf of Bothnia, as well as of protecting
the Russian coasting trade on the left shore of the
same gulf.

ALAN, or ALANS; one of the warlike tribes
which migrated from Asia westward at the time of
the decline of the Roman empire. They appear to
have lived along the heart Caucas. A part of the
tribe (about 375 A. D.) was conquered by the Huns;
another part turned their steps towards the west,
probably drove the Vandals and Suevi from their
abodes, and passed with them over the Rhine into
France and Spain (about 407). The Visigoths
drove them from hence or reduced them to subjec-
tion, and, since 412, they are lost among the Van-
dals. (q. v.)

ALARIC, king of the Visigoths; the least barbar-
ian of all the conquerors who ravaged the Roman
empire. History first mentions him about A.D.
395, when the Goths were united with the armies
of Theodore I. In Great, he conquered the crops
in Roman, who menaced the western empire. This alliance
disclosed to A. the weakness of the Roman empire,
We are informed by baron Tott, who saw the cere-
mony which accompanied the breaking out of a war
between Russia and the, porte, that the A. consists
of a kind of masquerade, in which the different
tradesmen exhibit the imperial insignia of their re-
ciprocal arts, and their mode of operations. (A similar ex-
hibition of various trades was seen in the procession
formed to celebrate the commencement of the rail-
road at Baltimore, July 4, 1828; and in the more
recent reform processions which have taken place in
Scotland.) The mechanics are followed by the
standard of the prophet Mahomet, brought from the
senglio, to be carried to the Ottoman army. This
sacred banner is viewed with fanatical reverence.
None but emirs are allowed to touch it; and the
very look of an infidel is said to be sufficient to pro-
fane it. The A. having been almost forgotten, from
the long peace which preceded the war above-men-
tioned, the Christians imprudently crowded to wit-
ess the exhibition; the emir, who preceded the
holy standard, cried with a loud voice, "Let no in-
fidel profane with his presence the banner of the
prophet!" Mussulmans who perceived an unbeliever,
make it known under pain of repro-
bation." At these words, the fanaticism of the
Turks was roused, and a horrid massacre of the
Christians began, in which no age and neither sex
was spared.

Alba Longa; a considerable city of Latium; ac-
cording to tradition, built by Aesanius, the son of
Aenes; governed, after the death of its founder, by
Aenes Sylvius, the second son of Aenes. It was
the birth-place of Romulus and Remus, the
parents of Rome, under whose dominion it fell, in
consequence of the victory of the Romans in the con-
test between the Horatii and Curatii. The beautiful
lake of Albano, with its causal, and the castle of
Gondolfo, still remind us of A. (See Niebuhr's Ro-
man Hist.).—There was also a city of Alba near the
Lacus Fucinus, a town of the Marsi; an A. Pom-
pea in Luceria, and an A. Julia, now Weissenburg,
in Transylvania.

Alban, St., lived in the 3d century, and is said to
have been the first person who suffered martyrdom
for Christianity in Great Britain. He was born
near the town which now bears his name, in Hert-
sfordshire. He served several years as a mercenary
soldier, under the emperor Diocletian. Returning
to Britain, he embraced Christianity, and suffered
martyrdom in the great persecution which took place
in the time of the above emperor. A number of
miracles are attributed to this saint. The celebrated
monastery of St. Alban was founded between four
and five centuries after his death, by Offa, king of
Mercia.

Albani; a rich and powerful family of Rome,
which fled before the Turks in the 16th century,
from Albania to Italy. Here it was divided into two
branches; the one constituting the family of Berga-
no; the other, that of Urbino. The Roman branch
of the A. owes its splendour to a fortunate circum-
stance. It was an A. who announced to Urban
VIII. the acquisition of Urbino; and riches and
honours were the reward of his tidings. The influ-
ence of this family was very great when Clement
XII. ascended the papal chair, in 1700. Of the
nephews of this pope, Annibale A., Alessandro A.,
and Giovanni Francesco A., Annibale has distin-
guished himself by his writings and collections of
books and works of art, which have been incorporated
with the treasures of the Vatican. Alessandro A.,
his younger brother, born at Urbino in 1692, took
orders at the express desire of pope Clement XI.
He was raised to the dignity of cardinal, in 1721, by
Innocent XIII. As a member of the sacred col-
lege, as protector of Sarufina, and, under Benedict
XIV., as associate protector of the imperial states,
he took an active part in all the contests in which
the papal court was then engaged, particularly on
account of the Imperialists and their respective
arts, and their mode of operations. (A similar ex-
hibition of various trades was seen in the procession
formed to celebrate the commencement of the rail-
road at Baltimore, July 4, 1828; and in the more
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Turks was roused, and a horrid massacre of the
Christians began, in which no age and neither sex
was spared.

Albani, Francesco, a famous painter, born at
Bologna, in 1578, entered the school of Dionysius
Calvert, a Flemish painter, who had a great reputa-
tion in Bologna. A. was one of his most distin-
guished scholars. He laboured here several years,
in conjunction with Domenichino, to whom he was
closely attached by friendship and love of art; and
some resemblance is perceptible in their manner of
colouring. But in invention he surpasses his friend,
and, indeed, all his rivals of the school of Calvert.
His female forms Mengs places above those of all
other painters; an opinion which we cannot assent
to unconditionally. Those of his compositions that
are most frequently met with are, the sleeping
Venus; Diana in the bath; Danae reclining; Ga-
latea on the sea; Europa on the bull. Scriptural
subjects he has less frequently selected; when he
has, he has endeavoured to compensate them for
the beauty of the heads of the angels. In general,
he was most successful in paintings of a limited
character. He had a numerous school in Rome and
Bologna. The scholars of Guido, with whom he
vied, accused him of effeminacy and weakness of
style, and maintained that he knew not how to give
any dignity to male figures. For that reason he
avoided subjects which demand fire and spirit, and
has been called, not without reason, the Anacreon
of painters. The narrowness of his sphere of excel-
ence was eventually injurious to him. He outlived
his fame, and died in 1660, in the 82d year of his
age. He left behind him several writings, which
Malvasia has preserved.

Albania (in the Turkish language, Arnavüt; in the
Albanian, Arnavut); (Epirus and Illyria); a Turkish
province in Arnavut-Wilajeti, extended from the
Drino to the Acrocorinian mountains, along the
coast of the Adriatic and Ionian seas. It has a
delicious climate, and produces in abundance wine,
grain, oil, tobacco, cotton, wood, mineral salt, and
horned cattle. The principal mountains are the
Montenegro and the Chimaros; the principal rivers
the Drino, Dajm, Suna; the most celebrated
bitumens are composed of Turks, Greeks, Jews, and
Arnavuts; the last of which constitute the boldest
soldiers in the Turkish armies. The country is
divided into the pashalik of Janina, Ibeisan, and

80  ALBIA LONGA—ALBANIA.
Scutari, and the sangiacets of Anuona, and Delvino.

The principal cities are Janina, Delvino, Scutari, Durazzo, Argyro-Castro, Valona, &c. The authority of the porte in this region is very uncertain, being more or less relaxed in proportion as the independent Greeks and Catholic Christians exert their possessions, in opposition to the pashas whom it appoints. The vast mountainous coast of A. is very little known. The Venetian government, while the republic of Venice existed, defended it against any permanent conquest by the Turkish pashas. Here Greek and catholic Christians and Mahometans likewise, live in a half savage state, and under the most various forms of government.

At the time of the revolt of the Greeks, the most southern part of Albania took the ancient name of Epirus. (See Epirus.) From the lake of Janina rise the rivers Acheraon (q. v.) and Ceytus, not far from the mouth of which lies Parga. Epirus, especially in the neighbourhood of the sea, is a fertile country; it produces wine, corn, and fruit. In ancient times, its horses were famed for swiftness, its cows for size, and its dogs for strength and courage. Thessalic horses. Before the Greek revolution, Ali Pasha (q. v.) ruled in Janina. In Scutari, there are yet independent communities, the inhabitants of mount Montenegro, the Suliotis, and others in the neighbourhood of the former Venetian, now Austrian, territory. These small free tribes enjoyed, as long as the republic of Venice existed, the secret protection of that government; to which is to be attributed their success in maintaining themselves against the Turkish force, and the violence of private feuds. The same policy was pursued likewise by the French Illyrian government.

In the country itself, the Arnauts are called Stopa-tari. They are bold and indefatigable, but mercenary and peripatetic warriors. They once constituted the flower of the Turkish army. Every one who has any landed property seeks to acquire the means of obtaining it, by incursions into the neighbouring territory, or military service in foreign countries.

The sons of influential families, or distinguished soldiers, collect a troop, and, like the former condotieri of Italy, sell their aid to any one who will pay them well. This migration of armed hordes, caused by the want of landed property sufficient to support the inhabitants, has continued ever since the Greek revolution. Before the Arnauts, the secret protection of the Roman government, and the security of its capital, were the two chief motives of the Arnaut occupation of the mountains of Epirus.

The fertility of the soil renders it a tempting situation promising, and several thousand emigrants were located upon it. The experience, however, of three disastrous seasons proved the district unfit for tillage, and suited only to pasture. The distress of the emigrants became extreme, and partial relief was afforded by a subscription of 25,000l., raised at the Cape of Good Hope, and by the sale of their oldest works, constructed about the 35th year of the city, the outlet of the lake of A., at present Lago di Castello, are built of this stone.

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in the finest rivers in the world, which is navigable as far as the city for sloops of 50 tons; and, except when the river is obstructed by ice, steam-boats run daily from the Alleghany to New York. The Erie and Chautauqua canals form a junction at Waterford, about eight miles north of the city, and their united channel is connected at A. with a large basin, which covers a surface of 32 acres, on the western side of the city. These advantages, together with many stage-coaches in various directions, render A. one of the greatest thoroughfares in the United States. The city carries on an extensive trade by means of sloops, chiefly with the city of New York; and also, to a considerable amount, with Boston, Philadelphia, and other places. The exports consist of wheat, and various other kinds of produce.—

A., was settled by the Dutch about the year 1614, and, is next to Jamestown in Virginia, the oldest town in the United States. The site on which it is built is very uneven, and it was originally laid out with small plots to be enlarged as the older houses are in the Dutch style, with the gable ends to the streets; but within the last twenty years, the city has been greatly improved, and it now contains many elegant public and private buildings. The principal public edifices are the capital or state-house, a large state office, the Alleghany, a spacious and elegant edifice, the state-hall for the public offices, a state arsenal, and twelve houses of public worship.

ALBANY; the modern district of the colony of the capes of Good Hope. See Good Hope.

The frigate-bird (fregata), a genus of web-footed birds, having the following generic characters:—a very long bill, which is slender, robust, thick, straight, and laternally compressed, terminating in a large hook, apparently articulated therewith. The upper mandible is laterally grooved, and the short, tubular nostrils are situated in these grooves; the lower mandible is truncated. The toes are very long, and are webbed with an entire membrane; the lateral toes are externally edged by a narrow membrane. There is no hind toe or tail; the nails are short and blunt. The tail is short and rounded, and composed of fourteen feathers. The Auckland, or New Zealand white, is the most generally known is the diomedea exulans of naturalists, the frigate bird, man-of-war bird, and cape sheep of sailors. It is the largest of marine birds, as its wings, when extended, measure from ten to twelve feet from tip to tip. These long wings are very narrow, but the A. being extremely strong, is able to fly with ease over a vast space. Except during high winds, when it ascends to the superior regions of the air, the A. sails gently over the surface of the billows, rising and sinking in graceful undulation, and soaring with avidity over every helpless creature that approaches the surface. Pursuing its prey in this manner, it urges its flight far from land, and, by occasionally alighting upon vessels, deceives the inexperienced voyager into an idea that the shore cannot be very distant. At night, this bird settles down upon the waves, and remains secure until hunger again commands a renewal of its efforts.—

The A. might be assumed as a perfect emblem of gluttony, as it is scarcely possible, in description, to do justice to its excessive voracity. Whenever food is abundant, it golugs to such a degree as to become unable either to fly or swim; frequently it is seen in this state, with a fish partly swallowed and partly hanging from its mouth. The gulls then attack and worry it until it disgorges its prey, upon which they are ready to seize. When caught by hand, it makes violent struggles with its wings, and strikes with its beak. Fish swim, gelatinous mollusces, and various small marine animals constitute its ordinary food. Flying-fish are also particularly exposed to this devourer, whose swiftness of wing is far superior to theirs. The voice of the A. is a loud and articulate cry, sometimes exceeding forty feet in height. The bird has also been compared to the braying of an ass.—Towards the middle of June, vast numbers of these birds flock towards the coast of Kamtschatka, the sea of Ochotsk, the shores of the Kurile islands and Beringia the mainland. They arrive there, extremely lean, a short time preceding the fish, which come annually to spawn in the fresh water of the rivers; but, soon after, the birds become very fat from the abundance of food. They begin to retire from these coasts about the end of July, and by the 15th of August the whole have disappeared. During their sojourn, the Kamtschadalas catch numbers of them by baiting hooks with fish, or by knocking them on the head when overgorged. They are not taken for their flesh, which is coarse, rank, and disgusting: but their large, hollow-wing-bones furnish the natives with various useful implement, while certain parts of their intestines are infested and employed as floats for fishing-nets.—About the middle of September, they seek the southern shores of America, for the purpose of breeding; there they build nests of earth two feet or more high, and lay numerous eggs, which are about the size of a hen's egg. The A. is very different from the gulls, having a yellow bill, and a half inches long, generally white, except towards the larger extremity, where they are speckled with black. These eggs are edible, and it is stated, by those who have used them, that the white is not rendered hard by boiling. While the female sits upon the nest, the male is in the habit of supplying her with food. This seems to be more especially necessary, as hawks are constantly on the watch for an opportunity of pouncing upon the eggs the moment the nest is left exposed. As soon as the A. finally relinquishes the nest, it is taken possession of by a species of penguin.—The common A. (diomedea exulans) is from three to four feet long, of a greyish-brown or whish colour, with lines of black upon the back and wings. The inferior part of the body and rump are white; the end of the tail and a great part of the wings are pure white. The feet, toes, and web membrane are of a reddish brown colour; the beak is blackish. The female is similar to the male; the young differ much from the adult. The A. molts twice a-year without changing its colours.—Three other species are considered synonyms of the A. established by naturalists: diomedea chlororhynchos, black and yellow-beaked A., of the size of a domestic goose; diomedea spadicea, dark brown or chocolate-coloured A., larger than the common goose; diomedea fuliginea, sooty or quaker A., smaller than the common A. It is highly probable that future investigation will reduce the number of species which have been proposed.—This bird is most commonly found within the tropics, about the cape of Good Hope, and even amid the ice of the Austral seas. It is sometimes, though rarely, seen on the coasts of the Middle States of the United States; but it has already been mentioned relative to the use made of them by the Kamtschadalas, we know of no economic purpose for which they are employed. Possibly their large quills might be found useful, if obtained in sufficient numbers.—The importance of the A. is in the domestic fowls, which are commonly closely collected from what we have stated relative to its food, and the vast extent of surface over which it can protract its flight. It serves as one of the numerous restraints of the superabundant increase of animal life, and, in its turn, becomes the prey of creatures stronger or more
magnanimity than itself. Among others, a species of *tristis* is a dreadful enemy, and beats it, while on the wing, until the A. disgorge its food, which the other immediately seizes, or the blows are continued until the huge bird expires, a victim to the ravenous appetite of its adversary. This fierce bird is common in the woods of the east, and is termed *gull*, being more closely allied to the petrels and A. in appearance; in habits, it has some analogy with the eagles. When the A. is attacked by a flock of gulls or other birds, while on the wing, it has no other resource but that of suddenly dropping upon its pursuers, and concealing itself. This cowardice of this gigantic bird is equal to its voracious gluttony.

**Albermarle Sound**; an inlet of the sea on the east coast of N. Carolina. It extends into the country sixty miles, and is from four to fifteen wide. It may be considered as an estuary of the Roanoke and Chowan rivers. It communicates with the Atlantic ocean and Pamlico sound by small inlets, and with Chesapeake bay by a canal cut through Dismal swamp.

**Albermarle,** Giulio, cardinal, and minister of the king of Spain, was the son of a gardener. He was born in 1664, at Firenzuola, a village of Parma, and educated for the church. His first office was that of bell-ringer in the cathedral of Piacenza. Possessed of uncommon talents, he soon became canon, chaplain, and favourite of the count Roncagli, and bishop of St. Domini. The duke of Parma sent him to his minister to Madrid, where he gained the affection of Philip V. He rose, by cunning and intrigue, to the station of prime minister; became a cardinal; was all-powerful in Spain after the year 1715, and endeavoured to restore it to its ancient splendour. He was called to an all-powerful station, and the cardinal of the French, and rendered the kingdom of Spain more powerful than it had been since the time of Philip II. He formed the great project of restoring to Spain her lost possessions in Italy, and he began with Sardinia and Sicily. Even when the duke of Orleans, regent of France, renounced the Spanish alliance to form a connexion with England, the proud pretate did not alter his system; on the contrary, he threw off his mask, attacked the emperor, and took Sardinia and Sicily. After the Spanish fleet was destroyed by the English off Lagos, Albermarle conceived the idea of stirring up a general war in Europe; of forming an alliance for this purpose with Peter the Great and Charles XII.; of involving Austria in a war with Turkey, exciting an insurrection in Hungary, and causing the duke of Orleans to be arrested by a court faction. But the scheme was discovered. The duke, in connexion with England, declared war against Spain, and, explained, in a manifesto, the intrigues of the Italian cardinal. A French army invaded Spain, and, although Alberoni endeavoured to cripple the power of France by fomenting disturbances within that kingdom, the Spanish monarch became despondent, and concluded a peace, the chief condition of which was the dismissal of the cardinal. He received, Dec. 1720, orders to quit Madrid within twenty-four hours, and the kingdom within five days. He was now exposed to the vengeance of the powers of Europe, by all of whom he was hated, and saw no country where he could abide. He did not even dare to go to Rome, because he had deceived the pope, Clement XI., in order to obtain the rank of cardinal. While crossing the Pyrenees, his carriage was attacked, one of his servants killed, and he narrowly escaped. He accordingly retired to England, obtained a pardon, and submit to such penalties as he should dictate; he forbade the princes to acknowledge
him, and released them from their oath of allegiance. The archbishop of Mentz from a friend became the enemy of A., and joined the party of the pope. On the other hand, A. formed an alliance with Philip le Bel of France, secured the neutrality of Saxony and Brandenburg, and, by a series of acts, induced the electoral princes of Cologne and Mainz, forced the archbishop not only to renounce his alliance with the pope, but to form one with him for the five ensuing years. Dismayed by this rapid success, Boniface entered into negotiations with A., in which the latter showed the duplicity of his character. He broke his alliance with Philip; acknowledged that the western empire was a grant from the popes to the emperors, that the electors derived their right of choosing from the see of Rome, and promised to defend with arms the rights of the pope, whenever he should demand it, against any one. As a reward, Boniface excommunicated Philip, proclaimed him to have forfeited his crown, and gave the kingdom of France to A. Philip, however, clastised the pope. A. was engaged in unsuccessful wars with Holland, Zealand, Friesland, Hungary, Bohemia, and Hungary. While he was thus occupied in repressing a revolt which he had suffered in Thuringia, he received the news of the revolt of the Swiss, and saw himself obliged to direct his forces thither. The revolt of Unterwalden, Schwetz, and Uri had broken out Jan. 1, 1308. A. had not only foreseen this, and, in the term of his oppression, but desired it, in order to have a pretext for subjecting Switzerland entirely to himself. A new act of injustice, however, put an end to his ambition and life. Sumbia was the inheritance of John, the son of his younger brother, Roldolph. John had repeatedly asserted his right; it was stated by A., when A. set out for Switzerland, John renewed his demand, which was contemptuously rejected by A., who scoffingly offered him a garland of flowers, saying, "This becomes your age; leave the cares of government to me." John, in revenge, conspired with his governor, Walter of Eschenbach, and three friends, against the life of A. The conspirators improved the moment when the emperor, on his way to Rheinfelden, was separated from his train by the river Reuss, and assassinated him. A. breathed his last, May 1, 1308, a fat, fleshy person, who was sitting on the road. He was a prince of restless mind, and equity, tyrannical, avaricious, ambitious, and able. How cruelly Agnes, queen of Hungary, revenged her father's death, will be related under John the Pardelle.

JOHN the GREAT, or ALBERTUS MAGNUS, bishop of Ratisbon; a distinguished scholar of the 13th century. Besides his theological learning, he was well versed, for his time, in mechanics, natural history, and natural philosophy. He was born in 1193 (according to some accounts, in 1203), at Lauringen in Sumba, of the noble family of Bollstadt; studied at Padua; became a monk of the Dominican order; in 1254, was made provincial of his order; and in 1260 received from pope Alexander IV. the bishopric of Ratisbon. Two years later, he returned to his convent, devoted himself to science, and pursued many learned works on arithmetic, geometry, optics, music, astronomy, and astrology. He died in 1280.

ALBERTI. There were two painters of this name, Cherubino and Giovanni, brothers, natives of the Florentine territory, who flourished about the close of the 16th century. Cherubino was also an engraver, died in 1615, surviving his brother about fourteen years.

ALBERTS, Leon Baptista, an eminent Italian architect, was born at Venice in the beginning of the 15th century; died about 1475. His principal erections are at Florence, Mantua, and Ruhmi. He was author of various works; particularly one, "De Re Aedificatoria," which was published in Italian and English, London, 1726, 3 vols. folio. The invention of the Camera Obscura has been attributed to him.

ALBERTS, Francis, an ecclesiastic of Florence, and an able antiquary, flourished in the beginning of the 16th century. Some of his works are still esteemed.

ALBIGEOIS (Albigoisi); a name common to several heretical sects, particularly the Cathari and Waldenses, who agreed in opposing the dominion of the Romish hierarchy, and endeavouring to restore the simplicity of primitive Christianity. They had increased very much towards the close of the 12th century, in the south of France, about Toulouse and Albi, and were denounced by the crusaders A., from the district Albigoisi (territory of Albi), where the army of the cross, called together by pope Innocent III., attacked them in 1209. The assassination of the papal legate and inquisitor, Peter of Beyme, occurred in this process. These heretics in the territory of the count Raymond of Toulouse, occasioned this war, which is important as the first which the Romish church waged against heretics within her own dominions. It was carried on with a degree of cruelty which cast a deep shade over the subject. Those arraigned were condemned to be deprived of the county of Toulouse of his possessions, on account of his tolerating the heretics. It was in vain that this powerful prince had suffered a disgraceful penance and flagellation from the legate Milo, and obtained the papal absolution by giving the legate of his death, an order which was never performed by the legate. The legates prevailed on his son, Amalfic, to cede his claims to the king of France. The papal indulgences attracted from all provinces of France new crusaders, who continued the war, and, even after the death of Raymond VI., in 1222, under excommunication, his son, Raymond VII., was obliged, notwithstanding his readiness to do penance, to defend his inheritance, till 1229, against the legates, and Louis VIII. of France, who fell, in 1226, in a campaign against the heretics. After hundreds of thousands had fallen on both sides, and the most beautiful parts of Provence and Upper Languedoc had been laid waste, a peace was made, by the terms of which Raymond was obliged to purchase his absolution with a large sum of money, to cede his sovereignty to the king of France, and make his son-in-law, a brother of Louis, heir of his other lands. The pope suffered these provinces to come into the possession of the king of France, in order to bind him more firmly to his interests, and force him to revenue his inquisition. The territory of the inquisition and these new auxiliaries, which priestcraft had acquired during the war (see Dominie de Guzman, and Inquisition), employed their whole
power to bring the remainder of the A. to the stake, and made even the converts feel the irreconcilable anger of the church, by heavy fines and personal punishments. The name of the A. disappeared after the middle of the 18th century; but fugitives of the Papists and at the most sinister heretics, and in Lombardy, what is called the French church, which was continued, through the Waldenses, to the times of the Hussites and the reformation.

Albinos (white Negros, Blafards, Leucanteopis, Donos), who were formerly found on the island of Pampus and at the mouth of the Nile, and in various countries of Europe, e. g. in Switzerland, among the Savoyards in the valley of Chamonix, in France, in the tract of the Rhine, in Tyrol, &c. The characteristics of the A. were now said to be owing to a disease which may attack men in every climate, and to which even animals are subject, such as white mice, rabbits, &c. The A. have a milky or cadaverous look, and are distinguished from the genuine whites, not only by their wrinkled skin, but also by the black-bone, the black blood, and cannot, therefore, endure the bright light of day. By moon-light, and in the dark, they can see pretty well, for which reason they are accustomed to go abroad only in the night, and, by Limaeus and other naturalists, are termed nocturnal men. Their hair is woolly when they are descended from actual negroes, and somewhat less curly when they are the children of East Indians; but it is always of an unpleasing milk-colour, like their skin. They are weak in body and mind, and very rarely attain the common size of the nations to which they belong. They are generally incapable of begetting children, but when the case is otherwise, the offspring resemble the parents. There are instances of A. possessed of the common faculties of mind, and capable of literary accomplishments. (See, likewise, Cretin.) The Germans use the word Albino for all individuals afflicted with this disease of the skin, but Kakeriok for varieties, whose skin is only sprinkled with white spots.—The East Indians give the name of albino to a species of beetle (blatto), especially the blatta gigantea of the Indian forests, which grows three inches long, and forms an ornament of entomological collections. In this the beetle is dark brown and shining: the feathers of its wings are fox-red and shaggy. After this beetle the Indians have named the Albinos.

Blumenbach, Saussure, Buzi, surgeon to the hospital at Milan, Sennherr, and many others, have made interesting observations on Albinos, and the causes which produce their peculiar colour.

Alaimo, Bernard Siegfried, whose true name was Weiss (White), a distinguished anatomist, born Feb. 24, 1696, at Frankfort on the Oder, died, Sept. 9, 1770, at Leyden, where he was fifty years professor of anatomy. Instructed by his father, Bernard, who enjoyed a good reputation as a professor of medicine, and by the famous professors of the Leyden school, Raw, Billoe, Boerhaave, he went to France in 1718, where he formed an intimacy with Winslow and Seune, with whom he afterwards carried on a correspondence highly advantageous to anatomy, their favourite science. He entered upon his office of the Chair of anatomy, and the duties of the position De Anatomia Comparata. The medical faculty there conferred on him the degree of doctor, without either examination or disputation. A few weeks after, professor Raw died, and, in 1720, A. succeeded him in the professorship of anatomy and surgery. He was one of the first, who, when the chair of anatomy was endowed, have given to anatomy, by explaining the phenomena of the animal economy, not chemically, but mechanically,—a system which rendered a more accurate study of the single parts of the body, and of their formation, necessary; for the least deviation in the form of any part, according to him, necessarily produces differences in its action. This system rendered it necessary with another writer, Fabius, to distinguish the Vesalius, Fallopius, and Eustachius had explained only in a general manner. A. laboured in this spirit; we are indebted to him for the most exact anatomical descriptions and prints; especially of the muscles and bones. While he held the office of professor, at Leyden, he wrote Index Selectiorum, of the anatomy of Ravianne, likewise De Osibus Corporis Humani, also Historia Musculorum Hominis, and other works, which fill an honourable place in the history of science. He edited, also, several writings of Harvey, Vesalius, Fabricius ab Aquapendente, and Eustachius. His brother, Christian Bernard, professor at Utrecht, distinguished himself in the same science, and was likewise an esteemed anatomical writer; he died May 23, 1778.

Albonos; the former name of the island of Great Britain, called by the Romans Britannia Major, from which it is distinguished by the smaller island of the French province of Bretagne. Agathenerus (lib. xi. c. 4), speaking of the British islands, uses the names Hibernia and Albion for the two largest; Poleny (lib. ii. c. 3), calls A. a British island; and Pliny (H. N. lib. iv. c. 10), says, that the island of Great Britain was formerly called Albion, the name of Britain being common to all the islands around it. In poetry, A. is still used for Great Britain. The etymology of the name is uncertain. Some writers derive it from the Greek ἀλβος (white), in reference to the chalky cliffs on the coasts; others, from a giant, the son of Neptune, mentioned by several ancient writers; some, from the Hebrew alein (white); others, from the Phoenician alp or alpin, (high, and high mountain), from the height of the coast. Spergel, in his Universal History of Great Britain, thinks it of Gallic origin, the same with Albun, the name of the Scottish Highlands. It appears to him the plural of alp or alpin, which signifies rocky mountains, and to have been given to the island, because the shore, which looks towards France, appears like a long row of rocks. The ancient British poets call Britain Insula Invicta, i.e. the white island.

Alans, New. This name is given to an extensive tract of land on the N. W. coast of America. It was originally applied by Sir Francis Drake, in 1578, to the whole of California, but is now, by recent geographers, e. g. Humboldt, confined to that part of the coast which extends between 42° and 48° N. lat. Cook discovered it, March 7, 1778. In 1792, Vardner visited this coast, made a very diligent inspection of all its parts, and gave a most interesting account of them. The country is described as very fertile; the quadrupeds seem not to be very numerous. The inhabitants are not numerous, and resemble the other savages of the north-west coast of America, who distinguish this country as N. A. Vancouver's chart of this region is still the best. The most authentic account of a part of New A. is to be found in Lewis and Clark's Expedition to the Sources of the Missouri, 2 vols., Philadelphia, 1814. The citizens of the United States, and others who have frequented the north-western coast of America as handles or navigators, and who do not perceive it as a little, but little, if any, intercourse with the natives, who inhabit that part of the coast which lies between the entrance of Columbia river, in lat. 48° 15', and the Russian settlement at Port Bodega, in lat. 38° 21', because no harbour, capable of admitting such vessels as are usually employed in those parts, has yet been discovered within these limits. It has been affirmed by the Russians, that they have dis-
covered several small rivers, but they are not probably of sufficient importance to give any value to the country, until the settlements of civilized nations have become much more extensive than at present. The appearance of the country, as seen from the ocean, is veryagreeable by day; but when the clouds have penetrated into the interior, give a favourable representation of it, particularly of that portion which lies near the Multiunah, a branch of the Columbia river, that runs from the south.

As king of the Lombards, succeeded his father, Audoin, in 561. He reigned in Noricum and Pannonia, while Cumimund, king of the Gepide, ruled in Dacia and Sirmia, and Bitian or Chagun, king of the Avars, was completing the conquest of Moldavia and Walachia. Nurses, the general of Justinian, sought his alliance, and received his aid, in the war against Torila. A., in connexion with the Avars, made war against the Gepide, and slew their king, Cumimund, with his own hand, in a great battle fought in 566. This victory established his fame. After the death of his wife, Clodovinda, he married the daughter of his enemy, a native of that part of the kingdom of the Ostrogoths, whom he had among the captives. He afterwards undertook the conquest of Italy, where Nurses, who had submitted this country to Justinian, offended by an ungrateful court, sought an avenger in A., and offered him his co-operation. Every year witnessed the incursions of Italy, in which Clodovinda, his wife, met with no resistance, except the brave defence of single cities. Pavia fell into his hands after a siege of three years. After reigning three and a half years in Italy, he was slain at Verona, in 574, by an assassin, instigated by his wife, Rosamund. He had incurred her hatred by sending her, during one of his fits of intoxication, a cup, wrought from the skull of her father, filled with wine, and forcing her, according to his own words, to drink with her father. This incident has been introduced by Rucellai and Alferi, into their tragedies, called Rosamunda, in a very pathetic manner.

Alborak; amongst the Mahometan writers, the beast on which Mahomet rode on his journeys to heaven. The Arab commentators report many fables concerning this extraordinary animal. It is represented as of an intermediate shape and size between an ass and a man. A place, it seems, was secured for it in paradise, at the intercession of Mahomet, which, however, was in some measure exerted from the prophet by Alborak refusing to carry him upon any other terms, than when the angel Gabriel was come to conduct him to heaven.

Almadena; a considerable salt-water lake, lying north of the city of Valencia, in Spain, near the sea, with which it is connected by sluices. It abounds in fish, but dries in summer so much as, in some parts, to become a mere marsh. The French general Suchet, received the title of duke of Albufera on nomenclature of the blockades and capture of the Spanish general Blake, in Valencia. The water-birds and eels which are taken here yield 12,000 dollars annually.

Almendras; a village in Estremadura, on the Alhambra, twelve miles S.S.E. of Badajoz. A battle was fought here, May 16, 1811, between the army of marshal Beresford, consisting of about 30,000 British, Spanish, and Portuguese, and that of the French marshal Soul, amounting to about 25,000 men, but considerably superior in artillery. The object of the French was to raise the siege of Badajoz, which was invested by the English. Soul was obliged to retreat to Seville, with a loss stated at 8000 men. The allies lost about 7000 men, and gained the victory by a cool, well-directed, and opportune fire on the columns of French infantry.

Badajoz, a few days after, fell into the hands of the allies.

Albun; among the Romans, a white board for official publications. These boards received their appellations from various magistrates; the albun pugnae, or battle board, was placed at the entrance of the temple of Mars, and was also used to denote a kind of table or pocket-book, wherein the men of letters, with whom a person has conversed, inscribe their names, with some sentence or motto. The famous Algeon Sydney, being in Denmark, was presented by the university of Copenhagen with their album, whereupon he wrote these words:

Manus hec inimica tyrannis
Ense petit placidam sub libertate quietem.

Albums are at present in fashion among ladies. In Germany, where the fashion is said to have originated, they are now almost out of use, excepting such as are kept on interesting spots, high towers, mountains, fields of battle, &c.—Grethe, being once asked by a tedious visitor to write something in his album, wrote the, the initial of his name. The name of this visitor was Tancred.

Albrecht von Wallenstein, an Austrian philosopher of the ninth century, who combined the study of physic with that of judicial astrology and astronomy, a work upon which latter science was printed under his name at Venice, in 1489. A treatise on the revolution of years, Venice, 1526, 8vo, is also ascribed to him.

Albume, in physiology, exists nearly pure in the white of eggs. As thus procured, it is a glairy fluid, with very little taste. When kept for some time exposed to the air, it putrefies, but when spread in thin layers and dried, it does not undergo any change. When heated to about 160° Fahr., it coagulates, and its properties are entirely changed. It is soluble in cold water, and is separated, in its coagulated state, by hot water, if the quantity of fluid be not great, but if the water be about ten times as much in amount as the albumen, there is no coagulation. Hence we cannot dissolve it in warm water, for, when put into it (as when a little of the white of eggs is thrown into a glass of boiling water), it is instantly coagulated. It is also coagulated by acids. A. exists in different parts of animals, as curdled, bones, horns, hoofs, flesh, the membranous parts, and in considerable quantity in blood, from which it is usually procured, when required in the arts. From the property which it possesses of being coagulated by heat, it is employed for clarifying fluids, as in the refining of sugar, and in many other processes. When required in a large quantity, bullcock’s blood is used. When this or the white of eggs is put into a warm fluid, its A. is coagulated, and entangles the impurities, and, as the scum rises, it is removed. A. acts in the same way, also, in clarifying spirituous fluids. When, for instance, the white of an egg is added to wine, or any cordial, the alcohol coagulates it, and the coagulum entangles the impurities, and carries them to the bottom. Both gelatin and A. exist in flesh, and, as the former is soluble in warm water, hence the difference in the nutritious quality of butcher’s meat, according to the mode of cooking it; when, for instance, meat is stewed, the greater part of the gelatin is extracted, and retained by the soup; when, on the contrary, it is roasted, the gelatinous matter is not removed; so that roasted meat contains both gelatin and A., and should, therefore, be more nutritious than the other. By the analysis of Gay Lussac, 100 parts of A. are formed of 52.583 carbon, 23.872 oxygen, 7.540 hydrogen, and 15.703 nitrogen. The negative pole of a voltaic pile in high activity coagulates A. Orfila has found the white of eggs to be the best antiscite to the
ALBUQUERQUE—ALCAVALA.

poisonous effects of corrosive sublimate on the human stomach. See Egg.

ALCUBIER, Francisco de, viceroy of India, son

named the Great, and the Portuguese Wars, was

born at Lisbon, 1452, of a family that derived its

origin from kings. An heroic and enterprising spirit

at that time distinguished his nation. They had be-

come acquainted with, and had subjected to their

power, a large part of the isles of the East, and

began to extend their sway over the seas and

nations of India. A. was appointed viceroy of their

acquisitions in this quarter, and arrived, Sept. 28,

1503; with a fleet and some troops, on the coast of

Malabar; took possession of Goa, which he made

the centre of the Portuguese power and commerce

in Asia; subdued the whole of Malabar, Ceylon,

the Sunda islands, and the peninsula of Malacca.

In 1507, he made himself master of the island of

Ormus, at the entrance of the Persian gulf. When

the king of Persia demanded the tribute which the

princes of this island had formerly paid him, A. laid

before the ambassadors a bullet and a sword, saying,

"This is the coin in which Portugal pays her sub-

mission." He made the Portuguese name highly

respected by all the nations and princes of India,

and his acquirements won him the respect of all

his companions, on his friendship and protection.

All his enterprises were extraordinary. His discipline was strict; he

was active, cautious, wise, humane, and just; re-

spected and feared by his neighbours, beloved by his

subjects.

His virtues made such an impression on the Indians, that, for a long time after his

death, made pilgrimages to his tomb, and besought him to protect them against the tyranny of his suc-

cessors. Notwithstanding his great merits, he did not escape the envy of the courtiers, and the suspi-

cion of his enemies. Was received in 1515, having recommended his only son to the

king's favour, in a letter written a short time be-

fore his death. Emanuel honoured his memory by a

long repentance, and raised his son to the highest

dignities of the kingdom.

ALBRECHT: the soft, white substance which, in
trees, is found between the liber, or inner bark, and
the wood, and, in progress of time acquiring solidity, becomes the eldest. A new layer of wood, on

the other hand, is added annually to the tree in every

part, just under the bark.

ALCÉS, one of the greatest Greek lyric poets,

was born at Mytilene, in Lesbos, and flourished there at the close of the 7th and beginning of the 6th centuries B.C. Somewhat older than Sappho, he paid homage to the charms of his

renowned countrywoman, but, as it seems, unsuccess-

fully. Being of a fiery temperament, he sought at the same time the laurel of war and of the muses. His misfortunes in losing his shield in a war, be-

tween Mitylene and Athens, has been falsely attri-
buted to cowardice. He engaged in the civil war

which convulsed his country at the time of the ex-

pulsion of the tyrants, and used both the lyre and

the sword in the cause of liberty. In the beginning,

he had to retire to the isle of Pitaneus, in an attempt to force

him, when he took the reins of government into his

own hands, after the overthrow of the petty tyrants,

in order to unite and quiet the divided people. A. ex-

pelled from Mitylene by the change of circum-

stances, wandered about for a long time, and at last

fell into the hands of Pittacus, in an attempt to force

him on his way into his native city, at the head of a body of

exiles. The latter magnanimously restored him to

liberty. His songs breathe the same spirit with his

life. A strong, manly enthusiasm for freedom and

justice pervades even those in which he sings the

pleasures of love and wine. But in all, his nature shines brightest when he praises valour,

chastises tyrants, describes the blessings of liberty and

the misery of exile. His lyric muse was versed in

all the forms and subjects of poetry, and antiquity

attributes to him hymns, odes, and songs. A few

fragments only of his works have come down to us;

a distinct echo of his poetry reaches us in some odes of Horace.

He wrote in the Æolic dialect, and was the inven-
tor of the metre that bears his name, one of the most

beautiful and melodious of all the Lyric metres.

Horace has employed it in many of his odes. Ger-

man poets, too, have imitated it, as Klopstock. Jani

has collected the fragments of his works. Some of

them are in the Analecta of Brunck, and in the An-
thology of Jacobs. There were two other poets of

the same name, but of less reputation.

ALCÁLE DE HERNÁNDEZ: a beautiful and extensive
city of Spain, in New Castile, seated upon the river

Hernández, eleven miles S.W. of Guadalaxara, and
eventy E. N. E. of Madrid. The ancient name was

Complutus, when it was a Roman colony, and here

was printed the celebrated Biblia Complutensis, or

Polyglot, at which sum was advanced, in 400

ducats to cardinal Ximenes. It was the first

polyglot Bible ever printed. 600 copies were struck

off, three on vellum. One of these three was de-

posited in the royal library at Madrid, a second in

the royal library at Turin; a third, supposed to have

belonged to Cardinal Ximenes, after passing through various hands, was purchased at the sale of

signor Pinelli's library in 1739, for the late count

McCarthy, of Toulouse, for £483. On the sale of his

library at Paris, 1817, it was sold for above £576

sterling.

ALCALDE (Spanish), or ALCAIDE (Portuguese): the

name of a magistrate in the Spanish and Portuguese

towns, to whom the administration of justice and

the regulation of the police is committed. His office

nearly corresponds to that of justice of the peace.

The name and the office are of Moorish origin.

ALCANTARA: an ancient town and frontier for-
tress in the Spanish province Estremadura, with

3000 inhabitants, built by the Moors, on the Tagus,

over which is a splendid bridge, erected by the

Romans. One of the three ancient Spanish orders of

laurel, to which the heir of Alcántara, ambassador to

the court of St Julian del Parero (of the pear-tree), in

the 12th century, and fought bravely against the Moors,

received, in 1207, from the order of Calatrava, the

town of Alcántara, of which it took the name, and

was united with the Spanish crown, after the grand

master, don Juan de Zuniga, led delivered up the

town to Ferdinand the Catholic, in 1494. The

knights, since 1510, have been allowed to marry.

The order was very rich. The badge is a gold and

green cross, fleur de lis; the coat of arms, a pet-

tree, with two chevrons.

ALCAVALA is the name of a tax or excise imposed

in Spain and the Spanish colonies upon sales of pro-

perty, whether movable or immovable. The rate of

this tax has varied, heretofore, in Spain, from four-

teen to six per cent. It differs from the ordinary ex-

cise, and yet is similar to it, in this, that an excise is most generally intended to be levied upon consumption, so that each one shall pay in proportion to the goods he may consume; and

it is, therefore, founded upon one of the legitimate

principles of taxation. But the alcavala, being le-

ved upon all sales, is, in fact, a tax upon internal

commerce; it is a forfeit paid by the vendor for sell-

ing a thing to be used or consumed by another, in-

stead of using or consuming it himself, which he

might do free of any such tax. It is, accordingly,
experiments with a view of obtaining gold from orpiment. On the other hand, Dioscorides and Pliny all book of old authors agree that the party who really paying it is worth, nor by the amount that he con-
sumes. It is, to all intents and purposes, an arbi-
trary tax, and Ubarita attributes it to the ruin of the
Spanish manufacturers. The alcavala was introduc-
ed under Alphonso XI., and was borrowed from the
Arabs. It was imposed at first in 1342, only for a
specified period. In 1349, it was made perpetual,
and fixed at ten per cent.

ALCIBIADES. the daughter of Pelins, and wife of
Admetus, King of Thessaly. Her husband was
sick, and, according to an oracle, would die, unless
sowing the rice made of age to meet death in his
stead. This was secretly done by A. She became
sick, and Admetus recovered. After her decease,
Hercules visited Admetus, with whom he was con-
ected by the ties of hospitality, and promised his
friend to bring back his wife from the infernal re-
gions. He made good his word, compelling Pluto
to restore A. to her husband. Euripides has made
this story the subject of a tragedy.

ALCHEMY; the art of changing, by means of a se-
cre chemical process, base metals into precious.
Probably the first attempt was to transform copper
into a metal, presenting a colour unlike either,—for instance, that a mi-
ture like gold resulted from the melting together of copper and zinc,—arrived at the conclusion, that one metal may be transmuted into another which
possessed the greater value. At an early
period, the desire of gold and silver grew strong, as
luxury increased, and men indulged the hope of ob-
taining these rarer metals from the more common.
At the same time, the love of life led to the idea of
finding a remedy against all diseases, a means of les-
sening the ills which beset the health of man in
the course of nature. In the different ages, the
ability to transmute base metals into precious ones
was imagined, or philosophically dreamt of, as
impossible, or by no means improbable, as the
ancient alchemists themselves had of the
appearances occurring in their experiments, the more
they endeavoured to express themself in the symbols of a
tongue less familiar than their own. Afterwards, they retained this phraseo-
logy, to conceal their secrets from the uninitiated. In
Egypt, in the earliest times, Hermes, the son of
Anubis, was ranked among the heroes, and many
books of chemical, magical, and alchemical learning
are said to have been left by him. These, however,
are of a later date. (See Hermes Triamegius.) For
this reason, chemistry and alchemy received the
name of the Hermetic art. It is certain that the
ancient Egyptians possessed chemical and metallurgical knowledge, although the origin of
alchemy cannot, with certainty, be attributed to
them. Several Grecians became acquainted with the
tales of Egypt, and were instructed in the
elements of chemical knowledge. The fondness for magic, and
for alchemy more particularly, spread afterwards
among the Romans also. When true science was
persecuted under the Roman tyrants, superstition
and false philosophy flourished the more. The pro-
digality of the Romans, and their fondness for gold,
and led them to pursue the art which promised it
instantaneously and abundantly. Calgula made

ALCIBIADES. This famous Greek, son of Clinias
and Dinomachus, was born at Athens, in the 82d Olympiad, about 450 B.C. He lost his father in the battle of Cheronnes, and was afterwards educated in the assembly, together with Pericles and Lysander, moving the other's side. Pericles was too much engaged in affairs of state to bestow that care upon him, which the impetuousity of his disposition required. In his childhood, A. showed the germ of his future character. One day, when he was playing at dice with some companions in the street, a wagon came up; he requested the driver to stop, and the latter refusing, A. threw himself before the wheel, exclaiming, "Drive on, if thou darest." He excelled alike in mental and bodily exercises. His beauty and birth, and the high station of Pericles, procured him a multitude of friends and admirers, and his reputation was affected by the dissipation in which he became involved. He was fortunate in acquiring the friendship of Socrates, who endeavored to lend him to virtue, and undoubtedly obtained a great ascendancy over him, so that A. often quitted his gay associates for the company of the philosopher. He bore arms, for the first time, in the expedition against Potidaea, and was wounded. Socrates, who fought at his side, defended him, and led him out of danger. In the battle of Delium, he was among the cavalry who were victorious, but, the infantry being beaten, he was taken prisoner by the inhabitants of the town of Socrates, who was retreating on foot, accompanied him, and protected him. As long as the demagogue Cleon lived, A. was principally distinguished for luxury and prodigality, and did not mingle in the affairs of state. On the death of Cleon, 422 B.C., Nicias succeeded in making a peace for fifty years between the Athenians and Lacedaemonians. A., jealous of the influence of Nicias, and offended because the Lacedaemonians, with whom he was connected by the ties of hospitality, had not applied to him, fomented some dissimilarity between the two nations into an occasion for breaking the peace. The Lacedaemonians sent ambassadors to Athens; A. received them with apparent good will, and advised them to conceal their credentials, lest the Athenians should prescribe conditions to them. They suffered themselves to be duped, and, when called to the assembly to be present, they were entertained with impartial zeal. A. rose immediately, accused them of ill faith, and induced the Athenians to form an alliance with the Argives. A breach with the Lacedaemonians was the consequence. A. commanded several times the Athenian fleets, which devastated the Peloponnesus; he did not receive his pay for his services. He was dismissed from the army, and dissipation, to which he gave himself up entirely after his return. On one occasion, after leaving a nocturnal revel, in the company of some friends, he hired a wager that he would give the rich Hippiconis a box on the ear, and so he did. This act made a great noise in the city, but A. went to the injured party, threw off his garment, and called upon him to revenge himself by whipping him with rods. This open repentance reconciled Hippiconis; he not only pardoned him, but gave him afterwards his daughter, Hippocrates, in marriage, with a portion of ten talents (10,000 dollars). A., however, still continued his lewdness and prodigality. His extravagance was conspicuous at the Olympic games, where he entered the stadium, not like other rich men, with one chariot, but with seven at a time, and gained the three first prizes. He seems to have been victor, also, in the wrestling-match, for he drew upon him the hatred of many of his fellow citizens, and he would have fallen a sacrifice to the ostracism (q. v.), if he had not, in connexion with Nicias and Phraax, who feared a similar fate, artfully contrived to procure the banishment of his most formidable enemy. Soon afterwards, the Athenians, at the instance of A., resolved on an expedition against Sicily, and elected him commander-in-chief, together with Nicias and Lysander. Among the preparations, it happened one night that all the statues of Mercury were broken. The enemies of A. charged him with the act, but postponed a public accusation till he had set sail, when they stirred up the people against him to such a degree, that he was recalled, in order to be tried. A. had been very successful in Sicily, when he received the order to return. He obeyed, and embarked, but, on reaching Thurium, disembarked, and concealed himself. Some one asking him, " How is this, Alcibiades? have you no confidence in your country?" he answered, " I would not trust my mother, when my life is concerned; for she might, by mistake, take a black stone instead of a white one." He was condemned to death in Athens, and said, when the news reached him, " I shall show the Athenians that I am yet alive." He now went to Argos, thence to Sparta, where he made himself a favourite, by conforming closely to the prevailing strictness of manners. Here he succeeded in inducing the Lacedaemonians to form an alliance with the Persian king, and, after the unfortunate issue of the Athenian expedition against Sicily, he prevailed on them to assist the Persians in their enterprises in the Gulf of Athens. He went himself thither, and, on his arrival in Asia Minor, roused the whole of Ionia to insurrection against the Athenians, and did them considerable injury. But Agis and the principal leaders of the Spartans became jealous of him, on account of his success, and ordered their commanders in Asia to cause him to be assassinated. A. suspected their plan, and went to Tissaphernes, a Persian satrap, who was ordered to act in concert with the Lacedaemonians. Here he changed his manners once more, adopted the luxurious habits of Asia, and understood how to make himself indispensable to the satrap. As he could no longer trust the Lacedaemonians, he undertook to serve his country, and showed Tissaphernes that it was against the interest of the Persian king to depress the Athenians entirely; but that Sparta and Athens ought to be reconciled for their prosperity. Tissaphernes followed this advice, and afforded the Athenians some relief. The latter had, at that time, considerable forces at Samos. A. sent word to their commanders, that, if the licentiousness of the people was suppressed, and the government put in the hands of the men of ability, he would procure for them the friendship of Tissaphernes, and prevent the junction of the Phoenicians and Lacedaemonian fleets. This demand was granted, and Pisander sent to Athens; by whose means the government of the city was put into the hands of a council consisting of 400 persons. As, however, the council showed no intention to recall A., the army of Samos chose him their commander, and exhorted him to go directly to Athens, and overthrow the power of the tyrants. He wished, however, not to return to his country before he had done it some services, and therefore attacked and totally defeated the fleet of the Lacedaemonians. When he returned to Tissaphernes, the latter, in order not to appear a participator in the act, caused him to be arrested in Sardis. But A. found means to escape; placed himself at the head of the Athenian army; and WIFI. conquered the Athenians at Cyticus, by sea and land; took Cyticus, Chaledon, and Byzantium; restored the sovereignty of the sea to the Athenians, and returned to his country, whether he had been recalled, on the motion of Critias. He was received with general enthusiasm.
for the Athenians considered his exile the cause of all their misfortunes. But this triumph was of short duration. He was sent with 100 ships to Asia; but, not being supplied with money to pay his soldiers, he saw himself under the necessity of seeking help in Caria, and committed the command to Autolycus, who was driven into a snare by Lysander, and lost his life, and a part of his ships. The enemies of A. improved this opportunity to accuse him, and procure his removal from office. A. went to Pacta in Thrace, collected troops, and waged war against the Thracians. He obtained considerable booty, and secured the quiet of the neighbouring Greeks. The Athenians, at that time, lying at Aegos Potamos. He pointed out to the generals the danger which threatened them, advised them to go to Sestos, and offered his assistance to force the Lacedaemonian general, Lysander, either to fight, or to make peace. But they did not listen to him, and soon after were totally defeated. A., fearing the power of the Lacedaemonians, betook himself to Bithynia, and was about to go to Artaxerxes to procure his assistance for his country. In the meantime, the thirty tyrants, whom Lysander, after the capture of Athens, had set up, resolved the latter to assassinate A. Lysander declined, until he received an order to the same effect from his own government. He then charged Pharnabazus with the execution of it. A. was at that time with Timandra, his mistress, in a castle in Phrygia. The assassins dressed as messengers of the king, and killed him with their arrows, when he had already escaped the confederation. Timandra buried the body with due honour. Thus A. ended his life, 404 B.C., about forty-five years old. He was endowed by nature with distinguished qualities, a rare talent to captivate and rule men, and uncommon eloquence, although he could not pronounce r, and stammered; but he had no fixed principles, and was governed only by external circumstances. He was without that elevation of soul, which steadily pursues the path of virtue. On the other hand, he possessed that coldness which arises from consciousness of superiority, and which shrinks from no difficulty, because always confident of success. Plutarch and Cornelius Nepos, among the ancients, have written his life.

Achilles, a surname of Hercules, usually derived from the name of his grandfather, Aeacus, the father of Amphitrion.

Aelius; said to have been a king of the Phracians, in the island now called Corfu. His gardens have immortalized his memory. The passages in Homer describes his hospitality toward Ulysses, and the ardent desire of the latter to reach his home, are most beautiful. He was a grandson of Neptune.

Alcestis, the most distinguished of the Greek epistolary writers. Nothing is known of his life, and even his age is uncertain. It is probable that he belongs to the second century after Christ. We have 116 fictitious letters by him; the object of which seems to be, to represent the manners, thoughts, and feelings of certain strongly-marked classes in the free communication of epistolary intercourse. These letters are distinguished by purity, clearness, and simplicity of language and style. Principal editions, Geneva, 1600; Leipsic, 1715, and one in 1798, at the same place, by T. A. Wagner.

Aemilius; the son of Amphiaraus and Kryphyle (q. v.) of Argos; chosen chief of the seven Epigonoi, in which capacity he took and destroyed Thebes. His father, going to war, charged A. to put to death

Epiphyle, who had betrayed him. He did so, and was pursued by the furies. An oracle informed him, that, to escape their vengeance, he must reside in a land which was not in existence when he was cursed by his mother. He at last found rest, for a short time, on an island in the river Achelous, where he married Callirrhoe, the daughter of the god of the river, after repudiating his former wife, Arisine. But he did not longer enjoy peace. At the request of his wife, he attempted to recover the fatal necklace of Hermione from his former father-in-law, the priest Philgeus, who caused him to be murdered by his sons.

Aemilius, a Greek poet, son of a Spartan slave, born at Sardis, in Lydia, about 670 years B. C. He seems to have lived, for the most part, in Sparta, where he obtained the rights of citizenship. He sung hymns, paeans, and other lyrical poems, in the Doric dialect, and gave their polished form to these higher kinds of poetry. His remaining works were collected by F. Th. Wecker (Gissens, 1815, 4to).

Alcmena; the daughter of Electryon, and wife of Amphitrion. Jupiter loved her, and deceived her by assuming the form of her husband. From this connexion, which continued for three nights, sprung Amphitrion.


Alcohol; the purely spiritual part of all liquids that have undergone the vinous fermentation, and derived from none but such as are susceptible of it. As a chemical agent, it is of the highest importance, involving in its various combinations all the grand principles of chemistry. It has been found that spirit of wine, of sp. gr. 867, when enclosed in a bladder, and exposed for some time in the air, is converted into alcohol of sp. gr. 817, the water only escaping through the pores of the bladder. Alcohol, obtained by slow and careful distillation, is a limpid, colourless liquid, of an agreeable smell, and a strong, pungent flavour. Its specific gravity varies with its purity, the purest obtained by rectification of the mother of sulphuric acid. When this usually occurs, it is 820 at 60°. If rendered as pure as possible by simple distillation, it can scarcely be obtained of a lower specific gravity than 825 at 60°. Mr Hutton is said to have succeeded in freezing alcohol, but the fact is regarded as doubtful, as the means by which he effected its congealing were never disclosed. Mr Walker exposed it to a temperature of 91°, but no congealing took place; it has, therefore, been much used in the construction of thermometers. Even when diluted with an equal weight of water, it requires a cold of 0° below 0 to congel it. When of a specific gravity of 1.4, it boils at the temperature of 176°, the barometrical pressure being 30 inches. In the vacuum of an air-pump it boils at common temperatures. The specific gravity of the vapour of alcohol, compared with atmospheric air, is 4.613. Alcohol may be mixed in all proportions with water, and the specific gravity of the mixture is greater than the mean of the two liquids, in consequence of a diminution of bulk that occurs on mixture. The strength of such spirituous liquors as consist of little else than water and alcohol, is of course ascertained by their specific gravity; and, for the purpose of levying duties upon them, this is ascertained by the hydrometer. But the only correct mode of ascertaining the specific gravity
of liquids, is by weighing them in a delicate balance against an equal amount of pure water, of a similar temperature.—Alcohol is extremely inflammable, and burns with a pale-blue flame, scarcely visible in bright daylight. It occasions no fulminating deposition, and the fumes of its combustion are carbonic acid and water, the weight of the water considerably exceeding that of the alcohol consumed. According to Saussure, jun., 100 parts of alcohol afforded, when burned, 136 parts of water. The steady and uniform heat, which it gives during combustion, makes it a valuable material for lamps.—The action between alcohol and some of the metals, particularly platinum, is remarkable. When a small piece of thin platinum leaf, suspended by a wire, is heated by a spirit lamp, and then quickly put into a glass, in which there is a little alcohol, so that it shall remain just over the surface, and of course in the vapour arising from the alcohol, it continues red-hot, as long as there is any fluid in the jar; which is owing to the vapour undergoing a sort of combustion, and generating heat sufficient to keep the metal in that state. This action affords the means of making a lamp without flame.—There are some substances which communicate colour to the flame of alcohol; from boric acid, it acquires a greenish-yellow tint; nitre and the soluble salts of laryta cause it to burn yellow, and those of strontia green. Bracketed is composed of a fine green tinge.—Alcohol dissolves pure soda and potassa, but it does not act upon their carbonates; consequently, if the latter be mixed with alcohol containing water, the liquor separates into two portions, the upper being alcohol deprived, to a considerable extent, of water, and the lower the aqueous solution of the carbonate. The alcoholic solution of caustic potassa was known in old pharmacy under the name of Fan Hémiot's tincture of tartar. It is used for purifying potassa.—Alcohol dissolves the greater number of the acids. It absorbs many gaseous bodies, which dissolve the vegetable asphalt, the volatile oils, the resins, tan, and extractive matter, and many of the soaps; the greater number of the fixed oils are taken up by it in small quantities only, but some are dissolved largely.—The composition of alcohol was investigated by Saussure, and Gay Lussac. The result was, that 100 parts of pure alcohol consist of:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen</td>
<td>13.70</td>
</tr>
<tr>
<td>Carbon</td>
<td>51.98</td>
</tr>
<tr>
<td>Oxygen</td>
<td>34.32</td>
</tr>
</tbody>
</table>

These numbers approach to 3 proportions of hydrogen, = 3; of carbon, = 12; and 1 of oxygen, = 8. Or it may be regarded as composed of 1 volume carbonated hydrogen, and 1 volume of the vapour of water; the 2 volumes being condensed into 1, the specific gravity of the vapour of alcohol, compared with common air, will be 1.589, or, according to Gay Lussac, 1.613. When alcohol is distilled with certain acids, a peculiar compound is formed, called ether (q.v.), the different ethers being distinguished by the names of the acids employed in their preparation.

Alcoran. See Koran.

Alcoran, or Alcyone, Placcus; an Englishman, renowned, in his age, for learning; the confidant, instructor, and adviser of Charlemagne. He was born in York (according to some, near London) in 732, was educated under the care of the venerable Bede and bishop Egbert, and was made abbot of Canterbury; and when a youth, was acquainted with him in Parma, on his return from Rome, whence he had brought the pallium for a friend; invited him, in 782, to his court, and made use of his services in his endeavours to civilize his subjects. In the royal academy, he was called Flaccus Albionis. To secure the benefit of his instructions, Charlemagne established at his court a school, called Palatinus, and instructed him with the superintendence of several monasteryes, in which A. exerted himself to diffuse a knowledge of the sciences. More than a thousand students, from France were either founded or improved by him; thus he founded the school in the abbey of St Martin of Tours, in 796, after the plan of the school in York. He himself instructed a large number of scholars in this school, who afterwards spread the light of learning through the empire of the Franks. A. took his leave of the court in 801, and retired to the abbey of St Martin of Tours, but kept up a constant correspondence with Charles to the time of his death, in 804. He left, besides many theological writings, several elementary works in the branches of philosophy, rhetoric, and philology; also poems, and a large number of letters, the style of which, however, is not pleasing, and plainly betrays the uncultivated character of the age; nevertheless, he is acknowledged as the most learned and polished man of his time. He left two works: one, a brevity. His works appeared in Paris, 1617, folio, and in a more complete form in Ratisbon, 1777, 2 vols. folio.

Aldebaran, or the bull's eye, in astronomy; a star of the first magnitude in the southern eye of the constellation of Taurus.

Aldegonde, St. Philip of Marnix, lord of mount St Aldegonde, was born in Brussels, 1558, and studied in Geneva. He drew up, in the beginning of Dec. 1565, the act of compromise for the preservation of the privileges of the Netherlands, which was signed by count Louis of Nassau, Henry of Bréderode, and himself. The act was directed chiefly against the introduction of the inquisition into the Netherlands, and the members promised to assist each other with their persons and property. It was rejected, however, by the regent Margaret. In 1568, Alva arrived in Flanders, and the lands of the prince of Orange, to Germany, and returned with them as their leading counsellor. In 1573, he fell into the hands of the Spaniards, at Maastricht, was afterwards exchanged, and conducted many diplomatic negotiations of the young republic abroad. He defended Antwerp a long time, though not successfully. He assisted in establishing the university of Leyden, and died there, professor of theology, in 1599.

Aldehoven, battle at, March 1, 1793. The engagement near this town, situated between Juliers and Aix in Chapelle, opened the campaign of 1793. The year previous, the Austrians had been obliged, after the battle of Jemeppe, to evacuate Belgium, and retire behind the Roer. Dumouriez, at the beginning of the year 1793, threatened Holland with an invasion. To prevent this, and to raise the siege of Maastricht, the prince of Coburg drew together his army, consisting of 40,000 men, behind the Roer, and forced this river, March 1, in two columns, at Duren and Juliers. In the engagement which ensued, the French lost about 6000 men killed and wounded, and 4000 prisoners. On the following day, Aix in Chapelle and Lierge were occupied, and the siege of Maastricht raised, and the French actively pursued. At Neerwinden the French halted, and received a re-enforcement, consisting of the corps destined to invade Holland, but were beaten here, March 18, a second time.

Aldea. The alder or owler (betula alnus) is a tree which grows in wet situations, and is distinguished by its flower-stalks being branched, its leaves being roundish, waved, serrated, and downy at the branching of the veins beneath. It is common in
Europe and Asia, and the United States of America. There are few means of better employing swampy and marshy grounds, than by planting them with alders; for, although the growth of these trees is not rapid, if carefully attended to, they are applicable are such as amply to compensate for the slowness with which they come to perfection. The wood of the alder, which is in great demand for machinery, is frequently wrought into cogs for mill-wheels, as it is peculiarly adapted for all kinds of work which are to be kept water-tight. It is also commonly used for pumps, sluices, pipes, drains, and conduits of different descriptions, and for the foundation of buildings situated in swamps. For these purposes, it has been much cultivated in Flanders and Holland. It is commonly used for bobbins, women's shoes, inlaid ploughmen's clogs, and numerous articles of turnery ware. This wood also serves for many domestic and rural uses, for spinning-wheels, troughs, the handles of tools, ladders, cartwheels, &c. The roots and knots furnish a beautifully-veined wood, nearly of the colour of mahogany, and well adapted for cabinet-work. The bark may be advantageously used in the operations of tanning and leather-dressing, and by fishermen for staining their nets. This and the young twigs are sometimes employed in dyeing, and yield different shades of yellow and red. The Flanders chew the bark of the alder, and dye their hair with the sap; a river named after it produces sugar. With the addition of copperas, it yields a black dye, used to a considerable extent in colouring cotton. In the Highlands of Scotland, we are informed that young branches of the alder, cut down in the summer, spread over the fields, and left during the winter, are frequently found to answer the purpose of manure. The fresh-gathered leaves, being covered with a glutinous moisture, are said to be sometimes strewn upon floors to destroy fleas, which become entangled in it, as birds are with bird-lime.

ALDERMAN (elder, elks, and man); among the ancient Saxons, the second order of nobility. It was synonymous with the Latin comes, the eorl or jarl of the Danes (which after the Danish times superseded it), and the seniore and major of the Franks. The aldermen were at first governors of counties, and were appointed into the widumagement, or great council of the nation; gave their consent to the public statutes; kept order among the freeholders at the county courts; in times of war, appeared at the head of the military forces of their shires, and were called dukes, or heretogen, (the Germ. herzog). They were at first appointed by the king, and were afterwards elected by the freeholders of the shire; at first the office was during good behaviour, but finally became hereditary. Aldermen, at present, are officers associated with the mayor of a city, for the administration of the municipal government, both in England and the United States. In some places, they act as judges in certain civil and criminal cases. In London, there are twenty-six aldermen, who preside over the twenty-six wards of the city, and from whose number the mayor is elected annually.

ALDHELM. See Aethelm.

ALDREKE; an island on the coast of Normandy, about eight miles in circumference. Though within seven miles of cape la Hogue, it is subject to the crown of Great Britain. With Guernsey, Jersey, and Sark, it forms the only part of the possessions of William the Conqueror that now remain under the government of England. A is about thirty miles from the nearest part of the English coast, and about eighteen from Guernsey. The race of .A. is a name given to the strait running between the coast of France and this island. The town of this name, about two miles from the harbour, is but poorly built, and contains about 1000 inhabitants. In stormy weather, the whole coast is dangerous, particularly from a ridge of rocks, called the Caisses, which are often proved fatal to mariners. The air is salubrious, the soil fertile and much cultivated; but the custom of gavel-kind dividing the lands into small parts, keeps the people in a state of poverty. They send grain to England. In 1119, Henry, duke of Normandy, son of King Stephen, with twenty nobles, was lost near this island; and in 1744, the Victory, of 116 guns, admiral Sir John Balchen, with 1100 mariners and sailors, was lost near the coast of A.

ALFRED. Enormous; the name given to the works which proceeded from the press of the family of Aldus Manutius. See Manutius. Recommended by their intrinsic value, as well as by a splendid exterior, they have gained the respect of scholars, and the attention of book-collectors. Many of them are the first editions of Greek and Roman classics, and some have not been printed again; as Plutarch's Lives of the Greek and Roman Deities, the works of the modern classical authors printed by them, as Petrarca, Dante, Boccaccio, and others, was critically revised from manuscripts. Generally speaking, their editions are distinguished for correctness, though their Greek classics are inferior, in this respect, to their Latin. The chief of these are disposed of by those of Aldus Manutius, the father, are of importance in the history of printing. Aldus deserves much credit for his beautiful types. He had nine kinds of Greek types, and no one before him printed so much and so beautifully in this language. Of the Latin character he procured fourteen kinds of type. Among the latter is the antiqua, with which Bellundus de Etzna, 1495, 4to, is printed; a very beautiful character. The Italic characters, invented and cut by Francesco of Bologna, and brought into use by Aldus, who employed them for the collection of editions of ancient and modern classics, in 1495, (the first of which, Virgil, appeared in 1501,) are less handsome; they are too stiff and angular, and faulty in a technical respect, on account of the many letters connected together. He had even three kinds of Hebrew types. He was no friend to ornamentation in his type, like the. The Hypnerotomachia Poliphili, 1499, fol., is his only work furnished with ornaments of that kind, and wood-cuts. His paper is invariably strong and white. He introduced the custom of striking off some copies of an edition on better, finer, and whiter paper than the rest; first, in the Epitome Gregorii, 1499. He also first published single copies on large paper, in the edition of Philostorus, 1501. He printed also the first impressions on blue paper, beginning with some copies of the Libri de Re Rustica and Quintilian, both in 1514. His impressions on parchment were eminently beautiful. His link is of excellent quality. At the same time, his prices were fair. His Aristotle, five vols. fol., cost only eleven ducats. The press sank in reputation under the care of his son, Paul, and his grandson Aldus. When it was broken up, in 1597, after a duration of 100 years, and after producing 908 editions, it was distinguished in nothing from other presses in the country. The Aldine editions, especially those of the father, were early sought for. The printers in Lyons, and the Giunti in Florence, in 1592, found their advantage in imitating these and in printing the works of the modern times, they have been highly prized by scientific collectors. The Horae b. Mar. Virg., of 1497 (lately sold for 100 ducats), the Virgil of 1501, and the Rhetorica Graeci, not to mention the very rare editions between 1491 and 1497, are par-
cularly scarce and valuable. The bookseller and bibliographer Renouard, in Paris, and the grand duke of Tuscany, possess the most complete collections. Of the former's excellent work on the press of Aldus, a supplementary volume appeared in 1812. A list of all genuine Aldine editions is given in the appendix to the 1st vol. of Ebert's Bibliography. A further account of the Annales de l'Imprimerie des Aldes, ou Histoire des trois Manuscrits, et de leurs editions; par Ant. Aug. Renouard; second edit., Paris, 1825, 3 vols. Svo.; and Repertorium Bibliographicum, in quo Libri omnes ab Arte Typographica inventis usque ad Annunum M.D. typis express, ordine Alphabetico, see A. A. Koenen, E. P. C. Vesper. The second part of the first vol. of this work has been published quite recently.

Aldobrandini; the name of a princely family at Rome, celebrated in the history of art on account of an antique fresco, in their villa, representing a wed- ding, and called by the name of the Aldobrandine wedding. It was discovered in the time of Clement VIII., not far from the church Santa Maria Mag- giore, in the district where, formerly, were the gar- dens of Mocenac, and carried hence into that villa. Walsche, and supposed it to be the wedding of Pe- leus and Thetis; the count Bondy, that of Manlius and Julia.—Several scholars, also, of this name have distinguished themselves, especially Sylvester A., famous for his knowledge of law, and his brother Thomas, both in the 16th century.

Alfred; abbot of Tavistock, and afterwards bishop of Worcester, 1046. He was the first English bishop who visited Jerusalem, and after his return was raised to the see of York, an elevation which, when he appeared at Rome, the pope refused to ra- tify, on account of his ignorance and simplicity. In solicitations, however, prevailed, and he received the pallium from the pontiff. On the death of Edward the Confessor, he crowned Harold, and afterwards the Conqueror, whose esteem he enjoyed, and whose power he made subservient to the views of the church. When, being governor of York, he flew to London, and, with all the indignation and haughtiness of an offended prelate, demanded vengeance, and pronounced a curse on the head of William. His wrath was with difficulty pacified by the entreaties of the sovereign and his nobles, and the curse was recalled, and changed into a blessing. It is said that he died with grief, on seeing the north of England desolated by the ravages of Harold and Canute, sons of Sweyn, Sept. 11, 1068.

Anchin, Henry, dean of Christ Church, Oxford, 1689, and distinguished for his love and knowledge of music. He adapted many of the works of the older masters to the liturgy of the church of England, and composed, besides, many original services and anthems. He was also author of several esteemed polemical works. At his death, which took place in 1710, he bequeathed to his colleges, college, whatever he had presided upwards of twenty years, a large and valuable collection of music, of which Dr Burney speaks highly.

Alfvenes, Ulysses, a traveller and naturalist, born in 1528, in Cape Town, in the West India, was professor of philosophy and physic; and died in 1605. After his death, the result of his travels was published in six vols. folio, wherein he describes a great variety of birds and insects.

Aldus, See Manutius.

Ale, and Beer. Alix and Bixx; well known and extensively used fermented liquors, the principal of which is extracted from several sorts of grain, but most commonly from barley, after it has undergone the process termed malting. The distinction between ale and beer; or porter, has been ably elucidated by Dr Thomas Thomson, in his very valuable article on brewing, in the Supplement to the Encyclopaedia Britannica:—"Both ale and beer are in Great Britain obtained by fermentation from the malt of barley; but they differ from each other in several particulars. Ale is a light-coloured, brisk, and sweeter malt; porter, at least from bitter; while beer is dark-coloured, bitter, and much less brisk. What is called porter in England is a species of beer; and the term "porter" at present signifies what was formerly called strong beer. The original difference between ale and beer was owing to the malt; and it is remarkable, that Ale malt was dried at a very low heat, and consequently was of a pale colour; while beer or porter malt was dried at a higher temperature, and had of consequence acquired a brown colour. This incident charring had developed a peculiar and agreeable bitter taste, which was communicated to the beer along with the dark colour. This bitter taste rendered beer more agreeable to the palate, and less injurious to the constitution than ale. It was consequently manufactured in greater quantities, and soon became the common drink of the lower ranks in England. With this would become, in consequence of the heavy taxes laid upon it, and the great increase in the price of barley which took place during the war of the French revolution, the brewers found out that a greater quantity of wort of a given strength could be prepared from pale malt than from brown malt. The consequence was that pale malt was substituted for brown malt in the brewing of porter and beer. We do not mean that the whole malt employed was pale, but a considerable proportion of it. The wort, of course, was much paler than before; and it wanted that agreeable bitter flavour which characterised porter, and made it so much relished by mostpalates. The porter brewers endeavoured to remedy these defects by several artificial additions. At the same time various substitutes were tried to supply the place of the agreeable bitter communicated to porter by the use of brown malt. Quassia, coocus indicus, and we believe even opium, were employed in succession; but none of them were found to answer the purpose sufficiently. Whether the use of these substances be still persevered in, we do not know; but we much rather believe that they are not, at least by the London porter brewers."—The manufacture of ale or beer is of very high antiquity. Herodotus tells us, that owing to the want of wine, the Egyptians drank a liquor fermented from barley (lib. ii. cap. 77). The use of it was also very anciently introduced into Greece and Italy, though it does not appear to have ever been very extensively used in these countries. Mead, or meadgin, was probably the earliest intoxicating liquor known in the north of Europe. Ale or beer was, however, in common use in Germany in the time of Tacitus (Morib. Germ. cap. 25). "Ale and wine," says Florus, "were in- habit the west of Europe have a liquor with which they intoxicate themselves, made of corn and water (fruge madida). The manner of making this liquor is somewhat different in Gaul, Spain, and other countries, and it is called by many various names; but its nature and properties are every where the same. The people of Spain, in particular, brew this liquor so well that it will keep good for a long time. So exquisite is the ingenuity of mankind in gratifying their vicious appetites, that they have thus invented a method to make wine itself intoxicating." (Hist. Nat. lib. xiv. cap. 22.)—The Saxons and Danes were passionately fond of beer; and the drinking of it was supposed to purify one of the prin-
ALE AND BEER—ALEMBERT.

cipal enjoyments of the heroes admitted to the hall of
Oddin. (Maitel's Northern Antiquities, cap. 6, &c.)—The manufacture of ale was early introduced into
England. It is mentioned in the laws of Ina, king of Wessex; and is particularly specified among the
liquors provided for a royal banquet in the reign of Edgar. It was extensively employed in the reigns of the Norman princes to regulate the price
of ale; and it was enacted, by a statute passed in 1272, that a brewer should be allowed to sell two
gallons of ale for a penny in cities, and three or four
gallons for the same price in the County. The use
of hops in the manufacture of ale and beer seems to
have been a German invention. They were used in
the breweries of the Netherlands in the beginning of
the fourteenth century; but they do not seem to have
been introduced into England till two hundred years
afterwards, or in the beginning of the sixteenth cen-
tury. In 1530, Henry VIII. enjoined brewers not
to put hops into their ale. It would, however, ap-
pear, that but little attention was paid to this order;
for in 1532 hop plantations had begun to be formed. (Beckmann's Hist. Invent., vol. iv. pp. 336—341. English addition of hops and malt make
their beverage more palatable, by giving it an agreeable bitter taste, while, at the same time it fits it for being kept much longer without injury. Generally speaking, the
English brewers employ a much larger quantity of
hops than the Scottish. The latter are in the habit of using only the finest Edinburgh ale, from a
pound to a pound and a half of hops for every bushel
of malt. Previously to 1825 there were only two
sorts of beer allowed to be brewed in England, viz.
strong beer, that is, beer of the value of 16s. and up-
wards, the barrel, exclusive of the duty; and small
beer, or beer of the value of 16s. a barrel, exclusive
of the duty. In 1823, however, an act was passed
(4 Geo. IV. c. 51.) authorizing the brewing, under
certain conditions, of an intermediate beer. But this
sort of beer was either not suited to the public taste, or, which is more probable, the restrictions laid
on the brewers deterred them from engaging extensively in its manufacture. This limitation and classification of the different sorts of ale and beer, according to
their strength, originated in the duties laid upon them; and now that these duties have been repealed, ale
and beer may be brewed of any degree of strength. Since the abolition of the beer duties, the regulations, as to the manufacture of ale and beer, are very few and simple; and consist only in
taking out a license, entering the premises, and
abstaining from the use of any article, other than malt, in the preparation of the beer. A brewer
using any place, or mash-tun, for the purpose of
brewing, without having made an entry thereof at the
nearest excise office, forfeits for every such offence
£5.00; and all the worts, beer, and materials for
making the same, together with the mash-tun, are
forfeited, and may be seized by any officer.—Brew-
ers obstructing officers shall, for every such offence, forfet £100.—(1 Will. IV. c. 51. §§ 15, 16.) The
duties on ale and beer in Scotland have been for
a lengthened period the same as in England. At the
union in 1707, the English duties on ale and beer
were introduced into Scotland. But, besides strong
and small beer, the Scots had an intermediate
species, which they called two-penny, and which was
their favourite beverage. The duty on this de-
scription of beer was fixed, at the union, at 2s. £4d.
a barrel. For thirty years after its imposition the
quantity of two-penny that paid duty was always
above 400,000, and sometimes exceeded 500,000
barrels a year. But in 1760 the duty on two-penny
was increased to 2s. 44d. and the consumption im-
m ediately fell off to between 100,000 and 200,000
barrels! The quantity that paid duty in 1800 amount-
ed to 149,803 barrels. The manufacture of this
species of beer ceased entirely in 1802.
 Alec— the situation of the helm when it is pushed
down to the lee side of the ship, in order to put
the ship about, or to lay her head to the windward.
Alec— a celebrated character in the French
poetry. It was thought that he afforded a great amount of information respecting the order of the Jesuits. He was a Jesuit, born at
Brussels, 1592. His Bibliothèque des auteurs
Jesuites was published at Antwerp, 1643; Vida y
Virtudes de los Jesuitas, by fray Jeronimo de Jesús, 12
Rome, 1649: Heroes et Victimas Carlistas Soc. Jesu, 4to, Rome, 1658; Mortes illustres et gesta
eorum de Societ. Jesu, qui in Odium Fidei ab Har-
retticos vel aliis occasi sunt, folio, Rome, 1657. A
died at Rome, 1652. He was for some time con-
fessor of the emperor Ferdinand, and afterwards re-
tained at Rome by the general of his order as secre-
tary, to prepare the Latin despatches to Germany. The
Bibliothèque, his chief work, was also published in
Latin, Rome, 1675.
A l e m a n n ; that is, all men, or various sorts of
men, the name of a military confederacy of several
German tribes, which, at the commencement of the
3d century, approached the Roman territory. Their
settlements extended, on the east side of the Rhine, from
lake Constance, the Elbe and the Danube, to the
Maine and the Lahn. Their neighbours on the
west were the Suevi, and, farther on, the Burgund-
ians. The principal tribes composing the Alaman-
ic league were the Teuteri, Usipetes, Chatti, and
Vangiones. Carcanilla first fought with them, on
the southern part of the Rhine, in 211, but did not
conquer them; Seventus was likewise unsuccessful.
Maximin was the first who conquered and drove
them beyond the Rhine, in 236. After his death,
you again invaded Gaul; but Posthumius defeated
them, pursued them into Germany, and fortified the
boundary with ramparts and ditches; of which the
most notorious was that opposite Cologne, extending through Hohenlohe to Jaxlhausen, and the
ditch with palisades on the north side of the
Maine, are remnants. (See Devil's Wall.) But
the A. did not desist from their incursions, and were
successively repulsed by Lollianus, the successor of
Posthumius, for the emperor Probus, in 282, and af-
fterwards by Constantius Chlorus. Nevertheless,
during the disturbances in the empire, and until
Constantine became its sole master, they occupied
the tract from Mentz to Strasburg. At last, Julian
was sent, when Cæsar, to Gaul, in 357. He again
repulsed the A., and forced their princes, of whom
there were then eight, to sue for peace. Their
whole force, in the chief battle against Julian,
amounted to 35,000 men. When the migration of
the northern tribes began, the A. were among the
hordes that over-run Gaul. They speeded along the
whole western side of the Rhine, and, in the latter
half of the 5th century, over all Helvetia. At last,
Clovis broke their power in 496, subdued them,
and deprived them of a large portion of their possessions.
Many of them fled to Theodore, king of the Ostro-
bothii, into Italy and the Alps; the greater part,
however, returned to their own country.
A l e m b e r t, Jean le Rond d', one of the most dis-
inguished mathematicians and literary characters of
the 18th century, was born in Paris, in 1717, but
was exposed by his parents, Madame de Tencin and
the poet Destouches, provincial commissary of artillery. The child appeared so weak, that the police officer, instead of carrying it to the foundling hospital, committed it to the care of the wife of a poor glazier. Perhaps he had secret instructions to do so; for, although his parents never publicly acknowledged him, the Arnaud family, when they were aware from him; on the contrary, his father afterwards settled upon him an income of 1,200 livres, a sum which was then sufficient to procure the necessities of life. He showed much facility in learning, and at the age of four years, was sent to a boarding-school. He seemed, but perhaps he desired him so, that he might, a man of merit, declared that he could teach him no more. He entered the college Mazarin at the age of twelve. His talents surprised his instructors, who thought they had found in him a second Pascal to support the cause of the Jansenists, with whom they were closely connected. He wrote, in the first years of his philosophical studies, a commentary on the epistle of Paul to the Romans. But, when he began to study mathematics, this science captivated him so much, that he renounced all theological disputes. He left college, studied law, because his parents, but did not continue to occupy himself with mathematics, though he had always entirely destitute of property. A pamphlet on the motion of solid bodies in a fluid, and another on the integral calculus, which he laid before the academy of sciences in 1739 and 1740, showed him in so favorable a light, that the academy received him, in 1741, into the number of its members. He soon after published his famous works on dynamics, Traité de dynamique, and on fluids, Traité des fluides. In 1746, his Theory of the Winds obtained the prize offered by the academy of Berlin, of which he was chosen an associate, but not a member. He was admitted to this academy, two of his writings determined that on pure analysis, and the one which treats of the vibrations of strings. He also took a part in the investigations which completed the discoveries of Newton respecting the motion of the heavenly bodies. Whilst Euler and Clairaut were engaged in these, he delivered, in 1747, to the academy of sciences, a solution of the problem proposed to determine what disturbances are occasioned by the mutual attraction of the planets, in their elliptical revolutions round the sun, and what their motion would be, if they were acted on only by the attractions of the sun. He contained this labour for several years, and published, at intervals, various important astronomical treatises, including one on the precession of the equinoxes; also his experiment on the resistance of fluid bodies, and a number of dissertations on other subjects; works, of the value of which there is but one opinion among scholars, but which produced a coldness on the part of Euler and others.—In the first fervour of his friendship for mathematics, he had, for a time, become indifferent to belles lettres; but his early love of them soon revived, after his most important discoveries, when mathematical investigations ceased to afford him so rich a harvest of new truths, or he felt the necessity of relaxation. He entered on this new career, with his introduction to the Encyclopédie, and it will always be a pattern of style in treating of scientific subjects, uniting, as it does, elegance and precision. He comprised in his introduction, the essence of all his knowledge of mathematics, philosophy, and literature, acquired in a study of twenty years, and this was all that was known at that time, in France, on these subjects. He undertook to prepare the mathematical part of the Encyclopédie; and on this subject, he composed some excellent articles. His name being prefixed to this work he shared its fate, and exposed himself to numberless quarrels. D'A., soon after entered the French academy, and continued to cultivate the belles lettres, together with mathematics. His literary works, on account of their profundity and accuracy, met with the approbation of all sound minds; they are distinguished by purity of language, and force of thought. From 1724 to 1738, he experienced much persecution on account of his connexion with the Encyclopédie, and was neglected by the government of his country, he would not accept the invitations of Frederick II. to settle in Berlin, nor the offers of the Russian empress, who would have made him the lord of one of her provinces, with a pension of 100,000 livres. His country learned his worth from foreigners; and the king of Prussia gave him a pension, when the academy of sciences, at Paris, refused him the salary to which he was justly entitled. Though his income was always moderate, his beneficence was great. He lived above thirty years, in the plainest manner, in the house of the woman who had brought him up, and left these lodgings only when his health compelled him. His long attachment to Mlle de l'Espinasse shows that he was not destitute of a feeling heart. Valuing independence more than anything else, he avoided the society of the great, and sought only that into which he could enter with cheerfulness and frankness. The reputation which he enjoyed, the intimate friendship between him and Voltaire, and his great merit, procured him many enemies. He had a literary contest with J. J. Rousseau, on account of an article on Geneva, intended for the Encyclopédie. His religious character seems to have been that of a sober deist. He died of the stone, being unwilling to submit to an operation, in 1783, in the 60th year of his age. Frederick II., who had, in 1763, become personally acquainted with him, maintained a correspondence with him, which was published after the death of both, and is very interesting. The enemies of D'A., with a view of deprecating his merits, called him a good geometrician among the literati, and a good belles lettres scholar among the geometericians. The truth is, that his rank is somewhat higher in geometry than in belles lettres; but, owing to the influence of style upon the fate of writings, his works in the department of belles lettres will continue to interest longer than his mathematical treatises. The former are collected in the Oeuvres complètes, his correspondence, and, in the livres de D'A.Alember, 18 vols. Paris, 1800. Condorcet has drawn his character in his Eloge.

ALEMORE, capital of the French department of the Orne, on the Sarthe, contains 1,288 houses, and 13,500 inhabitants, an college, a société d'énumération, a library, and considerable manufactories of bone-lace, etamine, woollen stockings, leather, &c. The diamonds of A., so called, are found in the neighbouring quarries, 3000 women are employed here in manufacturing point-lace. Also a kind of linen, toile d'Alimenc, enjoys much reputation. The neighbouring country has become richer by the division of the large estates, and the town itself more industrious.

ALEXANDER; capital of the French department of the Orne, on the Sarthe, contains 1,288 houses, and 13,500 inhabitants, a college, a société d'énumération, a library, and considerable manufactories of bone-lace, etamine, woollen stockings, leather, &c. The diamonds of A., so called, are found in the neighbouring quarries, 3000 women are employed here in manufacturing point-lace. Also a kind of linen, toile d'Alemon, enjoys much reputation. The neighbouring country has become richer by the division of the large estates, and the town itself more industrious.

ALESCO, Julius; a Jesuit, born at Brescia, in the territory of Venice. He was a missionary in China, arrived, in 1610, at Macao, and left several works in the Chinese language. He died 1649.

ALEXPO, or HALEP; capital of the Asiatic pashalic of the same name, which is the second in the Turkish empire, and comprises the northern part of Syria, including mount Lebanon. It contains 9,500 square miles, and 450,000 inhabitants. The Oronos, bounding in fish, is the only river of the pashalic; which, unlike the other, is generally navigable. Although since have been connected, by a canal running through a level plain, with the Euphrates. The country
produces chiefly wheat, barley, cotton, indigo, sesamum, &c., and, in the mountains, mulberry, olive, and fig-trees. Halep, a seat of a pascha of three tails, a Greek patriarch, an Armenian, a Jacobite, and a Maronite bishop, is, within the walls, about three and a half miles in circumference; including the suburbs, however, about six. It contains 14,507 houses, 850,000 inhabitants, (24,000 of whom are Christians,) 100 mosques, three Catholic churches, one Protestant church, a synagogue, many manufactories of silk, cotton, &c. It carries on considerable trade, forming the centre of the intercourse between the Persian gulf and the Mediterranean sea. The inhabitants are Albanians, the rest Jews, oriental Christians, and Europeans. The city lost two-thirds of its houses, and 8000 inhabitants, by the earthquakes in 1822 and 1823.

Lol. 37° 10' E.; lat. 36° 11' N.

Alexander, Paul, a French Jesuit, known as the author of "Grundus ad Parnassum," which has been so long in established use in the schools of Europe. He was a native of Luxemburg, and died in 1727.

Alex, or Alexe, Alexander, a theologian of the sixteenth century, born at Edinburgh, 1500. He was first canon in the cathedral of St. Andrews; but being excommunicated, he was obliged to retire to Germany, and eventually he became professor of divinity at Frankfort, and afterwards at Leipsic. He died in 1565. The most esteemed of his works is one entitled, "De Sancta Trinitate, cum confutatione erroris Valentini." Alexia, the capital of the Mandubial, a Gallic people, who dwelt in what is now Burgundy, was an important fortress, the siege and taking of which was, undoubtedly, the greatest military exploit of Caesar. All Gaul had risen against the Romans, even the Ebiat, the old allies of the oppressors; but Caesar conquered them under Vercingetorix, and besieged them in Alexia. 80,000 men were shut up in the town; Caesar, with 60,000 troops, lay before it. He erected immediately a line of contravallation, extending four leagues, in order to reduce the place by famine, since its situation on a hill, 1500 feet high, and on all sides abrupt, between the rivers Ope and Opeinian, rendered an attack impossible. Vercingetorix, after making several furious but unsuccessful sallies, called all the Gauls to arms, and in a short time, 250,000 men appeared before the place. Caesar had, in the meantime, completed his line of fortification, unseated himself against any attack from without by a breast-work, a ditch with palisades, and several rows of pit-falls. These defences enabled him to repel the desperate attack of 330,000 Gauls against the 60,000 Romans under his command, though he was assailed both in front and rear. The Gauls were unable to hold his lines at any point. Vercingetorix, reduced to extremity by hunger, was compelled to surrender, without having carried into execution his design of murdering all the persons in the town who were unqualified for battle. But the whole tribe of the Mandubii, which had been expelled from the city by the Gauls, and were not allowed by the Romans to pass into the open country, died of famine between the two camps. Afterwards, A. rose again to a flourishing condition, until it was destroyed, in 864, by the Normans. Vestiges of wells, aqueducts, broken tiles, coins, and the like, are still visible, and, once stood, prove the former existence of the city. At the foot of the ancient citadel (now mountain Auzois), is a village called Alise (depart. Côte d' Or); with several hundred inhabitants.

Alexa, a group belonging to Russia, and separating the sea of Kamtschatka from the northern part of the Pacific ocean, extending nearly 700 miles from E. to W., from lat. 160° to 183° E.; lat. 53° N. They form a chain connecting Asia and America, and include what has generally been called, in English geographical works, the Fox islands, Behring's and Copper islands, and the group formerly divided into the Aleutian and Anacronaen islands, together above 100, comprising about 10,000 square miles, all rocky, some containing volatiles and hot springs. The most known and largest are the Oonalashka, Behring's island, and Kodiak. The principal place is Alexandria, the seat of the governor, and the chief emporium. No tree grows on these islands, but the domestic animals thrive there; but they afford an abundance of fish. The inhabitants belong to the same stock with the natives of Kamtschatka; they are a harmless race of hunters and fishers. Their numbers has been reduced by the small-pox and the venereal disease to 1000. The Russians to whom they pay tribute, visit these inhospitable islands only for the sake of fur. The officers of the Russian-American company treat the inhabitants so cruelly, that Krusenstern made a report about it to the Russian government.

Alexander, the son of Philip of Macedon, was born in Pella, B. C. 356. His mother was Olympias, the daughter of Neoptolemus of Epirus. In his early youth, he showed the marks of a great character. When he heard of the victories of Philip, he exclaimed, "My father will not leave any thing for me to do." Philip confided the charge of his education first to Leonidas, a relation of his mother, and to Lycurgus; afterwards to Aristotle. At a distance from the court, this great philosopher instructed him in all the branches of human knowledge, especially those necessary for a ruler, and wrote for his benefit a work on the art of government, which is unfortunately lost. As Macedon was surrounded by dangerous neighbours, Aristotle sought to cultivate in his pupil the talents and virtues of a military commander. With this view he recommended him to the reading of the Iliad, and revised this poem himself. The copy revised by Aristotle was the favourite book of A., who never lay down without having read some pages in it. At the same time he formed his body by gymnastic exercises. When very young, as he himself knew, he named the hero Neoptolemus, which no one else dared to mount. When he was sixteen years old, Philip, setting out on an expedition against Byzantium, delegated the government to him during his absence. He performed prodigies of valour, two years later (338), in the battle at Chaeronea, where he obtained great reputation by conquering the sacred band of the Thebans. "My son," said Philip, after the battle, embracing him, "seek another empire, for that which I shall leave you is not worthy of you." The father and son, however, quarrelled when Philip repudiated Olympias, A. who took the part of his mother, was obliged to flee to Epirus, to escape the vengeance of his father; but he soon obtained pardon, and returned. He afterwards accompanied Philip on an expedition against the Triballai, and saved his life in a battle. Philip, having been assassinated, A. was proclaimed king, and was preparing for a war against Persia, when he was assassinated, B. C. 336. A., not yet twenty years of age, ascended the throne, punished the murderer, went to the Peloponnesus, and received, in the general assembly of the Greeks, the chief command in the war against Persia, in which he was victorious. He received the crown of Illyri and Triballai in arms, went to meet them, forced a passage through Thrace,
and was everywhere successful. But the Thebans, having heard a rumour of his death, had taken up arms, and the Athenians, urged by the same, were about to join them. A. hastened to prevent this junction, appeared before Thebes, and, having summoned it in vain to surrender, took and destroyed the city. 8000 of the inhabitants were put to the sword, and 30,000 carried into captivity. The house and families of the slain were burned. This severity terrified all Greece. The Athenians suffered less. A. demanded only the banishment of Charmides, who had spoken most bitterly against him. Leaving Antipater to govern in his stead in Greece, and being confirmed as commander-in-chief of the Greek forces, in the general assembly of the Greeks, he crossed over into Asia, in the spring of 334, with 30,000 foot and 5000 horse. To secure the protection of Minerva, he sacrificed to her, on the fields of Ilion, crowned the tomb of Achilles, and congratulated this hero, from whom he was descend
d through his mother, on his good fortune in having had such a friend as Patroclus, and such a poet as Homer. When he approached the Granicus, he learned that several Persian satraps, with 30,000 foot, and as many horse, awaited him on the other side. The Greek horse left him as the river, and obtained a complete victory; having overthrown, with his lance, Mithridates, the son-in-law of Darius, and exposed himself to every danger. The Macedonians, encouraged by his example, bore down every thing before them, and the whole army crossed the river. The Greeks, who had observed the vastness of the Persians, who were formed in phalanxes, resisted longer, and were all destroyed, except 2000, who were taken prisoners. A. performed splendid funeral ceremonies in honour of those of his army who had fallen, and granted privileges to their fathers and children. Most of the cities of Pamphylia and Lycia, and all those of the Persians, who were formed in phalanxes, resisted longer, and were all destroyed, except 2000, who were taken prisoners. A. performed splendid funeral ceremonies in all the Greek cities. In passing through Cnidus, he cut the Cnidian knot, and conquered Lycia, Ionia, Caria, Pamphylia, and Cappadocia. But a dangerous sickness, brought on by bathing in the Cydnus, checked his course. On this occasion he showed the elevation of his character. He received a letter from Parmenio, saying that Philip, his physician, had been bribed by Darius to poison him. A. gave the letter to the physician, and at the same time drank the poison. Not long after this, he was restored to health, when he advanced towards the defiles of Cilicia, which Darius had imprudently betaken himself, with an immense army, instead of awaiting his adversary on the plains of Assyria. The second battle took place near Issus, between the sea and the mountains. The disorderly masses of the Persians were broken by the charge of the Macedonians, and fled in wild confusion. On the left wing, 30,000 Greeks, in the pay of the Persian king, resisted longer; but they also were obliged to yield. The treasures and family of Darius fell into the hands of the conqueror. The latter were treated most magnanimously. A. did not pursue Darius, who fled towards the Euphrates, but, in order to cut him off from the sea, turned towards Coele Syria and Phoenicia. Here he received a letter from Darius, presenting the great treasure and family of Darius. If I could come to him, he would restore to him not only his mother, wife, and children without ransom, but also his empire. This answer produced no effect. The victory at Issus had opened the whole country to the Macedonians. A. took possession of Damascus, which contained 250,000 inhabitants, and Syria was secured all the towns along the Mediterranean sea. Tyre, emboldened by the strength of its situation, re-

A. LIVER.
Roxana, but offended, the Persians, by assuming their dress and manners, but this hope was not realized. The discontent of the army gave occasion to the scene which ended in the death of Citrus. A., whose pride he had offended, killed him with his own hand at a banquet. Citrus was beloved by his most faithful friends and his harvest generals, and A. was afterwards a prey to the keenest remorse. In the following year, he subdued the whole of Sogdiana. Oxytanes, one of the leaders of the enemy, had secured his family in a castle built on lofty rocks. The Macedonians stormed the town. Roxane, the daughter of Oxytanes, one of the most beautiful virgins of Asia, was among the prisoners. A. fell in love with and married her. Upon the news of this, Oxytanes thought it best to submit, and came to Iacria, where A. received him with distinction. Here a new conspiracy was discovered, at the head of which was Hermolaus, and, among the accomplices, Callisthenes. All the conspirators were condemned to death, except Callis- thenes, who was mutilated, and carried about with the army in an iron cage, until he terminated his torments. A. now formed the idea of conquering India, the name of which was scarcely known. He passed the Indus, and formed an alliance with Taxilius, the ruler of the region beyond this river, who assisted him with troops, and 130 elephants. Conducted by Taxilius, he marched toward the region of the Hydaspes, the province of which Porus, another king, defended at the head of his army. A. conquered him in a bloody battle, took him prisoner, but restored him to his kingdom. He then marched victoriously through India, established Greek colonies, and built, according to Plutarch, a temple to Bacchus, after his horse, which had been killed on the Hydaspes. Intoxicated by success, he intended to advance as far as the Ganges, when the murmurs of his army compelled him to return, in doing which he was exposed to great danger. When he had reached the Hydaspes, he built a fleet, in which he sent a part of his army down the river, while the rest proceeded along the banks. On his march, he encountered several Indian princes, and, during the siege of a town belonging to the Mallis, was severely wounded. He recovered, and continued his march, sailed down the Indus, and thus reached the sea. Nearchus, his admiral, sailed hence to the Persian gulf, while A. directed his march by land to Babylon. He had to wander through immense deserts, in which the greater part of his army, destitute of water and food, perished in the sand. Only the fourth part of the troops, with which he had set out, returned to Persia. On his route, he quelled several mutinies, and placed governors over various provinces. In Susa, he married two Persian princesses, and rewarded those of his Macedonians who had married Persian wives, because it was his intention to unite the two nations as closely as possible. He distributed rich rewards among his troops. At Opis, on the Tigris, he declared his intention of sending the invalids home with presents. The rest of the army mutinied; but he persisted, and effected his purpose. Soon after, his favourite, Hephestion, died. His grief was unbounded, and he buried his body with royal splendour. On his return from Ecbatana to Babylon, the magicians are said to have predicted that this city would be fatal to him. The representations of his friends induced him to desist from these warnings. He went to Babylon, where many foreign ambassadors waited for him, and was engaged in extensive plans for the future, when he became suddenly sick, after a banquet, and died in a few days, 323 B.C. Such was the end of this conqueror. He left behind him an immense empire, which became the scene of continual wars. He had designated no heir, and, being asked by his friends to whom he left the empire, answered, "To the worthiest." After many disturbances, the generals acknowledged Alexander's son of a very weak mind, the son of Philip and the dancer Philinna, and Alexander, the posthumous son of A. and Roxana, as kings, and divided the provinces among themselves, under the name of satrapies. They appointed Perdiccas, to whom A. on his death-bed had given his ring, prince of them all. Of the return kings. The body of A. was interred, by Ptolemy, in Alexandria, in a golden coffin, and divine honours were paid to him, not only in Egypt, but also in other countries. His sarcophagus, since 1802, has been in the British museum. Arrian, Diodorus, Plutarch, and Curtius are the sources from whence the history of A. is drawn. (See also St. Croce, Écrou critique des Historiens d'Alex., 4to, Paris, 1804.) Secundus is the oriental name of A.

ALEXANDER BALAS, king of Syria, was, according to some, the son of Seleucus; but, according to others, a young man of mean extraction at Rhodes, born, by Heracleides, at the instigation of Ptolemy, Attalus, and Ariarathes, to personate the son of Antiochus, and under that title to lay claim to the crown of Syria, in opposition to Demetrius. In a war between the two competitors, A. was slain, B.C. 145.

ALEXANDER JANNAEUS, king of the Jews, succeeded to the throne, B.C. 106. His fourth brother endeavoured to deprive him of the crown, and was put to death. A. began his reign by leading an army against the Persians in the desert; but, in return of his own dominions against Ptolemy Lathyrus, and was defeated on the banks of the Jordan. He subsequently conquered Gaan, made war on the Arabs, and was engaged in quarrels with his own subjects. After returning to order, he extended his conquest through Syria, Idumea, Arabia, and Phœnicia. On returning to Jerusalem, he devoted himself to drinking and debauchery, and died, B.C. 79.

ALEXANDER SEVERUS, a Roman emperor, was born a slave in a Roman village. He was the son of Geneius Marcianus and of Mammea, niece to the emperor Severus. He was admirably educated by his mother, and was adopted and made Caesar by his cousin Heliogabalus, but a few years older than himself, at the prudent instigation of their common grandmother, Messa. That contemptible emperor, however, soon grew jealous of his cousin, and would have destroyed him, but for the intercession of the Praetorian guards, who soon after put Heliogabalus himself to death, and raised Alex- andor to the imperial dignity in his 17th year. Alex- andor adopted the noble model of Trajan and turn the Antonines; and the mode in which he administered the affairs of the empire, and otherwise occupied himself in poetry, philosophy, and literature, is elo- quently described by Gibbon. On the whole, he governed ably both in peace and war; but, when given him by his mother, hem allowed her a degree of influence in the government, which threw a cloud over the latter part of his reign, as is usually the case with the in- direct exercise of female political influence. A. be- came one of the most magnificent in one of the frequent insurrections of the Praetorian guards; but, either from fear or necessity, he allowed many of their se-
ditious mutinies to pass unpunished, although, in one of them, they murdered their prefect, the learned lawyer Ulpian, and, in another, compelled Dion Cassius, the historian, then consul, to retire into Bithynia. Atlength, in the year 218, after the invasion into Gaul, to suppress an insurrection of the Germans, he was murdered, with his mother, in an insurrection of his Gallic troops, headed by the brutal and gigantic Thimichan, Maximin, who took advantage of their discontent at the emperor’s attempts to restore discipline. This event happened in the year 235, after a reign of twelve years. A. was favourable to Christianity, following the predictions of his mother, Mammea; and he is said to have placed the statue of Jesus Christ in his private temple, in company with those of Orpheus and Apollo. In return, the Christian writers all speak very favourably of him. Herodian, on the contrary, accuses him of great timidity, weakness, and undue subjection to his mother; but exhibits a disposition to detract from his good character on all occasions, in a way that renders his evidence very suspicious. He was thrice married, but left no children. A. is imperti-

lulous in the following singular story of A.:—Ovi-
nius Camillus, a Roman senator, conspired against him. A., learning the fact, sent for Ovinus, thanked him for his willingness to relieve him from the burden of government, and then proclaimed him his choice successor; while he, with difficulty, had hardly time to breathe, and, on the breaking out of a war with Aetartarques, the fatigues to which A. exposed himself, and which Ovinus was compelled to share, so overwhelmed the latter, that, at last, he besought A. to permit him to return to a private sta-
tion. A. accordingly allowed to reign the im-
perial dignity.

ALEXANDER; the name of several popes.—A. I. reigned from 109 to 119, and is known only as having introduced the use of holy water.—A. II., Anesilaus of Milan, previously bishop of Luca, was, in 1061, raised to the papal throne by the party of Hildebrand, afterward Gregory VII., while the adherents of the German king, and of the nobility of Rome, chose Honorius II. at Basle. This antipope expelled A. from Rome, but Hildebrand, then the soul of the papal government supported him; a synod at Ostia was instituted, and the Romans themselves revolted, in 1063, from Honorius. Thus A. attained quiet possession of Rome, and of the papal power, which, however, Hildebrand ad-

ministered in his name. The papal bulls, therefore, against lay investiture, against the marriage of priests, and the divorce of Henry IV., and the naughty summons of this king to appear before the papal chair, must be ascribed to the influence of Hildebrand, who used the weak A. II. as his tool. A. died in 1073. (See Gregory VII.)—A. III. reigned from 1159 to 1184, and struggled with various fortune,

but undaunted courage, against the party of the emperor Frederick I., and the antipopes Victor III., Paschal III., and Calixtus III., who rose, one after the other, against him. He was obliged to flee to France in 1161, where he lived in Sena, until the disestablishment of the Lombard patrity by the expiation of Frederick, the assistance of the German ecclesi-

cal princes, and the desire of the Romans, opened a way for his return, in 1165. He now strengthened his power by a league with the cities of Lombarad, but was obliged to retire, in 1167, before the imperial armies. He returned to Rome, and Venice, until after the victory of the Lombards over the emperor at Legnano, followed by the peace of Venice (so humiliating to the pride of the emperor Frederick, who was compelled to kiss the feet and hold the stirrup of A., in 1177), the abdication of the third antipope, and the return of the victor to Rome. A. humbled, also, Henry II., king of England, who had exposed himself to the papal vengeance by the assassination of Becket. The terms on which the English king, after his return, was restored to fa-
vour, were such as to increase the power of the pope in both countries. He placed Alfonso II. on the throne of Portugal, and laid Scotland under an in-
terdict on account of the disobedience of the king.

The rest of his labours to augment the papal power, and his persevering efforts, in the spirit of Gregory VII., till the period of his death, are related in the article Popery.—A. IV., count of Segni and bishop of Ostia, ascended the papal throne in 1254, at a very unfavourable time. Conquered by Manfred of Sicily, implicated in the quarrels of the Guelphs and Ghibellines, despised in Italy, this pope, with good intentions, and a peaceable disposition, was not able to prevent, either by his prayers or his excom-

communications (which were only laughed at), the disturb-
ances prevailing over the whole country. At his death, in 1261, he left the papal power in a state of great weakness. A. V., a German from Swabia, un-
der the name of Peter Philargi, a mendicant friar, rose to the dignity of cardinal, and was chosen pope in 1409, at the same time with the antipopes Greg-

ory XII. and Benedict XIII. He was considered by the greater part of Christendom legitimate pope, but carried on wars of legality and illegality, in the one, and where he constantly resided, to an extent injurious to the interests of the church. At the council of Pisa, he promised to reform the abuses prevailing in the church, but took no steps towards it. While occupied in the condemnation of the doctrines of Wickliff, and in preparations for the trial of the Bohemian reformer, Huss, he died in 1410, probably by poison.—A. VI. See the following article.—A. VII., who was employed, when cardinal Chigi, as papal nuncio, in negotiations of peace at Munster and Osnabruck, and was revered on ac-

count of his pious zeal for the church and holy life, laid aside the mask of sanctity after his elevation to the papal throne, April 8, 1655, and gave himself openly up to luxury and voluptuousness. He sur-
rrounded himself with show and splendour, and ap-

peared in the character of an intriguing politician. For an acceptance of his conditions, the Council, in the name of Jansen’s Augustinian, and the quarrels in which he was consequently involved in France, see Jansen. He quarreled not only with the Sorbonne, and the parliament, but even with king Louis XIV.; so that the latter declared war against him, took Avignon and Venaissin, and forced him, in 1663, to make a disgraceful peace at Pisa. His improvements in the city of Rome, his attempts at poetry, and en-
couragement of learned men, could not indemnify the Roman court for the loss of authority in France; and he died without glory, May 22, 1667.—A. VIII., an Ottonian from Venice, became pope in 1688. By artful negotiations, he induced Louis XIV. to deliver up Avignon and Venaissin, and to renounce the privileges belonging to the quarter of his am-
bassador in Rome. He supplied the Venetians with men, money, and ships to carry on war against the Turks. Less intent upon the weal of the church than on enriching his own family, he delayed the con-
demnation of the four articles of the Gallican church, in order to gain advantages for his relations. He was hostile towards the Jesuits, and condemned their doctrine of their invisible society. In his time, however, thirty-one theses of the Jansenists. (See Jansen.) The library of the Vatican is indebted to him for the purchase of the excellent library of the queen Christina of Sweden. He died in 1691, eighty-one years old.
ALEXANDER VI.—ALEXANDER I, PAULOWITSCH

ALEXANDER VI., a pope notorious for his profligacy, was born at Valencia, in Spain, in 1439, and ascended the papal throne in 1492. His name was Rodrigo de Borja, but he had received the name of his mother's family, Borgia. In his youth he was noted for dissipation, though not destitute of talent. He had five children, by a woman famous for her beauty, Rosa Yanozza. Caesar Borgia and Lucrezia are the most known; the latter was four times married, and was suspected of incestuous intercourse with her father and brothers. A. was made a cardinal by pope Calixtus III., his uncle. By bribing the cardinals Sforza, Rario, and Cibo, he prepared his way to the papal throne, after the death of Innocent VIII. The long residence of the popes in Avignon, at a distance from their dominions in Italy, had diminished both their authority and revenues. To make up for this loss, A. VI. endeavoured to impair the power of the Italian princes, and seize upon their possessions, for the benefit of his own family. To effect this end, he employed the most execrable means. His policy, forlorn as well as domestic, was faithless and base, particularly in the case of France, whose king, Charles VIII., was his enemy. He understood how to extract immense sums of money from all Christian countries. He decided the dispute between the kings of Portugal and Castile concerning America, dividing their conquests, in 1492, by a line running from pole to pole, 376 miles west of the Azores. A. died, 74 years old, in 1503. Machiavelli abhorred this detestable miscreant, and says of him,

Malò valore, e per aver riposo Portato fu fra l'anime beate Lo spirito d' Alessandro glorioso; Del qual seguo le sante pedate Tre sue familiari e cari ancelle, con gentilezza, simonio e crudeltà.

The kings of Scotland were so named.—A. I., son of Malcolm III., succeeded his brother Edgar in 1107. He was called the Fiery, from his vigour and impetuosity. A conspiracy was formed against his life, and the traitors obtained admission into his bed-chamber at night. A., having killed six of them, made his escape. He died in the 17th year. —A. II., a dwarf, and his father, William the Lion, 1214, in his 16th year, and died in his 51st year. —His son, A. III., succeeded him in 1249. He married Margaret, daughter of Henry III. of England. In 1263, he defeated, at Largs, Haquin, or Haco, king of Norway, who had landed an army to conquer it. He was thrown down by his horse, and falling down a precipice between Bruntisland and Kinrhorn. He was a prince of an excellent character, introduced many good regulations of government, and greatly contributed to diminish the burdens of the feudal system, and to restrain the license and oppressions of the nobility. His death makes an era in Scottish history.

ALEXANDER, a Neapolitan lawyer of the sixteenth century, who distinguished himself in polite literature. An edition of his principal work, "Die Geneales," was published in 1587, with notes by his commentator Tiraquan.

ALEXANDER, John, a Scottish painter of some eminence during the earlier half of the eighteenth century. He studied his art chiefly at Florence, and on returning to his native country he resided at Gordon Castle, and painted several subjects, consisting chiefly of pastoral, allegorical, and mythological pieces. He also painted portraits and historical landscapes. Many of the portraits of Queen Mary are by him.

ALEXANDER NEWSKY, a Russian hero and saint, the son of the grand-duke Jaroslav, was born in 1219. In order to defend the empire, which was attacked on all sides, but especially by the Mongols, Jaroslav quitted Novgorod, and left the charge of the government to his sons, Fedor and Alexander. The former died soon after, and the latter was pursued the assailants. Russia, nevertheless, came under the Mongolian dominion, in 1238. A., when prince of Novgorod, defended the western frontier against the Danes, Swedes, and knights of the Teutonic order. He gained, in 1240, a splendid victory, on the Neva, over the Swedes, and thence received his surname. He overcame, in 1249, the knights of the sword, on the ice of lake Peipus. After the death of his father, in 1245, A. became grand-duke of Waldimir. He died in 1263. The gratitude of his countrymen has commemorated the hero in popular songs, and raised him to the dignity of a saint. Peter the Great honoured his memory by the erection of a splendid monastery in Peters burg, on the spot where A. gained his victory, and by establishing the order of Alexander Nevsky.

ALEXANDER, Noel, a French dominican of the 17th century, who died in 1724. He wrote various works, the most important of which is an Ecclesiastical History of the Bible, in Latin, 8 vols. folio.

ALEXANDER I, PAULOWITSCH (that is, the son of Paul), emperor and autocrat of all the Russians, and king of the Romans, was born in 1918, and died the throne March 24, 1801; was crowned 27th Sept. of the same year, in Moscow; married, 9th Oct., 1793, Elizabeth (previously called Louisa Maria Augusta), third daughter of Charles Louis, hereditary prince of Baden; and died 1st Dec., 1825. A. was one of the most important men of modern times. He was a great benefactor of his own country, and did some good and a great deal of evil to Europe. Nature had endowed him with great talents, which were judiciously cultivated by his mother and his instructors. He recognised the spirit of the age; frequently acted in accordance with liberal principles; had sense enough to know that a monarch, to play an important part, must have respect to the wishes of the people, whatever his ultimate object may be; loved justice, if it did not militate with his love of power, which was indeed of a high degree; and he lived with the "license" (q. v.),—a league which history will denounce as the origin of infinite evil. His father did not take any part in his education, which was directed by the empress Catharine II. and colonel Latarpe, (q. v.). His mother, Maria, the daughter of the duke Eugenio of Wurttemberg, always possessed his love and confidence, and retained a great influence over him throughout his reign. She died in the year 1828. Latarpe educated him in the principles of an enlightened age. His first governor, count Nich. Soltikoff, received orders from Catharine not to give the young prince any instructions in poetry and music, as requiring too much time for the attainment of proficiency. Professor Kraft instructed him in natural philosophy, and Pallas, a short time, in botany. —He took part, it is probable, in the conspiracy against his father, though it is said that he attempted to inform against his father; he wished to save himself and many nobles of the empire from the mad persecution of the emperor, and nothing short of detroning him could afford them safety. He is often said, therefore, to have acted in self-defence.—The history of his government may
be divided into three periods: The first was peaceful and entirely devoted to the execution of the schemes of Peter the Great and Catharine II., respecting the internal administration. The second, extending from 1762 to 1812, was characterized by the annexations of Sweden, the Porte, and Persia, and developed the resources and the national feeling of the people. In the third period, he used the experience acquired in the two preceding, to carry into effect the declaration of Peter the Great, made 100 years before, in 1714, after a victory over the Swedish fleet near the Aland islands:—"Nature has but one Russia, and it shall have no rival."—A. was distinguished for moderation, activity, and attention to business, personally superintending the multiplied concerns of his vast empire, while he simple and amiable manner gained him the love and confidence of his subjects. He understood and was zealous in promoting the welfare of his people. Great attention was paid, during his reign, to education and intellectual culture, and many improvements were introduced into the internal administration of the empire; e.g. the establishment of the in 1802, of the imperial council and the ministry of eight divisions by the ukase of 1810, of the provincial administration in the governments, &c. The shuckles which hung on the industry of the nation were removed. The interior, the communications of Russia has likewise advanced the military establishments of Russia to a high degree of perfection; he has developed in his people the sentiments of union, courage, and patriotism; and, lastly, he has raised Russia to a high rank in the political system of Europe, and has made its importance felt even in Asia. It must be also acknowledged that, during his reign, taste and intelligence began to be diffused among the higher classes, as well as eminent and even liberal statesmen to be formed, though it is in this, as in so many other things, difficult to distinguish what is owing to his influence, and what to the spirit of the age.—Among the most intimate associates of the emperor were general Jermoloff, afterwards Wolchonsky, Armtischkeff, and Diebitsch. In the earlier part of his reign, some Greeks stood high in his favour, as did the French ambassador, count Cambacérès: but the Czar, principally, felt his favours for the merit of A. to be reckoned his exertions for the improvement of the Scalianov nations, and the cultivation of their language and literature. He founded or new-modelled seven universities, at Dorpat, Kazan, Charkow, Moscow, Wilna, Warsaw, and St. Petersburg; 420 academies, many seminaries for the education of instructors, and above 2000 common schools, partly after the system of Lancaster. He did much for the distribution of the Bible, by the aid which he rendered to the Bible societies (abolished in 1820). He granted important privileges, by a ukase of 1817, to Jews becoming Christians. He appropriated large sums for the printing of important works, as the 'Erste von Kruisenstern, the History of Russia by Karamsin, &c. He esteemed and rewarded literary merit, both in and out of Russia. He purchased rare and valuable collections. In 1816, he invited two orientalists, Demange and Charrmy, from Paris to Petersburg, to advance the study of the Arabic, Armenian, Persian, and Turkish languages. He attended particularly to the education of young men of talent, whom he sent to travel through foreign countries. He endeavoured, at the same time, by humane means, to relieve his subjects from the tyranny of their lords, the nobles, the boyars, &c. Servitude was abolished in 1816, in Estonia, Livonia, and Courland; and A. declared, that he would no longer transfer with the crown-lands the boors who cultivated them. He forbade the advertising of human beings for sale, and gave leave to a number of boors, a part of the bondmen of the late chancellor Romanoff, to ransom themselves from their master. He first endeavoured to make his nation respect his people a good system of law, but the civil code of Russia still requires many improvements. The law-school, opened in 1807, ceased in 1810.—The custom of slitting the nose and branding, lightherto connected with whipping with the knot, was abolished by A. in 1817. In 1812, the secret court, as it was called, before which political criminals, chiefly, were brought, and compelled, by hunger and thirst (not, however, by instruments of torture), to confess. He checked the abuse of power in the hands of governors, by preventive laws. The priviledge of the nobles, that their estates could not be confiscated as a punishment for their crimes, was extended by A. to all his subjects. He also rendered efficient aid to manufacturers and commerce in his empire, by the introduction of a better tariff; the improvement of the finances and currency of the country; the establishment of a sinking fund; the erection of the bank of the imperial chamber, May 19, 1817; by providing continually for the construction of roads and canals; by making Odessa a free port, and granting it other privileges, in 1817. The condition of the middle classes in Russia has greatly improved since 1804, when it became known from the report of the minister of the interior. The greatest progress has been made in manufactures in wool. The whole foreign policy of Russia: the voyages round the world, under the patronage of her government; the embassy to Persia, in 1817, to which was attached a Frenchman, Gardanne, who was acquainted with all the plans of Napoleon respecting India and Persia; the mission to Cochín China and Khiva; the relations of Russia with the United States, Brazil, and Spain; the treaties of commerce and navigation with the Porte; the settlements on the western coast of North America, all prove the enlightened commercial policy of the Russian cabinet. The travels of A. in foreign countries, even his short stay in England, his intercourse with well-informed and sensible men, but principally, his spirit, flaring up in the provinces of his empire, afforded the materials of his numerous projects for the benefit of his country. On this his attention was continually fixed.—The peace of Tilsit, in 1807, makes an epoch in the Russian military system. It not only opened the way to the conquest of Finland, in 1809, and of two mouths of the Danube, in 1812, but afforded A. time to remove the defects of the military system hitherto in use. The armies of Russia, during the war with Napoleon, were remarkable for their equipment and discipline. The active interest which A. took in the proper ordering of all the branches of the administration, is the reason why the nation was attached to him with full confidence, which he experienced in time of danger. A. never showed a timid, unenterprising spirit. His decision frustrated the plans of Napoleon at Moscow. He gave his word to his people, that he would never negociate with Napoleon, as long as an armed enemy was in the country. The activity which prevailed in the military department of the Russian administration is proved by the army which appeared, in 1813, in Germany, and that which was kept ready in 1815, to march against France, comprising 500,000 men and 2,000 pieces of cannon. The peaceful character of A.'s policy is remarkable. His personal friendship for the king of Prussia, Frederick William III., which was confirmed at the tomb of Frederick II., in 1806, led to important consequences. The queen.
Louisa, was the living tie of this union. Admiration for the daring qualities of Napoleon drew him over to his side. He believed, too, that he might, in consideration of the presence of the French troops, and without the risk of an immediate conflict, decide the future of Europe. This was the purpose of his famous meeting with Napoleon at Erfurt, in Sept., 1808. But when he saw that the ambitious conqueror wished to involve him in political contradictions, and prescribe laws to him injurious to the welfare of his empire, he resolutely maintained his independence. He succeeded, at an interview with the prince-royal of Sweden, at Abo, Aug., 1812, in forming an alliance with that country, after having induced the Porte, in May of the same year, to conclude the peace of Buharest. After 1812, a kind of religious character appears in the policy of A., and he gave himself up, more and more, to religious influence. This character is remarkably manifest in the proclamation which he addressed from Warsaw, on the 10th (22d) Feb., 1813, to the nations of Europe, and the proclamation of Kalisz, 25th March, 1813, directed to the Germans, in which he promised a great improvement in their condition, by means of a proper constitution, the object of which should be, to promote their liberty, security, and prosperity. The memorable manifesto of 27th Jan., 1816, contained an exposition of the political principles of the emperor, was in 1816-1817 exposed himself to danger, in order to inflame the courage of his troops. He undoubtedly exercised a great influence upon the course of the war in France. His openness gained the confidence of the French, and it is said that he was secretly applied to from Paris. He exchanged the marriage of Schwartzenberg, on the 29th March, 1814, to this capital, which put a glorious termination to the war. The magnanimity with which he treated Paris and all the French, the strict discipline of his troops, and the assiduity with which the allies, at his instance, tendered to the nation, facilitated the settlement of peace; and it is asserted that he acted from the belief that he was complying with the wishes of the French, and not from adherence to the principles of legitimacy, in recalling the Bourbons. He did not treat the conquered and dethroned emperor meanly, but respected him in the most solemn and disgraceful ceremony of crowns, regardless of his birth. He called upon the empress Josephine, and dined with her at Malmaison; he interceded in favour of the prince Eugene Beaunarmois; he visited Ney. The enthusiasm of the Parisians for him was unbounded. June 1, 1814, he went to England, where he was joyfully received. Several things, however, seem to have made an unfavourable impression upon him. He was not at ease among free Britons. He rose from his seat, however, at the banquet in Guildhall, in honour of the national song, Rule Britannia. He left England 28th June, and reached Petersburg 25th July, where he declined the name of the Blessed, offered to him by the senate. A later ukase, of 27th Nov., 1817, forbade the praises which the clergy were accustomed to bestow on him from the pulpit. In the influence of Vienna during the congress, had a great influence upon the policy of Europe, occasioned the admission of some liberal views into the acts of the assembly, and added the kingdom of Poland to the gigantic power of Russia. The draft of the Polish constitution, prepared at the instance of the first stipulation of a disposition in the European rulers to perform their promises made to their subjects during the wars with Napoleon. A. again visited Paris, July, 1815, and from that period the great influence of Russia upon the French cabinet. In opposition to the influence of England, was apparent, especially when Richelieu, who had formerly been in the Russian service, was placed at the head of the ministry of Louis XVIII. In Spain, also, the same influence manifested itself. Even now, in the revival of the imperial idea, the alliance itself with Russia; and the kingdom of the Netherlands, as well as Prussia, Württemberg, and other states, entered into a closer union with the Russian court. A., together with the powers that had concluded the treaty of Cambrai, took an active part in the general concerns of Europe; for instance, the revolt of the Spanish colonies, and the dispute of Spain with Portugal, on account of Monte Video. He took measures against the piracy of the African states. Very soon, nothing occurred, of importance to the political affairs of the European continent, in which this ambitious monarch did not appear as leader, mediator, or partaker. From the formation of the holy alliance (q. v.), in Paris, 20th Sept., 1815, to his death, A. was actively engaged in politics, and kept his emissaries all over Europe, who reported to him every important occurrence. Among these was Kedzech, the German author, who was assassinated by the student Sand. The memoir, directed to all the Russian ambassadors, concerning the affairs of Spain, the answer of the Russian cabinet to the Spanish minister, the chevalier Zen Bornimans, and the declaration of the congress of Aix-la-Chapelle, 1818, 19, and 1819, are the only documents in the history of A. He took part, in 1820, in the congresses held at Troppau and Laybach, to settle the affairs of Italy, and ordered his army to advance towards this country, to suppress the revolt of the Carbonari. As its presence was found to be unnecessary, it returned to Russia, when the affairs of Greece (q. v.) occupied the attention of the Russian cabinet, in 1821. A. publicly expressed his disapprobation of the enterprise of prince Alexander Ypsilanti (q. v.), but interceded, however, with the Porte, for the cause of humanity and Christianity. (See Stroganoff.) It is possible, that, from a sincere love of peace, he suffered the best opportunity to escape of liberating Greece, and increasing his empire. His letter to the viceroy of Poland, prince Zajenzeczek [Aix-la-Chapelle, 7 (19) Oct., 1816], is a proof that he would not engage in a new war. He showed a degree of the liberalism of nations." His remark to madame de Stael, several years before, was characteristic: "You will be offended with the sight of servitude in this land. It is not my fault; I have set the example of emancipation, but I cannot employ force; I must respect the rights of others as much as if they were protected by a constitution, which, unhappily, does not exist." Madame de Stael answered—"Sire, votre corve ot une constitution." (Sire, your character is a constitution). He had, at the beginning of his reign, abolished the secret police, struck out of the ships of books, the latter of which, however, he introduced again at a later period), and declared, April 7, 1801, "I acknowledge no power to be lawful which does not emanate from the laws." In the same spirit he banished the Jesuits, 1st Jan., 1816, from Prussia and Mecklenburg, and at all events, at 1820, from the empire, because they dared to interfere with the affairs of the government, and disturb the peace of families. He had prohibited proselytism, and promoted the instruction of the Jews. A. developed, in the same spirit, the internal resources and the external power of his immense empire. The
addition of Georgia, Bialystock, Finland, Warsaw, Scherivan, and Bessarabia, has rendered its frontiers almost everywhere impermeable, and increased the number of its inhabitants from thirty-six millions to more than thirty-four, for the most part Europeans.

The speedy rebuilding of Moscow, the progress of cultivation in the provinces, and the activity of the inhabitants in the governments of Tobolsk, Tomsk, and Irkutsk increased by 500,000, and similar proofs of the advancing prosperity of the empire, have immortalized the reign of A. Whether the gigantic task of unity the suppression of the political power of Russia, the classes of peasants, the activity of the first and second classes. A better disposition of the national debt, and a sinking fund, permitted an alleviation of taxes. A ukase of 1st Jan., 1819, therefore, abolished the tax upon income from landed property, established 11th Feb., 1819, the expenditure of the support of a numerous army prevented any further remission of debts, and the population of southern Russia has been greatly increased by the admission of German emigrants; and the same plan was extended to Poland, where, by a decree of A., Warsaw, 10th Aug., 1813, the new settlers received deserted houses and lands, belonging to the national domains, or assistance of some other kind. Schools and universities have been established; the system of Bell and Lancaster introduced; the ecclesiastical affairs of the Protestants and the Catholics arranged; the conversion of the Jews, or Christian Israelites, and encouragement of the arts and manufactures of all public institutions for instruction increased, and the seventeen scientific institutions in Petersburg and Moscow much improved. The expulsion of the Jesuits, indeed, disturbed a little the relations of the emperor with the see of Rome, but satisfactory explanations were made by the pope at Laylinch. Lastly, the emperor nominated a bishop, and established a general consistory for the Lutherans throughout the empire, in 1820, which was to maintain, in their purity, the doctrines of the Protestant church. A. showed great respect for all Christian sects, and the exchange of privileges by the conquest of the empire resulted in the elevation of the condition of the boors, and the general tendency of his policy to introduce the principles and manners of western Europe, offended the old Moscovite nobility, and, towards the conclusion of his reign, in spite of the vigilance of the police, a fearful and widely spread conspiracy was formed against him, the discovery and punishment of which was reserved for his successor. Perhaps A. was aware of the existence of treasonable projects when he followed his sick wife to theCrimea. His intention may have been to choose a place of retirement from the cares of government; but the daughter of a bilious fever, and died, 1st Dec., 1825, in the arms of his wife. The news of his death had scarcely reached Petersburg, 5th Dec., O. S., when his eldest brother, Constantine, then in Warsaw, was proclaimed emperor; and all the civil officers and the guards took the oath of allegiance, 9th Dec. O. S. But the grand-duke declined accepting the crown, having resigned his right of succession, during the life-time of A., in a letter addressed to the emperor, Petersburgh, 14th Jan., 1822, to which an answer was sent, Feb. 2, 1822, by A. expressing his approbation, and that of Petersburg of the letter of Constantine, dated Nov. 29th, O. S. in which he announced to his mother and brother, the grand duke Nicholas, that he recognised the latter as emperor, the senate had opened the testament of A., and found in it the document containing the resignation of Constantine, together with a manifesto of the emperor (dated Zarskijoselo, 16th Aug., 1823), declaring his second brother, Nicholas, his successor. Nicholas I. was taken, 13th Dec., 1825, at Gatchina, and ascended the throne, made known these documents, hitherto of the 12th Dec., O. S. 1825, and declared, at the same time, that the day of the death of A. was the beginning of his reign (1st Dec., N. S., 19th Nov., O. S.). Then the oath of allegiance to the emperor Nicholas I. was taken, 13th Dec., N. S., 25th. N. S., in Petersburg. The death of A. was a fortunate event for Europe; for the influence of Russia was growing continually stronger in all the cabinets of the European continent, and even England could not keep entirely exempt from it. No other empire has united, on so great a scale, the power of masses, yet rude and vigorous, with experience and the advantages of culture,—a union the more dangerous, as it was under the control of one absolute master. With A., moreover, perished the principal support of the holy alliance,—a sufficient reason for France to rejoice at his death. A. died, however, lamented in him a great benefactor. He had the good fortune to ascend the throne at a time when the empire was prepared for the greatest improvements, and his ambition was of a kind to be gratified by promoting the welfare of his people.

ALEXANDER TRALLING, a physician of Tralles, in Lydia, in the 6th century. He is esteemed as the best Greek physician after Hippocrates. His works have been published in the original Greek and Latin. Haller gave a Latin version of them in 1772.

ALEXANDER, William, earl of Stirling, an eminent Scottish statesman and poet, in the reigns of James I. and Charles I. He was born about 1580, and early in life commenced to celebrate an unsuccessful passion, by composing a century of sonnets. These were published in London in 1604, under the title of "Aurum, containing the first Panama of the Author's youth." He followed his monarch, James I., to the English court; and in 1607 published some dramas, entitled "Monarchick Tragedies," which he dedicated to the king. He had previously published a tragedy at Edinburgh, founded on the story of Demetrius and Hippolytus. He purchased the estate of Falkland in 1615, Duddingston, and became a Burguisher to prince Charles, and received the honour of knighthood, his origin being merely that of an untitled landed proprietor. In 1614, he published at Edinburgh his largest work, entitled, "Doomsday or the Great Day of Judgment," which has been several times reprinted. In 1621, the king made a grant to him of Nova Scotia, with a view to colonization; and he was afterwards appointed lord-lieutenant of that colony, and founded the order of Nova Scotia baronets; but the speculation failed. Sir William was subsequently made secretary of state for Scotland, (salary £100 per annum), and created viscount Canada and earl of Stirling. He died in 1649, leaving three sons and two daughters, whose posterity was supposed to have been extinct, until a claimant appeared in 1830, as descended from one of the younger branches of the family; and who has assumed the titles of Stirling and Dounan. From the following article the reader will see that a supposed descendant distinguished himself in America during the last century. The poems of the earl of Stirling form one volume folio, and are chiefly characterized by a pervading moral and religious spirit.

ALEXANDER, Robert, a soldier, who, during the revolutionary war, was born in the city of New York, but passed a portion of his life in New Jersey. He was gene-
nally styled, through courtesy, Lord Stirling, in consequence of being considered by many as the right-
ful heir to the title and estates of an earldom in Scot-
tland, from which country his father came, though the
government refused to acknowledge the son's claim,
when he repaired to Great Britain, in pursuit of this
inheritance. He was early remarkable for his fond-
ness for mathematics and astronomy, in which sci-
ences he made considerable progress.—Throughout
the revolution, he acted an important part, and dis-
tinguished himself particularly in the battles of Long
Island, Germantown, and Yorktown. In the first
he was taken prisoner, after having, by a bold attack
upon a corps commanded by Cornwallis, effected the
escape of a large part of his detachment. In the se-
cond, his division, with the brigades of generals Nash
and Maxwell, formed the corps de reserve; and, in
the last, he commanded the left wing of the Ameri-
can army. He was always warmly attached to ge-
neral Washington, and the cause which he had
espoused. He died at Albany, Jan. 15, 1753, aged
fifty-seven years, leaving behind him the reputation
of a brave, discerning, and intrepid officer, and an
honored name.

ALEXANDRIA (in Turkish, Scanderia); the capi-
tal of Lower Egypt, and the ancient residence of
the Ptolemies, built 332 B. C., by Alexander the Great,
who destined it to be the capital of his empire, and
the centre of the commerce of the world. Its na-
tural situation, its climate, and its trade and
inhabitants, made it the most flourishing port in
ancient Egypt. By Ptolemy II., the new kingdom,
the Ptolemies, especially P. Soter, or Lagus, and P.
Philadelphus, improved it much, and made it the
seat of learning. (See Alexandrian School.)—The
first inhabitants of Alexandria were a mixture of
Egyptians and Greeks, to whom must be added nu-
umerous companies of Jews, and Egyptians, of which
330, 331, 332 B. C., to increase the population of
the city and country, who, becoming familiar with the
Greek language and learning, were called Hellen-
ists. (q. v.)—It was they who made the well-known
Greek translation of the Old Testament, under the
name of the Septuaginta. (q. v.)—The most beauti-
ful part of the city, near the great harbour, where
stood the royal palaces, magnificently built, was
called Belethon. There was the large and splendid
debisse, belonging to the academy and museum,
which, with a general part of the royal library
(400,000 volumes), was placed; the remainder, amounting
to 300,000, was in the Serapion, the temple of Jup-
er Serapis. The larger portion was burned during
the siege of Alexandria by Julius Caesar, but was
afterwards replaced by the library of Pergamus,
which Augustus presented to Cleopatra. The museum,
where many scholars lived and were supported, eat
together, studied and instructed others, remained un-
hurt till the reign of Aurelian, when it was destroy-
ed in a period of civil commotion. The library in the
Serapion was preserved to the time of Theodosius the
Great. He caused all the heathen temples, through-
out the Roman empire to be destroyed; and even
the splendid temple of Jupiter Serapis was not spar-
ed. A crowd of fanatic Christians, headed by their
archbishop, Theodotus, stormed and destroyed it.
At that time, the library, it is said, was partly burn-
ed, partly dispersed; and Orosius, who, towards the
close of the 4th century, saw only the empty shelves.
Christian barbarians, therefore, and not Arabs under
Omar, as is usually asserted, were the cause of this irreparable loss to science. The
Alexandrian library, called, by Livy, Elegantes regnum eu-
rabum, was resorted to by scholars from every part of
the globe, and embraced the whole Greek and Latin literature, of which we possess but single
fragments.—In the division of the Roman dominions
Alexandria, with the rest of Egypt, was compre-
sessed themselves of it in 640; the caliph Moawia-
kel, in 845, restored the library and academy; but
the Turks took the city in 688, and it declined more
and more, retaining, however, a flourishing com-
merce, until the Portuguese, at the end of the 16th
century, discovered the sea-routes to India. In
1517, it was taken by the Turks, and the library
was destroyed. In 1687, it was captured by the
Great Moch. In 1687, it was captured by the

—The modern A., situated N. lat. 31° 11', E. lon.
30° 10', does not occupy the place of the old town,
of which nothing remains except a portico in the
vicinity of the gate leading to Rosetta, the south-
western amphitheatre, the obelisk, or needle of
Cleopatra (presented to the king of England by the
pacha—but a mass of 400,000 pounds is too heavy
to be transported), and Pompey's pillar, eighty-eight
feet six inches high, which, according to an English
traveller (Memoirs relating to Europe and Asiatic
Turkey, by Robert Walpole, 1817), was erected by
a governor of Egypt, named Pompey, in honour of
the emperor Diocletian. The equestrian statue
on the top is no longer standing.—The town has now
two citadels and harbours, of which the western,
which is the best, is closed against Christian ships.
Before both harbours are the peninsula Paulli and
the isle of Scenic, which forms a long tongue of
the sea in the form of a bar. (See Pharos. —The popu-
lation, formerly amounting to 300,000, is now 12,600;
the houses, 3132. A. is the seat of a patriarch.
The canal of Rammahan, from Cairo to Alexandria, forty
miles, was restored by the viceroys, Mohamed Ali
Pasha, and Reza, in the 18th century, by which means
the commerce of Alexandria has been much improved.
In the year 1824, 1290 ships, among them 606 Austrian,
arrived, and 1199 de-
parted.—A peculiarity of modern A. is the great
number of dogs, which here, as well as in Cairo and
Constantinople, is a public nuisance. (q. v.)—Ac-
cording to the latest accounts, the trading pacha
of Egypt has appointed an Italian renegade, to collect
all the remains of ancient art, which are capable of
transportation, in his dominions, in order to sell them,
in a bazar to be built for this purpose in A., to the
Europeans.

ALEXANDRIA, with the surname della Paglia; a
considerable town and fortress in Piedmont, situated
in a marshy country, near the junction of the
Bormida and the Tanaro. It was built in 1178, by the
Crescenzi, a powerful Roman noble, and at first
called Bassavoda; afterwards, in honour of the pope
Alexander III., who established there a bishopric, Ales-
sandria. Its magnitude and opulence increased from century
to century; it now contains 30,000 inhabitants, and
may be considered flourishing, since it is the capital
of the province of the same name, and has two fair
annuals, which are much frequented. Intended,
originally, for a fortress to guard the passage over
the Tanaro and Bormida, and constantly kept in
good order, as the point where several roads meet,
Alexandria has frequently been the object of long
attacks and sieges. It was taken and plundered, in 1522,
by duke Sforza; besieged, without success, by the
French, under prince Conti, in 1657; and taken,
after an obstinate defence, by prince Eugenio, in
1707. On the 16th of June, 1800, after the battle
of Marengo, the Austrian general, Melas, agreed
upon an armistice with Beatrice, at Alexandria,
by which he ceded to the latter Upper Italy, as far
as the Minch, and twelve fortresses. The fortifica-
tions of A. consist now of a surrounding wall and
bastions, a strong citadel, formed by six bastions and
many out-work, on the left bank of the Tanaro, and
a redoubt protected by a bastion placed on the
Bormida. A bridge of stone connects the town
and citadel.—For an account of the revolt of the
garrison of A., see Piedmont, Revolution of.

ALEXANDRIA; a city and port of entry, in the
district of Columbia, and county of Alexandria, on the 3, bank of the Potomac, six miles S. of Washington- ton, 116 N. of Richmond; lon. 77° 4' W.; lat. 38° 49' N.; pop., in 1800, 4,106; in 1810, 7,227; in 1820, 8,218; blacks, 2,603: houses, in 1817, 1,382.

Among the public buildings are a court-house, a jail, an alms-house, a theatre, a market-house, and eight houses of public worship. The situation of Alexandria is considerably elevated, with easy and gradual descents to the river, which is neatly wharfed for about half the length of the city, with water sufficient for the largest merchant ships. The streets intersect each other at right angles, and a great deal of building space is left free for gardens. The city is well situated for commerce, nearly at the head of the tide-water of the Potomac, having an extensive and fertile back country, and carries on a considerable trade, chiefly in flour. A. expects to derive much benefit from the intended canal from Ohio to Washington.

Alexandria, the name of a thriving village in Scotland, situated in Dumfriesshire, on the west bank of the river Leman.

Alexandrian Copy, or Codex Alexandrinus; a manuscript, now in the British museum, of great importance, in the fact that it contains, with uncial letters, without breathings and accents, written, probably, in the latter half of the sixth century, and contains, in four vols., the whole Greek Bible (the Old Testament according to the Septuagint), together with the letters of the bishop Clement, of Rome. A large part of the Gospel of St. Matthew and of the Second Epistle to the Corinthians, as well as a portion of the Gospel of St. John, are wanting. The text of the Gospels is different from that of other books. The patriarch of Constantinople, Cyrilus Lucaris, who, in 1628, sent this library to the Empress Mau- rens, to be examined, wrote, that he had received it from Egypt; and it is evident, from other circumstances, that it was written there. But it cannot be decided, with certainty, whether it came from Alexandria (whence its name). John Ernest Grabe follows it in his edition of the Septuagint (Oxford, 1707-20, fol., four vols.). Dr. Woide published the New Testament from this copy, (London, fol., 1786), with types cast for the purpose, line for line, with intervals between the words, as in the manuscript itself. The copy is so perfect a resemblance of the original, that it may supply its place. Here Dr. Woide undertook a similar edition of the Old Testament, London, 1816, fol. This famous manuscript belonged, in 1698, to the library of the patriarch of Alexandria. The text of this manuscript is of the greatest importance in the criticism of the Epistles of the New Testament; in the Gospels it is evidently worse. The three first divisions contain the Alexandrian translation of the Old Testament; the fourth, the New Testament in the original language.

Alexandrian School. When the flourishing period of Greek poetry was past, study was called in to supply what nature no longer furnished. Alexandria in Egypt was made the seat of learning, by the Ptolemies, admirers of the arts, from whence this age of literature took the name of the Alexandrian. Ptolemy Philadelphia founded the famous library of Alexandria, the largest and most valuable one of antiquity, which attracted many scholars from all parts of the world. This city may justly be considered the first academy of sciences and arts. (See Alexandria.) The grammarians and poets are the most important among the scholars of Alexandria. These grammarians were philologists and literalists, who explained things as well as words, and may be considered a kind of encyclopedists, such as Zenoeadus the Ephesian, who established the first grammar-school in Alexandria, drawn from the schools of Pythagoras of Cyme, Aristophanes of Byzantium, Aristarchus of Samothrace, Crates of Mallus, Dionysius the Thracian, Apollonius the sophist, and Zolus. Their merit is to have collected, examined, reviewed, and preserved the existing monuments of intellectual culture.—To the poets belong Apollonius the Rhian- dian, Lycophrone, Aratus, Nicander, Euphorion, Cal- limachus, Theocritus, Philetes, Phanocles, Tamon the Philian, Scymnus, Dionysius, and seven tragic poets, who were called the A. Pleiades. The A. age of literature differed entirely, in spirit and character, from the age of Homer. Great praise is due to the study of languages; correctness, purity, and elegance were cultivated; and several writers of this period excel in these respects. But that which no study can give, the spirit which filled the earlier poetry of the Greeks, is not to be found in most of their works. Great art in composition took its place; criticism was now to perform what genius had accomplished before. But this was impossible. Genius was the gift of only a few, and they soared far above their contemporaries. The rest did what may be done by criticism and study; but their works are mere imitations. The expression is not to be understood too easily. Their distinguishing character arises from this circumstance, that, in Alexandria, the eastern and western philo- sophy met, and an effort took place to unite the two systems, for which reason the A. philosophers have often been called Ecclesiastics. This name, however, is not applicable to all. The new Platonists form a distinguished series of philosophers, who, renouncing the scepticism of the new academy, endeavoured to reconcile the philosophy of Plato with that of the East. The Jew Philo of Alexandria (q. v.) belongs to the earlier new Platonists. Plato and Aristotle were diligently interpreted. He was in the first and second centuries after Christ. Ammonius the Peripatetic belongs here, the teacher of Pintarch of Chaeronea. But the real new Platonist school of Alexandria was established at the close of the second century after Christ, by Ammonius of Alexandria (about 108 A.D.), whose disciples were Plotinus and Origen. (See Platonists, New.) Being, for the most part, Oriental, formed by the study of Greek learning, their writings are strikingly characterized, e. g. those of Ammonius Saccas, Plotinus, Iambil- cus, Porphyryus, by a strange mixture of Egyptian and European elements, which had become amalgamated in Alexandria owing to the mingling of the eastern and western races in its population, as well as to its situation and commercial intercourse. Their philo- sophy had a great influence on the manner in which Christianity was received and taught in Egypt. The principal Gnostic systems had their origin in Alex- andria. (See Gnosis.) The Christian catechetical schools (q. v.), which had risen and flourished together with the eclectic philosophy, had imbued the spirit of this philosophy. The most violent religious controversies disturbed the A. church, until the orthodox tenets were established in it by Athanasius, in the controversy with the Arians.
Among the scholars of Alexandria are to be found great mathematicians, as Euclid, the father of scientific geometry; Archimedes, whose works on conic sections still exists; Nicaon, the first scientific arithmetician;—astronomers, who employed the Egyptian hieroglyphics for marking the northern hemisphere, and fixed the images and names (still in use) of the constellations, who left astronomical writings, e.g. the Phaenomena of Aratus, a didactic poem, the Syntaxis of Menelaus, the astronomical works of Eratosthenes, and especially the Magna Synthexis of the geographer Poltemy, and made improvements in the theory of the calendar, which were afterwards adopted into the Julian calendar;—natural philosophers, anatomists, as Herophilus and Erasistratus;—physicians and surgeons, as Demosthenes Philalethes, who wrote the first work on the diseases of the eye; Zopyrus and Crates, who improved the art of pharmacy and invented nitrates; instructors in the art of medicine, to whom Asclepiades, Soranus, and Galen, owed their education;—medical theorists and empirics, of the sect founded by Philinus. All these belonged to the numerous association of scholars continuing under the Roman dominion, and favoured by the Roman emperors, which rendered Alexandria one of the most renowned and influential seats of science in antiquity. The best work on the learning of Alexandria is the preface-essay of Jacob Mutter; Essai Historique sur l'Ecole d'Alexandrie, Paris, 1810, 2 vols.

Alexandrine, or Alexandrian; the name of a verse, which consists of six feet, or of six and a half, equal to twelve or thirteen syllables, the pause being always on the sixth syllable; e.g. the second of the following verses:

A needless Alexandrine ends the song,
Which, like a wounded snake, drags its slow length along.

It corresponds, in our language, to the hexameters in the Greek and Latin; though, according to some writers, it rather answers to the seashair of the ancient tragic poets. Chapman's translation of Homer, and Dryden's Polybius are written in this measure. The concluding line of the Spernerian stanza is also an A. This verse becomes fatiguing from monotony, unless the writer has a very delicate ear. The French, in their epics and dramas, are confined to this verse, which, for this reason, is called by them the verb. The A. derives its name from an old French term, meaning to the beginning of the 12th, or the beginning of the 13th century, the subject of which is Alexander the Great, and in which this verse was first made use of. See French Poetry.

Alexis, a Greek comic poet, who flourished in the time of Alexander, B. C. 329. Only a few fragments of his works remain, which may be found in collections of the ancient Greek poets.

Alexis Conimus. See Conimus.

Alexis Michaelovitch, tsar of Russia, born in 1639; succeeded his father Michael in 1646; died 1677. He was father to Peter the Great, and the first Russian monarch who acted on the policy of a more intimate connexion with the other states and nations of Europe.

Alexis Petrovitch, the eldest son of the czar Peter the Great and Eudoxia Lapuchin, was born in 1663, and opposed the innovations introduced by his father, who, on his accession, determined to disinherit him. A. renounced the crown, and declared that he would become a monk; but, when Peter set out on his second journey, he made his escape, in 1717, to Vienna, and thence to Nice, or on pretext of going to his father, who had sent for him. At the command of Peter, he returned; but the enraged czar, regarding his flight as an act of treason, disinherited him, by a ukase dated May 21, 1717; and the report is current that A. was paving the way to succeed to the crown. He not only caused all the participators in his project to be punished capitally or otherwise, but had A. also condemned to death, and the sentence read to him, as pronounced unanimously by 144 judges. Although he was sent afterwards parolined, yet the fright and anxiety which he had experienced, affected him so much, that he died in the course of four days, June 26, O. S. 1718. He left a daughter, and a son, afterwards the emperor Peter II. The account of Busching, that general Weide decapitated A. in a church, is condemned as false.

Alexis Batu; a watering-place in Anhalt-Bernburg, of all the German mineral springs the most strongly Impregnated with iron. It is charmingly stunted at the foot of the Harz.

Alfarabi, an eminent Arabian philosopher of the 10th century, was a native of Farah, in Asin Minor; died at Damascus in 950. His works consist of treatises on different parts of the Aristotelian philosophy. These were printed at Paris in 1638.

Alfieri, Vittorio, count, was born at Asti, in Piedmont, in 1749, of a rich and distinguished family. He studied medicine, and more particularly law, like that of most men of his rank and country at that time. His uncle and guardian sent him to Turin, whose academy he left as ignorant and uninformd as when he entered it. He then joined a provincial regiment, which was only called together for a few days during the year. He afterwards travelled over Italy, France, England, and Holland; returned and commenced the study of history, but, soon disgusted with this pursuit, commenced his travels anew, and wandered for nearly three years, continually restless and unsatisfied. He left the military service, and led, for a long time, an inactive life, until ennui drove him to write dramatic poetry. His first attempt was crowned with undeserved success; and he determined, at the age of twenty-seven years, to devote all his efforts to the single object of becoming a tragic poet. Sensible of his deficiencies, he went to work zealously to acquire the rudiments of knowledge. He first studied Latin and Tuscan, for which purpose he went to Tuscany. In this journey he became acquainted with the countess of Albany (q. v.), the consort of the English pretender, and a daughter of the noble family of Stolberg, to whom he became engaged in the 12th part of the time, he strove with restless zeal to acquire distinct
cation as a poet, in order to be worthy of her, whose esteem and love had such value in his eyes. In order to continue his labours wholly free and independent, he broke the last tie which bound him to his country. He bestowed his fortune on his sister, preserving only a moderate income for himself, and henceforth lived alternately at Florence and Rome. Here he composed fourteen tragedies, to which he afterwards added some others, although contrary to his own inclination. The unfortunate situation of his beloved friend often disturbed him, but the death of her husband at length put an end to her troubles, and enabled her to marry A. Henceforth A. lived with her alternately in Alsace and in Paris, uneas
ingly beset with composition, and the arrangement and publication of his works (by which he was also supported), determed in France begin, he quitted the country, and went to England. Embarrassed by the constant fall of assignats, he went back to Paris, angry at seeing the cause of freedom honoured by unworthy hands, and unable, from the state of his feelings, to continue his intellectual labours. This torture of mind he endured till the
end of Aug. 1782, when he fled from Paris, and escaped the horrors of the ensuing September. He lost his life in the attempt he made to publish the complete edition of his tragedies, published by Didot, in five volumes. Afterwards he lived with his inseparable companion at Florence, resumed his usual labours, wrote his satires, and six comedies, and, in his last years, studied the Greek language. With the Greek philologists he did not come into contact till his course was nearly finished. He died in the midst of these labours, Oct. 8, 1803. He was buried in the church of Santa Croce, at Florence, between Machiavelli and Michael Angelo, where a beautiful monument by Canova covers his remains.—A. has distinguished himself for his ability and industry, for a teacher of the school of thought, for the state, for the poet of the day, for the language, for the poet of the nation, for the poet of the whole world. He has written six comedies, twenty-one tragedies, and a Tragedy, or so called. All these works to be looked upon as the efforts of a great spirit employed out of its proper sphere of action. Disguised with idleness, and desires to distinguish himself, A. became a poet. It was a noble spirit, for one who seldom contented himself with performing half of any design, to propose to himself a moderate degree of excellence in that which he had made the business of his life. He expressed himself, and his own, in a pure and free, in a passionate heart, A. was animated with a poetical spirit. In the midst of a debased people, he wished to inspire the spirits with strength, courage, and freedom of thought; but he disdained the arts of persuasion. He purposely himself as a dramatic poet; in different situations, by loftiness of thought, by brevity, and manly earnestness; but he forgot that, in doing this, he must throw off the peculiar characteristics of a poet. His tragedies are abrupt and stiff; the plots simple, ten to barrenness; the verse hard and unpleasant; and the language coarse and unattractive splendour, by which the poet stirs the most soul of man. Nevertheless, he is the first tragic writer of Italy, and has served as a model for those who have followed him.—If, in his youth, the productions of his genius, nor the attempts of necessity, fail when he attempted comedy in his old age, long after the sweet deceptions of life had vanished. His comedies, like his former works, had a serious, and, generally, a political aim; they are barren of invention; their plots are without interest; the characters, as in his tragedies, only general sketches, without individuality. They are, therefore, far inferior to his tragedies, and, indeed, are not worthy of his lofty spirit. We consider A. the most successful of all his dramatic works. This he called Tragedia, or a name as novel as the work itself. He invented this species of drama, intermediate between the tragedy and opera, and intended to have written six pieces in this form. His genius, which was the most successful when least restrained, here found its proper sphere, and if the specés could not before satisfy the critic, then the invention and execution of A. give a monument of doubt, a fine poetic work. Besides his dramas, A. has written an epic poem in four cantos, several lyrical pieces, sixteen satires, and poetical translations from Terence, Virgil, and some portions of Sophocles, Sophocles, and Aristophanes. After his death appeared the Minio, a fine poetical expression of his hatred towards the French; and his autobiography, a striking exhibition of his character. His complete works appeared at Padua and Brescia in 1809 and 1810, 37 vols.

ALFRED, king of England, one of the most illustrious rulers on record, was born at Wantage, in Berkshire, A. D. 849. He ascended the throne of England in 872, at a time when the Saxons or Normans, who were for the issuance of the Saxons as early as the year 787, had exceed their period of idleness, and were at war with the Danes of the country. A.'s efforts against them were at first unsuccessful, and he concluded some treaties which were not kept on their side. He was obliged to fly in disguise, and remained, for more than a year, in the service of a shepherd. In this situation, he formed the design of freeing his country. He ordered his subjects to hold themselves in readiness against the enemy, gave them intelligence of his retreat, and informed himself of the condition of the Danes. He went, disguised as a harper, into the camp of King Guthrum, and, having ascertained that the Danes felt themselves secure, induced them back to his troops, led them against the enemy, and gained such a decided victory, that the Danes begged for peace. Those who were already in the country he allowed to remain there, on the condition that they should pay him tribute. In the following year, a general assembly of the estates. From time to time, new swarms of Danes sought entrance into the land, but the fleets of A. drove them from the coast. He collected the laws of his predecessors, and endeavoured to improve the condition of his subjects by an impartial administration of justice. He translated the Psalms, the fables of Aesop, and other writings, into Anglo-Saxon, and founded a school at Oxford. His favourite acquaintance with the most learned men of his time improved his own mind, and enabled him to do much for the good of his people. He laid the foundation of the English navy by causing his own ships, or rather galleys, of sixty oars to be built, which were as strong as any ships at that time in use. He also made discoveries in the north, and in the Baltic sea, the results of which he has made known in his Asprey. He reigned thirty-eight years and a half, and acquiring and merit, the love, gratitude, and veneration of his subjects, this illustrious prince died, A. D. 900. His history, considering the times in which he lived, presents one of the most perfect examples on record of the able and patriotic monarch united with his virtuous men.

ALFRED, an Englishman of the thirteenth century, named "the philosopher." He is author of five books on the cosmetics of Theobald, and others, upon portions of the Physics of Aristotle. He died in 1170. He is to be distinguished from another Alfred, an English bishop, of the tenth century, who wrote a History of the Abbey of Malmsbury.

Alge, in botany; one of the seven families of plants, into which Linnaeus distributed the whole vegetable kingdom. They are defined to be plants, of which the roots, leaf, and stem are all flowers. Under this description fall all the weeds, and some other aquatic plants. A. are also one of the Linnaean orders of the class cryptogama.

ALGARDI, Alexander, a sculptor, who derived his origin from a family of high standing in Bologna. He was educated in the academy of Lodovico Cardi, and went, when twenty years old, to Mantua. He attempted to imitate, in sculpture, the famous pictures of Giulio Romano, in the palace del T, was sufficient
AGAROTTI—ALGEBRA.

to give his genius a wrong direction, since the excellencies of these pictures are directly opposed to those of sculpture. In 1625, he went to Venice, and thence to Rome. The duke of Mantua had recommended him to cardinal Ludovisi, nephew of pope Gregory XV., who was intent on renewing the magnificence of the gardens of Sallust. Here A. was employed in restoring mutilated statues (e. g. Jupiter of Mercury), and in preparing original works. Here he became acquainted with his countryman Domeni- chino. The statue of St Magdalen, for the church of St Silvestre, on the Quirinal, was his first great work. Once again, the small prince availed himself of his talents, and the French court invited him to come to Paris; but the prince Pamfili succeeded in retaining him in Rome, where he died, June 10, 1654, fifty-two years old, and was buried in the church St Giovanni di Bolognese. His Flight of Attila, a basso relievo in marble with figures of the size of life, over the altar of St Leo, in St Peter's church, is his most renowned work. But, with all the excellencies of this work, an inclination to give to sculpture the effect of painting is observable. This was owing to the influence of the school of Carpeaux. In his Flight of Attila, he made a predilection for the Tuscan style and language. He visited France, England, Russia, Germany, Switzerland, and all the important towns of Italy. The last ten years of his life he spent in his own country. When two or three years old, he wrote at Paris, the greater part of his New- tonismiro per le Dune, 1737, after the model of Fontenelle's Plurality of Worlds, and thereby laid the foundation of his fame. Until 1739, A. lived alternately in Paris, at Cirey, with the marchioness du Argol, and in London. At the same time he made a journey to Petersburg with lord Baltimore. On his return, he visited Frederic 11., then crown-prince, and residing at Rheinsburg. The prince was so much pleased with him, that, after his accession to the throne, he invited him to live with him, and raised him to the rank of count. He was not less esteemed by Augustus III., king of Poland, who conferred on him the office of privy-councillor. A. now lived alternately at Berlin and Dresden, but particularly in the former place, after receiving from Frederic, in 1747, the order of merit and the office of chamberlain. In 1754, he returned to his own country, where he resided first at Venice, afterwards at Bologna, and, after 1762, at Pisa. Here he died of a consumption, 1764, after suffering long from Hypochondria. He himself formed the design of the monument which Frederic 11. caused to be erected over his grave, in the court of the campo santo, at Pisa. He was called, in the inscription, with reference to his Congresso di Citera, and his Newtonis- simo, a rival of Ovid, and a scholar of Newton. A.'s knowledge was extensive and thorough in many departments of art and architecture, he was one of the best critics in Europe, and many articles were formed under his direction. He drew and etched with much skill. In his works, which embrace a
great variety of subjects, he shows much wit and acuteness. His poems, though not of a very high order, are pleasing, and his letters are considered among the finest in the Italian language. The latest collection of his works appeared at Venice, from 1791 to 1794, 17 vols.

ALGEBRA is a general method of resolving mathematical problems by means of equations, or it is a method of performing the calculations of all sorts of quantities by means of general signs or characters. Some authors define algebra as the art of resolving mathematical problems; but this is the idea of analysis, or the analytic art in general, rather than that of algebra. The process of the application of algebra to the resolution of problems, we must first translate the problem out of common into algebraic language, by expressing all the conditions and quantities, both known and unknown, by their proper characters, arranged in an equation, or several equations, if necessary, and treating the unknown quantity as if it were a known one; this forms the composition. Then the resolution or analytic part is the disentangling the unknown quantity from the several others with which it is connected, so as to retain it alone on one side of the equation, while all the other quantities are collected on the other side, thus obtaining the value of the unknown. This process is called analysis or resolution; and hence algebra is a species of the analytic art, and is called the modern analysis, in contradistinction to the ancient analysis, or what is called the algebra of the Ancients.

The mode of applying algebra to the resolution of problems may be seen in the following example:—If we wish, from the given difference of two numbers, and the difference of their squares, to find the numbers themselves, then the algebraist resolves, if in his knowledge to the Arithmeticians, as, in- deed, the name itself shows. The Arithmeticians brought their algebra to Spain, whence it found its way to Italy. The state of this science at that time may be learned from the work of Lucas de Burgu saneti sepulchri, Summa Arithmetica et Geometrica, Propositiones propoacionalium, Venice, 1494. Tar- taglia of Brescia, Gardianus of Milan, and Ferrari of Bologna, are highly distinguished names among the Italian algebraists of this early period. In Germany, also, the study of algebra was prosecuted in the first half of the sixteenth century, of which the works of mathematicians at Jena, Arithmetica Integra cum prof. Melanchthonis, Nurem. 1544, 4to, gives the most decisive proof. In England, Recorde, in France, Peletarius, were dis-
distinguished algebraists about the same time; but the science was afterwards greatly enriched by Vieta, master of requests of queen Margaret of France, who died in 1603, and by the Englishman Harriot, who died in 1621, to whose labours the Flemish mathematician Auguste Clairaut (1740-1800) has been compared, and whose works have had a splendid success. Next appeared Desartes (q.v.) and Fermat, councillor of the parliament of Toulouse, who died in 1664; and the great Newton (q.v.) published in 1707 his Arithmetica Universalis.

At the same time with him, Leibnitz, a German by birth, created a new set of algebraic propositions. After him, Macaulay and Euler distinguished themselves in the most eminent manner by their additions to this part of mathematical knowledge. In later times, there have been constant efforts to raise algebra to a higher degree of perfection. We may name Lambert, d’Alembert, Lagrange, Ozanam, Samuelson, Clairaut, Cousin, Templehoff, Kastner, Bézout, Gauss, &c.—Algebra enables us to survey remote and highly complicated relations. It is distinguished by this, that each of its expressions contains exactly the idea intended to be conveyed, while all other languages, which are made up of words only approximate more or less to the proposed idea. On this account an exact lexic Ion of two languages can never be made, because every word in one is connected with ideas and associations different from those belonging to the corresponding word in the other language, which can never be understood equally well by the Frenchman and the Hindoo, if they are both acquainted with the signs. In Rosenthal’s Encyc. of Mathem. Sciences, I, 44, there is a list of the principal works on algebra.

The most important are, Wiedeburg on the Study of Algebra, Jeni, 1775, Euler’s Algebra, translated by Bernouilli into French, with notes by Lagrange. A new and good edition of this translation appeared at Lyons in 1795, in two vols. Kaussler translated Lagrange’s additions separately (Frankfort on the Main, 1756). The profound Macaulay’s Treatise on Algebra (2d ed. London, 1750) is distinguished among the old elementary books for solidity and clearness. We find examples and explanations in Samuelson’s Elements of Algebra, Cambridge, 1740, two vols., 4to, translated into French by Jancoz, 1756, and by Diderot, 1800. An English translation, which was first published in 1746, has been several times reprinted, lately in two vols., by Lacroix, with notes by Lagrange and Laplace. Bezout’s Algebra, in the second part of his excellent work, Cours des Mathématiques à l’usage de la Marine et de l’Artillerie, second ed. by Reynd, Paris, 1800, is well written. The French have the most excellent elementary works in this as in every other branch of mathematics. The first vol. of Vega’s Lectures on Mathematics, 3d ed., Vienna, 1802, contains a thorough introduction to common arithmetic and algebra. An excellent collection of problems in algebra and other branches of mathematics, is that of Meier Hirsch, a German, 2d ed., Berlin, 1811, which well deserves to be translated into other languages, because it contains the greatest variety of interesting examples arranged in the best order.

ALGIER, Or Zwarte’s Bay, on the S. coast of Africa, where ships may lie in five fathoms water, a mile from the general landing-place. The bay abounds in black whales and a variety of other fish, 500 miles E. from the Cape. E. of the landing-place, 26° 35’ E.; lat. 33° 56’ S. A small river of the same name flows into it. Mr Barrow describes the adjacent country as very fertile, and abounding in useful animals. Fort Frederic is a recent establishment on the shore of the bay, but as yet very small.

ALGIERS — ALGIERS —. North American Indians on the Assiniboii or Rainy Lake, and Prairie de Portage; formerly more numerous than at present; their number amounts only to 600. This tribe was once closely connected with the Iroquois Indians, and was considered as one of the Iroquois; but their allies and proteges soon began to rival their former political influence in the arts of hunting and of war, and quarrels arose, which proved almost fatal to the existence of the A., although they were assisted by the French. There is a church devoted to the Roman religion in their country, but the exertions of the French language had little effect on their morals. They are in the general practice of polygamy, and much given to the use of intoxicating liquors. The country around them is cultivated in miserable and detached patches, and this solely by their women, the men being engaged with fishing and hunting. They are, like most of the other Indians, declining, and in a miserable state. See Indians.

ALGIZY; in Spain, an officer whose business it is to execute the decrees of a judge.

ALHAMA, the ancient Artigia Julia; a town of Spain, in Granada; lat. 36° 57’ N.; on the Motril, twenty-five miles from Granada; population, 4,500. This place is celebrated for its warm medicinal baths and drinking waters, its romantic situation between craggy mountains, and the gallant defence of the Moors against the Spanish, 1648, when taken by Don Juan de Austria. The kings of Spain have erected a grand building for the use of invalids, with baths of free-stone, regulated to different degrees of heat. On the surrounding mountains the Rio Frío rises, and forms several cascades. Washington Irving, in his Chronicle of Granada, gives a spirited account of the taking of A., “the key of Granada.” Byron’s translation of the Romance My Dolorosa, on the taking of A., is familiar to every reader.

ALHAMA, Medina or Alhama, of Alhambra, l. c. the Red City, a splendid portion or suburb of ancient Granada, when it was one of the principal seats of the empire of the Moors in Spain. It was the Alcazar, or royal palace of the kings of Granada, but grew, by numerous additions, at last, into another city. Ib-n-i Khatib, or Alkait, describes it in his Annals of this kingdom and capital (which is preserved in Casir’s Bibliotheca Arabica-Espurientensis) as a most splendid place, where art and nature rival each other in magnificence. Seated on the northern brow of a lofty eminence, which commands a full view of the city of Granada on the one side, and of a charming country on the other. A. encloses in its ruined walls many monuments of ancient art, and trances of its former splendour. Our limited room does not allow us to give a description of the Arabian palace, commenced by Mohammed Abu Abdallah Ben Nasr, the second of the Moorish kings of Granada, and completed under Abu-l Hajji, in the year of the Hegira 749, or A.D. 1348; nor of the Spanish palace commenced by Charles V., on a portion of the ruins of the Moorish edifices. It is a place equally interesting for the artist, the antiquarian, and the historian. Mr Murphy’s splendid work on the Arabian Antiquities of Spain contains many views of these ruins.—See also History of the Mahometan Empire in Spain, 4to, London, 1816, with the supplement; A Collection of Historical Notices and Poems on the Alhambra of Granada; Swinburne’s Travels Through Spain; and Washington Irving’s recent work, entitled, ‘The Alhambra.’

ALI; the son of Abu Taleb, who was uncle of Mahomet. When the latter assembled his kinsmen, and declared his prophetic mission, he asked which among them would be his vicegerent, ‘I am the man, ’
exclaimed Ali, then but fourteen years old. "Whoever rises against thee, I will dash out his teeth, tear out his eyes, break his legs, rip up his belly. O prophet, I will be thy viceroy." Ali kept his word; distinguished both by eloquence and valor, he became the object of equal respect and fear to the new faith, and obtained the name of the Lion of God, always victorious. He also received Fatima, the daughter of the prophet, in marriage. After the death of Othman, he became caliph, and finally lost his life by assassination, at Cufa, in the sixty-third year of his age. There was something of grandeur in the primitive simplicity and fanatical heroism of the first followers of Mahomet; and Ali formed one of the most conspicuous examples of the conjunction. The Mahomedan schism caused by the murder of Ali, is well known, and his sect is called Shiites, or heretics, by the Somites, or orthodox. The Persians, a part of the Usbec Tartars, and some of the princes of India, remain followers of Ali to this day. His posterity are numerous, and are allowed to wear green turbans, in honour of their descent from the holy prophet, and various writings attributed to Ali, a collection of a hundred maxims or sentences, which have been translated by Golius and Ockley.

A few pages of Yanina (Tepleeni), generally called Ali Pacha; a bold and crafty rebel against the sultan, and acting governor of his province; as a warrior, decided and able; as a man, a very feud. His life is a curious exemplification of the state of the Turkish empire. He was born at Tepleeni, in 1744, of a noble family, which stood at the head of an independent tribe, the Tocadies; and was the grandson of a bey named by the Porte. His early life was unfortunate, but his extraordinary strength of mind, which shrank from no danger nor crime, united with great address, raised him to princely independence. The neighbouring pacha had stripped his father of all his possessions. After his death, his mother, a warlike and cruel Albanian, placed her son, then sixteen years old, at the head of her dependents. He was defeated, and taken prisoner; but the Curd pacha was so much struck with his beauty and vivacity, that he set him at liberty, after chastising him. A. then commenced robberies, and his Ottoman thoroughbred into the mountains, where, to keep himself from starving, he pawned his sabre. In this situation, his mother scornfully advised him to put on a woman's garment, and serve in the harem. In a second attempt at plunder he was wholly defeated, and concealed himself in a ruined building, where, brooding over his fate, he sat, unconsciously pushing up the ground with a stick. He struck something hard, and found a chest containing gold. With this treasure he raised 200 men, gained his first victory, and returned in triumph to Tepleeni. From this time he was continually fortunate, but, at the same time, false and cruel. On the day of his return, he murdered his own brother, whom he thought guilty of treachery, and confined his mother to the harem, under pretence of her having poisoned the deceased, where she soon after died from grief and rage. A. now continued his robberies, regained the favour of the Porte by assisting in the subjugation of the rebellious viceroy of Scutari, and possessed himself of the estates which had been taken from his father, as well as of some Greek cities. He then attacked the Venetian of Delvino, who was obnoxious to the Porte, and endeavoured to be headly, by which means he became his successor. At length the divan, in which he had obtained great influence by bribery, named him lieutenant of the dervendjig pacha, whose duty it was to preserve the highways secure; but, instead of attending to the duties of his office, A. sold commissions, in the name of the grand signor, to the richest bands of robbers, and thereby gave them legal authority to plunder. The dervendjig pacha and his lieutenant were now dependent on the Porte, and Potocki, that the Porte named him pacha of Triacla in Thrace. He immediately assumed himself of the city of Yanina, by showing a forged firman, which gave him the city and the citadel, and then compelled the inhabitants to sign a petition to the sultan, requesting him to give them A. for a governor. He likewise compelled them to pay him a large sum of money, with which he bribed the divan, who granted the request. He afterwards entered into an alliance with Bonaparte, who sent him engineers to build him fortifications; but when Napoleon was defeated in Egypt, these places on the same side, and various writings attributed to Ali, a collection of a hundred maxims or sentences, which have been translated by Golius and Ockley.

At the battle of Parga (q. v.), a large amount of money, with which he bribed the divan, who granted the request. He afterwards entered into an alliance with Bonaparte, who sent him engineers to build him fortifications; but when Napoleon was defeated in Egypt, these places on the same side, and various writings attributed to Ali, a collection of a hundred maxims or sentences, which have been translated by Golius and Ockley.
command to Kavans Oglu. This commander dismissed the capitani and their bands, with cruel threats, compelling them to make restitution to the Turks for the loss which they had before occasioned them. Hereupon they went over to A., especially after a sharp engagement with the Turks. The savage Khurschid, Pacha of the Morea, who was hated by all the Greeks, now advanced against the city with 12,000 men. But every attack was repulsed by A.'s brave troops, and the capitani, strengthened by the Sulloties, suddenly attacked the Turkish camp. Immediately the Hetairia (q.v.) called all Greece to arms. The Turks were now compelled to throw themselves into the strong places, and Khurschid retreated, Aug. 1821, with the remains of his army, out of Epirus into Macedonia. The Albanians alone, whom A. had beguiled with empty promises, left the tyrant. Khurschid Pacha, attacked a Plata with a new army. The Greeks gave up A.'s cause for lost. He then determined, persuaded, perhaps, by his wife, Wazilika, who was a Greek, to treat with Khurschid. On receiving assurances, confirmed by an oath, that his property and his life should be respected, and that he should return to Sparta, A. 6, 1822, the head of the rebel was sent to Constantinople. The Porte took possession of A.'s treasures. His sons, Veli and Mustapha Pacha, had come into the power of the Turks, in 1830, when the strong places of A. were taken, and lived afterward in exile, in Asia Minor. But attempting, by means of a Greek disguised as a dervise, to form a connexion with the party of their father, they were executed, Aug. 1821. A.'s grandson obtained from the Porte, in 1824, permission to retire to Liirissi with A.'s widow,ツクュリュツク, Khurschid Pacha, attacked him in January, 1825. The head of the rebel was sent to Constantinople. He says that A. caused a Greek lady Eufrosyne, and fifteen other women, to be thrown into the sea, because they appeared to have too much influence over his wife. Since his mother was an Albanese, and his father a Turk, from this double relationship, he seized on all property left by persons dying, in pretense that the testator was his relation, by the mother's side, if he happened to be a Greek, or on his father's side, if a Turk. In this way A. amassed vast quantities of furniture and utensils, and occasionally held a market for the sale of these effects. A Jew was his treasurer. If he saw a beautiful maiden whom he wished to possess, his executioner, who was always at his side, went to the parents, and said, "Your daughter has pleased A.," whereupon the daughter was given to him by the whole family were obliged to fly. The writer of this knows two families who were compelled to fly in this way. He took possession, in the same summary mode, of every thing which struck his fancy.—This favourite of fortune had great endowments, but a coarse and ungraceful exterior, depriving spirit with equal penetration; an extraordinary knowledge of men and things with determination and courage; great firmness with great adroitness. But he was false, suspicious, impulsive, and bloodthirsty from ambition and avarice; every means pleased him alike, provided that it led him to his object with quickness and safety. The dissensions of his enemies, the corruption of the divan, and the political weakness of the Porte, were the cornerstones on which this modern Jugurtha built up his ephemeral grandeur.

**Alias (Latin),** otherwise; often used in the trial of criminals, after one name and before another, to signify that they have more than one appellation; as, John, alias Thomas.

**Alicant, or Alicante (ancient Lucusentum); a city and port on the Mediterranean sea, lon. 0° 29' W., lat. 35° 24' N., with 17,200 inhabitants, situated in the Spanish kingdom of Valencia, with a castle which was formerly strong, but has fallen to decay since the war of the Spanish succession. It is the see of a bishop. The harbour is good. The maritime nations of Europe have all of them consuls here. The principal article of export is sweet wine, called Alianc, and also, from its dark colour, vino tinto, which is, for the most part, sent to England. Charles V. first planted the vines, bringing shoots from the Rhine. A. is important as the emporium of Valencian produce, and the central point of the commerce between Spain and Italy.

**Aldonza;** an African tree, of an immense bulk, a native of Congo. Of the bark a coarse thread is made; the shell or rind of the fruit may be made into a nourishing pap, serves for vessels of various kinds, and gives an aromatic taste to water preserved in it. The small beans are used as food. In time of scarcity, the large ones to cover huts, and, being burned, make good soap.

**Aliens.** The legislation of a nation in regard to aliens is a criterion of its civilization. All uncivilized nations treat the alien as an enemy, as out of the protection of law. Some difference, however, is universally made between aliens and natives; e.g., some states require the alien to give sureties when he institutes a criminal prosecution against a citizen. In some, he cannot become a guardian, or a witness of a will; the protection of the law may be denied him, and he be held liable for the minor from the government. The alien, also, has no right to enjoy certain advantages, granted by the state to the citizen, in addition to the general protection of the laws; for instance, the benefit of institutions of education, poor-houses, &c. Some countries treat aliens with unreasonable severity, by throwing obstacles in the way of their admission, by rendering naturalization difficult, and by depriving them of personal security. Although the right of a state to forbid the entrance of aliens, even under pain of death, as in China and Japan, may be abstractly defended, the policy of excluding such a right can be justified only to a very limited extent. A high degree of civilization can be attained only by a free and active intellectual intercourse among nations, in like manner as their true prosperity is best promoted by a free and active commerce. All the products made by one nation, whether in the production of raw materials, or in the art of preparing them, or in scientific discovery, is advantageous to every other nation, if they only permit perfect freedom of intercourse. In our days, civilized states merely oppose the personal entrance of aliens; but the liberty of trade is still imperfectly understood. —In respect to naturalization, several states have had peculiar causes of caution; such, for instance, as the excessive influence of a foreign power, or the occupation of a throne by a foreign dynasty. —The following are the principal
points in the laws of England and the United States of America respecting aliens. In regard to each country, an alien may be defined to be a person born out of the jurisdiction of the country, and not having acquired the rights of a citizen by naturalization. This definition is strictly for children born out of the dominions of the British king, whose grandparents by the father's side, or whose fathers were, in the service of an enemy. In the United States, the same rights are given by the act of April, 1802, "to the children (born out of the jurisdiction of the United States) of persons who now are or have been citizens of the United States." This clause, as chancellor Kent observes, (Commentaries on American Law, vol. ii.), "applies only to the children of persons who then were, or had been, citizens, and consequently the benefit of this provision narrows rapidly by the lapse of time; and the time will soon arrive, when the children of American parents, born abroad, will be obliged to seek the aid of the courts of France, or the courts of the French crown, to enforce the most obvious and natural rights of the English law." Minor children of naturalized persons are also admitted to the privileges of citizens in the United States. Aliens cannot acquire a title to real property by descent or other mere operation of law. They may purchase it or receive it by devise, and thus have a right to the possession of a title to land as forfeited, whatever it is ascertained, by a proper examination, to be the property of an alien. (In point of fact, aliens often do own real property in the United States, holding it in the name of a friend.) They can acquire, hold, and transmit movable property in the same manner as citizens, and they can also bring suits for the recovery and protection of such property. They owe a local allegiance, and are bound equally with natives to obey all general rules for the preservation of order, which do not relate specially to aliens. Even alien enemies may sue and be sued, as in time of peace. Aliens may dispose of their personal property by will, and, in case of their dying intestate, their personal property is distributed according to the law of distribution of the place of their domicile at the time of their death. The unfranchised and infamous rule of the most polished state of antiquity prevailed, in many parts of Europe, down to the middle of the last century. The law, which claimed for the benefit of the state the effects of deceased foreigners, who left no heirs who were natives existed in France till 1791, when it was abolished by the first constitution of the republic. Chancellor Kent, in the second volume of his very valuable Commentaries on American Law, observes, that "the Napoleon Code seems to have revived the harsh doctrine of the droit d'auquine, with the single exception, that aliens should be entitled to enjoy in France the same civil rights as were secured to Frenchmen, by treaty, in the country to which the alien belongs. The law in France at present, is, that a stranger cannot, except by special favour, dispose of his property by will; and, when he dies, the sovereign succeeds, by right of inheritance, to his estate." The remark on the revival of the droit d'auquine by the Code Napoleon, we suppose to be correct; but we believe that this "inhospitable rule," as the learned judge justly terms it, has been since abolished. The article Aliens, in the German Conversation- Lexicon, states, that the droit d'auquine, in France, was wholly abolished, July 4, 1819, and the Encyclopédie Modern, in the article Etranger, printed in 1828, says, that "aliens have been placed again under the protection of the common law of the country. They may acquire and enjoy property, sell it, transmit it to their heirs, and dispose of it, by testament or donation, like the other inhabitants of the kingdom. They cannot, however, exercise political rights, or be appointed to public offices, previous to naturalization."—An alien may, by letters-patent ex donacione regis, be made an English subject, and acquire a title to lands in a mid- dle state between a natural-born subject and an alien. He may now purchase lands, or possess them by de- vise, but cannot take them by inheritance, although his heirs may inherit from him; the parent of the alien being held to have no inheritable blood, which is a condition of the naturalization. The full rights of a natural-born subject can be conferred only by an act of parliament. Even after natural- ization, an alien cannot become a member of the house of commons or privy council, or hold offices or grants in the crown. If the parliament wish to confer these privileges, as it is sometimes the case when a foreign prince becomes connected, by mar- riage, with the royal family, a double act of legisla- tion is necessary. In the United States of America, naturalization confers all the privileges of a native citizen, except such as are reserved for the president of the Union. Previous to becoming a citizen of the United States, an alien must have resided in the country five years, and, two years before the ceremony of naturalization takes place, he must have abjured all allegiance to every other power. Except in cases of war, the consent of the legislature is required for naturalization. In the countries of Europe generally, with the above-men- tioned exception of England, the right of naturalization, in each particular case, belongs to the executive branch of government. It is so in France, in Bava- ria, and in all the German states. In France, a residence of ten years gives to the alien all the rights of a citizen, even that of becoming a member of the chamber of deputies (e. g. Benjamin Constant). In the states of the German confederacy, no German can be treated as an alien; e. g. the Prussian law grants the full rights of a citizen to every one who takes up his residence in that state. The unjust distinctions formerly made between aliens and na- tives, in cases where the interests of the two came in collision, are going continually out of use. As to the right of aliens to own real estate, the laws of differ- ent countries are very different. We have already said, that this is not permitted in England and the United States of America. France allows it without limitation, like most of the German states. This right is a fundamental principle of the German confederation, and was secured by the constitution of July 4, 1819 (which contains a total abolition of the droit d'auquine), every alien has an equal right of inheritance with native Frenchmen in respect to all real and personal goods in France; only, when Frenchmen have to divide an inheritance with foreign heirs, and the laws of the foreign country do not allow them a proportionate share of the property abroad, they receive in advance, from the property in France, as much as is necessary to the restoration of equality.—In addition to what we have already said on the laws of England and the United States of America, we may add, that in France we will add a short account of certain acts passed by the legislative bodies of these countries, with a view of guarding against the hostile attempts of aliens. In England, certain alien acts of recent date (33 Geo. III. c. 4, and 34 Geo. III. c. 43, 67) arose out of the influx of strangers into that country from the continent during the French revolution. They compelled the masters of ships arriving from foreign ports, un- der certain penalties, to give an account at every port of the number and names of the foreigners on board to the custom-house officers. Appointing justices and others to grant passports to such aliens, and
giving the king power to restrain them, and to send them out of the kingdom, on pain of transportation, and a fine of forty shillings. They also had the direct account to be given in of the arms of aliens, which, if required, are to be delivered up; and aliens are not to go from one place to another in the kingdom without passports. These acts have been, from time to time, amended and continued, as in 43 Geo. III. c. 158, &c. Of late, all restrictions of this kind on aliens have been abolished, and they are only obliged to inform the secretary of the home department, from time to time, of their places of residence. The only restrictions of this kind, on aliens, in the United States of America, are, that, in case of war between the United States and any other nation, the president is authorized, if he sees fit, to order the subjects of the hostile country to be apprehended and removed, or to prescribe the conditions on which they shall be allowed to remain in the United States. If such aliens are not chargeable with actual hostility, or with any other crime against the public safety, they are to be allowed a reasonable time to remove with their effects. During the late wars in Europe, severe restrictions were imposed on Englishmen in France, in retaliation, as Bonaparte alleged, of the strict enforcement of the British alien acts in regard to Frenchmen. In America, generally, aliens cannot travel without passports. In Britain and the United States of America, none are required.

Aliment; a term which includes every thing serving as nutriment for organized beings. In animals and vegetables we can observe the phenomena of decomposition and reproduction, and analyse the substances that administer to their growth and repair distinctly. Generally, however, the word A. is used for what serves as nutriment to animal life. It is, in this respect, a subject of great interest for the zoologist. In the present article we shall confine ourselves to the aliment of mankind. — Man, it is well known, derives nourishment both from animal and vegetable substances. He eats fruits, both ripe and unripe, roots, leaves, flowers, and even the pith and the bark of different plants, many different parts of animals, and the whole of some. Climate, custom, religion, the different degrees of want and civilization, give rise to an innumerable diversity of food and drink, from the repast of the cannibal savage of New Zealand to that of the Parisian epicure at the table of very; from the diet of the caveman to that of the Frenchman, whose appetite is satisfied with vegetables; from the oak-bark bread of the Norwegian peasant to the luxuriously-served table of a Hungarian magnate at Vienna. Some nations abhor what others relish, and great want often renders acceptable what, under other circumstances, would have excited the greatest disgust. The flesh of dogs is commonly eaten in China, and in Africa that of snakes, particularly of the rattlesnake and boa-constrictor. Locusts are eaten both in Asia and Africa, and the Negroes on the coast of Guinea relish lizards, mice, rats, snakes, caterpillars, and other reptiles and worms. The Otomans, a tribe of American Indians, are said by Humboldt to collect a kind of clay to eat in the rainy season. It is an interesting subject, by no means sufficiently investigated as yet, how far the different aliment of various countries is connected with the climate, and in what manner the aliment of the people on the different races, as well as the consequences of introducing new species of animals. Some excellent remarks on the national dishes of different nations were published by Baron Rumor, a German, in 1823, in a work which he called *Kochkunst* (Art of Cookery). All kinds of aliment must contain nutritious substance, which, being extracted by the act of digestion (q.v.), enters the blood, and effects its functions by assimilating to the animal substances, or acting as foreign substances, serving to excite the activity of particular organs or systems of the body.

All alimentary substances must, therefore, be composed, in a greater or less degree, of soluble parts, which easily lose their peculiar qualities in the process of digestion and conversion to the alimentary matrix of the body. These substances, in their simple state, are mucilage, gelatin, gluten, albumen, fibrin, fibrin, and saccharine matter. Of these, vegetables contain chiefly of mucilage, saccharine matter, and fibrin, which latter substance, particularly in connexion with the vegetable gluten, by which both become fit for fermentation, and thus for dissolution and digestion, is the basis of very nutritious food. The nutritive part of fruits consists of their saccharine matter, and a little mucilage. In animal food, gelatin is particularly abundant. The nutritiveness of the different species of food depends, therefore, upon the proportion which they contain of those substances, and the mode in which they are connected, favouring or obstructing their dissolution. Organs of digestion in a healthy state dissolve alimentary substances more easily, and take up the nutritious portions more abundantly, than those of which the strength has been impaired so, that they cannot resist the tendency of each substance to its peculiar chemical decomposition. The wholesome or unwholesome character of any aliment depends, therefore, in a great measure, on the state of the digestive organs. In any given case, sometimes a particular kind of food is called wholesome, because it produced a beneficial effect of a particular character on the system of an individual. In this case, however, it is to be considered as a medicine, and can be called wholesome only for those whose systems are in the same condition. Very often a simple aliment is made indigestible by artificial cookery. Aliments abounding in fat are unwholesome, because fat resists the operation of the gastric juice. The addition of too much spice makes many an innocent A. injurious, because spices resist the digestive action of the stomach. The irritation of particular parts of the system. They were introduced as artificial stimulants of appetite. In any given case, the digestive power of the individual is to be considered, in order to determine whether a particular aliment is wholesome or not. In general, therefore, we can only say, that that A. is healthy, which is easily soluble, and is suited to the power of digestion of the individual; and, in order to render the A. perfect, the nutritious parts must be mixed up with a certain quantity of innoxious substance affording no nourishment, to fill the stomach, because there is no doubt, that many people injure their health by taking too much nutritious food. In this case, the nutritious parts which cannot be dissolved act precisely like food which is in itself indigestible. (See Digestion.) In Prussia and Austria, where, as in many despotic governments, medical advice is given to the people on the different races, as well as the consequences of introducing new species of plants. Some excellent remarks on the national dishes of different nations were published by Baron Rumor, a German, in 1823, in a work which he called *Kochkunst* (Art of Cookery). All kinds of aliment must contain nutritious substance, which, being extracted by the act of digestion (q.v.), enters the blood, and effects its functions by assimilating to the animal substances, or acting as foreign substances, serving to excite the activity of particular organs or systems of the body.
to a certain extent, in England, France, the United States of America, and in every civilized country. The kind of A. used influences the health and even the character of man. He is fitted to derive nourishment both from animal and vegetable A., but can live exclusively on either. Experience proves that animal food most readily augments the solid parts of the blood, the flesh, and, therefore, the strength of the muscular system, but disposes the body, at the same time, to inflammatory, putrid, and scrobutic diseases, and the character to violence and coarseness. On the contrary, vegetable food renders the blood lighter and more liquid, but forms within the system the disseminate, which spring from feebleness, and tends to produce a gentle character. Something of the same difference of moral effect results from the use of strong or light wines. But the reader must not infer that meat is indispensable for the support of the bodily strength. The peasants of some parts of Switzerland, who hardly ever taste any thing but bread, cheese, and butter, are vigorous people. The nations of the north incline generally more to animal A.; those of the south, and the Orientals, more to vegetable. These latter are generally simpler in their dress, and when the latter has been corrupted by luxurious indulgence. Some tribes in the East, and the caste of Brahmins in India, live entirely on vegetable food. The inhabitants of the most northern regions live almost entirely upon animal food, scarcely ever partaking of any vegetable substance, at least during the greater part of the year. Some nations feed chiefly on terrestrial animals, others on aquatic ones.

A. ALMONY—ALL HANDS HOAY.

\[\text{every proportion} \]

\[4, \text{ they unite with oils and fats, and for by this union the well-known compound called soppe.} \]

\[\text{and for by this union the well-known compound called soppe.} \]

\[\text{which have a strong analogy with alkalies, especially in the particular of opposition to acids, viz. the earths.} \]

\[\text{Some of these, indeed, have been classed by Four-} \]

\[\text{croy among the alkalies, but they have been kept} \]

\[\text{separate by others, on the ground that the analogy} \]

\[\text{between them is far from amounting to a glass of} \]

\[\text{properties. The true alkalies have been arranged by} \]

\[\text{a modern chemist in three classes: 1, those} \]

\[\text{which consist of a metallic basis, combined with oxy-} \]

\[\text{gen; these are three in number—potash, soda, and} \]

\[\text{lithium. From these three bases one and} \]

\[\text{species} \]

\[\text{ammonium; 2, those containing oxygen, viz., am-} \]

\[\text{monium; 3, those containing oxygen, viz., am-} \]

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\[\text{monium; 3, those containing oxygen, viz., am-} \]
command is more generally given by the boatswain piping down the hatchway.

**All in the Wind—Allegory.**

All in the Wind; the state of a ship's sails when and large though the direction of the wind, so as to shake and shiver by turning the ship's head to windward, either by design or neglect of the helmsman.

All Saints' Bay, or Bahia de Todos Santos; a bay on the coast of Brazil, province of Bahia. It is secure and large enough for a great number of ships. Long. 38° 50' W.; lat. 13° 10' S.

All Saints, Feast of. After the persecution, in the 4th century, against the Christians in the Roman empire, had ceased, the Sunday after Whit-Sunday was appointed to commemorate the holy martyrs. Chrysostom's 7th bull was delivered on such an occasion and shows how far they were from being objects of adoration, A. D. 380. This feast was introduced into the western church, in 610, by Boniface IV. The emperor Phocas had presented the Pantheon, in Rome, to this pope, who made a church of it, and dedicated it as such, March 4, to the honour of the virgin and all the martyrs. This church still exists under the name of Rotunda, or Maria de Martyri. Gregory IV., in 835, appointed Nov. 1st for the celebration of this feast, and consecrated it to all the saints and angels. In England it is generally celebrated. Gregory solicited the emperor Louis le Débonnaire to confirm it. About the year 840, we find this feast in the calendar of the monk Wandelbert. About 870, it was introduced into England.

All Souls; a feast celebrated on the 2d of November, in commemoration of all the faithful deceased. It was instituted in the 11th century.

**Alla Breve** is the proper designation of the time of a piece of music, in which the breve is equal to a semibreve in 4; and is to be played in a movement of twice the usual rapidity; so that a breve is played as fast as a semibreve, a semibreve as fast as a minim, and so on. It is usual, in this mode of time, to prefix to the piece a designation, that resembles a C with a perpendicular line through it, but is intended to represent a circle bisected; sometimes also a 2, or large 2, or ।. It is, however, divided into degrees, which are called **alla breve time**, and may be designated by 2, and C with a perpendicular line through it; but the value of the note corresponds with the designation. Besides, the expression *alla cappella* is sometimes used; by which phrase is meant, that though the notes in their proportional magnitude are the same as in the ancient psalm tune, yet they are not to be given in the choral style as sung by the congregation, but more lively, as is usual in the church style.

**Allah, or Alla,** in Arabic; the name of God, the Creator of all nature, of whom Mohammed says, he is the only being who derives his existence from himself, and has no equal. All creatures are made by him. He is lord of the material and spiritual universe; and Mohammed inculcates obedience to him as the one true God, the Author of his religion. The word is compounded of the article *al*, and the word *llah*, which signifies the Adored, and the Adorable, and is synonymous with the singular of the Hebrew word *elohim*.

Allan, David, a Scottish historical painter, was born at Allow in 1744. Some early efforts of his genius having attracted attention, he was sent to the late Sir William Foulis's academy of painting and engraving, in Glasgow, where he remained seven years. He afterwards visited Italy, where he passed sixteen years in pursuing his studies, and copying the remains of antiquity, and the old masters. While at Rome, in 1775, he received a gold medal, for the best speci-
directly contrary to the literal signification of the words, while in allegory there is an agreement between the signified word and the figural sense, each of which is complete in itself. The allegory should be so constructed as to express its meaning clearly and strikingly; and the more clear and striking the meaning is, the better is the allegory. All of the fine arts have, to a certain degree, an allegorical character in all, the visible was generally represent something higher,—the ideal; but in the narrower sense of allegory, its object is to convey a meaning of a particular character by means of signs of an analogous import. The allegory, moreover, ought to represent an ensemble, by which it is distinguished from the trouvé-récit, and the conventional symbol. The last differs from the allegory, also, in this particular, that its character could not be understood, if it had not been previously agreed upon. For instance, the olive-branch would not convey the idea of peace if it had not been adopted as its sign. From all which has been said, it is clear, that the allegory can take place in rhetoric, poetry, sculpture, painting, and pantomime, but never in music or architecture, because these two arts are not capable of conveying a double meaning in their representations. As an instance of allegory in poetry, Prior's verses from Henry and Emma may serve:

"Did I but purpose to embark with thee,
On the smooth surface of a summer sea,
While gentle zephyrs play with prosperous gales,
And fortune's favour fills the swelling sails,
But would forsake the ship, and make the shore,
When the winds whistle, and the tempests roar!"

or the often quoted ode I, 14 of Horace. An instance of allegory in painting or sculpture is the representation of peace by two turtle-doves sitting on their nest in a helmet or a piece of ordnance; or Guido's representation of Fortuna. The representation of an allegory ought always to lead directly to its figurative meaning; thus a warrior throwing the doves out of a helmet would be a bad allegory of war; a good one would be a husbandman making a weapon out of his scythe. In rhetoric, allegory is often but a continued metaphor. The symbolic and allegoric representation often come very near to each other, and sometimes it is hard to say to which a piece of art most inclines. This is the case, for instance, with the beautiful representations of Justice, Poetry, &c., by Raphael, in the Vatican. Parables and fables are allegories, the beautiful parable in one of the tales in the Arabian Nights, in which the three religions, the Mahommedan, Jewish, and Christian, are compared to three similar rings, bequeathed to three brothers by their father. This allegory has been repeated by Boccaccio in a tale of his Deamorion, and by Lessing; in his Nathan the Wise. Allegory in rhetoric was used by the most ancient nations, because it was well fitted to express an elevated state of feeling, and, at the same time, to give somewhat of the charm of novelty to ideas at once common and important. Addison truly says, "Allegories, when well chosen, are like so many tincts of light in a discourse, that make every thing about them clear and beautiful. In painting and sculpture, however, the ancients made by no means so much use of allegory as the modern artists, partly owing to their greater facility of expressing ideas by means of the stories and the images of their different gods, which more or less represented a single idea. The moderns have no such copious stores of illustration, the protestants particularly, who are not familiar with the multitude of catholic saints and legends; thus they are often obliged to express single ideas by allegory. Another cause of the greater prevalence of allegory in modern times is to be found in the circumstance, that allegory is always more cultivated in the period of the decline of the arts, when the want of great and pure and simple conceptions of the beautiful is supplied by studied and ingenious inventions, as well as in the fact, that the ancients were more exclusively conversant with the problems of the moderns, in which the history, among whom the relations of society are much more complicated, and every branch of science, art, and social life more fully developed. Sometimes whole poems are allegorical, as Spenser's Fairy Queen; but, in these cases, the poet must take great care not to be a mimic. Bucyran's Historie is a famous instance of a work wholly allegorical. There was a time when every poem was taken as an allegory; even such works as those of Ariosto and Tasso were tortured from their true meaning, and made to pass for allegorical pictures. There exist many editions of these poets, in which, at the beginning of each canto, the allegory of which it is given. With equally little reason, the Song of Solomon has long been considered an allegory of Christ's love to his church. The most productive period of allegory in painting and sculpture was that of Louis XV., which may be styled, in regard to the arts, the age of Louis XIV. During this period, however, much bad, and some good ones were produced. They are now much less in vogue. Rubens painted several fine allegorical pictures, in the Luxemburg gallery. Lessing, Herder, and Winkelman have investigated the subject of this article, perhaps, more thoroughly than any other modern writers. No poet, in our opinion, has made use of allegory in a more powerful and truly poetical manner than the great Dante; yet the opinion that the whole of his Divina Commedia is allegorical, is quite erroneous.

Alliser, Gregorio, a singer in the papal chapel, and considered to this day, in Italy, one of the most excellent composers of his time, was born at Rome, in 1590, and died there in 1652. He was a scholar of Nannini. His Missaire, one of the most sublime and delightful works of human art, has particularly distinguished him. It is even now sung yearly, during the octave of the Assumption. This composition was once esteemed so holy, that whoever ventured to transcribe it was liable to excommunication. Mozart disregarded this prohibition and, after two hearings, made a correct copy of the original. In 1771, it appeared at London, engraved, and printed, and is still, at the time of our Edition, Classics. In 1775, the king of England obtained a copy, as a present from the pope himself. According to the opinion of Binni, at present the leader of the choir (maestro della cappella), in the pope's chapel, the Missaire of Allegri was not composed for all the voices, but only the bass of the eighteen or twenty first parts; all the rest is the addition of successive singers. But in the beginning of the 18th century, the existing manner of singing it was established as a standard at Rome, by the orders of the pope. A full score of it has never existed.—A. is also the name of an Italian satirical poet, a native of Florence, who flourished towards the end of the 16th century. His Christian name was Alexander.

Allegro, in music; a word denoting one of the six distinctions of time. It expresses a sprightly motion, the quickest of all, and originally means gay. The usual distinctions according totempo are;—serioso, allegro, largo, vivace, allegro, presto. Allegro time may be heightened, as allegro assai and allegroissimo, very lively, or lessened, as allegretto or poco allegro, a little lively. Piu allegro is a direction to play or sing a little quicker.

Alleen, Joseph, the author of a popular religious
book, entitled "An Alarm to Unconverted Sinners," was born at Devizes in Wiltshire in 1623; educated at Oxford; became minister of Taunton in Somersetshire, in 1655, and in 1661 ejected for non-conformity; died in 1688, at the early age of thirty-six.

ALEXANDER. See Halelujah.

Alderman I; a well-known danceman, originally German, distinguished for its sprightliness; 2; a very lively dancing time, in two-four time, which has much resemblance to the French tambourine.

Allen, Ethan, a brigadier-general in the American revolutionary army, was born in Salisbury, Connecticut, but was educated principally in Vermont, to which state his parents emigrated whilst he was yet young. His education was of a limited character.

In the disturbances which agitated Vermont, he took an active part against the royal authority, in favour of the Green mountain boys, the name by which the settlers in that territory were designated.

—In 1775, soon after the battle of Lexington, in compliance with the request of the legislature of Connecticut, A. collected a body of about 250 Green mountain boys, and marched against the fortresses of Ticonderoga and Crown Point, for the purpose of taking them by assault. At Castleton, he was joined by colonel Arnold, who had received directions from the Massachusetts committee of safety to raise a corps of men for the same purpose, but, failing to accomplish that object, he determined to proceed with the small force of colonel A. They arrived at the lake opposite to Ticonderoga, on the evening of May 8, and, having with great difficulty procured boats, landed eighty-three men on the opposite shore during the night. The day beginning, however, to dawn, A. was obliged to attack the fort before his rear could cross the lake, having previously animated his soldiers, by a harangue, which he concluded with saying, "I now propose to advance before you, and in person to conduct you through the wicket-gate; but, inasmuch as it is a desperate attempt, I do not urge on any one contrary to his will. You that will undertake voluntarily, poise your firelocks." They all immediately poised their firelocks. He then advanced at the head of the brave regiment, and instantly snapped his fuse at him, and retreated through the covered way, followed by A., who formed his men upon the parade. The apartments of the commanding officer having been pointed out to him by a centurion who asked quarter, he instantly repaired thither, and, demanding a halt, over his captain de Laplace, whom he found unpressed, demanded the surrender of the fort. The latter asking him by what authority, "I demand it," said A., "in the name of the great Jehovah, and of the continental congress." De Laplace was constrained to comply with the summons, and the fort, with its stores and garrison, was given up. On the same day, also, A. obtained possession of Crown Point, and soon after captured a sloop of war, the only armed vessel on lake Champlain, and thus acquired the entire command of that lake. —In the following autumn, he was twice despatched into Canada, to engage the inhabitants to lend their support to the American cause. In the last of these expeditions, he formed a plan, in concert with colonel Brown, to reduce Montreal. September 10, 1775, A. accordingly crossed the river, at the head of 110 men, but was attacked, before Boucherville, by an enemy consisting of 500 men, and, after a most obstinate resistance, was taken prisoner. The events of his captivity he himself has recorded in a narrative compiled by him after his release, in the most singular style, but apparently with great felicity. —For some time he was kept in irons, and treated with much severity. He was sent to England as a prisoner, with an assurance, that, on his arrival there, he would meet with the same leniency during the passage, extreme cruelty was exercised towards his fellow prisoners. They were all, to the number of thirty-four, thrust, hand-cuffed, into a small place in the vessel, enclosed with white-oak plank, not more than twenty feet wide by twenty-two long. —After about five months' confinement in Pendennis Castle, near Falmouth, he was put on board a frigate, January 8, 1776, and carried to Halifax. Thence, after an imprisonment of five months, he was removed to New York. On the passage from Halifax to the latter place, A. was treated with great kindness by captain Smith, the commander of the vessel, and evinced his gratitude by refusing to join in a conspiracy to kill the British captain and seize the frigate. His refusal prevented the execution of the plan. He remained at New York for a year and a half, sometimes in confinement, and sometimes at large, on parole. —On May 6, 1776, A. was exchanged for colonel Campbell, and immediately afterwards repaired to the head-quarters of general Washington, by whom he was received with much respect. As his health was impaired, he returned to Vermont, after having made an offer of his services to the commandant of the chief in that state. His arrival in Vermont was celebrated by the discharge of cannon; and he was soon appointed to the command of the state militia, as a mark of esteem for his patriotism and military talents. A fruitless attempt was made by the British to bribe him to lead his support to a union of Vermont with Canada.

The following year he emigrated to the United States of America, and was appointed a member of the first board of education. He died suddenly at his estate in Colchester, February 13, 1789.—General Allen was a man of a strong and enterprising, but haughty and restless mind. Although his education had been circum- scribed, he was daring in his pretensions to knowledge, and bold and peremptory in his assertions. Besides the narrative of his captivity, which we have noticed, and a number of pamphlets in the controversy with New York, he published a "Vindication of the Opposition of the inhabitants of Vermont to the Government of New York, and their Right to Form an Independent State," 1775; and another, entitled "Allen's Theology, or the Oracles of Reason," the first formal publication, in the United States, openly directed against the Christian religion. A. was a confirmed infidel. He adopted some of the most fantastical and absurd notions imaginable, believing, with the Pythagoreans, that half of man, after his death, would live again in beasts, birds, fishes, &c. He often told his friends, that he himself would live again under the appearance of a large white horse. However, there is an anecdote extant, which proves that he professed to entertain those ideas more from an affection of singularity, than from conviction. Whilst sitting in his library, conversing with a physician of the name of Elliot, A. was informed that his daughter was dying, and desired to speak with him. He immediately repaired to her chamber, followed by doctor Elliot. His wife was distinguished for piety, and had instructed her daughter in the principles of Christianity. As soon as her father stood at her bedside, she said to him, "I am about to die; shall I believe in the principles you have taught me, or shall I believe in what my mother has taught me?" He became greatly agitated; his chin quivered; he threw aside his wig, and, after waiting a few moments, he replied, "Believe what your mother has taught you." —General Allen, Thomas, an eminent mathematician of the reign of Elizabeth, was a native of Staffordshire; died in 1632. He is author of several astronomical
treasures, written in Latin. His skill in science made him, in his own day, to be generally reputed a dealer in the black art.

Aubrey, George; a celebrated actor in the reigns of Elizabeth and James I., better known as the founder of Dulwich college. He was born 1656, in London, in the parish of St Botolph, Bishopsgate. According to the testimony of Ben Jonson and the other dramatists of the age, he was the first actor of the day, and of course played leading characters in the plays of Shakespeare and Jonson; although, in consequence of the names not being set against the parts in the old editions of these authors, his particular share in them is not ascertained. He was keeper of the royal bear-garden. Having become wealthy, he founded Dulwich college, for the maintenance of one master, one warden, and four unmarried fellows of the name of Allen, three whereof were to be clergymen, and the fourth a skilful organist; also six poor men and as many women; and twelve poor boys, to be educated until the age of fourteen or sixteen, and of course paid living characters in the plays of the school chancellor Bacon. The very rational letter of this great man to the marquis of Buckingham on this subject, is extant. A. was the first master of his own college, and, dying in 1626, was buried in the new chapel belonging to it. Within these few years, it has been brought into great additional notice by the admirable collection of pictures of the best masters, bequeathed by Sir Francis Bourgeois.

Allgemeine Zeitung, i.e. General Gazette; a German political daily paper, published at Augsburg in Bavaria, for which reason it is sometimes called by foreigners the Augsburg Gazette. The A. Z. is by far the best German newspaper, and particularly rich in information respecting the affairs of the East and of Italy. The summary of new publications which it contains semi-annually after the book-fair in Leipsic is excellent. Baron Cotta, the owner of the A. Z. has regular correspondents in Constantinople, in all the capitals of Europe, and in the United States of America. He has recently established another daily paper, Das Ausland, at Munich, which contains accounts of foreign countries only. The A. Z. has existed now forty years or longer. It is, like all the German newspapers, small in comparison with the British or American, and is afforded at a very low price.—For a general view of newspapers, see Newspapers.

Alliance; a league between two or more powers. Alliances are divided into offensive and defensive. The former are for the purpose of attacking a common enemy, and the latter for mutual defence. An alliance often unites both of these conditions. Offensive alliances, of course, are usually directed against some particular enemy; defensive alliances against any one from whom an attack may come. As regards the obligations and rights of the contracting parties, alliances are divided into three chief classes:—1. Those in which the allied parties agree to prosecute the war with their whole force (société de guerre; alliance pour faire la guerre en commun). In this case, all the parties are principals. 2. Auxiliary alliances, if the allies pledge themselves mutu- ally to support one another, in which case only one of the contracting powers appears as principal. 3. Mere treaties, by which one power promises, in consideration of certain subsidies, to furnish troops, or to place its troops in the pay of another power, without directly taking part in the war; or to make only advances of money. Triple alliance is an alliance between three, quadruple alliance, between four; and so on. See Coalition, Quadruple Alliance, and Holy Alli- ance.

Alligator; the name of a large reptile, of the saurian or lizardian order, derived, according to Cuvier, from a corruption of the Portuguese word lagarto, equivalent to the Latin lacerta. The alligators or crocodiles form the second sub-genus of Cuvier's crocodile family, and belong to the southern parts of the American continent, or to the shores of the great oceans and rivers. They live in fresh as well as in salt water, and are divided into two groups, one very large and strong. It grows to the length of fifteen or twenty feet, is covered by a dense hardness of horns, impenetrable to a musket ball, except about the head and shoulders, and has a huge mouth, armed with a fearful row of strong, unequal, conical teeth, some of which shot into cavities of the upper jaw-bone. They swim or dart along through the water with wonderful celerity, impelled by their long, laterally-compressed, and powerful tails, which serve as very efficient oars. On land, their motions are proportionally slow and embarrassed, because of the length and unwieldiness of their bodies, the shortness of their limbs, and the sort of small, false ribs which reach from joint to joint of their necks, and render lateral motion very difficult. In addition to the usual number of ribs and false ribs, they are furnished with others, for the protection of the belly, which do not rise up to the spine. They cannot exhale with the lung, but exhale by the neck, so that the neck must be somewhat bent when it is opened; the appearance thus produced has led to the very universal error of believing that the A. moves its upper jaw, which is incapable of motion, except with the rest of the body. Under the throat of this animal are two openings or pores, the excretory ducts from glands, which pour out a strong, musky fluid, that gives the A. its peculiar unpleasant smell.—In the spring of the year, when the males are under the excitement of the sexual propensity, they frequently utter a roar which is a very alarming sound, from its harshness and reverberation, resembling distant thunder, especially where numbers are at the same time engaged. At this period, frequent and terrible battles take place between the males, which terminate in the discomfiture and retreat of one of the parties. At this season, also, an old champion is seen to dart forth on the surface of the waters, in a straight line, at first as swiftly as lightning, gradually moving slower as he reaches the centre of a lake; there he stops, inflicts himself by inhaling air and water, which makes a loud rustling in his throat for a moment, until he exerts it with vast force from his nostrils and mouth, producing a most startling effect, and vibrating his tail vigorously in the air. Sometimes after thus inhaling himself, with head and tail raised above the water, he whirls round until the waves are worked to foam, and at length retires, leaving to others an oppor-
tunity of repeating similar exploits, which have been compared to an Indian warrior rehearsing his acts of bravery, and exhibiting his strength by gesticulation. — In the common manner, upon the banks of rivers or lagoons, generally in the marshes, along which, at a short distance from the water, the nests are arranged somewhat like an encampment. They are obuse cones, four feet high, and about four feet in diameter at the base, built of mud and grass. A floor of such mortar is first spread upon the ground, on which a layer of eggs, having hard shells, and larger than those of a common hen, are spread. Upon these another layer of mortar, seven or eight inches in thickness, is deposited, and then another bed of eggs; and this is repeated nearly to the top. From 100 to 200 eggs are found in one nest. It is not ascertained whether each female watches her own nest exclusively, or attends to more than her own brood. It is unquestionable, however, that the females keep near the nests, and take the young under their vigilant care as soon as they are hatched, defending them with great perseverence and courage. The young are seen following the mother through the water like a brood of chickens following a hen. When basking in the sun on shore, the young are heard whining and yelping about the mother, not unlike young puppies. In situations where alligators are numerous, the nesting-places appear to be very much frequented, as the grass and reeds are beaten down for several acres around. The young, when first hatched, are very feeble and helpless, and are devoured by birds of prey, soft-shelled turtles, &c., as well as by the male alligators, until they grow old enough to defend themselves. As the eggs are also eagerly sought by vultures and other animals, the race would become speedily extinct, but for the great fecundity of the females. — The A. is generally considered as disposed to retire from man, but this is only to be understood of alligators frequenting rivers or waters where they are frequently disturbed, or have learned to dread the injuries which man inflicts. In situations where they are seldom or never interrupted, they have shown a ferocity and perseverance in attacking individuals in boats, of the most alarming character, and to overturning to overpower them or reach their heads from the water, and snapping their jaws in a fearful manner. Bartram, who has made more interesting and valuable observations on the A., than any other naturalist, gives numerous instances of their daring and ferocious disposition, and himself very narrowly escaped with his life in some of these instances. At present, alligators, though still numerous in Florida and Louisiana, are no longer regarded as very dangerous. Their numbers annually decrease, as their haunts are intruded upon by man, and at no distant period they must be nearly, if not quite, extinguished. — In the winter, the alligators spend great part of their time in deep holes, which they make in the marshy banks of rivers, &c. They feed upon fish, various reptiles, or carrion flesh which is thrown into the streams, and, though very voracious, are capable of existing a long time without food. The barking of a dog, it is said, will at any time cause them to forsake their holes, and come on shore, as they prey upon any small quadruped or domestic animal which comes within their reach. They have a very small brain, and live a long time even after it is destroyed. Titian Peale, a naturalist distinguished for his perseverance in the practice of his nature, informed the writer that he destroyed the whole superior part of the head and brain of a large A. by a ball from his gun, in the morning of a long day, and, on passing the same place in the evening, he found the animal had crawled off. Following his trail through the marsh for a considerable distance, he found him still alive, and, though dreadfully mangled about the head, ready to give battle. — In the common manner, alligators are of very considerable importance. They abound most where fish and other creatures are found in the greatest numbers. Their voracity tends to repress exuberant increase in the beings upon which they feed; while themselves are exposed to very numerous enemies in early life, and gradually pass away, as man usurps the sway over their peculiar dominions. The peculiarities of construction, &c., will be given under the title Crocodile, which see.

ALLIONI, Charles, an esteemed physician and professor of botany at Turin, was born in 1725, and died in 1804. He published various works, which tended to the advancement of medical and botanical science.

Alliteration; a figure or embellishment of speech, which consists in the repetition of the same consonants, or of syllables of the same sound, in one sentence. Such alliteration sometimes happens without the intention of the writer or speaker, and may be disagreeable to the ear, in the same way as a rhyme occurring involuntarily. Alliteration is pleasant when skillfully managed, so as to produce what the French have called harmonic imitation; but by too frequent use, it becomes trivial and ridiculous. An excellent instance of imitative harmony and happy alliteration is afforded by the line of Virgil, describing the measured gallop of the horse—

Quadrupedante pedum sonita sponte unguis caputubus;
or another verse of the same poet—

Luctantes ventos tempestasque sononas—
in which the continual recurrence of the *t* reminds us of the uninterrupted noise of the winds. Greek literature affords many instances of this imitative harmony. English poetry furnishes many beautiful specimens of alliteration, but instances of an unhappy use of this figure are not wanting even in good writers. Gray has many alliterations, e.g.

Weave the warp and weave the woof, or,

Ruin seize thee, ruthless king!

Among the French, a line of Racine—

Pour qui sont ces serpents qui siffent sur vos toits?—is thought to represent very happily the hissing of the serpent. In German literature, Burger, perhaps, has made the most use of alliteration; but he often carries it too far. A sonnet of A. W. Schlegel finishes with the following:

Wo Liebe lebt und labt ist lieb das Leben.

Among modern languages, alliteration is altogether more used in those belonging to the Teutonic stock, than in those of Latin origin. So far has A. sometimes been carried, that whole treaties have been composed, each word of which commenced with the same letter. Not the least successful specimen of burlesque A. are the lines on Cardinal Wolsey—

Begot by butchers, but by bishops bred,
How high his honour holds his haughty head!

Alloa, a sea-port town, situated pleasantly on the north side of the Firth, five miles from Stirling, and in the county of Clackmannan, Scotland. It has been long a place of some note, and contains within its vicinity a massy tower, which was erected in the 13th century, and at one period occupied as a royal residence. It has an excellent harbour, from which it exports great quantities of coal, the chief
imports being grain, limestone, ironstone, and wood and iron from the Baltic. Several large distilleries, brewhouses, and breweries are in the neighbourhood of A. The population of the parish is 6377. General Sir Ralph Abercromby, and David Allan, the painter, were natives of Allon.

Alloidum; land held by a man in his own right, without any feudal obligation. It is opposed to fee, or feudal. All landed property must be either feudal or allodial. In England, according to the theory of the British constitution, all land is held in fee. The word allodialis, is, therefore, never applied to landed property there. Such as is really allodial bears the name of free-simple. The same word is used in the United States of America, though land is not held there, in fact, by any feudal tenure. In ancient France, the feudal character of landed property was taken for granted, (nulla tere sans seigneur) until the contrary was proved. In Germany, the contrary rule prevails. As the vassal is under many restrictions in respect to the disposal of the feu, and as the principles of inheritance with respect to the A. are, in some particulars, different from those which govern the feu, the distinction is of importance. If a feu falls back to the lord, of course the A. is separated from it; the same takes place when the heir of the A. and that of the feu are different persons. In Germany, the word allodificiren signifies to make an estate allodial, which is favoured by many governments. In such allodification, a part of the value must be paid as a compensation to the former lord, or a fixed annual tax (caesum) is imposed on the estate. The great, and generally successful efforts, which the Prussian government has made for about seventeen years, to absolve the estates of the peasants from all feudal obligations, on the payment of a certain part of their value to the lord, must be considered as one of the consequences of the enlightened spirit of the age, even in countries not favoured with a representa- tive government. The immense change which took place in France, during the revolution, by the extinction of all feudal tenures, and the endeavours to bring about the same change wherever governments in the French spirit were established, e.g., in the kingdom of Westphalia, are well known. The etymology of the word A. is uncertain; most probably it is of German origin.

Alloway, an ancient parish in the district of Kyle, situated on the river Doon, between Maybole and Ayr. It is now united to the parish of Ayr, and its church is at Fallinton. The ruins of the abbey, which have been considered of sufficient importance to be noticed here, had the place not given birth to Robert Burns, who has rendered it for ever sacred ground, and lighted up "Alloway's auld haunted Kirk" with an unfailing lustre.

Allspice; a composition, the result of a mutual combination of two or more metals. To alloy generally means to mix a metal of less with one of more value. Various processes are adopted in the formation of alloys, depending upon the nature of the metals. Many are prepared by simply fusing the two metals in a covered crucible. It has been a question whether alloys are to be considered as compounds, or as mere mixtures. Mr Dalton considers alloys to be chemical compounds, one striking instance of which is in the alloy of tin and copper, called brass, glass and brass works. Seconded from the true proportions will spoil the alloy as a reflector. In some cases, the metals are found to unite in definite proportions only; and it is probable that all the alloys contain a definite compound of the two metals. The principal characters of the alloys are the following:—1. We observe a change in the ductility, malleability, hardness, and colour. Malleability and ductility are usually impaired, and often in opposite directions. Gold and silver, and gold and tin, form a brittle alloy. The alloy of copper and gold is harder than either of its component parts; and a minute quantity of arsenic added to copper renders it white. 2. The specific gravity of an alloy is rarely the mean of its component parts; in some cases an increase, in others a diminution of density having taken place. 3. The fusibility of an alloy is generally greater than that of its components. Thus platinum, which is insubflue in our common furnaces, forms, when combined with arsenic, a very fusible alloy; and an alloy of certain proportions of iron, tin, and billia is fusible at 826°, a temperature several degrees below the melting point of its most fusible constituent. 4. Alloys are generally more oxidizable than their constituents taken singly; a property which is, perhaps, partly referable to the formation of an electrical combination. From early times, the luster metals have been used to alloy gold and silver coins, to prevent loss by wear. In England, the legal proportion of base metal for gold coin is one part in twelve, and for silver coin three parts in forty. In France, the legal proportions of the different parts silver, one part copper, one coin, nine parts silver, one copper; copper money, four parts copper, one silver; gold coin, nine parts gold, one copper. For silver plate, the French proportions are nine and a half parts silver, one-half copper; for trinkets, eight parts silver, two copper. For gold plate they have three different standards; ninety-two parts gold, eight copper; also, eighty-four gold, sixteen copper, and seventy-five gold, twenty-five copper. Gold and silver are alloyed partly that they may wear better, partly to diminish the price of articles made of them.

Allovia, or Pimenta, is the dried berry of a West Indian species of myrtle (myrtus pimenta), which grows to the height of twenty feet and upwards, and has somewhat oval leaves about four inches long, of a deep shining, green colour, and numerous branches of white flowers, each with four small petals. In the whole vegetable creation there is scarcely any tree more beautiful or more fragrant than a young pimenta-tree about the month of July. Branched on all sides, richly clad with deep green leaves, which are relieved by an exuberance of white and richly aromatic flowers, it attracts the notice of all who approach it. The tree grows spontaneously, and great abundance, in many parts of Jamaica; but they cannot be propagated without great difficulty. The usual method of making a new pimenta walk, or plantation, is to appropriate for this purpose a piece of woody ground in the neighbourhood of an already existing walk, or in a part of the country where the scattered trees have been found in a native state. The other trees are cut down; and, in a year or two, young pimenta plants are found to spring up in all parts, supposed to have been produced from berries dropped there by birds, which eagerly devour them. About the month of September, and not long after the blossoms have fallen, the berries are in a fit state to be gathered. At this time, though not quite ripe, they are full grown, and about the size of pepper-corn. They are gathered by the hand; and one labourer on a tree gather in a day three or four hundred, sometimes three below in picking them up; and an industrious picker will fill a bag of seventy pounds' weight in a day. The berries are then spread on a terrace, in the sun, to be dried, but this is an operation which requires great care, from the necessity of keeping them entirely free from moisture. By the drying
they lose their green colour, and become of a red-
dish brown; the process is known to be completed
by their change of colour, and by the rolling of the
seeds within the fruit; these are then packed
into wicker bags for the market. When the
berries are quite ripe, they are of a dark-purple
colour, and filled with a sweet pulp. Pimenta is
thought to resemble, in flavour, a mixture of cin-
namon, nutmegs, and cloves, whence it has obtained
the name of allspice. It is much employed in cookery,
and is also utilized in medicine, as an agreeable aromatic,
and forms the basis of a distilled water, a spirit,
and an essential oil. The leaves of the pimento-trees
yield, in distillation, an odoriferous oil, which is not
uncommonly used, in medical preparations, instead
of the oil of cloves.

ALLEH. See Alum.

Alluvion, (from the Latin alluvio, or adduvio,
rising or swelling of a river, flood, deluge) now
signifies a gradual increase of land along the sea-
shore or the banks of large rivers, or at their mouths.
Gredley, being a limit of the course of alluvial
produced by A.; e. g. New Orleans and Messolonghi
stand on land formed by A. Holland, too, con-
tantly experiences the effects of A. Whole islands
are often formed by this cause. In most of the
countries on the European continent, the sovereigns
have declared these limits of alluvial formations
in Germany, A., which is there called employed
by the much more proper name Allungung, takes
place constantly on the coast of the North sea,
owing, probably, to the great extent of flats along
the shore, on which every tide deposits some mud.
This alluvial land is at first without vegetation,
and then the salicornia maritima appears, which affords
a rich salad. Next follows: poa maritima, and, on
very rich A., aster tripolium,—a plant from one
to six feet high. In this state, the A. receives the
name of Frieland, and begins to resort to it.
Afterwards it is diked, and used as pasture for sheep,
horses, and cattle. It is supposed that this
kind of land will increase much, in consequence of
the many flats along the sea-shore of Germany.

ALMA. The Latin word alma belongs to those
words which cannot be rendered precisely in other
languages, and of which every idiom possesses some.
It signified originally, from the verb amare, to love,
dear. This epithet, therefore, was applied to gods,
men, qualities, and things—Alma Ceres, A. Venus,
A. Ixia, A. pares, &c.
In modern times, it is par-
ticularly used in Italy, alma citta, for Rome, and in
Britain, alma water, for Oxford, Cambridge, &c.,
by those who have received their education at these
universities. This custom has been transplanted
into the United States of America. Sometimes A.
is used as the Christian name for individuals of
the female sex.

ALMANAC; a celebrated book, composed by
Ptolomy; being a collection of the observations
and problems of the ancients relating to geometry
and astronomy. The original Greek name was
αλμανακα τιμηταματο, i.e. greatest compilation.
The Arabsians, at the time when science flourished
among them, translated it, about 827, and added
their article of to the word magiata; thus the word
almanagz originated. (See Ptolomy.) In 1320, the
emperor, Frederick II., caused this work to be
translated from the Arabic into Latin.

ALMACRO, Diego; a Spaniard of low birth, one
of the adventurers who accompanied Francis Pizar-
ro. He showed himself brave, profigate, and cruel.
In 1525, after the defeat of the Incas, by storm, when he exhibited the greatest lux-
begacy towards the unfortunate Atahualpa, or Abuna-
lipa, as he is sometimes called, the last monarch of
the race of Manco Capac, and put him to a horrid
death. Quarrelling with Pizarro about the division
of their spoil, and power, a secret was ensured; and
both factions taking arms, Almacro were defeated,
made a prisoner by his rival, and strangled in 1538,
at the age, it is said, of 75. His son, however, suc-
ceded in avenging him: the friends of his father,
rallying round him, assassinated Pizarro in his turn,
after an obstinate resistance, in his own palace, July
26, 1541. This outrage excited the attention of
Castro, viceroy of Peru; and young Almaco, fall-
ing into his power, was, with a considerable number
of his party, executed by his orders in the following
year. See Pizarro.

ALMANAC; a table or calendar, in which are set
down the revolutions of the seasons, the rising and
setting of the sun and moon, the phases of the planets,
the remarkable conjonctions, positions, and phenomena
of the heavenly bodies, for every month and day of
the year; also the several fasts and feasts to be ob-
served in the church and state, &c. The history of
A., and even the etymology of the word, are involv-
ed in considerable obscurity. It is supposed, that it
is derived from the Arabic al manach, to count. Verstegan,
who has written on the antiquities of Great Britain,
under the title of "Restitution of decayed Intelligence
concerning Britain," makes the word of German
origin, almenat, and says that the Saxons were in
the habit of serving the annals, courses, or journals
upon a square piece of wood, which they called al-
menought. The modern almanacs answers to the
fasti of the ancient Romans. There are several
very splendid English almanacs of the 14th century
existing in MS., particularly in the British museum.
A very curious specimen is in the library of Corpus
Christi college, Cambridge. Almanacs began
usually in Europe within a short time after the
invention of printing; and they were very early re-
markable, as some are now in England, for the mix-
ture of truth and falsehood which they contained.
In 1579, their effects in France were found so mischie-
vous, from the abuse which was made of them, that
published, that an edict was promulgated by Henry III.,
forbidding any predictions to be inserted in them
relating to civil affairs, whether those of the state or
of private persons. No such law was ever enacted
in England. It is singular, that the earliest English
almanacs were printed in Holland, on small folio
sheets; and these have occasionally been preserved,
from having been pasted within the covers of
old books. In the reign of James I., letters patent
were granted to the two universities and the Sta-
tioners' Company for an exclusive right of printing
almanacs. These, in 1775, were declared to be ile-
gal. During the civil wars of Charles I., and
thence onward to our own times, English almanacs
became conspicuous for the unchecked boldness of
their astrological predictions, and their determined
perpetuation of popular errors. This, however, has
recently received a check, by the society for the dis-
fusion of useful knowledge issuing a British alma-
nc, free from deceits and absurdities, and having
more to recommend it as a statistical work than for-
eral ones, which were all monopolized by the sta-
tioners' company of London; and, which, much to the
discredit of that company, too often abounded in silly
doggrels and vain predictions. During the last few
years, the almanacs of the continental states are gen-
erally free from misleading matters of this nature;
and the almanacs most similar to some of those extensively circulated amongst the English are produced in Persia. A modern Persian almanac is that described in the Encyclopaedia Britannica. The first page contains a list of fortunate days for certain purposes; as, for example, to buy, to sell, to take medicine, to marry, &c.; then follow predictions of events, as earthquakes, storms, political affairs, &c., after the manner of Moore's Almanac, except being approved by the latter. This resembles the production of the highly cultivated nation, and which one is noted for its general ignorance, is a remarkable instance of the permanency of vulgar errors. The first almanac at Constantinople is said to have been printed in 1716, under the direction of Abdaloum. Regionmantus was the first person in Europe who prepared almanacs in their present form, with the exception of their predictions, which were, in all probability, introduced into Europe from the Persians. Some of the almanacs in the United States still contain predictions respecting certain states. Once, perhaps, no class of books, which bear so obviously the stamp of the age, and of the spirit of different countries, as almanacs. At present, they become every year more full of statistical matter. Once they were almost entirely filled with subjects of a religious character. At another time they overflowed with astrological calculations and predictions. In the time of Napoleon, an almanac was published in France, in which, to every day, an achievement of the emperor, or something else relating to him, was added. Almanacs, in the petty principalities of Germany, exhibit the endless genealogical table of the princes. Some almanacs in modern Greek, printed at Venice, where, formerly, all books in this language were published, we found full of astrological superstition, and matters relating to the Greek church. One of the most curious almanacs which we have seen is an Italian one for 1822, exhibiting, in a striking manner, the Italian vivacity. To the 30th of July is added, 

Sudano ancora le osa! to the eleventh of August, 
Oh! che noia; to July 12, Cascano le braccia; to January 2, Stivali e Ombrello! In Germany, almanacs is the name given to almanacs like those which appear regularly in the United States of America, under the name of Souvenir, Forget-me-not, &c. In France, a work appears annually under the title of Almanach des Gourmands, which is conducted with much spirit, and is in high repute among epicures.

Almanac: Nautical. An important work of this kind is published in England annually, but two or three years in advance, bearing the name of Nautical Almanac, in which, besides many things essential to general use, that are to be found in other almanacs, are contained many interesting particulars; more especially, the distances of the moon from the sun, and from certain fixed stars, for every twenty hours of apparent time, adapted to the meridian of the royal observatory, Greenwich. By comparing these with the distances carefully observed at sea, the mariner may, with comparative ease and certainty, infer his longitude to a degree of accuracy unattainable in any other way, and sufficient for most nautical purposes. This almanac was commenced, in 1767, by Dr Maskelyne, astronomer royal, and has been continued ever since. During forty-eight years Dr Maskelyne devoted the most sedulous attention to it, and it was distinguished for accuracy. Since his death it has not been conducted, and the board of longitude, under whose auspices it was published, has been lately dissolved. The French Connaissance des Temps is published with the same views as the English Nautical Almanac, and nearly on the same plan. It commenced in 1698, and has been, in one or two instances, discontinued for short intervals. For many years, however, it has been conducted by the mathematicians in a manner highly creditable to the bureau de longitude. The most valuable of the nautical almanacs now existing, is that published at Berlin, under the superintendence of professor Eckel, who, since a short time past, taken charge of it. It is called Astronomische Nachrichten, and is conducted by a man who has conducted for fifty years by professor Bode, with great credit to himself. It is distinguished for completeness and accuracy.

Alme, or Alma; girls in Hindostan and Egypt, whose profession is to tell stories, dance, sing, play, and appear as impromptu artists. The latter accomplishment is not of very difficult acquisition, as the extempore poetry of the East deals much in repetition, and is little constrained by rule. These arts are taught to female slaves, with a view to enhance their price in the market. The art of telling stories, of which there are many, especially among the dancers, is another time they overflowed with astrological calculations and predictions. In the time of Napoleon, an almanac was published in France, in which, to every day, an achievement of the emperor, or something else relating to him, was added. Almanacs, in the petty principalities of Germany, exhibit the endless genealogical table of the princes. Some almanacs in modern Greek, printed at Venice, where, formerly, all books in this language were published, we found full of astrological superstition, and matters relating to the Greek church. One of the most curious almanacs which we have seen is an Italian one for 1822, exhibiting, in a striking manner, the Italian vivacity. To the 30th of July is added, Sudano ancora le osa! to the eleventh of August, Oh! che noia; to July 12, Cascano le braccia; to January 2, Stivali e Ombrello! In Germany, almanacs is the name given to almanacs like those which appear regularly in the United States of America, under the name of Souvenir, Forget-me-not, &c. In France, a work appears annually under the title of Almanach des Gourmands, which is conducted with much spirit, and is in high repute among epicures.

Almada, Francisco and Lorenzo; father and son. Francisco was the first vicerey of India, in 1505. After ravaging the coast of Africa in the course of his expedition, he subjected to the Portuguese dominion Quilen, Onor, Cannaer, with other petty states, and, in a desperate struggle, carried by storm and burned the strong fortress of Panama, though defended by a resolute garrison of 4000 men, while his own force scarcely exceeded 700. His son, who accompanied him, being now detached on a separate expedition, subdued the island of Ceylon, carried off 250,000 lbs. weight of cinnamon as the first fruits of his success, and imposed on the country an annual tribute to the same amount. In a subsequent expedition against the combined fleets of the Arabs and Egyptians, he was slain. His father recovered his lands, and took the island of Ceylon. He then resigned his command to the famous Albuquerque, and sailed for Portugal, but was killed on the African coast, near the cape of Good Hope.

Almada, one of the strongest fortresses in Portugal, is situated in the province of Beira, near the Spanish border, on the Coa, and contains 2750 inhabitants. In 1702, it was taken by the Spaniards, after great loss, but was restored at the peace. When Ney, 26th July, 1810, attempted to pass over to the Coa into Portugal, the British defended the fortress of A. against marshal Massena, till 27th August, when they were obliged to capitulate. In his retreat from Portugal, March 1811, the evacuation of A. cost marshal Massena a bloody battle of two days with Wellington, h the 3d and 4th of May, near Fuentes d'Onoro, when the French commander, general Brevier, blew up the fortress on the night of the 11th, and made his way through the midst of the besiegers. The British have restored the works.

Almeida; a weight of two pounds, used to weigh silver in several parts of the East Indies.

Almohades; the name of an African dynasty which succeeded that of the Almoravides, in Barbary, in the commencement of the 12th century.
ALMON, John, a political writer and pamphleteer of the last century, was born at Liverpool about 1738; and went to London in 1758, where he became a member of a newspaper society, and, on the death of the editor for the day, chiefly in support of John Wilkes, of whom he was a violent partisan. He also compiled several large works, the best known of which are his Anecdotes of Eminent Persons. He retired from business in 1782, but subsequently injured his fortune in a newspaper speculation, and died in depressed circumstances in Hertfordshire, in 1805.

ALMON. The common or sweet almond is a soft and pleasantly-flavoured kernel, contained in a nut, which is of flattish shape, and has a tender shell, with numerous small holes on the outside. The almond tree (Prunus dulcis communis) is usually twelve or fourteen feet high. Its beautiful pink flowers, of five petals, grow in pairs, and appear very early in spring. The leaves are oval, pointed, and delicately serrated at the edges. Its flowers are remarkably beautiful, and form a great ornament of the English shrubberies, particularly as they appear in March and April,—a season when few other parts of the vegetable creation have recovered from their wintry state. Though known to the ancients from the most remote period of antiquity, the almond tree has been cultivated in England only since 1605, and this almost wholly out of doors. The number of its flowers, since the climate of Great Britain is not sufficiently warm for the fruit to be perfected, the almonds which are consumed in this country and the United States, are imported, sometimes in the shell, and sometimes without, from France, Spain, Italy, and the Levant; and they are packed in casks, boxes, or bales. The Jordan almonds, which come from Malaga, are the best sweet almonds brought to Britain. The province of Valencia was formerly much celebrated for its almonds, but the cultivation of this fruit is of late years has been much neglected. Almonds are very highly taxed in Britain. The duty on Jordan A., amounts to ninety-five shillings a cwt.; on sweet A., to forty-seven shillings and sixpence; and on bitter A., to thirty-one shillings and eightpence. No doubt, however, is entertained of these imports, which might almost exclude almonds altogether from the country, they yield a revenue of about £18,000 a year. The chief uses of sweet almonds are in confectionery and cooking. They are also eaten with raisins in desserts after dinner; but they should be well chewed, for the bitterness that is found in this fruit is indigestible. By pressure, they yield a considerable proportion, sometimes nearly half their weight, of oil. Some preparations of almonds are used in medicine, particularly that called milk of almonds, which is formed of pounded almonds, loaf sugar, and water, well mixed together. In some parts of the East Indies, it is said that almonds supply the place of small money. Bitter almonds resemble, in all respects, the sweet almonds, both in the appearance of the kernels themselves, and of the trees which produce them, excepting a slight difference in the size of the flowers and fruit. Like the sweet almonds, they yield a large portion of oil. This has no bitterness, but the substance that remains after the pressure is intensely bitter. If these almonds be eaten freely, they occasion sickness and vomiting; and, to many quadrupeds and birds, they are fatal poison. There was one breed of sheep in the district of Cornwall, the eating of them would prevent the intoxicating effects of wine. They are frequently used instead of apricot kernels in ratifs, and sometimes are employed in making a counterfeit cherry- brandy. The oil and emulsions of bitter almonds are used in medicine, and a powder and paste for washing the hands is made both from them and from sweet almonds. By confectioners, they are much used to give flavour to biscuits and other articles. The substance of their peculiar flavour to bitter almonds, and to the kernels of peaches, apricots, &c., as also to the leaves of all the species of cherry and peach, is the prussic acid, so well known as a powerful medicine and poison. It is this which renders a large draught of noxious, or other cordial of a similar kind, so on an injurious or even fatal. The Prussian medical police, therefore, which is remarkably vigilant, is in the habit of examining liquors of this sort exposed for sale.—For a further account of this substance, see Cherry Laurel and Prussic Acid.

Almorens, in its primitive sense, denoted an officer of any religious establishment, to whom was assigned the distribution of alms. By the ancient canons, all monasteries were to spend at least a tenth part of their income in alms,—a rule which is still followed by several convents. Every bishop, also, was required to keep an almoner. The great almoner (grand aumoneur) of France was the highest ecclesiastical dignitary in that kingdom before the revolution. Napoleon restored this office, and it has been kept up by the Bourbons, but we do not know its rank at present. To the almoner belonged the superintendence of all hospitals and houses of charity. The king recently declared his almoner the grand master of the said mass at all grand solemnities. He still officiates at the performance of the mass called Veni Spiritus, before the chamber of deputies. The lord almoner, or lord high almoner of England, is an ecclesiastical officer, generally a bishop, who formerly received all the property and the goods of every felix de se, which he was to distribute among the poor. He had, also, the power of giving the first dish from the king's table to whatever poor person he pleased. The emperors of Germany, too, and most of the European monarchs, had their almoners. The almoner of the province, or the almoner of the province, or the almoner of the highest officers of the state. The name almoner has been given, by some writers, to the chaplains of ships, regiments, &c.

ALNWICK. See Alnwick.

ALNWICK, the county town of Northumberland, is situated exactly in the southern division of Berwick-ward, and partly in the eastern division of Coquet-ward, 84 miles south from Edinburgh, and 310 north from London. It is built irregularly on the declivities of a hill, near the river Alne, over which a handsome stone bridge was built by the late Duke of Northumberland in the last century. It is a spacious market place, and a considerable town hall, in which the sessions and county courts are held, and the members of parliament for the county elected. It is paved, watered, and lighted under an act passed in 1821. Although the county town, the assizes are held at Newcastle. The town is governed by a bailiff and four chamberlins, who are chosen every year out of a common council of twenty-four. The bailiff is nominated by the Duke of Northumberland, by virtue of his ancient office of Constable of Alnwick castle. The latter, for many centuries a fortress of great strength, and the family mansion of the Percys, stands on an eminence on the south side of the Alne, opposite to the town, and commands a beautiful view of the country. The walls are flanked with sixteen Gothic towers, the battlements of which are ornamented with figures of ancient warriors. It is very celebrated as a border castle, and has been most fatal to the kings of Scotland, of whom Malcolm II. and his son Edward fell before it, and William, sur- named the Lion, was taken prisoner. The man- sion has lately undergone a complete repair, great attention having been paid to the restoration of the Gothic ornaments in their original style. The
chapel has been rendered extremely beautiful by the introduction of a ceiling, in imitation of the celebrated one of King’s College, Cambridge.

These are beautiful examples to the model of one at York minister, and the walls are painted in the manner of those of the cathedral at Milan. The custom of making freemen at A., which is very ludicrous, is attributed to a piece of humorous revenge on the part of King John, for having endured considerable persecutions. Some of the larger kinds of aloes are of considerable height, and are the mire state of the roads. Those who are to be made free, assemblable in the market-place on St. Mark’s day, each man dressed in white, with a white cap, and a sword by his side. From this place they proceed on horseback, headed by the four chamberlains, attired in the same manner, to the Town moor, where they alight, and all rush through a muddy pool; which ceremony performed, they change their soiled habiliments, and return to the town. The living is a perpetual curacy in the archdeaconry of Northumberland, and diocese of Durham. The church is dedicated to St Mary, and the Duke of Northumberland presented to the vicarage. He was the sheik of a Syrian tribe professing the Mohammedan religion, but blindly devoted to the will of their chief, with whose temporal superiority was also mingled a sort of ecclesiastical character. Unitig, as it were, in his own person the pretensions of prince and prophet, the slightest of his commands is said to have been always executed, though at the expense of certain loss of life to the emissary. Many fabulous stories are related of this prince, from whose followers the word assassin has its derivation.

Aloe is an extensive tribe of plants, some of which are not more than a few inches, whilst others are thirty feet and upwards, in height. All the leaves are fleshy, thick, and more or less spiny at the edges, or extremity. These plants, which are chiefly inhabitants of hot climates, have flowers of a single petal, the mouth expanded, the base nectariferous, and the filaments of the stamens inserted into the receptacle of the flower. Some of the larger kinds of aloes are of great importance to the inhabitants of countries in which they grow. Best of the leaves are with strong spines, they form an impenetrable fence. The negroes of the western coast of Africa make ropes and weave nets of the fibrous parts of these leaves. The Hottentots hollow out the stems of one of the kinds into quivers for their arrows. In Jamaica, there is a species of aloe, which supplies the inhabitants with bow-strings, fishing-lines, and materials from which they are able to weave stockings and hammocks. An aloe which grows in the Kingdom of Mexico, is applied by the inhabitants to almost every purpose of life. It serves to make hedges for inclosures; its trunk supplies beams for the roofs of houses, and its leaves are used instead of tiles. From this plant they make their thread, needles, and various articles of clothing and cordage; whilst from its juice they manufacture wine, sugar, and vinegar. Some parts of it they eat, and others they apply in medicine. The juice of aloes was formerly used in Eastern countries, in embalming, to preserve dead bodies from putrefaction, and, as the resinous part of this juice is not soluble in water, it is received for the hot baths, to preserve the feet of ships’ bottoms against the attacks of marine worms. One ounce of it, mixed with turpentine, tallow, and white lead, is considered sufficient for covering about two superficial feet of plank; and about twelve pounds as sufficient for a vessel of fifty tons burden. In proof of the efficacy of this method, two planks of equal thickness, and cut from the same tree, were placed under water, one of them in its natural state, and the other smeared with this composition. They were suffered to continue in the water eight months, and when, at the end of that time, they were taken out, the former was perforated in every part, and in a state of absolute decay, whilst the latter remained sound as at first. In the East Indies, the juice of these plants is used as a varnish to preserve wood from the attacks of destructive insects; and skins, and even living animals, are sometimes smeared with it for the same purpose. There is a tract of mountains about fifty miles north of the cape of Good Hope, which is wholly covered with aloes. Among the Mahommeks, and particularly in Egypt, the aloe is a kind of symbolic plant; it is dedicated to the offices of religious, and pilgrims, on their return from Mecca, suspend it over their doors, to show that they have reached the holy city. In India, the spissated juice of several species of aloes is used in medicine, under the name of aloes. The medicinal properties of aloes have been long known and established, and their extensive application in medicine is, perhaps, the best proof that can be adduced of the efficacy and importance of an article which respects useful. Particularly, a beautiful violet colour is afforded by the leaves of the Socotrine aloe, which does not require the aid of any mordant to fix it; the same also is capable of being formed into a fine transparent colour for painting in miniature.

Aloe, the great or American (agave Americana), is a large plant, the leaves of which are thick, fleshy, and spiny at the edge, and the stem branched, and of great height. The flowers have the tube of the corolla narrowed in the middle, the stamens longer than the corolla, and the style longer than the stamens. This magnificent native of North America is by no means an uncommon plant in English gardens, but is seldom seen there in flower. There is, indeed, a notion, but an erroneous one, that the American aloe does not bloom until it is 100 years old. The fact is, that the time of flowering depends on the climate of the growth of its flowers. In hot countries, it will flower in a few years; but in colder climates, the growth being slower, it is necessarily longer in arriving at maturity. The stem, which bears the blossoms, rises from the centre of the leaves, and, when the plant is in a vigorous state, it frequently exceeds in height of twenty feet. An American aloe, in the garden of the king of Prussia, was forty feet high. Branches issue from every side, and in such a manner as to form a kind of pyramid, composed of greenish-yellow flowers, which stand erect, and are seen in thick clusters at every joint. When in full flower, its appearance is extremely splendid; and, if the season be favourable, and the plant be sheltered from the cold in autumn, a succession of blossoms will sometimes be produced for near three months. In the warmer parts of Europe, the American aloe is cultivated as an object of considerable utility. They are frequently set out in rows, as fences for enclosures, particularly in Spain, Portugal, and Italy. In Algier, the leaves are employed for scouring pewter, kitchen utensils, and floors, and, being cut into slices, are used for the feeding of cattle. In the place forcie, they are used for cakes, which are used for washing, and will make lather with salt water as well as with fresh. The fibres of the leaves, when properly prepared, may be separated into threads, which are useful in various
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This is sometimes done by bruising and /steeping them in water, and afterwards beating them. The process in some parts of Portugal is, after plucking the largest and best leaves, to place them on a square board, which a person presses obliquely between his breast and the ground, and then scrapes with a square iron bar, held in both hands, thereby operating all the fibres to assay out, and only the fibres and some of the membranous parts of the leaves remain, which are easily detached. The fibres are employed for all the purposes to which thread can be applied; but they are neither strong nor durable, and, if exposed to moisture, soon decompose.

ALOIDES (so called from their supposed father, Aloes). Otto and Ephalites, sons of Iphimedia and Neptune, were enormous giants. They attempted to storm heaven with the other giants, but were killed by Apollo. As a punishment, they were bound to a stake in Tartarus, and gnawed by snakes, while an owl, on the top of the stake, disturbed them with its cries. (See Giants.) This fable which is also differently related, originated with the Beozians, who maintained that the Aloides introduced the worship of the Muses.

These last and last letters of the Greek alphabet, in the Holy Scriptures, signify the beginning and the end, or the first and the last; i.e. before and after all things. These two letters are, therefore, used as a symbol of the Divine Being. They were also formerly the symbol of Christianity, and engraved accordingly on the tombs of the ancient Christians, to distinguish them from those of idolators.

ALPHABET (from αλς and βιττρα, the two first letters of the Greek alphabet); the ordinary series of the letters or syllables (in syllabic alphabets) of a language. (For the hypotheses respecting their origin, the relation between the different alphabets, and the different systems on which they are based, see the article Writing, Art of.)—The number of letters and their meanings varies in the different tongues very much. The English alphabet (including J and Q) contains twenty-six letters; the French, twenty-three; the Italian, twenty-two; the Spanish, twenty-seven; the German, twenty-six, or twenty-four, if some compound letters are not reckoned; the Dutch, twenty-six; the Bohemian, or that of the Czechian Slavonic dialect, forty-two; the Russian, forty-one; the Ethiopic, Abyssinian, or Tibetan, twenty-three; the Chinese, forty-four; and the Arabic, seventy. This subject needs further investigation; the Turkish, thirty-three; the Georgian, thirty-six; the Bengalese, twenty-one; the Baramese, nineteen; the Coptic, thirty-two; the Persian, thirty-two; the Arabic, twenty-eight; the Armenian, thirty-eight; the Sanscrit, fifty; the Japanese, fifty; the Hebrew, Claudian, Syriac, and Samaritan, twenty-two each; the ancient and modern Greek, twenty-four; the Latin, twenty-two; the Cherokee, eighty-two syllables. Almost all alphabets begin with A. (See article A.)—For further information, see the articles on the different languages and letters.

ALPHEUS; one of the largest rivers of Greece, which rises near the source of the Eurotas, in Arcadia, flows by Olympia, and falls into the Ionian sea. —In mythology, a son of Oceanus and his sister Tethis. When a river-god, he fell in love with Diana, who, in order to escape him, disguised with wings, flew up to the sky, and the faces of her nymphs. He was enamoured of and pursued the nymph Arethusa, but Diana concealed her in a cloud, and changed her into a fountain. Upon this, Alpheus resumed his own form of a river, and mingled his waters with hers. This fable probably arose from the circumstance, that the river Alpheus, at a certain place, is lost in the earth; the fable makes it come to light again in Sicily, where it unite's with the fountain Arethusa.

ALPHONSO III., king of Leon and Asturias, called the Great, succeeded his father, Ordonzio, in 1266, at the age of eighteen years; and reigned a reign of eighty-two, when he was thirteen years old. After having subdued by force the powerful nobles of his kingdom, who saw with jealousy the royal dignity re-appear in a family, he turned his arms against his foreign enemies, and distinguished his reign by more than thirty campaigns, and numerous victories obtained over his enemies. He crossed the Duero, overthrew the walls of Coimbra, passed the Tajo into Estremadura, added to his dominions a part of Portugal and Old Castle, and peopled Burgos anew. But all these successes did not conciliate his subjects, and he had the grief of seeing his own son, don Garcia, at the head of the malcontents, endeavouring to tear the crown from his head. A defeated the rebels, took his son prisoner, and kept him in close confinement at the castle of Gauson. The queen, donna Ximena, then formed a dangerous conspiracy in Garcia's favour, and armed both her son and her brother against the King. A bloody war desolated the kingdom, until A., defeated by his own son, abdicated the crown, and placed it on don Garcia's head. He afterwards commanded an army, as the general of his son, against the Moors, conquered them, and returned enriched with booty. After this expedition, he died at Zamor, 1216, sixty-four years old.

ALPHONSO X., king of Leon and Caliste, surnamed the Astronomer or the Philosopher, succeeded his father, Ferdinand the Holy, in 1222. His love of the sciences and of law, and his surname of Sabio (the wise) gave his subjects hopes of a happy reign; but the event did not answer their expectations. A. was neither loved by his family, his subjects, nor his neighbours; but his learning and eloquence had given him such a reputation in Europe, that many German princes favoured his claim to the imperial throne. Instead of employing himself in expelling the Moors, in opposing his enemies, he exhausted the strength of his kingdom by endeavouring to secure his election to the imperial throne (1257). But it was vain for him to aspire to this dignity in opposition to Rodolph of Hapsburg; and pope Gregory X. not only refused to acknowledge him as emperor, but castigated him to death. A. then subject to the most violent enemies, and which he crossed through his mother, Beatrice, daughter of Philip I., archduke of Sumbia. In the meantime, his throne was endangered at home by the conspiracies of the nobles and the attacks of the Moors. He finally conquered them, in a bloody battle, in 1253, took from them Xeres, Medina-Sidonia, Sun-Luxe, and a part of Algarve, and united Murcia with Caliste. But these victories were interrupted by new troubles, excited by his son, the infante Philip, who succeeded inquieting only after three years' war. But the mildness with which he treated the rebels was considered only a proof of weakness, and, when he at last determined to act with rigour against his own family, his son Sancho again rebelled, and, in 1282, deprived him of his crown. A. sought support in an alliance with the Moors, and died in 1284, after unsuccessful efforts to regain the throne. A. was the most learned prince of his age, and has gained a lasting fame by his collection of laws, called Las Partidas. There is in this book a very remarkable sentiment, considering the age in which it was produced: "The despots roots up the tree; the wise master only prunes off the superfluities." Europe is indebted to A. for the
astronomical tables which go under his name. Under is patronage, the first general history of Spain was composed, in the Castilian tongue, and the Bible translated. He contributed much to the revival of science, and, with this view, strove to increase the privileges and the professorships of the university of Salamanca; but without firmness and prudence, learning is useless to a ruler.

ALPINI, Prospero, an eminent physician and naturalist, was a native of the Venetian republic, and born in 1553. He studied medicine at the university of Padua, and afterwards accompanied the Venetian consul to Egypt, where a residence enabled him to extend his knowledge of plants, and of vegetable economy. From observations he made on the management of date palm-trees in that country, it appears that he deduced the doctrine of the sexual difference of plants, which was assumed as the foundation of the Linnaean system. He returned to Venice in 1586, practised at Genoa, and eventually filled the botanical chair in Padua, where he died in 1617, leaving various works on medicine in general, on the practice of medicine among the Egyptians, on the Plants of Egypt, on Exotic Plants, &c.

The highest ridge of mountains in Europe, lying between 5° and 17° E. lon., and 45° and 48° N. lat.; consequently extending through 11°—12° of lon., and 2°—4° lat., or 120,000 square miles. Their branches connect them with almost all the other mountains of Europe. The highest points are in Savoy and Switzerland, and thence branches diverge in all directions. The Alps are commonly divided into High, Middle, and Low Alps. The first rise from 8000 to 15,000 feet above the level of the sea, and are covered with perpetual ice and snow. Lord Byron has beautifully characterized them, as

"The palaces of nature, whose vast walls Have pinnacled in clouds their snowy spires, And crowned Eternity in icy halls Of cold sublimity, where forms and falls The avalanche—the thunderbolt of snow! All that expands the spirit, yet appalls, Gather around these summits, as to show How earth may pierce to heaven, yet leave vain man below!"

The Middle Alps begin at about 5500 feet above the sea, and rise to the line of perpetual congelation. The Lower Alps commence with an elevation of about 2000 feet, and extend to the Middle Alps. The more scientific division of the Alps are the following:—1. The Maritime Alps, between Nice and Provence, extending from mount Viso to the Mediterranean, and connecting the Apennines, in Italy, with the Alps, in Provence. Their principal summits are the mount Ardenne, di Tenda and Camelon. —2. The Cottian Alps, from mount Viso, by mount Genevre, to mount Cenis. They separate Piedmont and Dauphiné. The Pelvoux de Val-Louise is 13,856 feet high, the Olan, 11,206, and the Viso, 13,820 feet.—3. The Grey or Grecian Alps, from mount Cenis to the Col de bon Homme, traversing the department of Isere. They separate Piedmont from Savoy, but do not equal the height of the Cottian Alps. Their highest summit, mount Cenis, is 11,460 feet high.—4. The Pennine Alps, from Col de bon Homme, by mount Blanc and the Great St. Bernard, to mount Rosa. They separate Piedmont from Savoy and the Valais, and contain the highest summits and most dreadful glaciers of the whole ridge. Mount Blanc, the highest mountain of Europe, which was first ascended in the last part of the 19th century, rises 2,458 French toises, or 12,814 English feet; mount Rosa, 15,905 English feet; mount Veis, the highest point of the Great St. Bernard, 11,927; and the pass of the Simplon, 6,579 feet.—5. The Leventine or Helvetian Alps, which cover Western Switzerland, extending from mount Rosa, on both sides of the Rhone, through the Valais, by St. Gothard, to the Mischabelen and Bernese Oberland, and divide Switzerland from Switzerland. It is the most visited of all the chains of the Alps, and is remarkable for its sublime scenery, and as giving rise to several of the largest rivers of Europe. Its most elevated summits are the Finsternhorn, 14,116; the Jungfrun, 13,750; the Grindelhorn, 13,404; the Forna, 14,049; the Grimsel, 9,704; and the St. Gothard, 13,000 feet high. The Iveren mountain and the Jurn run out from this chain.—6. The Rhätian Alps, from Berneérdino, through the Grisons and Tyrol, to the Dreiherrnspitz, on the borders of Salzburg and Carinthia, and southwards to the Pellegrino. They separate Lombardy from Germany and the Grisons, and are connected, by means of the Alarberg, with the Raube-Alb or Savian Alps, and through them with the principal mountains of Germany. The Orteles rises 12,850 feet; the Wetterhorn, 12,470; the Dauli, 11,818; the Riegelberg, 9,775; and the Pilatus, 10,417. The North Alps, which rise from the Dreiherrnspitz, through all Carinthia, Salzburg, Austria, and Styria, and lose themselves in the plains of Edenburg. The Cetian mountains unite them with the Bohemian forest and the Hungarian mountains. They have very high summits, above which projects the Great Glockner, 15,087 feet high.—8. The Carnic Alps, from Pellegrino, between the Save and the Drave, to the Terglon, One of their highest peaks, the Obis, is 7,038 feet high. —9. The Julian Alps reach from the Terglon, between the right bank of the Save, the Kylpa, and the Adriatic, to the rock called Kleck, near Segna, and separate Lombardy from Illyria. The Terglon rises to the height of 9,906 feet; the Leibl, 4,266. To these belong the Karst, the Croatian, and Schonvian mountains.—10. The Dinaric Alps, from the Kleeck to the vicinity of Sophia, where they unite with the Balkan, and form, by different spurs, the Hold and Julianian mountains. The population of all the different branches of the Alps amounts to at least 7,000,000, of which the greater part is of German origin; the rest are Italians and Schonvians. More than 2,000,000 are herdsmen, who live by breeding cattle. The declivities of the Northern Alps are mountainous, particularly in iron, copper, lead, and many kinds of semi-metals. The bouquet grazes on their summits. It is now, however, become very rare. Half-way up their sides are found chamois, marmots, dormice, eagles, and vultures. Here also are found the beautiful Alpine flowers, which disappear towards the summits. (See Alpi, Roads over the.)—As to the geological structure of the Alps, it is, in general, very regular. To the north and south runs a steep and almost perpendicular wall; a chain of sandstone hills extend along it, reaching, however, but to an imparinol height, and not belonging, in a geographical respect, to the proper Alpine formation. This mass of steep mountains is formed by a central chain and two ridges of lime-rocks, which extend from S.S.W. to N.E.E., and near Turin and Geneva cease to accompany the central ridge. This consists of the oldest mountains, which occupy the whole middle tract of the Alp, and form, in particular, the body of the upper range, which is covered with an infinite number of peaks and glaciers, and can be crossed with tolerable convenience only at a few points. This range forms the division of the Alpine streams, and here are
situated the highest of the above-mentioned moun-
tains. This formation is particularly rich in beauti-
ful minerals, of which lime-stone, gneiss, micac slate,
and granite are the chief. To this succeeds, as well
upon the northern as upon the southern side, the
slate formation, which rises also to a considerable
height, without reaching, however, the highest
peaks. In the former are the seat of certain
masses of slate, silicious slate, greywacke, and cont ins, also,
and a kind of lime-stone. In it are no bd, also,
layers of one, particularly the famous masses of
sparry iron in Styria. The porphyry formation ap-
pears only on the south side of the Alps, particularly in
Napoleon, where it forms a wide valley, which is
the last formation of the central chain is the elder or
red sand-stone, consisting of a coarse stone, often a
conglomerate, or of a finer red or gray stone. The
ridges of lime-stone Alps rise northwards and south-
wards, at the foot of the central chain, steep, and
highly picturesque, constituted by Alpine or older
Flints limestone, muri, plaster, clay, fossil salt, trap,
porphyry, also amygduhoid, and conglomerate. It is
distinguished by beds of calamine, galena, and clay
iron-stone. On the lime-stone chain lean the
younger formations of the Jura (q. v.), of the Sunnian
Alps. Also Eiel, ober den Bau der Erde in dem Alpengebirge,

Alps, Roads over. One of the most lasting
monuments of the power and policy of Napoleon are
the artificial mountain-roads, which connect Savoy with
France, and Valais with Italy. The first leads
over Mount Cenis (a mountain 5,870 feet high) by
Lansleburg to Susa, from Savoy to Piedmont.
Formerly, travellers were obliged to pass over the
steepest height on mules, or in chairs; but, in 1805,
Napoleon ordered a winding road for carriages. This
road, constructed between 1801 and 1806, is the
only one from Switzerland, over the Alps, passable
by wheel-carriages. It is about thirty-six miles long,
and twenty-five feet wide throughout, and
is nowhere too steep to be passed by the heaviest wag-
gons. It is carried over steep precipices, and
through six galleries hewn in the rocks. Some
of these passages are several hundred paces in length,
and are lighted by openings. From them you step
into lovely valleys, adorned with cottages, and see
above them dark forests of pine, glaciers, and peaks
covered with snow shining in the blue sky. Bridges
are thrown over tremendous precipices, from one
mountain to the other. The Italian side offers
a more beautiful spectacle than the Swiss, because
the rocks are steeper. The grande galerie is 603 feet
long, entirely excavated in granite, called the
galerie of the Wind, which forms a splendid cascade near it.
The road commences a mile westward from Brieg, and leads over
the Salta bridge; above the village of Ried, it goes
through a beautiful grove of larch-trees, to the first
gallery, and then ascends the mountain, for a
length of miles, to Persg. Here begin precipices
and avalanches, on which account the road has many
windings. At the galerie des glaciers the growth of
trees ceases, and the road rises 1,053 toises above
the lake Maggiore, or almost 6,000 feet above the
sea. At the top stands a hospizn for travellers, a
turnpike, and, lower down on the right, the old
hospital. Four miles farther on lies the village of
Simpion, 4,518 feet above the sea. The road goes
along the river Veria, till near Domo d'Ossola.
At Ouant is a inn; a mile farther, the territory of
Valais terminates near a chapel; the latter village is
S. Marco. Avalanches, and masses of
earth, brought down by the rain, often damage this
road, so that the annual repair requires a consider-
able expense, which, however, neither the Swiss nor
the Sarthials appear to consider necessary, but prefer
to take upon themselves. Oberwald has given
fine sketches of the picturesque views on the road
over the Simplon. (q. v.)—A third road leads over
mount Genevre (about 6,000 feet high), on the
frontiers of France and Piedmont. There is a vil-
lage on the upper Tyrol, which is a commodious
monastery, where travellers are received.—The
fourth road (la corniche) goes from Nice, by Monaco,
to Genoa, through the rocky ground at the foot of
the Maritime Alps.—Among the other roads over
the Alps are to be mentioned, 1, that over Mt St
Goarhurd (q. v.), from the cast of Uri to the Canton
Tessin; but, as this is very toilsome, and, in some
places, dangerous, particularly near the Devil's
bridge, in the Urnerloch, and at the descent to
Airolo, in the Val Livino, goods can be transported
from Switzerland to Italy, only on pack-horses.
The road ascends to a height of 8,364 feet, and near
an elevation of 6,367 feet there is a hospizn of the
Capuchins. 2. The road over the Great St Bern-
ard (q. v.), from the lake of Geneva to Italy (the
nearest of all to Turin and Genoa), is unfit for car-
rriages, and can only be passed on foot and by pack-
horses. In order to shorten the way, it has been
proposed to make a passage, for the transport of
wares, from the Valais to Genoa. 3. The main
road from Innspruck to Italy, over the Breuner,
a mountain of Tyrol, 6,003 feet in height. At this
gate the road ascends the mountain, and can only be
passed on foot and by pack-horses. 4. The new
road built by Austria since 1821, the highest in Europe, from
Bormio, in Valtellina, over the Braglio, and the yoke of Stills, 8,400 feet
high. 5 and 6. The road from Bellimora to Coire,
over the Bernard, and that over the Simpion, is
passable for wheel-carriages since 1823; the
former leading to the lake of Laguzno, the latter to the
lake of Como. The canton Tessino, in 1818, entered
into a compact with the government of Lombardy,
by which, on condition of being allowed the impor-
tation of salt and wines from Italy, the government
was to prevent the building of a new road from Bellin-
orna to Coire, over the Bernardin, and only to
keep the old road in its present condition. The
validity of this treaty, however, so contrary to the
interest of the Grisons and the other cantons, was
disputed, and the building was finally commenced.
The roads over the yoke of Stills, and that over
mount Simpion, are among the greatest productions
of human energy and art in modern times.

Alps, the Sunian. The northern continuation of
the Schwarzwald or Black Forest, is a regular,
melodious mountain, seventy miles long, and
from nine to twenty broad, on the southern frontier of
Wurttemberg, of which the highest and most barren
part is the Rongh Alps (Rauhe Alp). The highest
point is not quite 3,000 feet above the level of the
sea. In the north-east there is a range of
mountains, the first and most prominent hall
house shed the rain, on one side, into the Rhine,
through the neckar, and on the other, into the
Danube. As the mountain abounds in lime, it is
rich in caverns containing stalactites. The higher
the quarries of limestone are situated, the finer is the
quality of the stone, and the greater the danger of petrific
affections; among which are particularly to be noticed
large specimen of the corinum amonias. These Alps
are poor in metals.
of Neotka Sound. He died Aug. 20, 1815, in the 57th year of his age.

Alston, Charles, a Scottish physician and botanist, was born in Lanarkshire in 1683, commenced his studies at the university of Glasgow, and, under the patronage of the duchess of Hamilton, attached himself to medicine, in the prosecution of which, in 1685, he accompanied the first Dr. homann to Leyden, where he continued three years, under the instruction of the celebrated boehmme. On his return to his native country, in conjunction with Drs Mossor, Rutherford, Sinclair, and Hummer, he projected the revival of medical lectures in edin- burgh and glasgow, and wrote a high character, which edinburgh, as a medical school, has so long enjoyed. Dr A's department was botany and the materia medicca, which he continued to teach until his death, in 1760. His principal botanical work is entitled "Troxnium Botanicum Edinburg-ensem," 1735. In one of his papers in the Edinburgh physical and literary essays, he endeavoured to combat the linnean doctrine of the sexual system of plants. His lectures on the materia medicca were published in 2 vols. 4to, ten years after his death.

Alston, or aldston-moor, a parish and market-town in the county of cumberland and the borders of northumberland, containing a population of 5700, who are chiefly employed in the lead mines in the vicinity, which have been long celebrated for the abundance of that metal.

Alstromeer, jonas, the reviser of industry and commerce in Sweden, was born of poor parents, in the province of west guthland, in 1685. After visiting London, where he paid particular attention to the commercial and manufacturing sources of British prosperity, he obtained a license, in 1723, to establish manufactures in his native town, and it soon became the seat of industry and activity, which afforded an example to the whole kingdom. In order to collect further information, he visited Germany, holland, and Flanders. He also established a sugar-house at gutenburg, and traded to the Indies and the levant. He improved rural economy, the breed of sheep, &c., cultivated plants proper for dyeing, and extended the culture of the potatoe, then a novelty in Sweden. His country was not backward in acknowledging his services. He received various honours, among which was a patent of nobility. He died in 1761, leaving a name and character honourable for patriotism, activity, and talent.

Alt; a term applied to that part of the great scale of sounds which lies between F above the treble-cliff note, and G in altissimo.

Alta or altaic mountains; a vast chain of mountains in Asia, extending from lon. 68° to 170° E., terminating at East Cape, and forming, for a great distance, the southern boundary of Siberia. Their length is about 5000 miles. They assume different names, and are supposed to be connected with the uralian chain. A large part of the A. chain is sometimes called the kolygma chain, because stunted in the government of that name. The highest summits are computed at 10,730 feet above the sea.

Altar; an elevated place intended for sacrifice. At first, altars were made of earth or ashes, but afterwards, when men began to build temples, they were made of stone or metal, and much adorned. They stood in the eastern part of the edifice, before the statue of the god, but lower. Very different from these are the altars in Christian churches. In these, the altar is not a place of sacrifice, but was, at first, a table at which the love-feast (agape) was held.
When this was changed into a church ceremony, the altar yet remained a table, placed in the choir of the church, used for the distribution of the Lord's supper. This table, though not very ancient, was, probably, first used among Christians in the reign of Constantine the Great. The regulation of placing them always towards the east originated with Sextius II. Since the time of Gregory VI., Roman Catholic churches frequently contain altars of the kind. This altar, the most important, is in the chancel of the church, somewhat elevated; the other smaller ones are near the pillars, or the side walls, or in the chapel. In the larger Protestant churches, also, there is usually a great and small altar.

Altengrub; a Saxon duchy, which is divided into two parts by the principality of Gern. At present, it belongs to the houses of Gota and Saalfeld. The division belonging to the former house contains about 325 square miles, with 109,557 inhabitants, famous for their attention to agriculture and to its ancillary arts. It is one of the most beautiful and best cultivated parts of Germany. The division of Saalfeld contains about 212 square miles, with 30,500 inhabitants (according to some, about 170 square miles and 21,400 inhabitants); has four cities, one market-town, and 100 villages. Each lies possess a full sovereignty. The city of A., well built on the Pleisse, contains 250 inhabitants, and, till 1308, was a free city of the empire.

Altenburg, Alter, Francis Charles, a German Jesuit and laborious scholastic critic, was Greek teacher at Vienna, where he died in 1804. He was author of no less than 250 volumes of dissertations, one of the principal of which is "Novum Testamentum ad codicem Vindobonensem Graecum expressum," 2 vols. 8vo.

Alter Ego (Latin; the other 1); a law term, used particularly in the official style of the kingdom of the Two Sicilies, by which the king gives to a substitute, appointed to manage the affairs of the kingdom, the full exercise of royal power. This happened in Naples after the insurrection of Monteforte, where the present king, when crown-prince, July 6, 1836, was appointed by his father vicegerent of the kingdom. The phrase, also, is used to express this is lieutenant-general du royaume.

Altitude denotes the perpendicular height of the vertex of any plane, or solid body, above the line or plane of its base; thus the altitude of a triangle is measured by a perpendicular let fall from any one of its angles upon the base, or upon the base produced; therefore the same triangle may have different altitudes, accordingly as we assume one side or another for its base. Again, the altitude of a cone or pyramid, whether right or oblique, is measured by a perpendicular let fall from the vertex to the plane of its base. Singular remarks apply to other solids.

In astronomy, altitudes are measured or estimated by the angles subtended between the object and the plane of the horizon; and this altitude may be either true or apparent. The apparent altitude is that which is obtained immediately from observation; and the true altitude that which results from correcting the apparent altitude, by making allowance for parallax, refraction, &c. The altitude of a terrestrial object is the height of its vertex above some horizontal plane assumed as a base. The altitude of mountains is measured, generally, from the level of the ocean; that is, the altitude of a mountain is the difference of altitude between the sea-level and the altitude at the vertex of an object; and, if very great accuracy is not required, by optical reflection, by the length of shadows, by moveable staves, the geometrical square, &c; and, generally, by any method in which the calculation depends upon the similarity of planes.

Alto, or Alto Tenore. Alto is the term applied to that part of the great vocal scale which lies between the mezzo soprano and the tenor, and which is assigned to the highest natural adult male voice. In scores it always signifies the counter-tenor part.

Altona; the largest city of Denmark, after Copenhagen, in the duchy of Holstein; 53° 54' 25" N. lat.; 9° 55' E. lon.; two miles from Hamburg on the Elbe. The city contains upwards of 23,000 inhabitants; among whom are 2400 German and Portuguese Jews, under the direction of a rabbi. The remainder are of different religious divisions.

The number of houses is about 2930. There are also 520 habitable cellars. The city is built on the side of a steep hill, which gives it the appearance of an amphitheatre, when viewed from the side of the Elbe. The commerce of A., both inland and foreign, is considerable. The city has been the seat of many privileges of the city. Here is a board of commerce, a mint, an exchange, a royal bank, and, since 1739, a royal school. In 1713, A. was almost totally burned by the Swedish general Steenbock. It has been since beautifully rebuilt.

Altranstadt; a town in Saxony, famous for the treaty concluded between Charles XII., king of Sweden, and Augustus, elector of Saxony, Sept. 24, 1706, by which the latter resigned the crown of Poland. After the defeat of Charles, at Pultawa, Augustus, Aug. 8, 1709, declared the peace of Altranstadt void, because his commissioners, von Imhof and Pfingsten, had exceeded their powers in signing the conditions. The former was condemned to be imprisoned for life, the latter to be put to death. Augustus, at the invitation of some Polish nobles, returned to Poland, took possession of the throne, and renewed his alliance with the emir.

Alum, artificial. Common alum is a triple salt, consisting of sulphuric acid, alumine, potash, and water, or of sulphate of alumine and sulphate of potash, united together, with a certain quantity of water of crystallization. It crystalizes in regular octahedrons, which are generally truncated on their edges and solid angles. Alum may also be formed by substituting either soda, ammonia, or magnesia for the potash, without at all altering its crystalline form or its taste. It dissolves in five parts of water, at 60°; and the solution reddens vegetable gums, indicating the excess of acid which it contains. When exposed to heat, it undergoes a watery fusion, and becomes light and spongy, in which condition it possesses slightly corrosive properties, and is used as a caustic, under the name of alumin esiccatum.

The simplest process by which alum is prepared is, perhaps, that adopted at the Saltfarsa near Naples, which is covered with a white clayey soil, through which sulphurous vapours are constantly emitted. This soil is always hot, and nothing more is requisite than to immerse it into cisterns, and subject the earthy matter to lixiviation; after which, the saline solution is heated in the mouths of the mouths, and the water of crystallization is driven off, and placed in a situation to cool, when the alum is deposited in crystals. As nothing is added during the process, it is obvious that the alum must exist ready formed in the soil. From the pre-
ALUM—ALVA.

sence of a small portion of iron, the Solfatare alum is not so valuable, being more or less impure. To prevent this, the water is collected in a vessel placed under the fountain, and, accordingly, its use is mostly confined to the Neapolitan states. The manufacture of alum directly from its component parts, has, of late years, furnished a large proportion of this substance found in commerce. The process is conducted in the following manner: Sulphate of nitre and nitrate of potash (nitre) are mixed together, in the proportions for forming sulphuric acid, and brought into combustion in large leaden chambers, or rooms lined with a thick coating of plaster. The sulphur is thus acidified, and converted into vapour, and, the floor of the apartment being covered with sand, the pure kind, precipitated from the vapour, is washed, and, the acid gradually combines with it, and forms sulphate of alumine, which, after a few days, is dissolved out and considerably reduced by evaporation, when a solution of sulphate of potash (being the residue of the combustion of the nitre and sulphur) is poured in, and the perfect crystals of alum are deposited. (See Alum-slate and Alum-stone.)—The importance of alum in the arts, is very great, and its annual consumption is immense. It is employed to increase the hardness of tallow, to remove greasiness from printers' cushions and blocks in calico manufactory, and to render tobacco smokeless. In dyeing, it is used to clean and open the pores on the surface of the substance to be dyed, and, by the attraction of the colouring matter for the alumine it contains, to render it fit for receiving the colouring particles. Wood and paper are dipped into a solution of it to render them less combustible. Paper impregnated with alum is useful in whitening silver, and in silvering brass without heat. It is also largely used in the composition of crayons, in tannery, and in medicine.

Alum, native, is found in most countries, in the state of an efflorescence or mould upon the surface of certain slate clays and lavas, and, in the United States, in mica-slate rocks; also, in delicate hair-shaped filaments, occupying clefts in a bituminous shale, principally found in Italy. It may always be easily recognised by its sweetish, astringent taste, in which it resembles the artificial alum. It exists only in very limited quantities, and contains too many impurities to be of any practical use.—A native alum has of late been found near the foot of the Andes, in South America, in which soda is substituted for potash. Am. Lyceum, Nat. Hist. New York, vol. ii. p. 19.

Slate-Alum:; a slate rock, of different degrees of hardness; colour, greyish, bluish, or iron-black, and often possessed of a glossy or shining lustre. It is chiefly composed of silex and alumine, with variable proportions of sulphuret of iron (iron pyrites), lime, bitumen, and magnesia. It is found abundantly in most European countries, and from it is obtained the largest part of the alum of commerce. As the alum-slate contains only the remote principles of this salt, the process for obtaining it is somewhat complicated. In the first place, it is requisite to acidify the sulphur of the pyrites, and combine it with the alumine. This is effected by roasting the ore in contact with the air, and then lixiviating it; after which, potash is added, and the crystallised alum obtained by evaporation.

Alum-Stone:; a mineral of a greyish or yellowish-white colour, fine-grained, and approaching to earthy consistence; it contains numerous small cavities. It may be scratched with the knife, and easily reduced to fragments. When strongly heated, it emits a sulphurous gas. It is composed of alumine, 45.92; silica, 24.00; sulphuric acid, 25.00; potash, 3.98; water, 4.00. It is found at Tolf, Italy, in secondary rocks, and from it is obtained a very pure alum, by simply subjecting it to roasting and lixiviation.

Alumina, or Alumina; one of the earths entering most largely into the combination of all rocks, clays, and loams. From its forming the plastic principle in clays, it was formerly called argil, or the argillaceous earth; but since it has been ascertained that it is an impurity of the salt alum, it is styled alumine. Like the other clays, it was regarded as an elementary substance in chemistry, until the researches of Sir J. Davy led to the belief that it was a compound of a peculiar metallic base with oxygen.—It exists in the state of a hydrate, or in combination with soda, as in the Gipsite, a mineral found in Richmond, Massachusetts, and nearly pure in the corundum gems. The porcelain clays and kaolins contain about half their weight of this earth, to which they owe their most valuable properties. Alumine may be obtained pure by adding, in the first place, to a solution of alum in twenty parts of water, a small quantity of a solution of carbonate of soda, to precipitate any iron that may be present, and afterwards a little water of ammonia (aquea ammonis) to the supernatant liquid, separated from its precipitate, which, uniting with the sulphuric acid of the alum, greatly enhances the alumine. On being washed, and thoroughly dried, it is in a white colour, and without taste or smell. It is soluble in liquid soda and potash, from which it may be separated, unaltered, by the acids. It is insoluble, except in the heat of the compound blowpipe. Alumine is the basis of porcelain, pottery, bricks, and crucibles. It has a strong affinity for oil and colouring matter, which causes it to be employed, in the state of clays, as a cleansing powder, and, in a state of purity, in the preparation of lakes, in dyeing and calico-printing. It combines with the acids, and forms numerous salts; the most important of which are the sulphate of alumine and potash (see Alum), and the acetate of alumine. This salt is formed by digesting strong acetic acid (vignere) upon the newly-precipitated earth; but, for the use of the manufacturer, by decomposing alum with acetate of lead, (sugar of lead), or, more economically, with acetate of lime, a gallon of which, of the specific gravity 1.050, is employed for every two and three-quarters pounds of alum. The sulphate of lime formed falls to the bottom, and the acetate of alumine remains in solution with an excess of alum, which is necessary to prevent its decomposition. It is of quite another kind in the calico-printing, and is used as a mordant, and is employed in the place of alum, to which it is generally preferred.

Alverd, an ancient English annalist, who flourished in the beginning of the 12th century, was a canon and treasurer of the church of St John of Beverley, his native town. His annals come down to his own time in the year 1129, and are valuable both on account of the matter and the manner in which they are written. He is also supposed to be the author of "The History of St John of Beverley," a MS, preserved in the Cottonian library.

Alva, Ford, Alvarez, of Toledo, duke of, minister of state, and general of the imperial armies, was born in 1508, of one of the most illustrious families of Spain. He was educated under the eyes of his grandfather, Frederic of Toledo, who instructed him in military and political science. He carried on the war for independence against the French, commanded under Charles V. in Hungary; also at the siege of Tunis, and in the expedition against Algiers. He defended Perigum agains the dauphin, and distinguished himself in Navarre and Catalonia. His cautious character, and his inclination for politics, at first, led men to believe that he
had but little military talent; and Charles V., himself, whom he advised, in Hungary, to build a bridge of gold for the Turks, rather than risk a decisive battle, deemed him unfitted for qualified muscles, and intrusted him with important offices rather in his capacity as a general, than to test his ability. His pride was offended at the low estimation in which he was held, and his genius was used to the performance of exploits deserving of a permanent remembrance. His able generalship gained, in 1547, the battle of Mühlberg, against John Frederick, elector of Saxony. The elector himself was taken prisoner, and the duke, who presided in the council of war, adjudged him to death, and strongly urged the emperor to execute the sentence. In 1555, he was commissioned to attack the French in Italy, and pope Paul IV., the irreconcilable enemy of the emperor. He gained several victories, relieved Milan, advanced to Naples, where the intrigues of the pope had stirred up a rebellion, and confirmed there the Spanish influence. When Charles V. resigned the government to his son, Philip II., A. received the supreme command of the army. He conquered the provinces of the empire, and forced the efforts of the French. Philip, however, compelled him to contract an honourable peace with the pope, whom A. wished to humble. Recalled from Italy, he appeared, in 1559, at the French court, in order to marry Elisabeth, the daughter of Henry II., by proxy, for his sovereign; she was, at first, destined for the crown-prince, don Carlos. About this time, the Netherlands revolted, and A. advised the king to suppress the insurrection by severity and force. The king intrusted him with a considerable army and unlimited power, to reduce the rebellious provinces and provinces of Charolais. He was called to the council of war when he established the council of blood, at the head of which stood his confidant, Juan de Vargas. This tribunal condemned, without discrimination, all whose opinions were suspected, and whose riches excited their aversion. The present and absent, the living and the dead, were subjected to trial, and their property confiscated. Many merchants and mechanics emigrated to England; more than 100,000 men abandoned their country; others resorted to the standard of the proscribed prince of Orange. The cruelty of A. was increased by the defeat of his lieutenants, and the massacre of the modest citizens. The counts of Egmont and Horn to be executed on the scaffold. He afterwards defeated the count of Nassau, on the plains of Gemmingen. Soon after, the prince of Orange advanced with a powerful army. The young Frederic of Toledo sent to his father, asking permission to attack the prince. The duke, who demanded blind obedience from his inferiors, answered, that he purposed him on account of his inexperience, but bade him beware of pressing him further, for it would cost the life of any one who should venture on a similar message. The prince of Orange was forced to withdraw. A. was an extremely cruel man. The duke stained his reputation, as a general, by new cruelties; his executioners shed more blood than his soldiers. The pope presented him with a consecrated hat and sword,—a distinction previously conferred only on princes. Holland and Zealand, however, resisted his arms. A fleet, which was fitted out at his command, was annihilated; and he was everywhere met with insuperable courage. This, and perhaps the fear of losing the favour of the king, induced him to request his recall. Philip willingly granted it, as he perceived that the resistance of the Netherlands to the central authority, upheld by the cruelties, and was desirous of trying milder measures. In Dec. 1573, A. proclaimed an amnesty, resigned the command of the troops to Louis de Requesens, and left the land, in which he had executed 18,000 men, as he himself boasted, and kindled a war, that burned for sixty-eight years, cost Spain 800 millions of dollars, its finest troops, and seven of its richest provinces in the Low Countries. Duke of Alva had received the greatest distinction in Madrid, but did not long enjoy his former existence. One of his sons had seduced one of the queen's ladies of honour, under a promise of marriage, and was, for that reason, arrested; his father assisted him to escape, and married him to one of his relations, contrary to the will of the king. A. was dismissed, in consequence, from the court, to his castle Useda. Here he lived two years, when the troubles stirred up by don Antonio, prior of Crato, who had been crowned king of Portugal, forced Philip to have recourse to A., as one in whose talents and fidelity he placed great reliance. A. led an army to Portugal, gained two battles in three weeks, drove out don Antonio, and reduced all Portugal, in 1581, to subjection to his sovereign. He made himself master of the treasures of the capital, and permitted his soldiers to plunder the suburbs and surrounding country, with their usual rapacity and cruelty. Philip was displeased at this, and desirous of instituting an investigation into the conduct of his general, who was, moreover, charged with having applied the wealth of the conquered to his own purposes. But a haughty answer from the duke, and the fear of rebellion, caused him to desist. The duke died, January 21, 1582, aged seventy-four years. A. had a proud mien, a noble aspect, and a strong frame; he slept little, laboured, and wrote much. It is said of him, that, during sixty years of warfare against different enemies, he never lost a battle, and was never taken by surprise. But pride, severity, and cruelty tarnished his renown. A. was a cautious man; he called a meeting of friends, and published a letter, in which he expressed his desire to return to the brink of the abyss of destruction, and to seek death in battle. A. died, in 1582, after a siege of six months. A. was succeeded by his son, don Fernando, who was never equal in power or popularity. He died in 1604, after a reign of sixty-five years. A. was succeeded by his son, don Fernando, who was never equal in power or popularity. He died in 1604, after a reign of sixty-five years. A. was succeeded by his son, don Fernando, who was never equal in power or popularity. He died in 1604, after a reign of sixty-five years.
though he had never taken holy orders. Eugenius excommunicated him. On the death of his rival, A., was persuaded to abdicate. He died at the age of sixty-nine, in 1451. — A. IX., surnamed the Happy, on account of his virtue and piety. Being enraged to see what he supposed to be unmerited favours, he pointed to a great number of poor people seated at tables, eating and drinking, and replied, "These are my hounds, with whom I go in chase of heaven." He died in 1742, aged thirty-seven years.

**Amadis**; a name very celebrated in the romances of unknown author and period, derived from the bearings on his shield, the knight of the lion, but in the wilderness, Belenches; a son of king Perion of France, and Eilisca, daughter of king Gavinter of Bretagne. — 2. A. of Greece, a great-grandson of the Gallic A., and son of Lisartie and Onolercia, daughter of the emperor of Trebison. — 3. A. of the Star, a great-grandson of the Grecian A., son of Agesilaus, king of Colchis, who was descended from Alastraexa, a natural child of the Grecian A., by the queen Zeharn of Caucasus. The mother of this third A. was Diana, a natural child of Sidonia, queen of the Gaul, and the beautiful shepherdess, a lawful son of the Grecian A. — 4. A. of Trebison, descended from Roger of Greece, the Much-beloved, a son of Florisel and Helen, princess of Apollonia. This A. was a great-grandson of Florisel, and son of Politana and Liscaron, prince of Cathay. The history of this hero, who was nearly the same to Spain as Charlemagne with his twelve peers to France, and king Arthur with his knights of the round table to England, is continued through nine generations; but the question concerning its origin and mixture of truth with fable, is involved in so much darkness, that it is even doubtful whether it is associated with the Spanish, the Portuguese, or the French. In the Spanish original, this romance is contained in thirteen books, of which Cervantes, in the well-known examination of the library of Don Quixote, caused the first four to be preserved, because they were not only the first, but also the best and only books of this kind which Spain had produced; but the others were committed to the flames. These four contain only the history of A. de Gaul. Some say, that Vasco Lobeira, a Portuguese, who lived at the beginning of the fourteenth century, was their author; some, that they were written by an unknown author of Portugal; and others, that they were dictated to the infant don Pedro, son of John I. of Portugal. On the contrary, the count Tressan has endeavoured to render it probable, that the honour of their authorship belongs to a French troubadour of the school of Rustieen de Pucie, the author of nearly all the romances of the round table till the time of Philip Augustus (1150—1223). We shall be ready to acknowledge this, if it is established by a critical comparison of the most ancient manuscripts. Gaspar Ordonez de MONTALBO, the corrector of the old edition, is said to have been the author of the fifth book, which contains the history of Espinawning, the eldest son of A. The sixth book, by Paling, de Ribemont, contains the adventures of the knight Florisand; the seventh, those of an unknown knight; and the eighth, by J. Diaz, contains the deeds of Lisartie; the ninth and tenth, those of Florisel, of A. of the Star; the eleventh and twelfth, the adventures of Rogel and Agesilaus; and the thirteenth, those of Silvio de la Silva. The Spanish original goes no farther. Next follow the French translations, which have been increased to twenty-four books, since the translation of Nicholas d'Herbemont, lord of the Advocats, in 1450. The books from the fourteenth to the seventeenth contain the exploits of itiharmanon and A. of the Star; those from the seventeenth to the twenty-fourth, the adventures of the remaining posterior of A. of Gaul, including the deeds of A. of Trebison. The separate parts of this work, which are seldom found altogether, are of very various merit. The additions are variously made. There is not one of the new German modifications of this romance, or, rather, this string of romances, which deserves the name. The New A. of Wieland, a licentious book, has nothing in common with the old A., except its title and profession of adventures. A. aperture French poems, but from their necessity given to give the adventures of Arthur and his knights of the round table, Charlemagne and his Paladins, and Amadis, in a new dress. His version of the first of these contains twenty cantos. A second edition of it appeared in 1812. His Amadis, containing, likewise, twenty cantos, appeared in 1815.

**Amazon;** a seaport town in Italy, situated in the gulf of Salerno, about thirty miles south from Naples. In the ninth century, it rose to great splendour; assumed the form of a commonwealth; and, for its zealous exertions against the Saracens, was distinguished by the title of the Faithful. After enjoying its republican constitution and commercial rank for 300 years, it fell into decline, and now presents a sad contrast to its former grandeur.

**Amalgam;** a name applied to the combinations of mercury with the other metals. See Mercury.

**Amati,** Ann, clothes of Stuck-Weimar, born October 24, 1729, daughter of Charles, duke of Brunswick-Wolfenbuttel, died in 1806. During the latter half of the fourteenth century, this princess was the centre of a court, which, in more than one respect, resembled that of the duke of Ferrara, which was adorned by the presence of Tasso and Ariosto. She gave the learned men the support which they looked for in vain from the great princes of Germany, while she afforded them a point of union and an agreeable residence. She assembled round her Wieland, Goethe, Schiller, and many of the finest minds of Germany; and governed with wisdom after the death of her husband.

**Amathwa;** the name of a goat in Crete, which succumbed Jupiter when his mother concealed him there under fear of Saturn. From this goat came the horn of plenty, which Jupiter gave to the daughters of Melissus, who assisted Rhea, with the assistance of the sun, to nurse and feed the infant Zeus for their subsistence; called cornut Amathwa (the same as cornucopia, the horn of plenty). According to some, A. was the name of the nymph who watched this goat. The Cumean sybil also bore this name.

**Amaranth;** a kind of flower which preserves its bloom after it is plucked and dried. On this account, poets make it an emblem of immortality.

**Amathus;** formerly a city in Cyprus, renowned for the worship of Venus, who is called, from this place, Amathusia.

**Amati;** a family of Cremona, who manufactured violins, in the sixteenth and seventeenth centuries, which, on account of their full tones, are yet held to be the best in use, and have become very dear. They are called Amati violins, and also Cremonas. **Amazon, Amazons, Marason, of Orellana; a river of South America, the largest in the world. It flows through the west of Brazil, enters the Andes; but the two head branches are the Tungruna and Ucayale, both rising in Peru, the former from lake Lauricocca, in lat. 10° 29' S., the latter formed by the Apurimac and Beni, the head waters of which are between lat. 60° and 18° S. The Amazon is 2000 miles long, including its windings, is upwards of 4000 miles in length. It flows into the Atlantic under the equa-
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tor; the width of the mouth is stated by some writers at 150; by others by half a mile. By navigation commencing at Guayaquil, in Ecuador, it is said that vessels of 400 or 500 tons may sail from the mouth throughout almost the whole extent. The depth is stated at from thirty to forty fathoms, 1500 miles from the ocean, and the tide is perceptible 600 miles up. Its delta is a straight course of 1800 miles, was found by Condulme to be 1020 feet (about six and a quarter inches in a mile); but the place where the tide is first perceived is only ninety feet above the sea. Its current is very rapid and violent.—It drains an extent of country about 1600 of square miles from N. to S., receiving the waters of about 200 rivers and streams of the Guanu-thibe. From the N. it receives the Santiago, Moron, Pastaza, Tigre, Napo, Negro, Putumayo, Yapurua, Yaguanapi, Curupatuba, Yari, &c.; from the S., the Guayaquil, Ucayule, Cuchivirua, Yahuruni, Cayari, Madeira, Topayos, Xingu, Gunnau, Maju, &c.—The banks are clothed with immense and impenetrable woods, which afford a haunt to tigers, bears, leopards, wild bears, and a great variety of venomous serpents; they also abound in birds of the most beautiful plumage, and apes of the most fantastic appearance. The waters swarm with alligators, crocodiles, and high-breasted sea-fowl. Table productions, that grow wild, are cacao, cinnamon, vanilla, pines, &c. The country is adapted to coffee, sugar-canes, rice, maize, plantains, lemons, limes, and oranges. Here are also precious woods, as cedar, red-wood, holly-wood, pine, &c. In the rainy season, the river overflows its banks, and waters and fertilizes the adjacent country. The shores and islands were formerly peopled by numerous tribes of Indians, who have either become extinct or have retired to the mountains. The first European that visited this river was Francis d'Orellana, who, having met with some armed men on its banks, from this circumstance gave it the name of the river of the Amazons.

AMAZONS. An old tradition, which appears to be founded, in some measure, on historical truth, gives an account of a community of women, who permitted no men to reside among them, fought under the conduct of a queen, and long constituted a formidable state. They had commerce with the men of the neighbouring nations merely for the sake of preserving their community. The male children they sent back to their fathers, but they brought up the females, who, when they attained marriageable age, this part of the body might not impede them in the use of the bow. From this circumstance, they were called Amazons, i.e. wanting a breast. The ancients enumerate three nations of A.—1. The African, who made great conquests under their queen, Myrrha, but were afterwards extirpated by Hercules. —2. The Asian, the most famous of all, who dwelt in Pontus, on the river Thermodon. These once made war on all Asia, and built Ephesus. Their queen, Hippolyta, was vanquished by Hercules. They attacked Attica in the time of Theseus. They came to the assistance of Troy under their queen, Penthesilea, daughter of Mars and Oure. About 330 years before Christ, their queen, Thulestris, made a visit to Alexander of Macedon, soon after which they disappear from history. —3. The Scythian A., a branch of the Asian. They attacked the neighbouing nations, made marriages with them, and went farther into Sarma-rtia, where they hunted and made war in company with their husbands. —The old geographers gave the name of Amazonia to a large tract of country in the interior of South America, because the first discoverers of the country said that they found there a nation of Amazons. Later writers have corrected this error, and Amazons has disappeared. It is laid down on the old maps as a part of what is now Brazil and Peru. The river Amazon, (q.v.), or Maranon, which inundates and fertilizes this country as the Nile does Egypt, is the largest river in the world. (See South America.) Orellana, the first discoverer of the country states, that, as he sailed up the river, he found on its banks a nation of armed women, who made war on the neighbouring people; and this circumstance gave the name to the river and country.

AMBASSADOR (French, ambassadeur): the highest degree of foreign minister. A person sent by the sovereign of one nation to the sovereign of another nation to express the person of them foreign, or the people, if they are sent by a republic. They enjoy great privileges. Ambassadors, in this strict sense of the word, are sent at present only by a few of the most important governments of Europe, e.g. England, France, Spain, Austria, Russia; Prussia never sends them. The old republic of Venice was accustomed to send ambassadors, and was always considered equal in rank to a king. —For further information, see Minis-
ter, foreign.

AMBER. This well-known substance usually presents some shade of yellow in its colour, from which it is sometimes called amber; it is a soft substance, yielding easily to the knife; is translucent, and possessed of a resinous lustre. Specific gravity, 1.066. It burns with a yellow flame, emitting a purgant, aromatic smoke, and leaving a light, combustible residue, which is employed as the basis of the finest black varnishes. By friction, it becomes strongly electric; from which property originated the name and science of electricity, diélectrique being the Greek word for amber; and with this substance Thales, one of the Greek philosophers, performed the first electrical experiment. —It is found in masses, from the size of a small pebble to that of a man's head, and occurs in beds of bituminous wood situated upon the shores of the Baltic and Adriatic seas; also in Poland, France, Italy, and Denmark. Sometimes it is found on the east coast of Britain, and in gravel pits round London. More recently, it has been found in the United States, at Cape Sable, in Mary-
land. The largest mass ever found was got in Lithuania, and weighed eighteen pounds. From its occurring very frequently attached to pieces of bituminized wood, and containing insects, it is inferred, with great probability, that amber originated from vegetable causes, and that this closed apartment introduction of a part of the body might not impede them in the use of the bow. From this circumstance, they were called Amazons, i.e. wanting a breast. The ancients enumerate three nations of A.—1. The African, who made great conquests under their queen, Myrrha, but were afterwards extirpated by Hercules. —2. The Asian, the most famous of all, who dwelt in Pontus, on the river Thermodon. These once made war on all Asia, and built Ephesus. Their queen, Hippolyta, was vanquished by Hercules. They attacked Attica in the time of Theseus. They came to the assistance of Troy under their queen, Penthesilea, daughter of Mars and Oure. About 330 years before Christ, their queen, Thulestris, made a visit to Alexander of Macedon, soon after which they disappear from history. —3. The Scythian A., a branch of the Asian. They attacked the neighbouing nations, made marriages with them, and went farther into Sarma-rtia, where they hunted and made war in company with their husbands. —The old geographers gave the name of Amazonia to a large tract of country in the interior of South America, because the first discoverers of the country said that they found there a nation of Amazons. Later writers have corrected this error, and Amazons has disappeared. It is laid down on the old maps as a part of what is now Brazil and Peru. The river Amazon, (q.v.), or Maranon, which inundates and fertilizes this country as the Nile does Egypt, is the largest river in the world. (See South America.) Orellana, the first discoverer of the country states, that, as he sailed up the river, he found on its banks a nation of armed women, who made war on the neighbouring people; and this circumstance gave the name to the river and country.

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quality. The old fortifications serve for a public walk. At A. the archbishop Charles, Aug. 24, 1796, defeated the French general Jourdan, and compelled him, Sept. 3, by the battle of Wurtzburg, to retreat to the Rhine.

Amherst, Christoph; a German painter of the 16th century, born in Nurey, lived at Augsburg, and died there, in 1530, a portrait of the emperor Charles V., who rewarded him richly, and honoured him highly. This painting is now at Berlin. The History of Joseph, in twelve pictures, is said by Sandart to be his best work. He painted in India, where he lived in his time; he copied, also, many portraits of this master, and cut in wood. A. died between 1550 and 1560.

Ambergia is found floating in the sea near the coasts of various tropical countries, and has also been taken from the intestines of the sperm-catcher whale, where it is supposed to originate, owing to disease. It is met with in masses of various sizes, sometimes weighing nearly 200 pounds. Its colour is a yellowish or blackish white; it is generally brittle, and may be compressed with the teeth or nails; it is not, and is entirely dissipated on exposure to red-hot coals. It is soluble in various volatile oils, and alcohol, and is chiefly composed of a peculiar animal substance called adipocere. Its odour is very agreeable, and hence arises its only use. In the state of an alcoholic solution, it is added to lamp- and Dragon-whiteners, hair-powder, wash-balls, &c., to which it communicates its fragrance. Its retail price in London is a guinea per ounce.

Ambroza; one of the largest and most valuable of the Molucca islands, in the Indian ocean, the seat of their government, and the centre of the commerce in mantoms and cloves. It lies in E. lon. 138° 15', and S. lat. 3° 49', and is between fifty and sixty miles long. Its general aspect is beautiful, and its climate generally salubrious. It has been occasionally visited by earthquakes. It affords a great variety of beautiful wood for inlaying and other ornamental work. Rumplins reckons the species at 400. The clove-tree is the staple production of A. The island affords annually about 950,000 pounds of its fruit. The Dutch, during the long period of their possession of A., made every effort to monopolize this valuable article. The number of trees was regularly registered by the governor, and all the plantations of them visited, and particular districts devoted to their cultivation. They bought from the neighbouring islands all the cloves that other nations were likely to import, and, in some cases, compelled the chiefs to destroy the rest, and even the trees that bore them. They are said to have prohibited the culture of any edible roots on the island, to withhold the means of subsistence from settlers and conquerors. Sugar and coffee are plentiful in A. Sago is the principal article of food. The few fruits cultivated are delicious. Among the natives, like other Malays, are rude and savage, and, when intoxicated with opium, capable of any crime. There are many Chinese and European settlers on the island, and mixed races, from intermarriages, nearly as fair as Europeans. The Chinese and Europeans live much together. Some of the aborigines in the woods are said to be as barbarous as ever, and to offer human sacrifices. When the English took A., in 1796, it contained about 45,592 inhabitants, of whom no less than 17,912 were Portuguese; the rest were Mohammedans and Chinese. The houses of the Chinese are built of coconut and sago-trees. They sleep upon mats. Their weapons are bows, darts, cimeters, and torches. They are said to be indolent, effeminate, and pusill

Lamous, and their women to be licentious. In 1605, A. was conquered by the Dutch, and taken from the Portuguese, its former masters. They did not, however, get possession of the whole island, till after the lapse of some years. During this period, the English had erected some factories in A., and the intercourse between the settlers of the two nations led to the celebrated massacre of Amboyna. The Dutch accused the English inhabitants of being engaged in a conspiracy against the Dutch possessions. They were immediately seized, loaded with irons, thrown into prison, put to the torture to extort a confession, and those who survived this treatment were executed. The number of persons who perished was twenty-two; ten Englishmen, eleven Japanese, and one Portuguese. The English factory was, in consequence, withdrawn from the island, and the effects of the English merchants seized to the amount of £400,000. The English factories in the adjacent islands were also seized. James I. and Charles I. obtained no satisfaction for this outrage, but Cromwell compelled the United Provinces to pay £300,000 as a small compensation. A. has been twice taken by the English, in 1796 and 1803, and is now in the possession of the Dutch, in whose possession it is at present. The capital city of the island is called by the same name.

Ambras, or Ambra; a castle in Tyrol, near Innsbruck, formerly distinguished for its museum, containing armour, paintings, Kaffee, a library, which is now at Innsbruck. The museum is at present in Vienna, and has been described by Alois Prinsser (Vienna, 1819). Sixty-nine MSS. belong to this museum, one of which is a copy of the famous Heldenbuch.

Ambrose, Saint; a celebrated father of the church; born in 340, probably at Treves, near his native town. He was the son of a noble family. His abbeys attended him, even in the cradle. A swarm of bees covered the eyes of the boy, while slumbering in the court of his father's castle, and, when the nurse hastened to him, she was astonished to perceive the bees going in and out of his mouth, without doing him any injury. His father, recollecting perhaps, a similar wonder mentioned of Plato, hoped, from this circumstance, that he was destined for greatness. His education was suitable to his rank; the best teachers at Rome, where the family had gone after the death of his father, formed his mind and his heart. After finishing their studies, A. and his brother, Satyrus, went to Milan, where they commenced the study of the law. Here A. distinguished himself so much that Valentinian appointed him governor of the provinces between the Alps and the Adriatic sea. His kindness and wisdom gained him the esteem and love of the people; but their prosperity was interrupted by the disturbances growing out of the doctrines of Arius, and he was called to the bishopric of Milan, by the unanimous voice of the people. A. at once accepted this dignity, but in vain. He fled by night, and thought himself on the way to Pavia, but unexpectedly found himself again before the gates of
Milan. At length he yielded, received baptism, for he had hitherto been only a catechumen, and, eight days after, was consecrated a priest. The 7th of December is still celebrated by the church on this occasion. Ambrose conducted, as bishop. He died in 397. Amiable, affable, mild, and modest, he used his authority only to promote the happiness of those around him, and the good of the Catholic church. His writings (the best edition is by the Benedictines, 2 vols. Edin., 1680—90) bear the stamp of his character. The Ambrosian Office, or Te Deum Laudamus, has been ascribed to him. Later critics, however, have shown that he should not be considered its author. A. improved the singing in the western churches. A Latin commentary on the thirteen epistles of the apostle Paul, called Ambrosiaster, or Pseudo-Ambrosius, has been falsely ascribed to him.

Ambrose, Isaac, a learned and pious presbyterian clergyman, was born about the year 1591, educated at Oxford, and appointed minister first at Preston, and afterwards at Garstang in Lancashire, from which he was removed for his nonconformity. He died in 1664, leaving several religious works, among which the most popular is the one entitled "Looking unto Jesus."

Ambrosian Library. This collection of books at Milan, famous, in modern times, on account of the treasures made by Angelo Mai, was opened to the public, in 1600, by cardinal Frederic Borromeo, a relation of St Charles Borromeo. The cardinal, archbishop of Milan, a lover of knowledge, caused the books to be purchased by learned men whom he sent through Europe, and even through Asia. At the opening of the library, it contained about 35,000 printed books, and 15,000 manuscripts in all languages. It now contains 60,000 printed books (according to Millin, 140,000). It was called the Ambrosian Library, in honour of St Ambrose, the patron saint of Milan. Angelo Mai, in his preface to the fragments of the Iliad, which he obtained from the treasures of this library, has shown how the collection has been improved, particularly by the addition of the Pinellian manuscripts. Its learned founder wished to connect with it a college of learned men, who should take charge of the different departments of the library, and make known its treasures, particularly to foreigners, who wished for information. The want of funds reduced this college from sixteen members to two, who yet bear the title Doctores Bibli. Ambros., with a gold medal, having Singuli singula inscrite on it. Besides the palimpsests discovered by Maiolo, this library contains a Virgil, in which is the account of Petrarch's first meeting with Laura, written by his own hand. At a little distance from the library is a gallery of works of art, containing, besides casts in plaster, several pictures of eminent masters, particularly the cartoon of Raphael's School of Athens, and the studies of Leonardo da Vinci, as well as the early copies of this great painter's Last Supper (La Cena). Of the twelve volumes, containing manuscripts in the hand of Leonardo da Vinci, which were formerly preserved as a treasure in the A. L., only one volume, more interesting than the others on account of the drawings in it, is to be found there at present; all the others having been carried to Paris.

Amen, a Hebrew word, originally signifying verily, truly, has been transferred from the religious into the secular language; and now, prefixed to a prayer, it is a religiousism. He who pronounced the blessing, at the close of the service in the Jewish synagogues, was answered by the Jewish audience with the word amen. Also, in the religious assemblies of the first Christians, the prayer made by the eldest of the worshippers, or by a teacher, was concluded by the people with an amen. Public prayers are still often concluded with this word. By the amen of a composer of sacred music, we understand the indication to the choir to respond to the prayer or the blessing chanted by the priest before the altar. Some amenities are famous.

Amenæae honourable was an infamous kind of punishment formerly inflicted in France, upon those who trespassed, particielly, and sacrilegiously. The delinquent, after being delivered into the hands of a hangman, his shirt was stripped off, a rope put about his neck, and a taper into his hand; then he was led into court, where he was obliged to ask pardon of God, the king, the court, and his country. Sometimes the punishment ended here; but sometimes it was only a prelude to banishment to the galleys, to imprisonment in the Bastile, death, or torture.—Amenæa honourable is also a term used for making reparation in open court, or in the presence of the person injured.

Amnesties in law; the correction of any error committed in a process. An error in judgment cannot be amended, but an error after judgment may be. A writ of error must be brought by the party aggrieved by an error in judgment. Any error after judgment, in plea or otherwise, may always be amended by the party having his cause before parliaments or congress, denotes an alteration made in the original draft of a bill, whilst it is passing through the houses. Amendments may be made so as to totally alter the nature of the proposition; and it is a way of getting rid of a proposition, by making it bear a sense different from what was intended by the mover, so that they vote against it themselves. A member who has spoken to the main question may speak again to the amendment. See, for this and other points respecting amendments, both in England and the United States,Jefferson's Manual of Parliamentary Practice, sect. 35.

America. Eastward of Asia, westward of Europe and Africa, between the Atlantic and Pacific oceans, lies the continent of America. It extends from lat. 52° S. to an unknown northern latitude, and consists of two great divisions, North and South America, which are cut by the isthmus of Darien or Panama. The whole continent is upwards of 9,000 miles in length, and from 1,500 to 1,800 in average breadth. The number of square miles which it contains is stated differently by different authorities. Templeman gives 14,323,000; Dalbi, 14,632,000; Graber, 15,737,000; Hassel, 17,303,000. Between the two great divisions lie the West India islands (q. v.), extending from the gulf of Mexico and the Caribbean sea into the Atlantic. North America includes Greenland, belonging to Denmark; British America, which comprises New Britain, Upper Canada, Lower Canada, New Brunswick, and Nova Scotia; the Russian possessions in the north-west; the United States; Mexico, and Guatemala. The principal ranges of mountains are, the Alleghany mountains, the Rocky mountains, and the Cordilleras of Mexico. Some of the largest rivers are, the St Lawrence, Massachusetts river, the Ohio, the Missouri and Platte. The principal falls and gulfs are, Baffin's bay, Hudson's bay, James's Bay, the gulf of St Lawrence, Delaware bay, Chesapeake bay, the gulfs of Mexico and California, and the bays of Honduras and Canary.
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The most important islands are, Newfoundland, Cape Breton, St. John's, Rhode Island, Long Island, and the Bermudas, on the eastern coast; queen Charlotte's islands, Quadra and Vancouver's island, king George Ill's. island, and the Fox islands, on the western coast. South America comprises Columbia, Guiana, Brazil, Peru, Bolivia, Chili, Buenos Ayres, or the United Provinces of La Plata, and the Carolinian. The natural range of mountains is the Andes. The largest rivers are, the Amazon, La Plata, Orinoco, Paran, Paraguay, Madeira, Tocautin, St. Francisco, and Magdalen. There are few large lakes; some of the most considerable are, Maracaibo and Titicaca. The principal islands are, Madeira, the Falkland islands, Terra del Fuego, Chileo, Juan Fernandez, and the Galapagos.—The coast of A. was explored to 72° N. lat. by Henri, in 1770; to 69° N. by Mackenzie, in 1789; to 78° N. along the shore of Baffin's bay, by captain Ross, in 1818; but its northern boundary is lost in the arctic circle. Near the southern extremity of the continent, the straits named, from the first circumnavigator of the world, Magellan (q. v.), and beyond, the southern promontory of the Terra del Fuego, cape Horn.—The continent of A. has been examined by Europeans principally on the seacoast. Expeditions, however, have been sent through its interior in several directions; e. g. through North America, by captains Lewis and Clarke, in 1804; major Pike, in 1805; through Brazil, by Langsdorf, Grant, Mawe, Koste, Eschwege, the prince of Neuwied, Spix, Mariani, and others, especially by Alex. von Humboldt. For the history of its aboriginal population, and its condition before the arrival of the Europeans, only a small portion of the existing materials have, as yet, been collected. Traditions, monuments, and other circumstances, seem to indicate a double emigration from the East,—one across the Aleutian islands, another farther south, over the tract which occupied the present place of the Atlantic ocean, if such a tract ever existed, as many writers have imagined. Or are the earliest inhabitants of America, the Toltecs, in Mexico, descended from that branch of the Huns, who migrated to the north-east, A. D. 100, and the native savages descend from them. They have been the most industrious nation, and have given to the world, a numerous variety of useful arts, as carpenters, weavers, and goldsmiths, and are frequent in the galleys of the Indians. There is a third and more interesting class, derived from the nation that built the forts or mounds (graves, walls, artificial eminences, heaths, &c.) in North America. To judge from these works, this nation must have been far more civilized, and much better acquainted with the useful arts, than the present Indians. From the lofty trees with which they are overgrown, it is concluded that a long period must have elapsed—perhaps 1000 years—since the desertion of these fabrics, and the extinction of the people by whom they were constructed. They are found in the vicinity of each other, spread over the great plains, from the southern shore of lake Erie to the gulf of Mexico, generally in the neighbourhood of the great rivers. Their structure is regular, and they have been supposed to be the work of the existence, in ancient times, of great cities along the Mississippi. The most of them are called, or dried bodies, enveloped with coarse cloth, and found in some of the saltpetre caves of Kentucky, are worthy of attention. As we proceed farther south, these works increase in number and magnitude. Their traces may be followed, through the provinces of Texas and Mexico, to the coasts of central America.—Although the accounts of the earliest generations of this quarter of the world are scanty and obscure, its later history is rich in occurrences. The Icanders made a voyage, in 1582, to Windland (the name given to the tract extending from Greenland to Labrador) and gave the first information respecting the West Indian islands (in maps of 1420); but America still remained a sealed book for Europe till the period of its discovery by Columbus (q. v.), in 1492. Besides several voyages which he made subsequently to this continent, it was visited by Amerigo Vespuci (from whom it takes its name), Cabot, Cabot, like pre-eminent, in 1500; by Cabral, in 1500, and by Balboa, in 1507. Shortly after, followed the expeditions of Cortez, Pizarro, &c. It is probable that the new world has not been inhabited more than twelve centuries. This circumstance, together with the oppression which the aborigines have endured in several parts of the world, in the whites in their country, will account for the smallness of their number. Equally obscure with the origin of the Americas are their various ramifications. Their different languages, stated by Franc. Lopez at 1500, have been resolved, by Alex. von Humboldt, into two original tongues,—the Toltec and the Apalchian. (See Indianna)—Nature has cast the surface of the new world in larger forms, and endowed it with fresher vitality, at least in the warmer regions, than she has bestowed on the soil of the old world. A. has every variety of climate; but the climate generally differs from that of the eastern hemisphere, by a greater predominance of cold. It is calculated that the heat is at least ten degrees less, than in the same parallels in the eastern continent. A. abounds in almost all the varieties of the animal, vegetable, and mineral productions. It contains a great variety of wild and domestic animals, and since its discovery, the domestic animals of Europe have been introduced, and are now found in great abundance. In comparing animals of the same species, in the two continents, it has been found, in a majority of instances, where a difference in size has been ascertained, that the American animal is larger than that of the eastern continent. The birds are exceedingly numerous, and are said to be more beautiful in their plumage than those of Asia and Africa, but in their notes less melodious. The condor, which frequents the Andes of South America, holds, on account of its size, strength, and rapacity, a place pre-eminent, over all the feathered creation. Reptiles are numerous, and many of them venomous. Insects abound, and, in many parts, are very offensive. The American waters are remarkable for the variety and abundance of their fish. A. produces every kind of grain, fruit, pulse, herbs, plants, and flowers; native to Europe, besides great variety of others, as cacao, cinnamon, pepper, sisarspullis, vanilla, scarlet dye, a great variety of balsams, mahogany, logwood, Brazil-wood, saffasfin, aloes, barks, gums, resins, and medicinal herbs. This continent, particularly South America, consists of great wealth, since the discovery of the American mines, such ample supplies of these precious metals have been carried to Europe, that their value has become much diminished. A. also produces an
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The immense deposits of new rocks, over which is strewn everywhere, as with a mantle, the alluvial formation, or a covering of sand and gravel, with which are intermingled rolled masses of rocks. 3dly. The chain of mountains of lower elevation and inferior continuity, which forms the eastern boundary to the lower basin of the North American States, and rises to the Apennines. Its highest points are composed of granite. 4thly. The clusters of islands occupying the seas between North and South America, which are, almost without exception, of a volcanic origin.—The geological character of A. partakes of the simplicity observable in her great mountain ranges, and is marked by uniform laws of arrangement, and are, in a measure, free from those interruptions which occur in Europe, arising out of its numerous chains, whose irregular and often contradictory structure it is frequently difficult to reconcile or explain. The two Continents agree in possessing a primitive character of their northern extremities, and in the prevalence of volcanos about their equatorial and southern regions; and an investigation of their geological relations affords no grounds for the common opinion, that the new world is of a more recent origin than the old. For a more minute account of the geology of America, see North America, Mexico, and South America.

AMERICAN COMPANY, the Russian. In 1785, two Russian mercantile houses, Schelikoff and Golikoff, projected the formation of a regular company, to encourage the fur-trade of the north-western shore of North America. They erected forts for the protection of a chain of factories on most of the islands, and induced several respectable merchants to join in their extensive and lucrative adventures. Many adventurers, who were charged upon the company, and the emperor Paul was upon the eve of suppressing it altogether, when the company pledged itself to more regular proceedings. In 1799, it was formally established with considerable privileges. The emperor Alexander took it under his personal protection at this accession. The condition of the fur-collectors of the company is said, however, to be still wretched in the extreme, and only to be exceeded by that of the oppressed Aleutians, who are, in turn, their slaves.

AMERICAN, a native, or use of the English language, peculiar to the inhabitants of the United States. The deviations of the Americans from the English usage, in their common language, were occasionally noticed, many years ago, by some of their own writers, as well as by the critics of the mother country. Among the American authors, who have unadverted upon them, the most conspicuous was doctor Franklin, who was himself a writer of great purity and correctness of style, and who censured, in strong language, the popular errors several of the states were continually falling into, both with respect to "expression and pronunciation." This remark was made forty years ago, when he himself noted a few words, which, at that time, he pronounced to be objectionable innovations in their parliamentary language; as the verbs to notice, to advocate, and to progress, the last of which he considered a refection of the Arabic word, the three. The word opposed," he adds, "though not a new word, is used in a new manner; as, 'the gentlemen who are opposed to this measure, to which I have myself been opposed.'" Several other American writers have remarked upon particular words and expressions. The British and other writers have also, until very lately, indulged themselves in severe animadversions upon American writers, for their occasional deviations from the English standard; though, in some instances, they
have themselves adopted the very words which they formerly condemned. Of the words thus sanctioned by them, the verb to advocate was, no longer ago than in the year 1793, denounced as one of the words which the Americans had “invented, without any apparent reason,” and which the English had “altogether failed to condemn.” But this ill-fated word, which was then proscribed as an American intruder into the language, has more recently been discovered to have been used so long ago as the age of Milton, the excellence of whose prose writings had, until modern days, been entirely lost sight of, owing to the unwise prostration of his poetic diction. We have still, however, some doubt whether Milton used this word in the sense now affixed to it both in Britain and America; it was certainly used in a different sense by his contemporaries, and the present meaning of it had not been sanctioned, as we strongly believe, by any subsequent writers (if we except a single instance in Burke’s works), until it was brought into general use in America, by the writers of that country, and, more recently, by the authority of Milton’s name, among English writers, some of whom now claim it as their own, without, so far as we can learn, its former condemnations. (See Todd’s edition of Johnson’s Diet.)

Some other words, which were either newly- coined, or old ones newly brought into use in America, have been admitted into good writing in England. The particulars in which Americans have departed from English usage, may be reduced to the following classes:—1. Words entirely new, of which the number is extremely small: e. g. caucus, bootable. 2. Words to which is affixed a meaning different from that of the English; e. g. clever, to girdle. 3. Words whose original meaning has been preserved by Americans, while the English have given them a new signification. 4. Provincialisms, originally taken from different counties in England, by the first emigrants, to America, and still used there, just as they are in the mother country at this day. This class of words may be said to be wholly connoted to the language of conversation. 5. Words which have become obsolete in England, but are still in use in America; as, to tarry. It may be further remarked, that, in all these classes, a great proportion of the words are of local use, technical, mere vulgarisms, or used only by individuals, whose expressions of style are not followed by the nation at large. We have observed, that single words and expressions had been occasionally mentioned by American writers many years ago. The first attempt to make a general collection of all such words as had been supposed to be American peculiari- ties, was that of Mr. John Pickering, who published a Vocabulary of them in the Memoirs of the American Academy (vol. 3, p. 439), in the year 1809. This valuable collection was afterwards re- printed, with large additions by the author, under the title of A Vocabulary, or Collection of Words and Phrases, which have been supposed to be peculiar to the United States of America (Savo., pp. 206, Boston, 1816), and was accompanied with a Memoir on the present State of the English Language in the United States. It contains a list of 1500 words, all carefully examined, and, in almost every instance, to an English origin. This Vocabulary has been freely used in the late valuable American edition of Johnson, by Mr. Worcester, who observes that it “has had a salutary influence on our literature, by calling the attention of writers and scholars to the original deviations of American writers from pure English.” Mr Webster’s new Dictionary of the English Language (published 1828, New-York) contains many words with their American significations; but this work is not so complete in Americanisms as the Vocabulary of Mr Pickering, above-mentioned. We shall recur to this subject under the article English Lan- guage.—We cannot conclude these remarks, without directing the reader’s attention to the circumstance, that throughout the history of America, we are never far from the prototype, either in the mother tongue or the common dialect; for no language is so settled as to not undergo continual changes, if spoken by a nation in the full vigour of social and political life. Authority, in regard to language, will go far, but never can withstand for a long time the energies and wants of a free, industrious, and thinking people. Spain and Portugal, indeed, with the independent nations of South America, present an instance in many respects parallel; but the contest of language will be more languid, in proportion as there is less energy and activity in the mother countries, and less progress in the arts and sciences, as well as political advancement, in the states which have lately shaken off the yoke.

**AMERICUS VESPUCIUS; properly Amerigo Vespucci; born March 9, 1451, at Florence, of an ancient family. He early made great progress in natural philosophy, astronomy, geography, and history. The time the three principal branches of science studied at Florence, on account of their importance in relation to commerce. In 1490, he went to Spain for the purpose of trading, and was at Seville when Columbus was making preparations for his second voyage. The success of Columbus’s undertaking excited Vespucci to give up trade, and explore these newly-discovered countries. According to his own account, in one of his letters, he entered on his first voyage, under the command of admiral Cjedia, May 20, 1497, who left the port of Cadiz with four ships, and, after a voyage of thirty-seven days, reached the main land of America, explored the bay of Para, and the coast for several hundred miles, and, after eighteen months, returned to Spain, and was received with distinction by the court at Seville, in the year 1499. His narrative, whose impression of style was not followed by the nation at large, the fruit of which was the discovery of a multitude of small islands. This is his own account. But it is fully proved, that no such voyage as the one first mentioned was made, and that his first expedition to the new continent was in 1499, under the command of Cjedia; a year after the discovery and examination of that part of the coast by Columbus. Other accounts of Vespucci are also, inconsistent with the statement above given. (See Irving’s *Columbus.*) After this, he entered the service of king Emanuel of Portugal, and made two voyages in Portugal, the first, May 10, 1505; the second, May 10, 1503. The object of this last voyage was to find a westerly passage to Malacca. A. arrived at Brazil, and discovered the bay of All Saints. In 1505, he again entered the service of the king of Spain, but made no more voyages, as appearing to have no interest of the court. He returned to Seville till 1508, at which time he was appointed principal pilot. His duties were to prepare charts, and prescribe routes for vessels in their voyages to the new world, which soon received his name. This honour certainly belonged to Columbus rather than to A., since the account of his discoveries by the former is not to be questioned. We have a chart of America laid down by A.; a journal of four of his voyages, printed at Paris, 1632, in the Latin lan-

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gunge, in twenty-two pages, 4to; and Amerigo's Letters, of 1493, translated and illustrated, after his death, published by John Stephen di Carlo da Pavia. Vespucci died at Seville, in 1512. Emmanuel, king of Portugal, caused the remains of the ship Victoria, in which he had made his last voyage to America, to be hung up in the cathedral at Lisbon, and Florence conferred marks of distinction on his family. The accounts of his life are full of contradictions and perplexities. See Irving's Life of Columbus, 3d vol., Appendix, No. ix.

AMES, Fisher, one of the most eloquent of American statesmen and writers, was born at Ded- ham, in November, 1745. April 6, 1732, was his birthplace—his respectable parent. Soon after the completion of his 12th year, he was admitted to Harvard college, with the reputation of uncommon talents and attainments. Diligence, regularity, and success marked his collegiate course of four years. After receiving his degree, in 1774, the narrow circumstances of his widowed mother compelled him to postpone, for several years, the accomplishment of his original purpose of studying the law. In the interval, he acted as an assistant teacher in a public school, and continued to cultivate classical literature, the signal improvement of his taste and fancy. At length, in 1781, he commenced the practice of the law, with the stock of knowledge which he had acquired in the office of a member of the profession, in Boston. Opportunity soon occurred for the display of his superior qualifications, both as a speaker and essay writer. The fame which followed his early efforts conducted to place him in the Massachusetts convention for ratifying the constitution, in 1788. From this sphere, in which he made a deep impression by some of his speeches, particularly that on biennial elections, he passed to the house of representatives in the state legislature. Here, he soon became so eminent as an orator and man of business, that the voters of the Suffolk district elected him their first representative in the congress of the United States. He had not been long in that assembly before his friends and admirers were satisfied that they had not overrated his abilities. He won there the palpable eloquence, besides proving himself equal to the discussion of the deepest subjects of politics and finance, and the execution of the most arduous committee labours. He remained in congress during eight years, and was a member of all the important measures which he constantly and zealously defended. His "Speech on the British treaty," says his distinguished biographer, doctor Kirkland, "was the era of his political life. For many months, he had been sinking under weakness, and, though he had attended the long and interesting debate on the question which involved the constitution and the peace of the United States, it was feared he would be unable to speak. But when the time came for taking a vote so big with consequences, his emotions would not suffer him to be silent. His appearance, his situation, the magnitude of his subject, the force and the pathos of his eloquence, gave this speech an extraordinary power over the feelings of the dignified and numerous assembly who heard it. When he had finished, a member in opposition moved to postpone the decision of the question, that they might not vote under the influence of a sensibility which might afterwards have proved fatal. On the retirement of Washington, Mr A. returned to his residence at Dedham, where he occupied himself with the management of his farm, and the practice of the law. The latter he relinquished in a few years, owing to the decline of his health; but he felt too deep an interest in the welfare of his country to withdraw his mind and pen from politics. He published a considerable amount of writing, relating chiefly to the contest between Great Britain and revolutionary France, as it might affect American liberty and prosperity. No writer evinced more arduous for the success of Britain, or more horror for the character and tendencies of the French despotism. In 1804, Mr A. was chosen president of Harvard college,—an honour which he declined. When Washington died, Mr A., then a member of the council of the commonwealth, was appointed to pronounce his funeral eulogy before the legislature of Massachusetts.—The injury which his constitution sustained, in that period his health declined, until, at length, after an extreme debility for two years, death ended his sufferings. He expired July 4, 1808; and, when the intelligence of this event was received, a public meeting of citizens was held, in order to testify the general respect for his character. His remains were carried to Boston, where they were interred with honours such as had not been before paid to those of any private citizen,—In 1809, his works were issued in a large octavo volume, with prelatory notices of his life and character, from the pen of the late Hon. Henry Dearborn, president of Harvard college, who had enjoyed his personal friendship and intimacy. The volume is fraught with profound remarks, various historical lore, and eloquent declaration. Although the political interest of most of the topics is gone, there remains much to captivate and reward attention in the richness of fancy, warmth of feeling, beauty of language, and felicity of copious illustration, which distinguish almost every page.—Fisher Ames left seven children and a wife, to whom he was tenderly attached. In person, he exceeded a little the middle stature; his face was well proportioned, erect. His features and countenance were fine, and his manners easy and affable. Of his delivery as an orator, his biographer states, that he did not systematically study the exterior graces of speaking, but his attitude was firm, his gesticulation natural and forcible, his voice clear and varied, and his whole manner earnest and expressive. According to the same authority, all the other efforts of his mind were probably surpassed by his powers of conversation.

AMES, Joseph, the historian of British typography, was born at Yarmouth, 1688—9. He published, in one vol., 4to, 1749, "Typographical Antiquities, being an historical Account of Printing in England, with some Memoirs of its ancient Printers, and a Register of the Books printed by them from 1471 to 1600; with an Appendix concerning Printing in Scotland and Ireland to the same time." Mr A. died in 1739. Besides his great work, he wrote a Catalogue of English Printers from 1471 to 1700, 4to, and several other works. An enlarged edition of the Typographical Antiquities was published by the late Mr W. Herbert, vol. 1, 1735, vol. 2, 1786, and vol. 3, 1790. A new and reversed edition of Ames and Herbert has since been presented to the world by the Rev. T. F. Dibdin.

AMHYST. See Quartz.

AMHERST; a pleasant and flourishing post-town of America. It is situated in the province of Massachusetts, county of Hampshire, N. E. of Northampton, 90 W. of Boston; pop., in 1820, 1917. It is noted chiefly for its literary institutions, which consist of a college, an academy, and a seminary styled the Mount Pleasant Classical Institution. Amherst college was opened in 1821, and incorporated in 1825. It is a flourishing institution, and has three
offices or halls for the accommodation of students. In 1838, the college was under the direction of a president, five professors, one tutor, and two assistant teachers, and had 211 students.

**Amherst**, Jeffrey, lord, a distinguished British general officer, was descended from an ancient Kentish family, and born in 1717. He early devoted himself to the service of arms, receiving an ensign's commission when only fourteen years of age. At the age of twenty-five, he acted as aide-de-camp to lord Ligonier, in the battles of Dettingen and Fontenoy, and afterwards served on the staff of the duke of Cumberland, at those of Lauffeld and Hestenbeck. In 1757, he received the brevet of a regiment, and, in the summer of 1758, commanded the expedition against Louisburg, which, together with the whole island of Cape Breton, surrendered to his arms. The capture of fort du Quene, Niagara and Ticonderoga in due time followed; and, in 1760, the whole of Canada being reduced, general Amherst received, for his share in these exploits, the thanks of the house of commons, and the order of the Bath. In 1763, he was made governor of Virginia; in 1770, governor of the isle of Jersey, and, in 1772, lieutenant-general of the ordinance and armament of the British forces. Besides these, and several other military honours, he was, in 1776, created a peer by the title of baron Amherst of Holmestead, in the county of Kent. On the breaking up of the North administration, lord Amherst was removed from the command-in-chief, and the lieutenant of the ordinance, and, in 1787, received another patent of peerage as baron Amherst of Montreal, with remainder to his nephew, William Pitt Amherst; and, on the staff being re-appointed in 1793, he was once more called upon to act as commandant-in-chief. In 1795, he resigned the command in-chief to the duke of York, and, in 1796, received the rank of field-marshal. He died in 1797, in the eighty-first year of his age. A. was twice married, but left no issue, being succeeded by his nephew as aforesaid. Lord Amherst was regarded as a man of a collected and temperate mind, without brilliancy or parade; a strict officer, yet the soldier's friend. He had two brothers, one an admiral of the blue, the other a lieutenant-general; it is the son of the latter who has succeeded him.

**Amianthus**, a kind of flexible asbestos. (q. v.)

**Amiens**, in Picardy; a fortified city in the French department of the Somme, situated on the river Somme; lon. 2° 18' E.; lat. 49° 53' N. It contains 50,980 houses, 41,900 inhabitants, is the residence of a bishop, and has possessed, since the year 1760, a Société d'Évolutio, an academy of arts and sciences, of literature, commerce, and agriculture, a lyceum, a school at St Acheul, under the direction of the Jesuits, a convent of the order of La Trappe, in the abbey du Gourd, many considerable manufactories of woolen cloth, tapestry, damask, and kerseymore (of which 130,000 pieces are sold annually), leather, soap, as well as eighty cotton factories. The pastry of A., also, often goes across the channel, and is very celebrated.

**Amiens, peace of;** concluded March 27, 1802, by the Emperor Napoleon, the marquis Cornwallis, d'Azara, and von Schimmelmann. In 1800, Britain saw herself deprived of all her continental alliances; the Russian emperor, Paul, was dissatisfied that Malta was not restored to the order of which he was grand master, and Pitt had laid an embargo on the ships of Prussia, Denmark, and Sweden, because, at the instigation of Paul, they determined to revise the armed neutrality of the north. On the other hand, the ports of the continent were closed against the British ships, and this circumstance gave the opposition in parliament a majority against the ministry. At the same time, the minister could not obtain the consent of the king to the use of the cathedrals. So the Pitt ministry was dissolved, and the speaker, Addington, took Pitt's place, as first lord of the treasury. The new ministry, of which lord Hawkesbury was secretary of foreign affairs, commenced negotiations for peace, and the preliminaries were signed, at Oporto, Oct. 1, 1801. A definitive treaty was concluded at A., between France, Spain, and the Batavian republic, March 27, 1802. Britain retained, of her conquests, the islands of Ceylon and Trinidad; the harbour of the cape of Good Hope remained open to her ships. France regained her colonies, and the Arwari was made the boundary of her possessions in Guiana and the side towards Brazil. The republic of the Seven Islands was acknowledged, and Malta was restored to the order of the same name. Spain and the Batavian republic, also, regained their colonial possessions, with the exception of Ceylon and Trinidad. The French agreed to evacuate Rome and Naples, together with Elba. The house of Orange was to be indemnified; the status quo ante bellum guaranteed to the Porte; and, on these conditions, the sultan Selim formally acceded to the treaty of A., May 13, 1802. But this peace soon became generally unpopular in Britain; for the first consul fitted out a great expedition against St Domingo, and wished to place French consuls in all the ports of Ireland. On the other hand, Great Britain declared evacuating Egypt and Malta, maintaining that France had first threatened; in which assertion they were confirmed by Sebastian's inconsiderate report of his mission to Egypt. May 10, 1803, the British court declared the conditions on which, alone, all new differences could be reconciled; demanded indemnification for the King of Sardinia, who had been expelled from the continent; restitution of the island of Lampedosa, and the evacuation of the Batavian and Helvetic republics by the French troops. These conditions the French refused, and the court of St James's declared war, May 18, 1803.

**Amiel, or Hamilcar;** the name of several Carthaginian generals. Of these, the most celebrated is Hamilcar, the father of Hannibal, is the most celebrated of them. The Roman fleet defeated his, near Trapani, 242 B. C., and thus put an end to the first Punic war. A. began the second, landed in Spain, and subdued its most warlike nations; but, as he was preparing for an expedition against Italy, he was killed in battle, A. U. C. 596, B. C. 228. He left three sons, and it is said to have made Hannibal swear an eternal hatred against the Romans.

**Amiots, father;** a French Jesuit, born in 1718, at Toulon; a missionary to Pekin, who has contributed much to our knowledge of China. We owe to him the most elaborate account of the antiquities, the history, the language, and the arts of this kingdom. In 1750, he went to Macao, and, in the following year, by the invitation of the emperor of China, to Pekin, where he remained till his death, in 1754. Uninterrupted study gave him a knowledge of the Chinese and Tartar languages, by means of which he became acquainted with China through the best sources. Most of his valuable works, which treat of the writing, the art of war, the music, &c., of the Chinese, together with a biography of Confucius, and a grammar, &c, of the
AMMAN—AMMONIA.

AMMONIA; an alkaline substance, differing from the other alkalies by its volatility, not being obtainable pure, except in its gaseous form, and hence called the volatile alkali. It is obtained by mixing together the muriate of ammonia (sul ammoniaci), separately powdered, and introducing them into a retort or iron bottle, and applying heat. It is a transparent, colourless gas, of little more than half the weight of common air, and has an exceedingly pungent smell, well known under the old name of spirit of hartshorn. It extinguishes flame, and is fatal to life. It is decomposable, by a strong heat, into three parts; by measure, of hydrogen, and one of nitrogen gas. It is rapidly absorbed by water, which dissolves one third of its weight of this gas, or 460 times its bulk, and forms ammonium hydroxide (ammonium hydruratum), as it is commonly termed in commerce. The process for procuring this is merely to connect a retort, or iron bottle, containing the muriate of ammonia and quick-lime (generally slack'd), with a common still and refrigeratory, and apply a moderate heat. It is very accurately valued by its specific gravity; that used in medicine is about 0.950. It is also soluble in alcohol, and is used in medicine under the name of spirit of hartshorn. Ammonia combines with the acids, and forms a numerous class of salts: with carbonic acid, it forms the carbonate of ammonia, which was early prepared from the destructive distillation of animal substances, but is now fabricated, in part, by mixing one proportion of muriate of ammonia with two of carbonate of lime, in a state of dryness, and subliming in an earthen pot; and, more largely, from purified sulphate of ammonia, mixed with one quarter of its weight of chalk, finely ground, and previously calcined, introduced into cast-iron retorts, and subjected to a red heat: the carbonate of ammonia, as it is formed, is conveyed by a tube into a leaden or cast-iron receiver, where it is condensed. It is used as a stimulant, usually in the form of smelling-bottles, and also by bakers, to raise their bread lighter and quicker than by yeast alone. With muriatic acid, ammonia forms muriate of ammonia (sul ammoniaci). It is found native in fibrous masses and crusts, sublimed into the cracks of lava, among other volcanic matters, about the centres of volcanoes. The muriate of ammonia of commerce, however, is prepared, by a tedious process, from an impure carbonate of ammonia, obtained by the distillation of bones and other animal matters: the carbonate is decomposed by sulphate of lime, and the ammonia by sulphuric acid. It is then dried and powdered, and the muriate of ammonia is separated from the sulphate of soda by crystallization, after which it undergoes the process of sublimation two or three times; and, this being done in rounded vessels, it assumes the form in which we are familiar with it in commerce. The sulphate of ammonia, obtained in prouncing gas-lights for illuminating from coal, is also made use of in the manufacture of sal ammoniac. It has lately been discovered, that muriate of ammonia exists in the water of the ocean, and that it may be obtained, by sublimation, from the uncrystallizable part called bittern. (Phil. Trans. 1822, p. 464.) This salt was formerly imported from Egypt, but is now manufactured in Europe. Great quantities are annually carried from Bucharān Tartary to Russia and Siberia. Sal ammoniac is applied to many useful purposes. Occasionally, it is used in medicine. A considerable portion of it is consumed by dyers, to give brilliancy to some of their colours. It is also employed in the assay of metals, to discover the presence of iron; and, having the property of rendering lead brittle, is sometimes used in the manufacture of shot. By coppersmiths and tanners, it is used for...
AMMONIA—AMORETTI

cleansing the surface of the metals which they are about to cover with tin. It is said that twenty tons of sal ammoniac, for the purpose of soldering, are yearly used in Birmingham.

AMMONIA, nitrate of, is formed by saturating dilute nitric acid with carbonate of ammonia. From it is obtained the nitrous oxide, or exhalating gas.

AMMONIA, sulphate of, in the form of stalactites, is found in the fissures of the earth surrounding certain small lakes in Tuscany, also in the lavas of Ætna and Vesuvius, and, dissolved in a spring, in Dauphiné. It is, of late, obtained in large quantities, as a secondary product in the distillation of coal for gas-lights. A child of Newcastle coal affords 200 pounds of ammoniacal liquor, which consists chiefly of sulphate of ammonia and carbonate of ammonia. It is used for the manufacture of sal ammoniac and volatile salt.

AMMUNITION. There were many learned men and philosophers in Alexandria of this name:—1. A Periæate or rather Eclectic philosopher, who was pupil of Herakleides of Phœnicia in the 3d century after Christ. 2. A., named Saccas, who was a founder of the new Platonic school in Alexandria, 193. (See Alexandria.) 3. A disciple of this school, in the fifth and sixth centuries, son of Her- mis, scholar of Proclus, and master of Simplicius.

AMMONIS. There is one term expressive of the various articles used in war. No ammunition can be imported into Britain by way of merchandise, except by license from his majesty; and such license is to be granted for furnishing his majesty's stores only, under penalty of forfeiture, 6 Geo. 4, c. 107. His majesty may forbid, by order in council, the exportation of any sulphur powder, or any sort of A., under a forfeit of £100. (29 Geo. 2, c. 16.)

ANNETY, (Greek, from α, priv. and μακαρι, to remember), in law: an act of oblivion; the entire freedom from penalty, granted to those who have been guilty of any neglect or crime, usually on condition that they return to their duty within a certain period. An amnesty is often declared in case of the rebellion of whole districts or countries, because it is not possible to exercise on them the severity of the law, and it is often considered sufficient to punish the leaders. In domestic disturbances and civil war, the amnesty is necessary for the re- lution to peace. But amnesties are often only delusive assurances, of which modern history affords many instances. The amnesty, or the religious peace, of 1570, in France, was followed, in 1572, by the shocking spectacle of a government causing a part of its subjects to be murdered. (See St Bartolomeus, massacre of.) The terms of the religious peace concluded at Passau, 1552, contain an amnesty, in which the campaign of the elector, Maurice, of Saxony, against the emperor Charles V, is mildly termed an excursion for the sake of military exercise, and full forgiveness is promised to all who had taken part in the war. Also in the peace of Westphalia (art. 2), after much difficulty, a full and general amnesty, from the beginning of the disturbances in Bohemia, was granted. A general amnesty was proclaimed in England, 1660, at the restoration of Charles II., from which the king excepted no one, and the parliament only the Judges of Charles I. The French revolution is rich in amnesties; the victorious party promising them to their opponents, or securing themselves in this way from punishment. At the restoration, a formal amnesty was promulgated, and especially in the Chartes Constitutionnelle, (art. 11), all prosecutions on account of political offences are forbidden. Notwithstanding his abdication, Napoleon Bonaparte considered those who had conspired, in 1814, to overturn his throne, as state traitors, and, March 12, 1815, granted them an amnesty at Lyons, from which only thirteen men (prince Talleyrand, Bourboune, Riou, Delforge, &c.) were excepted. At the second restoration, Jan. 12, 1816, all who had taken an immediate part in the usurpation of Bonaparte were pardoned, with the exception of only nineteen persons, who were prosecuted under the decree of July 24, 1815 (Ney, Labedoyere, Bernadotte, Lavalle, Bertrand, &c.). The best of thirty-eight others, whom the king was to have pardoned any thing within two months, (Soult, Bassano, Vanhamme, Caroit, Hulin, Merlin, &c.), and, in fine, all those who had voted for the death of Louis XVI. (régicides), and such as had taken office during the "hundred days." These, as well as all the members of the Bonaparte family, were banished from France. Many of them have been permitted to return. Also, in the Italian and Portuguese revolutions and counter-revolutions, such political amnesties have been proclaimed, with more or less success, for few of them can be said to have been found in the peace signed at Vienna between Prussia and Saxony.—For amnesties in Spain, see Spain.—Of all the instances of amnesties which history affords, there have been few in which the promise of forgiveness has been strictly kept by the ruling party, when it seems a secure possession of power. Generally, governments have found means to punish their opponents without openly violating their promise of pardon.

AMOR, with the Romans; with the Greeks, Eros; the god of love. According to the later mythology, A. is the son of Venus and Mars, the most beloved of all the gods; a winged god, with bow and arrows, sometimes represented blind-folded. His arrows inflect the wounds of love, and his power is formidable to gods and men. He is not always a playful child in the arms of his mother, but appears sometimes in the bloom of youth, e. g., as the lover of Psyche. He is brother to Hymen, the god of marriage, whom he troubles much by his thoughtlessness. (See Hymen and Cupid.) According to the earlier mythology (that of Hesiod and Orpheus), he is the eldest of all the gods, and existed before any created being. By his means the sterile Chaos has brought into being the first man, whom he issued from Light and Light. This eldest A. is the lofty idea of the all-exciting and all-fructifying love. To him, according to some writers, Hate is opposed. In English, the god of love is less frequently called A. than Cupid; yet, with the ancients, Cupido denoted, properly, only the animal desire, which the Greeks expressed by the word ἔρως.

AMORETTI, Abbate Carlo; a great mineralogist, and, since the year 1797, one of the conservatori of the Ambrosian library, was born at Onglia, March 13, 1741; died at Milan, in 1816. Till 1772, he was professor of canon law at Parma. Having been immersed in modern languages, he endeavoured to make known to his countrymen the progress of other nations in the arts, and sciences. A. was a member of many learned societies in Italy. Between 1775 and 1788, he published, at Milan, twenty-seven volumes, in quarto, with engravings. Nuova scelta d'Ospescol d'Interessanti delle Scienze e delle Arti, in connection with several friends. His knowledge of the art of mining obtained him a seat, in 1808, in the Consiglio delle Miniere. He first encouraged a careful examination of the treasures of the Ambrosian library, and exerted himself so successfully. By his means, the following works were printed:—the first voyage round the world of Pigafetta of Vicenza, from 1519
AMORTIZATION—AMPHITHEATRE.

—1522, and a treatise on navigation, by the same; also, the north-eastern voyage through the Atlantic and the Pacific, by Father de Vincenzo (first appeared in 1811); and, in 1804, Leonardo da Vinci's Trattato della Pittura, with plates; also a biography of this renowned painter, in 1806; and, finally, in 1809, Code Diplomatico Santi Ambrosiani, a supplement to the collection of Italian documents, of the eighth and ninth centuries, by Peter Punigali. Of his great work, De la BalloManzia Ossia—Elettrometria Animale Ricerche Finiche e Storiche, Milan, 1808, he published, in 1816, an abridgment, Elementi di Elettrometria Animale.

AMORTIZATION; the right of transferring lands in certain communities which is never to cease. This word is used in France and Germany to signify the redeeming of public debts. Amortissement, from amortir, is the French word for sinking fund.

Amor, Thomas, a dissenting minister of eminence, was born at Taunton in 1701. His opinions were those of the celebrated Dr Samuel Clarke, and, in 1770, he became the colleague of Dr Price, at Newington Green. He was an efficient member of the committee for procuring an enlargement of the Toleration Act. He died in 1774, leaving behind him some volumes of sermons, and some minor poetry.

Amory, Thomas, the author of "John Bunche," was the son of an Irish councillor, and born in 1692. It is conjectured that he was brought up a physician, but it does not appear that he followed any profession. In 1755, he published a singular heterogeneous work, entitled "Memoirs," which treated of various matters, particularly the lives of ladies, in a peculiar and racy manner. In 1760, he published the first volume of the Life of John Bunche, and, in 1766, the second. This is, in some sort, a continuation of the Memoirs. Both works have been reprinted, and the latter has received the valuable commendation of Mr Hazlitt. John Bunche is remarkable chiefly for the number of excellent ladies whom he falls in with and marries, and for his great enjoyment of the table. From the character of his writings, Mr Amory has been thought in some by some; but it would be unfairable to characterize him further than a man of eccentricity. He was married, and resided chiefly at Westminster in a retired manner, where he died in 1789.

As it is known that the prophet; a heathen who appeared in the vicinity of Jerusalem, under the kings Josias of Judah, and Jeroboam II. of Israel, B. C. 850, and preached with zeal against the idolatry then prevailing in Israel. His prophetic book, contained in the Old Testament, is made up of descriptions of the moral profligacy and idolatry of this people, and of the threatenings and promises, similar to those which the other Jewish prophets have delivered. His peculiarities are the use of certain rural images, a rounded style, clearness in the construction of his sentences, and distinctness in his descriptions. He is amongst the best of the Hebrew writers.

Amphelitas, or Candle-coal, or Canal-coal. See Coal.

Amphiaras; son of Oicles (according to some, of Apollo) and Hypermenestra; endowed by the gods with prophetical powers. Foreseeing that he should perish before Thebes, he hid himself; but, half concealed, by order of the king, he joined Polyneikes in his expedition against this city, and was one of his most valiant warriors. The besiegers having been repulsed in one of their attacks, the earth opened under him in his flight, and swallowed him, with his horses. On the spot where this event is said to have taken place, at Oropus, a feast was celebrated in honour of him (Amphiarates, and, not far from him, a temple was erected to him, where oracles were delivered. His death was revenged by his son, Alcaeon.

Amphibia; animals of the third class, in the Linnaean system, most of which, by their peculiar anatomy, are able to live either upon land or in the water. Since Cuvier's efforts to introduce a better classification in zoology, this term has been superseded by the term reptilia. See Reptiles.

Amphibology, in grammar; a loose manner of expression, whereby the sense may be construed into a double meaning. It has a similar application to phrases or sentences with the word equivocal in respect to words.

Amphibrians. See Rhythm.

Amphictyons, court of the; an assembly composed of deputies from the different states of Greece, according to most authors, established by king Amphictyon, son of Deucalion and Pyrrha, according to Strabo, by Acrisius, king of Argos, as a point of union for the several Grecian states. At first, they assembled at Delphi; in later times, at Thermopylae, or rather at the neighbouring village, Antitha. Twelve Grecian states sent two deputies each, who were invested with great solemnity; composed the public dissensions, and the quarrels of individual cities, by force or persuasion; punished civil and criminal offences, and, particularly, transgressions of the law of nations, and violations of the temple of Delphi. After the decision was published, a fine was inflicted on the guilty state, which, if not paid in due time, was doubled. If the state did not then submit, the whole confedency took arms to reduce it to obedience. The assembly had also the right of excluding it from the confederation. An instance of the exercise of this right gave rise to the Pachian war, which continued ten years. See Rhythm.

Amphion; son of Jupiter and Antiope; the eldest of the Grecian musicians. In Lydia, where he married Niobe, the daughter of king Tantalus, he learned music, and brought it thence into Greece. He reigned in Thebes, which was before called Cadmea. A, joined the lower and upper city by walls, built the seven gates, and gave it the name of Thebes. To express the power of his music, and, perhaps, of his eloquence, the poets said, that, at the sound of his lyre, the stones voluntarily formed themselves into walls; that wild beasts, and even trees, rocked streams, followed the music; that

With the aid of his brother, Zethus, he is said to have revenged Antiope, who was driven into banishment by his father, and to have bound Diros to the tail of a wild bull; which incident is supposed to be represented by the famous piece of sculpture, the Farnese bull.

Amphibiaena; a genus of serpents, so called on account of the shape of its body, which is of equal thickness from head to tail; which are, consequently, difficult to distinguish. This occasioned the notion of its having two heads. Different naturalists establish different numbers of species. Doctor Shaw mentions two, viz. the alba and the fuliginosa. The alba is about eighteen or twenty inches long, and totally white. It is a native of South America, and a harmless animal. The fuliginosa is white, with black or deep-brown spots. The head is without spots. It is very rare in many parts of South America, and in Libya. It is innoxious. All other species are also found in America.

Amphitheatres, with the Romans; a building without a roof, of a round or oval form, destined for the combats of gladiators, or of wild beasts. In
the middle was the arena, a large place covered with sand, on which the fights were exhibited. Round about were the vaults or caves, in which the animals were kept; above these was the gallery, from which ascended successive rows of seats, each of greater height and circumference than the preceding. The fourteen first were for the senators and magistrates, the others for the common people. In the year 709, from the building of the city, Julius Caesar erected the first large amphitheatre at Rome, for his gladiatorial exhibitions. It was of wood, and was pulled down after it had been used. Statilius Taurus, twenty years later, built the first wooden museum (q.w.), which was the largest of all the ancient amphitheatres. In Verona there is one, the interior of which still shows the whole ancient architecture, and is carefully preserved; it is called there arena. Of all the Roman antiquities, none has withstood the effects of time so well as this remarkable building. The form is oval, and the architecture is in the taste of the Coliseum at Rome. There is another at Pola.

Amphitrite; daughter of Oceanus and Tethys, or of Nereus and Doris. Neptune wished to make her his wife, and, as she hid herself from him, he sent a dolphin to find her, which caught her to him, and received as a reward a place among the stars. As a goddess and queen of the sea, she is represented as drawn in a chariot of shells by Tritons, or riding on a dolphin, with the trident of Neptune in her hand.

Amphitryon; king of Thebes, son of Aigeus, and husband of Alcmene. Plautus, after him Molliere, and, still later, Falk and Kleist, have made the trick played upon him by Jupiter (see Alcmene) the subject of amusing comedies, in which the return of the true A., and his meeting with the false one, occasion several humorous scenes at the palace and in the city. The French give this name to a courteous host.

Amplification, in rhetoric; the part of a speech wherein circumstances are enumerated and dwelt upon to excite the minds of the auditors. Some writers on rhetoric understand by amplification only the explanation of a subject by examples. The Greek and Roman rhetorical writers meant by it a mode of adding to or detracting from the dignity of a subject by an accumulation of words or ideas. Longinus defines amplification the collection of all the circumstances connected with a subject, in order to give it which is absolute, which is proved. The amplification generally embraces both these objects. Cicero and other ancient orators make the amplification and enumeratio (recapitulation) essential to a speech. In this case, amplification, also called exageratio, embraces only the concluding strokes by which the orator sought to heighten the effect of what he had said. Every one, who makes use of this rhetorical figure, ought to remember the simple and just remark of Boileau:

Tout ce qu'on dit de trop est fade et rebattu.

Amplitudo, in astronomy: the distance of any celestial body, or other object (when referred by a secondary circle to the horizon), from the east or west points; the complement to the amplitude, or the distance from the north or south point, is called the azimuth. —Amplitude denotes, also, with reference to the direction of the magnetic needle, or compass, the arc of the horizon which bounded between the sun or a star, at its rising or setting, and the magnetic east or west points of the horizon; or it is the difference of the rising or setting of the sun or star from the east or west points of the compass.—

In gunnery, amplitude is sometimes used for the range of a shell, or other projectile, from its departure out of the mouth of the piece to the place where it falls. Thus the French engineers speak of the amplitude de parabole, &c.

Amphulla, in antiquity; a vessel bellying out like a jug, that contained unctions for the bath; also a vessel for drinking at table. In ecclesiastical use, the amphulla was employed for several purposes, such as holding the oil for chrismation, consecration, &c., also for anointing monarchs at their coronation. In England and France, a vessel of this kind is still in use for the last mentioned purpose. The French amphulla is at Rheims, the archbishop of which performs the coronation of the French kings. A dove, it was said, brought this amphulla from heaven for the baptismal unction of the crafty Clovis I., in 496. In the revolution, this amphulla was lost; and it is said that a soldier oiled his boots with the miraculous liquid. On the late coronation of Charles X., the public papers stated that a phial containing some of this unction had survived the catastrophe. The amphulla of the English kings, now in use, is an eagle weighing about ten ounces, of the purest chased gold. Having passed through various hands to the Black Prince, it was brought by him deposited in the tower. Henry IV. is the first king who was anointed from it. See Anointing.

Amputation, in surgery; that operation by which a member is separated from the body according to the rules of the science. Though the medical art endeavours to prevent the necessity of amputation, yet many cases arise in which it is absolutely necessary, in order to save the life of the patient. It may be considered as one of the greatest victories which science and skill have gained over barbarism. There is no decisive proof that Hippocrates ever performed this operation. A. C. Celsius, who lived under Tiberius, has left a short description, in his book De Re Medic., of the mode of amputating gangerous limbs. Paulus Aegineta, about eight centuries afterwards, suggests little improvement. The Arabians seem to have made little progress in the art of suppressing the bleeding after the amputation, which was the most important desideratum. The greatest improvements were introduced by Pari, a French surgeon, in the 16th century, since whose time amputation has been performed with much skill among all civilized nations, and, in the latest times, with a boldness at which former ages would have shuddered. The operation is now so well practiced that the late wars in Europe have advanced this branch of the surgical art, perhaps, more than any former period, by the number and variety of the cases requiring amputation, which they have presented. Increasing knowledge of anatomy has continually increased the boldness of the operator. Amputation, i.e. the pool of immortality; formerly called Chak, a town of Hindostan, in the province of Lahore, the principal place of the religious worship of the Seiks. It is, on account of its favourable situation, between Cabul and Delhi, Cashmere and the Deccan, a place of great trade; but its chief importance is derived from the sacred pond, constructed by Ram Dass (one of the earlier pontiffs of the Seik faith), in which the Seiks and other Hindoo tribes immerse themselves, that they may be purified from all sin. This holy basin is 156 paces square, built of brick, having in its centre a temple dedicated to the Hindoo saint Gooro Govind Singh. Under a silken canopy, in this temple, is deposited the saint's book of religion and laws, called Grant's. The voluntary contributions of pilgrims and devotees support this place, to which 600 priests are attached.
AMSTERDAM; the chief city of Holland; lon. 4° 40' E.; lat. 52° 25' N.; situated at the mouth of the Amstel, where it falls into an arm of the sea, called Y. En, 65,000; Antwerp, 240 miles north-east of Paris. This famous commercial city, before the late separation of Holland and Belgium, the capital of the Netherlands, though not the usual residence of the king, was, at the beginning of the 18th century, a fishing village in the possession of the lords of Amsterdam. In the middle of that century, it became a small town, and obtained a municipal government. In 1296, it was suddenly attacked and plundered by the neighbouring Kennemers, on account of the participation of Gyysbert of Amstel in the murder of Floris II. Of Holland and Gyysbert himself was expelled. In this way Amsterdam, together with Amstelmond, came under the rule of the counts of Holland, who granted the city many privileges. Amsterdam soon acquired an important commerce in the Baltic sea, and, in the 16th century, was a place of considerable commerce. The transition from the bondage of its lords to the state of subjects of the counts of Holland was the origin of its prosperity. A second cause was its deliverance from the Spanish dominion. It became, in a short time, the first commercial city in the United Provinces. In 1586, after Antwerp had fallen into the hands of the Spaniards, the city, in its extensive commerce was transferred to Amsterdam, and the western or new part of the city was built. The city received new accessions in 1603, 1612, 1658. In 1622, it contained 100,000 inhabitants. Its increasing importance awakened the envy of its neighbours, and in 1587, Leicester attempted to take it by treachery, and prince William II, in 1650, by surprise. Both attempts were frustrated by the prudence of the two burgo-masters, Hooff and Bicker. The burgo-masters of Amsterdam then arranged to make weight in the assembly of the states-general, that their authority, during the first 94 years of the 18th century, rivalled that of the hereditary stadtholder. During this period of prosperity, A. acquired so great wealth, that it surpassed every other city in Europe. It was the great mart of all the productions of the East and West, and its harbour was always full of ships. The fame of Dutch honesty and frugality increased the flourishing trade of the city. This was obstructed, however, by the sand bank before the Pampus, on account of which large vessels could not enter without unloading their cargoes on the banks or the shore. Vessels, moreover, could not sail from the Zuyderzee, near the Texel, except with certain winds. Finally, A. has often experienced great depression during the continuance of wars. Even in the glorious period of the 17th century, in 1653, the war with England did such injury to its commerce, that four thousand houses in the city were left unoccupied, and, it is said, the exchange was overgrown with grass. Commerce, however, afterwards revived, and continued, with little diminution, even during the unpleasant period from 1790 to 1794, with the exception of the time of the English war, from 1781 to 1782. But after the change of Government in 1796, the trade and wealth of A. continually diminished. The forced alliance of Holland with France, which obliged her to follow the French policy, against the powers at war with France, operated against its wealth, and A. endeavoured to restore the trade of Holland by means of grants and privileges, and even transferred his residence and the seat of government to A. In 1808; but the first measure only irritated Napoleon against Holland, and the other, though it opened some new sources of trade, was followed by various disadvantages. The complete incorporation of Holland, with France, in 1810, entirely annihilated the foreign trade of A.; and many other measures, and the interruption of the monopoly of tobacco and of the droits réunis that they were called, were very injurious to the domestic trade of the city. The revolution of 1813 restored the business of A. Since that time, its commerce has increased very considerably. Many of the long-established houses are very rich; but, for several reasons, less actively engaged in trade than the merchants of Antwerp. Besides the public buildings, Amsterdam contained, in 1782, 26,385 dwelling-houses, besides a great number of shipyards, manufactory of ropes, cordage, tobacco, &c. The number of inhabitants was, in 1796, 217,000; in 1808, 208,000, among whom were 20,000 Jews. In 1820, however, there were but 180,000, of whom 90,000 were Calvinists, 38,000 Catholics, and 30,000 Lutherans. From comparing the censuses, it appears that the proportion of the male to the female sex is about four to five. In 1817, the number of the poor of all degrees amounted to 39,000. On account of the lowness of the site of the city, the greater part of it is built on piles. A. affords a splendid prospect from the harbour, by reason of its numerous steeples; the view from the Amstel bridge is also very magnificent. In early times, its ancient fortress, its twenty-six bastions, and its means of inundating the country, made even Louis XIV. cautious of attacking it; but, in 1757, when threatened by a Prussian army of only moderate size, it was obliged to surrender, after the capture of the fortified villages in the vicinity. In consequence of the changes which have taken place in the mode of conducting sieges, A. can be defended only by the inundation of the surrounding country. Yet it is said, that, in the last years of the reign of the ex-kings of England, a line was formed in the vicinity, as a fortification of A. On the side towards Haarlem, the city is, at present, protected by the sluice of Halfweg, and on the eastern side by the fortress of Naarden. Within the semicircle which the borders of the city describe on the land side, several canals form many smaller semicircles, which all open into the Amstel river, or into the Y., or Wye. Among the public buildings, the old stad-house is particularly famous. The building began under the superintendence of the architect Jacob van Kampen, after the peace of Westphalia, in 1648, which fixed the independenee of the Dutch republic, and was finished in 1655. In the vaults under the stad-house are deposited the treasures of the bank of Amsterdam. This splendid building stands upon 13,659 piles, is 282 feet long, 235 feet wide, and 116 feet high, without reckoning the high tower. The interior of this magnificent building was decorated by the Dutch painters and sculptors of the 17th century with their master-pieces. The patriotic Dutch were therefore highly offended, when Louis Bonaparte, in 1808, chose the stad-hous for his residence, and his attendants and courtiers occupied the council-rooms of the fathers of the city. The hall prepared for the reception of the throne on this occasion is probably the finest in Europe. The magnificent museum of Dutch paintings, which were exhibited in the stad-hou'se, is now transferred to the Trippenhous. The present king, also, resides in this palace (the former palace of the stad-hous), when he is at Amsterdam. The public weigh-house, which was opposite to it, was pulled down under King Louis, in order to have an open space before the palace, and was transferred to the western market. The magistrates of the city now assemble in the former royal hall. The exchange of Amsterdam, which was built be-
between 1603 and 1613, resists upon five vaulted arches, under which the Amstel flows into the Damrak water; it is 250 feet long and 140 feet wide. The East India house was formerly a smoking-hall, lately tumbled down, the national shipyard, and the magazine upon the Kattenburg, at the Y, are at present used for other purposes of commerce and navigation. The beautiful Trippenhuis, where the academy of arts and sciences assembles, is now a temple of the arts and sciences. The society Felix meritis (established by the merchants), which promotes the study of everything that can occupy and enoble the mind; the society Doctrina et amicitia; the Tot nut van't aalgeemoen, devoted to the liberal arts and sciences; the excellent reading-rooms; several musical societies; the Dutch, French, and German theatres; the Hortus medicus, belonging to the Athenaeum illustre; the famous Latin schools; the many excellent national poets—prove the taste of the citizens of A. for science and learning. Their regard for religious, charity, and order, is manifested by the numerous churches, by the hospital for the aged, the poor-house and orphan asylum, the houses of correction, the navigation school, the many societies for humane objects, and the work-houses of different descriptions. The churches are numerous: among them, the Dutch Reformers have stepped up the English ones, the Roman Catholics eighteen, and even the Greeks and Armenians have a church. The most splendid is the new church upon the Damm, in which the pulpit and organs are master-pieces; here you see the monuments of the admiral de Ruyter, of the valiant van Galen, and of the great poet Von del; here, also, after so many stones, the fabric of the state was strengthened by the adoption of the constitution, and by the allegiance sworn to the present sovereign, March 29 and 30, 1814. In the Oude Kerk monuments are erected by the naval Heemskerk, van der Zaan, Zwaerts, and van der Hulst. The Western Kerk has a handsome steeple. With so much that is beautiful and great, and with a trade which affords the means of support to every industrious man, A. has, indeed, the disadvantage of a very damp air, and an offensive, mephitic smell, which often rises, in summer, from the canals. It suffers, also, from the want of good spring-water, and from the inconvenience of very high and narrow dwelling-houses, occasioned by its crowded popula tion. The new canal, extending from its harbour to the extreme point of North Holland, 56 feet in depth, is of great advantage to A. It removes some of the chief impediments to the commerce of the city, viz. the necessity which existed of unloading large vessels, before they could enter the harbour, and of encountering the passage through the Zuyder-see, which was peculiarly difficult with contrary winds. The shipping of goods to and from Amsterdam will, therefore, be effected in future more promptly and cheaply. This canal extends from A. to Nieuwe Diep. The distance between the extreme points is 41 English miles; but the canal is about 50 miles and a half long. The breadth at the surface is 124 English feet; the breadth at the bottom 36 feet; the depth, 20 feet and nine inches. It passes through a somewhat marshy country, and touches, besides several villages, the cities of Purmerend and Alkmaar. Like the Dutch canals generally, its level is that of the high tides of the sea, from which it receives its supply of wa ter. The only locks which it requires, of course, are two tide-locks at its extremities; but there are, also, two sluices with flood gates in the intermediate space. The locks and sluices are double, that is to say, there are two in the breadth of the canal. The canal is wide enough to admit of one frigate passing another. The time spent in tracking vessels from the Heider to A. is 18 hours.—There is an excellent circular ocean, in lon. 79° 54' E., and lat. 38° 49' S., first visited by van Vlaming, a Dutch navigator, in 1697, and explored, in 1703, by the gentlemen attached to lord Macartney's embassy to China. The length of the island, from N. to S. is upwards of four miles; its breadth, from E. to W., about two and a half miles. A fertile, but very soft and spongy soil covers the island, which bears every where unquestionable marks of a volcanic origin. Several springs of hot water were visited by the travellers, of which the average heat is about 121° Fahr. The soil is evidently a decomposition of lava, which is continually spreading over the island. At the southern part of the island is an area of about 200 yards square, where the heat of the soil is so great, as to admit of no vegetation. During the winter months, violent storms prevail in A. On the shores of the island, immense numbers of seals were formerly taken, of the Phocourous specie s. The people of the U. S. have taken more of these useful animals here than any other nation. They are altogether the most active seal-hunters in the South sea. The number of seals on the island is now very much less than when it was first visited, as is always the case in places where the animal is actively hunted. At first it was immense, as it usually is in undisturbed ressorts of this creature. The American vessels, at present, generally leave a number of men on the islands frequented by the seal, and return to take them after they have had time to collect a sufficient number of skins. The neighbour hoods of A. are the West, the South, and the fish. AMSTERDAM; an island in the South sea. See Tongataboo. AMSTERDAM ISLAND; a small island on the N. W. coast of Ceylon, five miles long and two in breadth; lon. 8° 1' E.; lat. 9° 50' N. AMSTERDAM; NEW; a town in Dutch Guiana, situated between the rivers Berbice and Canje; lon. 57° 15' W.; lat. 6° 30' N. It is the seat of the government of Bel. mould over all parts of the island, for the tall, rank grass that abounds in it. The putrefaction of vegetable matters mixes with this lava and with the mouldering ashes, while the long roots of the grass form the principal tie of the whole. The soil is so light, that the foot breaks in at every step. Beyond the eastern extremity is an island which is an area of about 200 yards square, where the heat of the soil is so great, as to admit of no vegetation. During the winter months, violent storms prevail in A. On the shores of the island, immense numbers of seals were formerly taken, of the Phocourous specie s. The people of the U. S. have taken more of these useful animals here than any other nation. They are altogether the most active seal-hunters in the South sea. 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Central Asia, every individual thinks an amulet necessary to secure him from harm. They were introduced into Christian Europe by the Jews. With the ancients, e.g., the Egyptians, Greeks, Romans, there was a belief that magical omens of a certain kind were introduced among the Basildians. Their amulets were stones inscribed with the word *Abraxas* (q. v.) engraved on them. The Jews had many superstitions notions about amulets. Many Christians of the first century wore amulets, which were marked with a fish symbol of the Hesychian. To the Christian divines, the use of amulets was interdicted, by the council of Laodicea, under penalty of dismission from office. With the spread of Arabian science and astrology, the astrological amulets of the Arabs, the talismans (q. v.), came into use in the West. The small images of saints, which the Neapolitan seamen, and almost all the Greeks, wear about them, are nothing but amulets. The Turks, the Chinese, the people of Thibet, and many other nations, have yet great confidence in them.

**Amusettas.**—A small one-pound common, employed in war, in mountainous regions. Lightness and a great facility of movement are its advantages. Marshal Saxe recommends the A. strongly. The count of Lippe Buckeburg improved it essentially and introduced it among the Portuguese infantry. Each platoon had an A. drawn and served by five men. This was the custom in Saxony, also, in 1798; see his riflemen muskets. At present they are not used in all armies.

**Amydalas.** See Almond.

**Anover, James;** an old French writer was born at Meulan, in 1524; died in 1603. He was bishop of Auxerre, and gained Almoner of France; and is known even in foreign countries, by his much esteemed translations of Plutarch and Diodorus.

**Ambrault, Moses;** a learned French theologian, born in Touraine, in 1596; died in 1664. His works are chiefly theological, and very voluminous. The rigid Calvinists accuse him of Arrianism, but Mosheim calls him rather Arminian, or semi-pelagian. He was professor of divinity at Saumur, and was much respected for his abilities, and the extent of his charity, allowing the whole of his salary to flow to the poor of his acquaintance.

**Ana.** This termination, derived from the Latin, when connected with a proper name, is used to denote collections of the sayings of distinguished men, or of anecdotes relating to them. These collections are numerous; and compilations of the same character were known even among the Greeks. The *Memorabilia* of Xenophon, and the Lives of the Philosophers by Diogenes Laertius, are full of anecdotes and sayings. The Attic Nights of Aulus Gellius contain many observations and repartees of distinguished persons in Rome. Thus, according to Quintilian, a freed man of Cicero left a whole book of his master's jests, and another freed man of Marcellus the table-talk and witicism of this distinguished friend of the muses. At the time of the restoration of learning, the sayings of famous men began to be collected. The *Senigeriana* were the first compilation which appeared under that name. Since that time they have become common, particularly among the French, who have often used them merely as a vehicle for disseminating certain opinions under some famous name. Among the French collections are the *Iustiana, Menagiana, Vulturniana, Bollandiana, Preachers, Coterie, Protafiana,* &c. Among the English, such collections are also very common, e.g., *Walpoleiana, Baconiana, Parriana,* &c. Selden's Table-talk and Boswell's Life of Johnson are of a very similar character, though they have not a similar title. The Germans make not so much use of the syllable *ana,* as their literature is extremely poor in memoirs and works of the sort above-mentioned, when compared with the English or French. In some instances, however, they employ it, and then they generally mean the most famous German work of this kind is Luther's Table, talk (Tischreden). Collections of a different kind, likewise, bear a title terminating in *ana,* e.g., *Parisiana, Revolutionia, Polissoiniana, Jerographia.*

There even exists a work entitled *Encyclopediana, seu Dictionarium Encyclopedicum,* by Le Comte, Paris, 1791, 4to. M. Peignot has published a *Bibliographie raisonnée des ana.* (See *Répertoire de Bibliographies spéciales, curiosités et instructives,* Paris, Renouard, 1810, 8vo.)—If it is allowable to add the syllable *ana* to proper nouns, still such words as *Encyclopediana, Ilerbarum,* &c., will always be barbarous and offensive to a cultivated ear.

**Ana Santa;** the name of three desert islands in the Atlantic ocean, W. lon. 43° 44', S. lat. 2° 30' near the coast of Brazil, in the bay of *São Luís do Maranhão*; also the name of an island on the coast of the province of Maranhão, called *Dos Macames* by the Portuguese, and of another in the straits of Magellan, on the north coast near, the entrance of the South sea. Also the name of several points.

**Anabaptists (from the Greek ἀναβαπτισταὶ);** a sect of Christians of a particular opinion, in many countries, among which they were first acknowledged and by their adversaries, because they objected to infant baptism; they baptized again those who joined their sect, and hence their name. Anabaptists say that infant baptism was not customary in the earliest period of the Christian church. (See *Baptism.*) In the middle ages, it was declared invalid by many dissenting parties, as the Petrosurians, Catharists, Picards, &c.; but in the prevailing church, for important reasons, it was retained. In 1521, when the progress of the reformation had opened the way to new opinions, some encyclical of infant baptism appeared at Zwicking, in Saxony, united partially with the rebels in the peasants' war, and were completely separated, by their lawful fanaticism, from the Protestant cause. (See *Muster.*) With the baptism of adults, performed even by laymen, they connected general principles suitable to all religious persuasions. They acknowledged neither ecclesiastical nor civil authority; and attempted to bring about a perfect equality of all Christians. The vast increase of their adherents from the year 1524, especially among the common people on the Rhine, in Westphalia, Holstein, Switzerland, and the Netherlands, were soon met by severe measures on the part of the magistrates. After 1525, imperial and ecclesiastical decrees were issued against the Anabaptists in Germany, and many were put to death, after being urged to recant. The same happened in Switzerland and in the Netherlands. Still, new associations of this sect were perpetually formed by itinerant prophets and teachers; and their doctrines consisted of the following propositions: 'Impiety prevails everywhere. It is therefore necessary that a new family of holy persons should be founded, enjoying, without distinction of sex, the gift of prophecy and skill to interpret divine revelations. Hence they need no learning; for the internal word is more than the outward expression. No Christian must be suffered to engage in a legal process, to hold a civil office, to take an oath, or to hold any privilege; but a man is innocent in the common.' With such sentiments, John Beckett, or Bockelius, a tailor of Leyden, aged twenty-six, and John Matthias, or Matthiesen, a baker of Haarlem, came, in 1533, to Munster, in Westphalia, a city which had adopted the doctrines of the ref. 

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**AMUSETTE—ANABAPTISTS.**
nition. Here they soon gained over a portion of the excited populace, and, among the rest, Roth- 
man, a Protestant clergyman, and the counsellor Knipperdolling. The magistrates in vain ex- 
cluded them from the churches. They obtained possession of the keys of the synagogues by violence, and for a time had a free hand in the SYNAGOGUES. In the 
daily increased, and, towards the end of the year, 
exorted a treaty, securing the religious liberty of 
both parties. Being strengthened by the acces- 
sion of the restless spirits of the adjacent cities, they 
soon made themselves masters of all that was 
within their power, and extended their influ-
ence to the provinces. Mathiesen came forward as their prophet, and persuading the people to devote their gold and silver, and moveable 
property, to the common use, and to burn all their 
books but the Bible. But in a sally against the 
bishop of Munster, who had laid siege to the city, 
he lost his life. He was succeeded in the prophetic 
office by Bockhold and Knipperdolling. The 
churches were destroyed, and twelve judges were 
set over the tribes, as in Israel; but even this form 
of government was soon abolished, and Bockhold, 
under the name of John of Leyden, raised himself to the 
position of a pope. He stately granted to 
Munster styled their kingdom), and caused himself 
to be formally crowned. From this period 
(1534), Munster was a theatre of all the excesses of 
fanaticism, lust, and cruelty. The introduction of 
polygamy, and the neglect of civil order, concurred 
from the infatuated people the avarice and madness 
of the young tyrant, and the daily increase of danger 
from abroad. Bockhold lived in princely luxury 
and magnificence; he sent out seditious proclama-
tions against neighbouring rulers, against the pope 
and Luther; he threatened to destroy with his mob 
all who differed in opinion from him, made himself 
an object of terror to his subjects by frequent execu-
tions, and, while famine and pestilence raged in the 
city, persuaded the wretched, deluded inhabitants to 
submit to a stubborn resistance of their besiegers. The city 
was at last taken, June 24, 1535, by treachery, 
though not without a brave defence, in which Roth-
man and others were killed, and the kingdom of 
the Anabaptists destroyed by the execution of the 
chief men. Bockhold and two of his most active 
companions, Knipperdolling and Kretchting, were 
tortured to death with red-hot pincers, and then 
hung up, with their tongues on St. Lambert's steeple at 
Munster, as a terror to all rebels.—In the 
mean time, some of the twenty-six apostles, who were 
sent out by Bockhold to extend the limits of his 
kingship, had been successful in various places, and 
many independent teachers, who preached the same 
doctrines, continued active in the work of founding 
a new empire of pure Christians, and propagating 
their visions and revelations in the countries above- 
mentioned. It is true that they rejected the prac-
tice of polygamy, community of goods, and tolerance 
towards those of different opinions, which had 
prevailed in Munster; but they enjoined upon their 
adherents the other doctrines of the early Anabap-
tists, and certain heretical opinions in regard to the 
humanity of Christ, occasioned by the controversies 
of that day about the sacrament. The most cele-
bated Anabaptist prophet was Melchior Hoffmann, and David Joris. The former, a farmer 
from Swabia, first appeared as a teacher in Kiel, in 
1527; afterwards, in 1529, in Emden; and finally, 
in Strasbourg, where, in 1540, he died in prison. He 
formed, chiefly by his magnificent promises of a 
future kingdom and bliss, a peculiar sect, whose 
scattered members retained the name of Hoffmannists, 
in Germany, till their remains were lost among the Anabaptists. They have never 
owned that Hoffmann recanted before his death.

David Joris, or George, a glass-painter of Delft, 
born 1501, and re-baptized in 1534, showed more 
depth of mind and warmth of imagination in his 
various works. Amidst the confusion of ideas, 
which prevailed in them, they dualed by their eleva-
tion of character, and the noble defects of the 
discordant parties of the Anabaptists, he collected a 
party of quiet adherents in the country, who studied 
his works (as the Gichtelians did those of Boime), 
especially his book of miracles, which appeared at 
Dordrecht in 1546, and revered him as a kind of new 
Messiah. Under a wave of persecution he travelled 
a long time from place to place, till, at last, to avoid 
persecution, in 1554, he became a citizen of Emden, 
under the name of John of Bruges. In 1566, after 
an honourable life, he died there, among the Calvin-
ists. In 1550, his long-concealed heresy was first 
made public. He was accused, though without much 
reason, of profligate doctrines and conduct, and 
the council of Emden condemned him, and ordered his 
body to be burnt. A friend of Joris was Nicholas, 
the founder of the Familists, who do not belong, 
however, to the Anabaptists. After the disturbances 
at Anabaptist convents, and the peasantry and 
among the Protestants, that no heretic could be punished 
with death unless he was guilty of exciting disturb-
ances; hence these and similar parties of separatists 
were permitted to remain unmolested, provided they 
continued quiet. But, till after the middle of the 
16th century, prophets were constantly rising up 
among the Anabaptists, and subverting civil order. 
Of the heretics executed by Alva in the Spanish 
Netherlands, a large proportion were Anabaptists. 
In fact, they were never worthy of toleration, still 
quiet and good order were introduced among them. 
The Anabaptists, to obtain this change, did not 
prevent the division, which took place among them 
as early as 1554, in regard to the degree of severity 
necessary in case of excommunication. The stricter 
party punished every individual transgression against 
morality and church order; the moderate party, 
and carried their severity so far that near relations, 
even husbands and wives, were obliged to renounce 
all connexion with one another, in case of such pun-
ishment. The more moderate party proscribed to 
re-excommunication only in case of long-continued 
disobedience to the commands of the Holy Scriptures. 
Moreover, they never inflicted this punishment till 
after various kinds of warnings and reproofs (gradus 
admonitionis), and even then it did not extend be-
ond the relation of the individual excommunicated 
with the church. As neither party would yield, and the 
Anabaptists have continued, to this 
day, divided into two parties. The moderate party 
were called Waterlanders, because their earliest 
congregations lived in the Waterland, on the 
Pampus in the north of Holland. The 
strict party they were called the Gross, and even 
the Dung-carts, as a designation of their inferior 
purity. This latter party, who consisted of the 
Frieslanders in and about Emden, Flemish refugees 
(Flemingrians), and Germans, called themselves the 
Pure, and pretended to an extraordinary purity. 
Menno did not wholly adopt the excessive rigour of the 
Pure, nor yet would he abandon the Frieslanders, 
among whom he taught. Immediately after his 
death, in 1565, a contest broke out among the Pure,
ANABAPTISTS.

and they divided into three parties. Of these, the Flemings were more severe and fanatical than the rest, and maintained the utmost severity in regard to excommunication; the Frieslanders did not indeed exercise this discipline on whole congregations, nor even on persons who had been rebaptized for the bearing of arms, marriage with a person out of their church, extravagance in dress or furniture, they punish by excommunication, without gradus admonitionis, and extend their discipline to domestic life. Those of Dantais excelled persons who had their portraits painted, as a punishment for their vanity. In general, they strive to imitate, with the utmost exactness, the simplicity and purity, and the democratic government, of the earliest apostolic church, the restoration of which was originally the object of every Anabaptist. Hence they appoint their teachers by a vote of the whole church, forbid them to enjoy any political office, and place but little value on learning. In modern times, it is true, they have gradually remitted their severity, and given up, in particular, the rebaptism of proseletes from other Anabaptist sects; while Christians, who have only been baptized, are of course not permitted to exercise the right of the Anabaptists only after rebaptism. The Flemings, Frieslanders, and Germans, who had united, 1640, and at first belonged also to the Pure, gradually sided with the moderate party, with which they are now reckoned.—A division took place in the general church of the United Waterlanders, Flemings, Frieslanders, and Germans, in 1664, on account of the favour with which a part of them regarded the doctrines of the Remonstrants. Galenus Abrahamsseom, of Haen, a learned physician, and teacher of the Anabaptists, of a gentle disposition and distinguished talents, was the leader of this new party, which was called, after him, the sect of the Galenists. He maintained that sound doctrine is less decisive of Christian worth than a pious life; and, therefore, church-communion should be refused to no virtuous person, believing in the Scriptures. But he betrayed, by these opinions, his Socinian views of Christ and the Holy Ghost. Samuel Apostool (also a physician and teacher of the church) and the orthodox party in it, declared themselves opposed to such innovations, and determined to maintain their ancient faith and discipline.—Besides the blemishes of the doctrine of the Galenists, the proper Pure, described above, there are now two leading parties of Anabaptists,—the Apostoolians, who, from their attachment to the ancient confessions, founded on the doctrines of Menno, are called Mennonites, in a more limited use of that word; and the Galenists, who are likewise styled Remonstrants and Arminian Baptists, after Arminius, the founder of the Remonstrants. The Mennonites, as they belong to the moderate party, no longer maintain Menno's doctrine of the creation of Christ in the womb of Mary; they rebaptize no proselyte, and punish none but gross offenders with external discipline, and that not without previous warning. They do not require church-members utterly to avoid the excommunication. They carefully prohibit oaths, military service, and the holding of civil offices. The confession of faith of the true Mennonists, composed by Cornelius Hess, one of their teachers, and published in German, at Hamburg, in 1776, corresponds, in almost every point, with the doctrines of the Calvinist church.—The Remonstrants have departed the most widely from the faith and order of the ancient Anabaptists. They reject all symbolical ordinances, deny the existence of the most ancient religious assemblies, and their own party, like the Pure, but even in religious assemblies. Like Anabaptists in general, they view as improper, oaths, the discharge of civil offices, and all defence of property, liberty, or life, which requires violence against their fellow men. Hence they were formerly called, without distinction, the unarm'd Christians. Only in this particular, and in church-discipline, are the ancient Flemings more strict than the other Anabaptists, and the destruction of their family relations; the Germans were distinguished from the Frieslanders only by more carefully avoiding all luxury. To the party of these Germans belonged those who were settled in Holstein, Prussia, Dantais, the Palatinate of the Rhine, Julieris, Alsace, and the numerous Anabaptists, who inhabited Moravia till the thirty years' war. In 1591, they were united again with the Frieslanders by means of the concept of Cologne, so called, or articles of faith, chiefly because their separation was injurious to commerce, in which the Anabaptists soon became much engaged. With these two sects, thus connected, after many attempts towards reconciliation and friendship, the strictest Anabaptists at length joined themselves, and certain articles of faith were adopted by the whole body. But these arrangements were insufficient, and the parties again parted, as the first one executed another. Soon after the union of the Frieslanders with the Germans, a large number of malcontents left the former, because they were displeased with this connexion, and the laxness of the church discipline. Under Jan Jacob, their teacher, they constituted a separate church on the most rigid principles. They were not numerous. During the negotiations of the Flemings with the Frieslanders, there appeared among the former a Friesland peasant, Uke Wallis, who held the opinion that Judas and the high-priest were blessed, because in the murder of Jesus they had executed the designs of God. In 1637, he collected a party of individuals, who adopted this opinion, but still remained distinct from the other Anabaptists, on account of their aversion to the excessive strictness of the ancient Flemings. The Uke-Wallisists, or Groningenists, so called because the sect arose in the territory of Groningen, received the malcontents of the united parties, and therefore called themselves emphatically the ancient Flemings, or the ancient Frieslanders; but, by their adversaries, they were denominated the Dompeters, i. e. Dippers, because some of their church-members refused to wash the feet of the body of the whole body. The other Anabaptists, on the contrary, regarded the sprinkling of the head as sufficient. Beyond Friesland, though not numerous, they spread to Lithuania and Dantais. The Anabaptists in Galilea, a part of the ancient Moravia, who were divided, on account of their dress, into Buttoners (those who buttoned their clothes) and Pinners (those who used wire instead of buttons, and wore long beards), and comprehended about twenty-four families of the simple country people, agreed with the Uke-Wallisists in maintaining the strictest sect of Anabaptists, persevere firmly in the ancient doctrines and practices of the sect. They reject the word person, in the doctrine of the Trinity, and explain the purity of the human nature in Christ, according to Menno, by saying, that he was created out of nothing by God, in the womb of Mary, although he was nourished by the blood of the mother. They view the baptism of their own party as alone valid, and practise the washing of feet, as an act connected with the washing of hands, and the meat of the Passover; hence they have amongst them many Socinians. They tolerate, in the bosom of the church, those of a different faith, and receive Christians of all creeds, but
ANACHARSIS Seldom and Anacharsis of sciences, sacraments, more order, nearly (id-many, sacrament, the dam. They only William these personally anachoret, latter which 150 the Greece. Pure are a knowledge of the return, the religious differed these, for the Elder, the other, in the instances, (q. manufacturing the, the cell. But, the popular, the Pythagoreans, and Platonists recommended the self-denial and the quiet happiness of the solitary sage. Vasiari calls solitude the delight and school of great minds. In many parts of the East, where a sombre religion throws over life a melancholy shade, it has been thought, from the earliest churches, that the world is ever the busy world, and even to add bodily pain to the melancholy of solitude. This spirit, which still prevails in the East, passed over, with many other Oriental ideas, doctrines, and customs, to the early Christians, and the state of the world, in the beginning of the Christian era, was peculiarly fitted to favour its growth. The continual prevalence of bloody wars and civil commotions, at this period, must have made retirement and religious meditation agreeable to men of quiet and contemplative minds. Accordingly, we find, in the first centuries of our era, very eminent and virtuous men among the anachores, and they may give an idea of the world where Christianity became blended with the Grecian philosophy, and strongly tinged with the peculiar notions of the East, the anachores were most numerous; and from those who lived in cells, in the vicinity of a church, such as Moore describes in the Evangel, the convents of a later period sprung, which were filled with inmates anxious to escape from the tumult and bloodshed, which marked the beginning of the middle ages. Early in the seventh century, the councils began to lay down rules for the order of anachores. The Trullan Council laid down rules; and we shall first, for three years, be confined to a cell in a monastery; and if, after this, they profess that they persist, let them be examined by the bishop or abbot, let them live one year at large, and, if they still approve of their first choice, let them be confined to their cell, and not be permitted to go out of it but by the ordain and after the benediction of the bishop, in case of great necessity." Frequently, at this period, the monks of various abbeys would select from among them a brother, who was thought to be most exemplary in his profession, and devote him to entire seclusion, as an honour, and give him the greater opportunity of indulging his religious contemplations. In Fosbrooke's Monachism, 410, 1817, the ceremony by which an anachoret was consecrated to seclusion from the world is described at length. The cells in which the anachorists lived were, according to some rules, only twelve feet square, and many so much as the latter ranged at liberty, while the former rarely, and, in many instances, never, quitted his cell. But a convent was sometimes surrounded by a laura, to which the more devout or the more idle of the monks would ultimately retire. Paul the Hermit is said to have been the first person who devoted himself to this kind of solitude. In all ages and in all countries, retirement from the world has been considered as facilitating the attainment of a virtuous life, adding strength to strong characters, and enabling the mind to follow out great ideas without interruption. The prophets prepared themselves in solitude for the carrying on of their extensive and important work. Pythagoreans, Stoics, and Platonists recommended the self-denial and the quiet happiness of the solitary sage. Vasiari calls solitude the delight and school of great minds. 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ANACLETUS.-ANALOGY.

in ingenious self torture; e.g. in eternal silence, heavy chains, severe flagellations, singing psalms in cold water during winter nights, &c. Tantum religio potuit nudare malorum? This species of devotion, originally introduced, as we have said, from the warm climate of the East, found many more adherents in the south of Europe than in the north. With the revival of science, and the consequent diffusion of more liberal views, the strictest kind of anachorets have almost entirely disappeared. Few men now retire to my seclusion more strict than that of a convent. Some persons, who pass a solitary life in the neighbourhood of Rome, call themselves anacho- rets, and have their republi- cations, the practice still prevails in all its severity.

ANACLETUS; there were two popes of this name. The first is said to have suffered death as a martyr, A.D. 91. All the other stories respecting him, e.g. that he divided Rome into twenty-five parishes, are uncertain.—The second, the grandson of a hap- tiated Jew, at first called Peter de Leon, was a monk in Cluny, a cardinal and papal legate in France and England, and, in 1130, competitor for the papal chair, against Innocent II. Rome, Milan, and Sicily were on his side, and Roger of Sicily received from him the royal title. He also maintained himself against Lothaire II., and died 1138.

ANACOLOTHION, in grammar and rhetoric; a want of coherency. This often arises from want of attention on the part of an orator or author. Such an omission may proceed from passionate feeling, and the anacolutha may then become a beauty. Many anacolutha are peculiar to certain languages.

ANACREON, whom the Greeks esteem one of their nine greatest lyric poets, was born at Teos, in Ionia, and flourished about 500 B. C. Polycrates, king of Samos, invited him to his court, and bestowed on him a chair, and the name of Anacreon, which was inspired by wine and love. After the death of his protector, he went to Athens, where he met with the most distinguished reception from Hipparchus. The fall of the latter drove him from Athens, and, probably, he returned to Teos. But when Ionia revolted from Darius, he fled to Abdera, where he passed a gay and happy old age, and died in his 85th year. According to tradition, he was choked by a grape-stone. The city of Teos put his likeness upon its coins; his statute was placed on the Acropolis, in Athens, and he was held in honour throughout Greece. Only a small part of his works has come down to us. Of five books, there are sixty-eight poems remaining, under the name of A. Among these, criticism acknowledges but few as genuine. Those generally believed to be A.'s are models of delicate grace, simplicity, and ease. The difficulty of attaining these excellencies is proved by numberless unsuccessful imitations, unworthy of the name of Anacreontics. The measure in which A. composed his poems, and which is called after him, is commonly divided into three ambixoles, with a cesura. But, according to Herrmann, it consists of the Ionia a majore, with the anacrusis:

Among the best editions are that of Spolleti, Rome, 1791, 4to; that of Fischer, Leipzig, 1793; and that of H. V. Festersen, 1796. Last editions. The latest are that of Moebius, 1810, and that of Mehlhorn, 1825. The best English translations of Anacreon are those of Cowley, Fawkes, and Thomas Moore.

ANADROMES (Greek; she who comes forth); a name given to Venus, when she was represented as rising from the sea. Apelles painted her rising from the waves, and, according to some writers, Campaspe, the mistress of Alexander, according to others, the famous-courtian Phryne, served him as a model. Of the latter it is related, that she threw off her clothes, at a feast in honour of Neptune at Eleusis, in presence of many spectators, loosened her hair, and bathed in the sea, in order to give the painter a lively idea of the Venus Anadyomene. In the reign of Augustus, this picture was brought to Rome. Antipater of Sidon, in the Anthology, and also other poets, have celebrated its beauty.

ANAGNOSTA, or ANAGNOSTES, in antiquity; a kind of literary man, whose chief business it was to read to his master during meals. They are first mentioned by Cicero. Atticus, according to Corn. Nepos, always had an anagnostes to read to him at supper. In many convents, one of the monks still reads aloud, while the others take their meal. Charlemagne, too, heard reading during dinner and supper, generally on historical subjects.

ANAGOGY (from the Greek αναγωγη, anagogyn); one of the various modes of interpreting the text of the Bible.—To explain anagogically, means to apply the literal sense of the text to heavenly things; for instance, to understand the Fall of Adam as the symbol of the rest in heaven. Of such explanations, frequent use was made in earlier times, particularly in sermons and religious books. The bride and the bridegroom, in Solomon's Song, were and are often still referred to Christ as the bridegroom, and to his church as the bride; and the application of this figure was fre- quently carried to an indecline extreme. Even now, such extravagancies of a disordered imagination seem to be favoured, in many places, by the spirit of mysticism.—Anagogy, in medicine, signifies the return of humours, or the rejection of blood from the lungs by the mouth.

ANAGRAM (from the Greek αναγωγη and γραμμα); in its proper sense, the letters of one or several words read backwards; thus, evil is an anagram of live. In a wider sense, it means a transposition of letters, to form a new word or phrase; for instance, tone and note. An anagram is called impiure, if, in their transposition, all the letters of the given words are not used. In former times, such plays of ingenuity were popular, and we frequently find, in old inscriptions, the year and date indicated by means of an anagram. An anagram of Herakles is Lavernus. A few examples: Caro, in the title of his Institutions, called himself Alcoimus, by anagram of his name, Calvimus. In a similar way, the words Revolution Fran- caise include the words Un Corte la faire, and the significant Fete. The question of Pilate to Christ, Qui est veritatis? gives the anagram—Est vir qui ad se dechrit, Dr. Burney's anagram of Horatio Nelson is one of the happiest;—Honor est a Nilo. The name of William Noy, attorney-general to Charles I., a laborious lawyer, affords the anagram, I sloyl (toil) in law. A very curious work respecting the subject of this article is, Z. Celsoiri (Christ, Serpulii) de Anagrammatibus Libri ii., quorum prior Theronum, posterius Anagrammatographia celebris, eam Appen- dice selectorum Anagrammatum exhibet; Ratisbona, 1713, in 8vo. 

ANALECTA (from the Greek analelyw, I gather); extracts from different works; e.g. analexus of phil- losophy, of history, of the law, of literary history. The modern analexist, Wolf, was called Analecta. —With the ancients, analeceta signified a servant, whose business it was to gather up what fell from the tables, at meals; as the pavements of the Roman roads were sometimes too finely inlaid to admit of sweeping.

ANALOGY originally denotes a relation, similarity,
or agreement of things in certain respects. The knowledge which rests merely on this relation is called analogical. The conclusion from the similarity of things in certain respects, that they are similar, also, in other respects, is called, in logic, an analogical conclusion, and amounts only to a probability. This reasoning is applied to the explanation of authors (analogia interpretationis), and particularly to the interpretation of the Holy Scriptures, in which consistency of doctrine is taken for granted (analogia fidei). It is also used in the application of the laws, to form a judgment, in any particular case, by a comparison of former decisions in similar cases. In practical medicine, it is used in the application of remedies to cases of disease, in which the doctrines of experimental philosophy are established by inferring a further uniformity from that which has been already settled. In grammar, by analogy is meant a conformity in the organization of words. In mathematics, it is the similitude of certain proportions. Newton gives analogy the second place among his laws of philosophizing, and may be said to have established some of the most characteristic parts of his system, as arising out of the doctrine of gravitation, on its sober and patient use. In fact, analogical reasoning is essential in inductive philosophy, though it must be used with caution. The history of philosophy shows innumerable instances of the wildest errors, as well as of the sublime discoveries arising from its application. The modern philosophy of Germany has suffered much in point of correctness and clearness, from several bold speculators, led away by fancied analogies between the moral and physical world; though it cannot be denied, that much of the progress of that nation in philosophical investigations is due to the use of the same instrument.

Analysis, in philosophy; the mode of resolving a compound idea into its simple parts, in order to consider them more distinctly, and arrive at a more precise knowledge of the whole. It is opposed to synthesis, by which we combine and class our perceptions, and contrive expressions for our thoughts, so as to represent their several divisions, classes, and relations. Analysis is regressive, searching into principles; synthesis is progressive, carrying forward acknowledged truths to their application. Analysis, in mathematics, is, in the widest sense, the expression and development of the functions of quantities by calculation. There are two ways of representing the relations between quantities, to wit, by construction, and by calculation. Propositions are determined all quantities by construction, i.e. by the mental drawing of lines, whose intersections give the proposed quantities; analysis, on the contrary, makes use of symbolic formula, called equations, to express relations. In this widest extent of the idea of analysis, algebra, assisted by literal arithmetic, appears as the first part of the system. Analysis, in a narrower sense, is distinguished from algebra, inasmuch as it considers quantities in a different point of view. While algebra speaks of the known and unknown, analysis treats of the unchanging or constant, and of the changing or variable. The algebraic equation, \( a + b = c \), for example, seeks an expression for the unknown \( x \) by means of the known \( a \) and \( b \); but the analytical equation, \( y \), expresses the law of the formation of the variable \( y \), by means of the variable \( x \), together with the constant. In its application to geometry, analysis seeks by calculation the geometric magnitudes for an assumed or undetermined term. The analysis of the ancients was exhibited only in geometry, and made use only of geometrical assistance, whereby it is distinguished from the analysis of the moderns, which, as before said, extends to all measurable objects, and expresses in equations the mutual dependences of magnitudes. But analysis and algebra resemble each other in this, that both, as is shown more fully in the article on algebra, reason in a language, into the expressions of which certain conditions are translated, and then, according to the rules of the language, are treated more fully, in order to discover the result. Analysis, when considered in this light, appears to be the widest extent of the province of this language. Analysis, in the more limited sense, is divided into lower and higher, the bounds of which run very much into one another, because many branches of learning are accessible in both ways; and both are comprised in lower analysis, besides arithmetic and algebra, the doctrines of functions, of series, combinations, logarithms, and curves, we comprehend in the higher the differential and integral calculus, which are also included in the name infinitesimal calculus; the first of which the French consider as belonging, in a wider sense, to the théorie des fonctions analytiques. A good account of the ancient analysis is given by Pappus of Alexandria, a mathematician of the 4th century, in his Collection of Geometrical Problems, in which there is also a list of the analytical writings of the ancients. What progress was made after the destruction of the Roman empire, particularly in algebraical and geometrical, and, as interwoven with them, in analytical inquiries, has been related in the article on algebra. Newton and Leibnitz (q.v.) invented the above-mentioned infinitesimal calculus. After them, Euler and the brothers Bernouilli (q.v.) laboured with splendid success for the further improvement of mathematical analysis; and, in later times, d'Alambert, Laplace, Lagrange, &c. have raised it still higher. Hindenburg (q.v.) is the inventor of the analysis of combinations. We have no room here to go into detail with respect to the other analytical doctrines. Euler's Introducet in Analysin Infinitos; Lausanne, 1748, 2 vols. (new ed., Leyden, 1797) still continues one of the most important works, in regard to the analysis of finite quantities. In close connexion with this stand the same author's Institutiones Calculi differentialis, Petersburg, 1755, 4to. Lagrange's Théorie des Fonctions Analytiques (new ed., Paris, 1813, 4to.) is, on account of the depth of its views and its many valuable applications to geometry and mechanics, a valuable work for the study of the connexion between the analysis of finite quantities, and the so named (though, indeed, here considered in a different light) Analysis of Infinitesimals. As this work cannot be understood without a good acquaintance with general and very abstract calculations, we would connect with it the same author's Leçons sur le Calcul des Fonctions (new ed., Paris, 1800). Arbogast's Calcul des Dérivations, Strasburg, 1800, 4to, is new in its views of the analysis of finite quantities. The most excellent of the old works on the integral calculus is Euler's Institutiones Calculi Integralis, Petersburg, 1768—1770, 3 vols., 4to. The present state of the integral calculus, after the improvements of the French analysts, may be learned from Lacroix's Traité du Calcul différentiel et du Calcul Integral, Paris, 1817, and seq., 3 vols., 4to. (There has since appeared a new edition.) For beginners, we recommend Pasquich's Mathematical Analysis, Leipsic, 1791, and, for more advanced students, the same author's Ele-  * There is a Latin translation of it by Commandino.—Mathemat. Colloquium, Commentariorum Illustrata, Bonn, 1659, folio. The Greek text is not published.
* It is not an account of the application which is here made of the idea of the infinite, and its connexion with the higher analysis.
menta Analyseus subliminarii, Leipzig, 1739, 4to.  
Nurmbager's Exposition of the Formation of all derived Functions, Hamburg, 1821, treats this subject in a new point of view. For A. in chemistry, see Chemistry.

ANAMORPHOSIS; a perspective projection of any thing so that it shall appear at one point of view deformed; at another, an exact representation.

ANASANAS; in botany; a species of *bromelia*, commonly called *pine-apple* (q. v.), from the similarity of its shape to the cones of firs and pines.

ANAPLAST. See Rhythm.

ANAPHORA; a repetition of a word or phrase at the beginning of several successive sentences. A similar repetition at the end of sentences is called *epiphora*, or *homoiolotolon*. *Anaphora* is sometimes used as the general name for both figures; the former is then called *epanaphora*. The anaphora aims to increase the energy of the phrase, but is often rendered ineffectual by too frequent repetition.

ANASTASIS I., emperor of the East, succeeded Zeno, A.D. 491. He distinguished himself by his moderation towards different Christian sects, whose quarrels at that time disturbed the peace and safety of the Byzantine empire. Moreover, he repealed a very heavy tax, called *ehorygrymum*, and prohibited the fighting with wild beasts. He died A.D. 518, after a reign of twenty-seven years. — A. II. was another emperor of the East, dechristened by Theodosius, in 719, and afterwards put to death. — A., sur- named *Bibliotheconomus*, a Roman abbot, keeper of the Vatican library, and one of the most learned men in the 9th century, assisted, in 859, at the fourth general council, the acts and canons of which he translated from the Greek into Latin. He described the lives of several popes, and other works, the best edition of which is that of the Vatican, 4 vols. fol. 1718.

ANATHEMA (curSED by God) is the form of excommunication from the church. Hence, to pronounce the anathema, or to anathematize, means, in the Roman Catholic church, to excommunicate the living from the church, and the dead from salvation. How important an instrument of spiritual power the anathema was, in the hands of the popes, in the middle ages, how much disorder they gave rise to, and how little regard the popes paid to the censure of the time, is a matter of history. Napoleon died in excommunication, and yet a priest attended him, and the circumstance is hardly mentioned. — Originally, the word was applied to various persons and things separated from ordinary life or uses to the will of a real or supposed deity, a gift hung up in a temple, and dedicated to some god, a votive offering; but as the word is derived from *anathan*, (to separate), it has been, in later ages, used for *expulsion*, *curse*. The Greek and Roman Catholic churches both make use of the anathema. In the latter it can be pronounced only by a pope, council, or some of the superior clergy. The subject of the anathema is declared an outcast from the Catholic church, all Catholics are forbidden to associate with him, and utter destruction is denounced against him, both body and soul. The curse is terrible. Mere excommunication is less severe. The heretic has also to anathematize his errors. Once in every year, the pope publicly repeals the anathema against all heretics, amongst whom the Protantists, Luther, &c., are mentioned. When councils declare any belief heretical, the declaration is couched in the following form: *Si quis daret*, &c., fore, *si quis praestaret* or *si quis declararet*. The decisions of the councils. See *Excommunication*.

ANATOMICAL PREPARATIONS. Dead bodies and parts of bodies, notwithstanding their tendency to decomposition, can be preserved by art. It is important to the physician, for the determination of the medical treatment proper in similar cases, to preserve the organs, which have been attacked by diseases, in their diseased state, and, as a counterpart, the same organ in its sound condition. The anatomist is able to point out the parts of healthy parts may serve for instruction in anatomy. Preparations of this sort can be preserved either by drying them, as is done with skeletons, or by putting them into liquids, e. g., alcohol, spirits of turpentine, &c., as is done with the intestines and the other soft parts of the alimentary and excretory system. The last-mentioned is used with vessels, the course and distribution of which are to be made sensible, and the shape of which is to be retained. The beginning of the vessels, e. g., the aorta among the arteries, is filled, by means of a syringe, with a soft, coloured mass, which permeates into all, even the smallest branches of the vessels, dries them and makes them visible. The finest capillary vessels may be thus made perfectly distinguishable. The infusion usually consists of a mixture of soap, pitch, oil, and turpentine, to which is added a colouring substance; for instance, red for the arteries, blue for the veins, which is then allowed to pass through the lymphatic vessels. For very fine vessels, e. g., for the absorbing lymphatic vessels, quick-silver is preferred on account of its extreme divisibility. Dried preparations are the bones, cleared of all the soft parts by boiling, and bleached, or any of the soft parts, covered with a protecting but transparent varnish; e. g., muscles, intestines, &c. The quicker the drying of the organs destined for preparation can be effected, the better they will be preserved. For the purpose of preserving them, alcohol is used; the more colourless, the better. Spirits of wine, distilled with pitch, or varnish, or very strong pumice, is also used, together with some muriatic acid. Washing with acids (lately, pyro-ligicous acid has been used) gives to the preparation sometimes firmness, and sometimes whiteness. Washing is particularly necessary with bones which are in a state of putrefaction. Muscles are usually tanned; and all that is in danger of being eaten by worms, or injured by a damp atmosphere, is covered with a suitable varnish. The preparations treated thus are fixed upon a solid body, or in a frame. Preparations preserved in liquids are usually kept in transparent glasses, hermetically sealed. They are kept for years in influences of dust, air, humidity, heat, cold, the sun, insects, &c. Damaged preparations can seldom be perfectly restored.

ANATOMY (Greek, *anatomeus*, to dissect); the art of dissection; that of brutes is frequently called *anatomy*. Anatomy is a part of natural history, and that is one of the most important branches of the science of medicine. The dissection of the human body was but little practised by the ancients. The old Egyptians held it in great abhorrence, and even pursued with stones those men, who, in embalming the dead, were obliged to cut open their bodies. The Greeks were prevented by the principles of their religion from studying anatomy, since these required them to bury the bodies of the deceased as soon as possible. Even in the time of Hippocrates, anatomical knowledge was imperfect, and was probably derived from the dissection of animals; the skeleton, however, was better known. When, in later times, under the Ptolemies, Alexandria in Egypt became the seat of the arts and sciences, anatomy was also brought to a high degree of perfection, by Herophilus of Chalcodon, 300 B. C., and by Erasistratus of Chios. According to these testimonies, they obtained permission to open living criminals. He enriched anatomy with many important discoveries;
ANATOMY.

e.g. respecting the brain, the functions of the nerves, the blood-vessels of the mesentery, which go particularly to the intestines, and the facts in the construction of the brain with greater distinctness, and, among other improvements, gave to the valves of the vena cava the names which are yet used. In later times, the study of anatomy was again neglected, particularly by the empirics. Galen, educated at Alexandria, after A. 151, collected all the anatomical knowledge of his contemporaries, and of earlier physicians, but seems not to have much enriched human anatomy himself, as he was principally occupied with the dissection of animals, and only applied his observations on them to the structure of the human body. Among the Arabians anatomy was not practised; it was forbidden by their religion. Their physicians, therefore, took their anatomical information merely from the writings of the Greeks, particularly from those of Galen. Thus anatomy was checked in its progress for several centuries. Finally, in the fourteenth century, individuals arose, who, not satisfied with the anatomical instruction of the age, ventured to make investigations of their own. The superstitious fear of the dissection of human corpses, which had hitherto prevailed, appeared to subside by degrees, when a philosophical spirit gave birth to the thought of the anatomical professor at Bologna, first publicly dissected two corpses, in 1315, and soon afterwards published a description of the human body, which for a long time was the common compendium of anatomy, though many errors were contained in it. From this time it became customary, in all universities, to make public dissections once or twice a year. But anatomy, however, made but slow progress, since the dissections were intended only as illustrations of the writings of Galen and the compendium of Mondini. Mondoni, alone, professor at Padua in the 15th century, could boast of having performed fourteen dissections, which was then a great number. In the 16th century, there were many celebrated anatomists, by whose influence the study of anatomy became more general. Fallopia, Eustachia, Vesalius, Vareol, and many others enriched anatomy with new discoveries. In the 17th century, there were likewise many famous anatomists, and many discoveries were made; thus Harvey discovered the circulation of the blood, Winsung the pancreatic duct, Schneider the mucous membrane, &c. In the 18th century, Pacchioni, Valsalva, Keil, Lancisi, Ruisch, Haller, Boerhaave, Vieuss, D'Azir, the two Hunters, and others, distinguished themselves. In the second half of the 18th century, Meckel, Sommerring, Loder, Reil, Bichat, Rosenmuller, are worthy to be mentioned as renowned anatomists of later times. According to the parts of the body described, the different divisions of anatomy receive different names; as, osteology, the description of the bones; myology, of the muscles; dermology, of the ligaments and sinews, &c.; splanchnology, of the viscera or bowels, in which are reckoned the lungs, stomach, and intestines, the liver, spleen, kidneys, bladder, pancreas, &c. Angiolog describes the vessels through which the liquids in the body are conducted, including the blood-vessels, which are divided into arteries and veins, and the lymphatic vessels, part of which absorb the chyle from the bowels, while others are distributed through the whole body, absorbing the secreted humours, and carrying the blood back into the blood. Neurology describes the system of nerves and their branches, dermology, of the skin. Comparative anatomy is the science which compares the anatomy of different classes or species of animals; e.g. that of man with quadrupeds, or that of fish with quadrupeds. It is a science which has greatly increased our knowledge of nature, and affords one of the most interesting subjects of study. Among anatomical labours are particularly to be mentioned many improvements in the preserv ing of anatomical preparations. (q.v.) By preparing, we mean the separating of any organ, or of an entire system, or of single parts, from all the other parts of the body. Thus, for instance, the whole system of bones, cleared from all the adherent muscles, and other parts, is prepared, and so called the skeleton; so, too, the muscles, intestines, their vessels and distributions are laid open in order to examine their peculiar construction. These labours require considerable anatomical knowledge, and especially knowledge of the anatomical plate (No. 111). Fig. 1.-1. Os Fractis. 2. Vertebrae Colli. 3. Vertebrae Dors. 4. Vertebrae Lumborum. 5. Os Sacrum. 6. Os ilium. 7. Os ischi. 8. Ossis Pubis. 9. Ossa Nasi. 10. Ossa Maxillaris superiores. 11. Ossa Maxillaris inferiores. 12. Vertebrae Colli. 13. Vertebrae Dors. 14. Vertebrae Lumborum. 15. Os Sacrum. 16. Sternum. 17. Scapula. 18. Costae Vere. 19. Costae Laterales. 20. Processus coracoideus. 21. Os Humeri. 22. Ulna. 23. Os Ilium. 24. Crista Osis IIII. 25. Ischium. 26. Os Pubis. 27. Foramen magnum. 28. Os Femoris. 29. Trochanter major. 30. Trochanter minor. 31. Patella. 32. Tibia, 33. Fibula. 34. Caput Osis Femoris. 35. Ossa Tarsi.-Fig. 2.-1. Os parietale. 2. Sutura sagittalis. 3. Sutum lambdoideal. 4. Os occipitale. 5. Sutura squamais. 6. Maxilla inferior. 7. Vertere Colli. 8. Vertebra Dors. 9. Vertebra Lumborum. 10. Os Sacrum. 11. Os Coccygis. 12. Clavicula. 13. Scapula. 14. Spina Scapulae. 15. Acromion. 16. Os Humeri. 17. Ulna. 18. Radius. 19. Os Carpi. 20. Os Metacarpis. 21. Os Digi torum. 22. Ilium. 23. Ischium. 24. Os Femoris. 25. Colium Osis Femoris. 26. Trochanter major. 27. Trochanter minor. 28. Condylus exterior Osis Femoris. 29. Condylus interior Osis Fe moris. 30. Tibia. 31. Fibula. 32. Os Calcaneum. 33. Ossa Tarsi. 34. Ossa Metatarsi.-Fig. 3.-1. Frontales. 2. Orbicularis Palpebrae. 3. Zygomaticus major. 4. Nasale Labri superior. 5. Depressor Labri inferioris. 6. Depressor anguli Oris. 7. Platysma myoides. 8. Pterygoideus. 9. Lattisimus Dorsi. 10. Serratus magnus. 11. Extensor obliquus abdominis. 12. Rectus abdominis. 13. Pyriformes. 14. Linea alba. 15. Gracilis. 16. Adductor longus triceps Femoris. 17. Pectineus. 18. Psoas magnus. 19. Iliacus internus. 20. Sartorius. 21. Gluteus medius. 22. Fascialis. 23. Vasgus externus. 24. Semimembranosus. 25. Semitendinosus. 26. Pars bipicis. 27. Pars Gastrocnemii. 28. Soleus. 29. Peroneus longus. 30. Extensor longus digit Pedis. 31. Tibialis anticus. 32. Deltoide. 33. Triceps. 34. Biceps. 35. Brachialis externus. 36. Supinator longus. 37. Pronator rotundus. 38. Radialis internus. 39. Palmaris longus. 40. Sublimis. 41. Ulnaris internus. 42. Abductor longus Pollicis. 43. Radialis externus longus.-Fig. 4.-1. Occipitalis. 2. Attollenis Auricularis. 3. Orbiculares Palpebrae. 4. Latissimus Colli. 5. Mastoideus. 6. Trapezius. 7. Deltoideus. 8. Biceps. 9. Brachialis internus. 10. Triceps. 11. Supinator longus. 12. Radialis internus. 13. Radialis externus longior. 14. Radialis externus brevis. 15. Ulnaris externus. 16. Abductor Pollicis longus Manus. 17. Infraspinatus. 18. Teres minor. 19. Teres major. 20. Latissimus Dorsi. 21. Biceps, 22. Brachialis internus. 23. Triceps. 24. Supinator longus. 25. Radialis internus. 26. Radialis externus Abdominis. 27. Tensor vaginae Femoris. 28. Gluteus medius. 29. Gluteus magnus. 27. Semitendinosus. 28. Biceps Cruris. 29. Vastus externus. 30. Rectus Cruris. 31. Gastrocnemius. 32. Soleus. 33. Tendo Achillis. 34. Peroneus longus.
the element material, the stone, the combination chelaus. 20. Adductor si. 1. age contended ether quick-lime, from the source of the quickening of the plants. 21. Vastus externus. 22. Glutaeus externus. 23. Soleus. 24. Tendo Achillis.

**ANATRON—ANCESTORS.**

Theus, and an original thinker was born at Miletus in the 42d Olympiad (610 B.C.) His chief study was mathematics. He discovered, or taught, at least, the inclination of the ecliptic, and determined the solstices and equinoxes, by means of the diurnal (gnomon). He first used figures, to illustrate the proportion of geometry. He was also the first who attempted to sketch the outlines of lands and seas on a globe, and made a celestial globe, for the explanation of his system of the universe. Yet his statements are not to be entirely determined by his pupil Eudoxus. The first principle of things are so obscurely stated by him, that they cannot well be ascertained. His system seems to have had that infinity, to παντίκος, the origin of all existence, from which all emanates, and to which every thing returns. He has not, however, defined the nature of this eternal, incorruptible, original matter, the parts of which are variable, the whole unchangeable. The number of worlds is, according to him, infinite. The firmament is composed of heat and cold, the stars of air and fire. The sun occupies the highest place in the heavens, has a circumference 28 times larger than the earth, and resembles a cylinder, a solid of revolution, from which it is derived. If the sun is obstructed, it appears eclipsed. The moon is, according to him, likewise a cylinder, 19 times larger than the earth; its inclination produces the phases, its entire revolution the eclipses. Thunder and lightning are productions of the wind, compressed within the clouds. The earth has the shape of a cylinder, and is placed in the midst of the universe, where it remains suspended.—He died in the 58th Olympiad (346 B.C.), 64 years of age.

**ANAXIMANDER** of Miletus flourished about the 56th Olympiad (556 B.C.). He was a disciple of Anaximenes, of Clazomenae, whose doctrines he, however, deviated. According to him, the air (αεί) is the infinite, divine, perpetually active, first principle of all things. He taught that the exterior circumference of the heavens consisted of earth; that the stars were solid bodies, surrounded by fire; that the sun, by whose course alone the seasons are determined, was flat, as well as the earth, which rests upon the air. Diogenes of Apollonia carried his doctrine still further.

**ANAXIMENES** of Miletus, was one of the prece- tors of Alexander the Great. He accompanied his pupil through most of his campaigns, and afterwards he wrote the history of his reign and events of his father Philip. He was also the author of a history of Greece.

**ANAXAGORAS,** one of the principal Ionic philosophers, born at Clazomenae, in Ionia, in the first year of the 70th Olympiad (500 B.C.), of rich and respected parents, devoted himself to the study of philosophy, under Anaximenes of Miletus, or, according to some, under Hermonithus, his countryman. At the age of twenty years, he set out on his travels, visited Egypt, and all the countries where the sciences flourished, and finally settled at Athens. There he formed an intimacy with Pericles, and numbered among his disciples the most respectable citizens; e. g. Archelaus, the natural son of Pericles, king of Macedonina, who himself reigned nine years, and Euphrates. A profound study of the natural sciences enabled him to explain the eclipses of the sun and moon, earthquakes, and similar phenomena; but, by the intrigues of his enemies, he became suspected of blasphemy, and, in consequence of this accusation, was obliged to leave Athens, in 431 B.C., and to Lampscus, where he died after three years, seven or two years old. The principle of A. was, "from nothing comes nothing." He adopted, therefore, the idea of a chaos, and, as the primary element of all bodies, a kind of atoms, of the same nature as the bodies which they formed. These atoms, in themselves monadonless, were, in the beginning, put in motion by another equally eternal, im- material, spiritual, elementary being, which he called Nous (Intelligence). By this motion, and by the separation of the dissimilar particles, and the combination of those of the same nature, the world was formed; the earthy bodies sank down, whilst the ether or fire rose and spread in the upper regions. The stars, however, were, according to him, of earthy materials, and the sun a glowing mass of stone, about as large as the Peloponnesus. The milky way he thought to be, like the rainbow, the reflection of light. The earth was, according to him, flat; as the first day of the sun. He supposed it to be suspended by the combination of the Tartessian philosophers. Archelaus of Athens was his disciple.

**ANAXIMANDROS**, son of Praxides, a disciple of...
ANCHIES—ANCHovy.

the shape of political institutions, of an erroneous transfer to a man's posterity, of the honour belonging to himself, by the sense of his having been the source of much injustice, and moral and political confusion. Another very common fault, into which mankind constantly fall, is that of suffering reverence felt for the persons of ances-
tors to produce an undue respect for their know-
ledge and wisdom,—an error which arises, perhaps,
partly from the idea of age and experience attached
to that of ancestors. The age and experience of
living ancestors demand our respect, and the same
feeling is transferred to the dead and to former ages,
which, in point of fact, were younger and less ex-
perienced than ours. In the Homer of our youth,
who, it is said, was so excited by the voyage,
shoulders
that it was ridiculous to see
a number of parties, e. g., in France, constantly recom-
mend the example of their ancestors (even of those
who lived in ages when hardly any thing in politics
was settled), as the only model to be imitated.
In-
dividuals and whole nations act as if wisdom belonged
only to the dead. The true feeling of respect for an-
cestors is that expressed by a contemporary orator,
who said, "let us not act as they did, but as they
would have acted to-day."—The Egyptians are
known to have paid particular attention to the bodies of
their ancestors; but, however, the Chinese, ever
honor their ancestors in such degree as the Chinese,
whom Confucius directed to offer them sacrifice.
Filia love, e. g., is one of the essential elements of
the Chinese religion, politics and domestic life.
Sir George Staunton (see his Embassy to China, 3
vols. 8vo.) gives several instances which support this
opinion. The inhabitants of New England are noted
for the esteem in which they hold their ancestors,
without, however, being blind to their faults.
ANCHIES, son of Cepys, and great-grandson of
Tros. Venus, captivated by his beauty, appeared to him
a morning Ida (according to some, near the river
Simois), in the shape of a Phrygian shepherdess,
and bore him Æneas. His son carried him off on
his shoulders at the burning of Troy, and made him the
companion of his voyage to Italy. He died during
the voyage, in Sicily. According to other accounts,
Jupiter killed A., with a thunderbolt, because, when
excited with wine, he betrayed the secret of his in-
timacy with Venus.
ANCHE, in navigation, is an important, strong,
and heavy instrument of iron, consisting of a shank hav-
ing at one end a ring, to which the cable is fastened,
and at the other the hawse. It is from 12 to 22
feet long, and has flat sides, or edges on each side, intended to be dropped from a
ship into the bottom of the water, to retain her in a
convenient station in a harbour, road, or river. The
most ancient anchors are said to have been of stone,
and sometimes of wood, to which a great quantity of
lead was usually fixed. In some places, baskets full of stones, and sacks filled with sand, were
employed for the same use. All these were let down
by cords into the sea, and, by their weight, stayed the
course of the ship. Afterwards, they were com-
posed of iron, and furnished with teeth, which, being
fastened to the bottom of the sea, preserved the ves-
sel immovable; whence arreti and dentes are fre-
cently taken for anchors in the Greek and Latin
poets. At first, there was only one tooth, whence
anchors were called ivertrismo; but, in a short time,
the second was added by Ephialmus, or Ancharsis,
the latter day. The third or fourth tooth, which
were called avr. 77 0 0 or ar 7 7 7 7, and, from ancient
monuments, appear to have been much the same
with those used at present, only the transverse
piece of wood upon the handles (the stocks) is want-
ing in all of them. Every ship had several anchors,
one of which, surmounting all the rest in bigness and
strength, was peculiarly termed 77; 77; or sacra, and
was never used but in extreme danger; whence anchor, from sacrum, a sacred thing. To these
sacred anchors, such as are forced to their last refuge.—Large ships, at the present day, carry several anchors, with two
flukes each. 1. The sheet anchor is the largest, and is only used in case of violent storms. 2. Two bow
anchors, viz. the best bow and small bow, so called from their situation at the bows. 3. The step
anchor, the kedge, and grappling, or grapnel. The
three last are often used for moving the ship from
to place to place, in a harbour or river.—The anchor
is said to be a-peak, when the cable is perpendicular
between the lawse and the anchor; it is said to come
aback, when it does not remain fast; the ship is said
to be foul, when the cable gets hitched about the flukes.
To sho e an anchor, is to fix boards upon the flukes,
so that it may hold better in soft bottom.—Riding
at anchor is the state of the vessel when moored or
fixed by the anchor. Dropping or casting anchor is
letting it down into the sea. Weighing anchor is
raising it from the bottom. —The anchor, as every
body knows, is the symbol of hope.
ANCHORETS. See Anchorets.
ANCHovy; a small fish of the clupea or herring
genus, constituting, in Cuvier's classification, a sub-
genus, named anchovy, or Clupea. The anchovy
(clupea engraulis, L.) is about a span
long, brownish on the back, with argentine belly and
flanks. It differs from the other herrings in having
the ethmoid and nasal bones prolonged to a
point, beneath which their very small internaxil-
aries are attached; their maxillaries are very
straight and long; the mouth and throat very wide;
both jaws well furnished with teeth, and the gills
more open than in other species. The anchovy is
found in the greatest abundance in the Mediterranean,
on the coasts of France, England, and Holland,
whiler they come in immense shoals, like the larger
herrings, for the purpose of spawning. Nets of 40
fathoms long, and from 25 to 30 feet wide, are em-
ployed to take them; these nets differ in nothing
from those commonly used, except in having very
small meshes.—The anchovy fishery, in the Medi-
erranean, is begun in the spring, and continues until
the commencement of summer, and is especially car-
ried on, in dark nights, by the aid of fires. The
fishermen provide themselves with floats, upon
which a fire of pine-knots is made, and these
are placed, at different distances, over a very consi-
derable extent of sea. The lights, with banks of
these lights, and collect near them in vast multitudes, when
the fishermen silently surround them with their nets,
annihilating the fish, and begin to beat upon the water.
The frightened fish immediately endeavour to make
their escape, and, rushing against the net, are caught
by the meshes, which, passing over their gills, neither
allow them to advance nor retreat. The fishermen,
as soon as the net appears sufficiently full, raise it,
and remove the fish, and go to repeat their opera-
tions at the next light. The Dutch, on their coasts,
make use of a sort of funnel-shaped trap of reeds,
with a net attached to the bottom. This is fixed
unto a stake, at low-water, and, at every change of
tide, is visited for the purpose of removing the an-
chovies, which generally fill the net. Nearly all the
anchovies caught are immediately salted, because
otherwise they spoil with great rapidity. The
Anchovies separate from the salmon in so much
case, as a common notion these fish are not
possessed of this integument. The heads of the
anchovies must be taken off, on account of their bitterness,—a quality which has obtained
for this species the name of engraulis, from a
strange idea, that the gall-bladder was in the
head. The intestines are removed, and the fish, after being washed, are packed in barrels like ordinary herrings, with layers of salt and fish alternately. A considerable difference is produced in the quality of anchovies by the sort of salt used, and the state of the fish when killed. The fishermen of Provence believe that the salt ought to be of a red colour, which is generally caused by rust of iron, where salt has been prepared in iron vessels, but, for their use, is mostly caused by mixing a small quantity of ochre with the salt. They are very careful, also, not to change the pickle, merely supplying the loss, from leakage or evaporation, by adding water. These anchovies have a peculiar acrimony of taste, which is prized by epicures. They do not keep, however, so well as those packed by the northern fishermen, which are cured with grey salt, and have the pickle changed as often as three times. As an article of diet, anchovies recently caught are eaten dressed in a great variety of modes. Salted anchovies ought to be recent, white above and reddish below, and free from taint. The books of cookery exhibit numerous salads, sauces, and relishes, of which anchovies form a part. A very favourite mode of using them is to pickle them in vinegar, and, before the flesh of the pickled anchovy over bread toasted brown. This is eaten as a provocative of thirst, by topers, or as a stimulant to a languid appetite, by persons whose stomachs are enfeebled or dyspeptic from excesses. Like all other stimulants, however, they soon lose their efficacy in such cases, and become positively injurious.—The ancient Romans made use of a sauce celebrated under the name of garum, which is thought, by some writers, to have been prepared from the anchovy. We have made some investigations on this subject, and are led to the conclusion, that this sauce was prepared from the intestines, &c. of fish, but by no means of any one species. According to Pliny, lib. 31, cap. 3, it was originally prepared from the shrimp called garum. Subsequently, the sauce was made by macerating the intestines of fish in salt and water, until they became slightly putrescent, to which vinegar and parsley, chopped fine, or pounded, were added. As the anchovy was caught in such abundance in the Mediterrenean, this fish was doubtless sometimes used for the preparation of the luxurious garum. Martial speaks of it as made from the scrobura, or mackerel, in the following words.—

Exspirantia adhuc scrobri de sanguine primo, 
Acetis fastuosam, munera cara, 

How well it deserved the epithet fastuosum, may be gathered from the statement of Pliny, lib. 31, cap. 8, in which he says, that two gallons of this garum sold for singula millina numorum, or some thousands of stateres.

ANCHYLIS: a stiffness or immobility of the joints. The existence of the disease is obvious to the eye. It is often accompanied with deformities of the limbs, and, in the anchylis of the little bones of the ear, with deafness; in that of the joint of the lower jaw, with inability of chewing. The anchylis may occasion the decaying of a limb, bleedings, aneurisms, &c., and may even become fatal. In the beginning of these diseases, the patient is sensible pain in the parts affected, an extraordinary warmth at the joint affected, a feeling of weakness and inability of directing the limb as it could be done in a state of health. An anchylis usually arises from several causes, and afflicts sometimes the whole body, at other times one limb only. The anchylis is sometimes caused by patient neglect in subject to it than young, and the mule sex than the female, The red anchylis is incurable. Excessive indulgence in animal love may contribute to this disease; but it is, for the most part, the result of inflammation in the membrane lining the joints.

ANGELLON, David, a learned Protestant minister, born at Metz, about 1517. After the revocation of the edict of Nantz, he fled from France, and died at Berlin in 1692. He was author of several polemical treatises of merit; and his son, Charles, who was historiographer to the king of Prussia, and died at Berlin in 1715, published his "Conversations," in two vols., besides other works.

ANCONA, capital of the delegation, and of the former marquisate of Ancona, Ion. 13° 29' E., lat. 43° 38' N., on the gulf of Venice, the seat of a bishop, has 17,330 inhabitants, among whom are 5000 Jews. The city and its fine harbour are praised by the most ancient writers. This harbour was improved and beautified by Trian; and the grateful citizens erected to him, in return, a triumphal arch of white marble, which is yet standing on the oldest mole. In 1792, A. was declared a free port, and, notwithstanding the frequent obstruction of the haven by mud, which was swept every year by vessels, and the commerce and manufactures of the city are considerable. A. has also a quarantine establishment. It was always a famous fortress; was conquered and destroyed repeatedly by the Romans, Goths, Lombards, and Saracens; rose by its own resources from its ruins, and became a republic. It was, however, in 1532, taken by the pope, by surprise, and annexed, together with its territory, to the papal dominions. The siege of this place by the Russians, Turks, and Austrians, in 1799, was remarkable, because the Russian colours, first planted on the walls of A., were pulled down by the Austrian soldiers, which gave occasion to the unfortunate disensions of the emperor Paul with the allies. Since 1815, the citadel only has remained fortified.

ANCOURT, Florent Carton d', a French actor and dramatic writer, born at Fontainbleau in 1661. After going through a course of education, he was admitted an advocate at the age of seventeen, but falling in love with an actress, he married her and went upon the stage, where he soon distinguished himself, and began to write for the theatres. He composed fifty-two dramatic pieces, of which many still keep the stage. They were published in 1710, and 1726. For a while, he coasted through France, but visited England in 1715. In 1726, he returned to Paris, where he resided until his death, which occurred in 1760, he had retired from the stage, and devoted himself to a life of almost ascetic devotion.

ANCUS MARTUS, the fourth king of Rome, succeeded Tullius Hostilius, 610 B. C. (114 A. U.) He built the harbour at Ostia, the mouth of the Tiber. Rome, therefore, must have had, as early as that period, some navigation, even if it did not amount to more than a coasting trade. He revived the neglected observation of religion, and insulated the laws respecting religious ceremonies on tables set up in the marketplace. Ennius and Lucius call him the Good. Virgil reproaches him with undue regard for popular favour, because he distributed the conquered lands among the citizens.

ANDA; a tree of Brazil, the wood of which is spongy and light, the flower yellow and large, and the fruit a drupe, is used by the Indians as a kind of the taste of chestnuts, in a double rind. The fruit is said to be purgative. Oil is pressed from these kernels, with which the natives anoint their limbs. The rinds of the fruit, thrown into ponds, kill the fish.

ANDALUSIA (ancient Reticia): a province of Spain, divided into Upper and Lower. Upper A. compr...
hends Grenada; Lower A. comprehends Jaen, Cordova, and Seville. A. is the most western province of Spain, and is separated N. by the Sierra de Malanca; E. by Murcia; S. by the sea and the straits of Gibraltar; and W. by Portugal; 170 miles long, and 180 wide. It is, without doubt, one of the finest, the richest, and most fertile parts of Spain, producing abundance of oil and grain, also honey, sugar, silk, and wines. Its herds of cattle are numerous, and its horses are esteemed the best in the kingdom. The inhabitants are descended, in part, from the Saracens, and differ much from the natives of Castile, and the other parts of Spain, in their physiognomy and character. Pop., in 1787, 789,155. Its chief cities are Seville and Cadiz.

**Andante (musical)** denotes a time somewhat slow, and a performance distinct and exact, gentle and soothing. Andantino stands between andante and allegretto, at least according to the common notion; some assert that andantino implies a little slower motion than andante. The andante requires a delicate performance.

**Andaman Isles**, a cluster of islands in the Bay of Bengal, opposite to the coast of Malaccas, two of which are distinguished by the names of Great and Little Andaman. The inhabitants of these islands are very numerous; they are second to none in the number of different languages, and are still in a state of extreme barbarity.

**Andera**, a populous city of independent Tartary, situated on a river of the same name, and at the foot of the mountains which divide India and Persia from Great Bokharia. The only route to India is through this place.

**Anderson, Adam**, author of the largest British compilation upon commercial history, was born in Scotland, about the year 1692. Having removed to London, he was for forty years a clerk in the South Sea house, and at length was appointed chief clerk of the Stock and New Annuities in that establishment, in which situation he continued till his death. He was also one of the court of assistants of the Scots corporation in London. In 1764, he published his work, entitled, "An Historical and Chronological Deduction of the Origin of Commerce, from the earliest accounts to the present time; containing a history of the large commercial interests of the British Empire, &c." Lond. 2 vols. folio. This elaborate work was subsequently improved in a new edition by Mr. David Macpherson, 4 vols. quarto; and a manual abridgment of the work may still be consulted. There is also a literature. Mr. Anderson died soon after he had given it to the world, January 10th, 1765.

**Anderson, Alexander**, an eminent mathematician, born at Aberdeen, near the close of the sixteenth century. How or where he acquired his mathematical education is not known; he probably studied belles lettres and philosophy in his native university. He comes into notice at Paris, early in the seventeenth century, as a private teacher or professor of mathematics. In that city, between the years 1612 and 1616, he published or edited various geometrical and algebraical tracts, which are conspicuous for their ingenuity and elegance. It is doubtful whether he was ever acquainted with the famous Viet, Master of Requests at Paris, who died in 1603; but his pure taste and skill in mathematical investigation pointed him out to the executors of that illustrious man, who, however, thought it advisable to propose to him the laborious profession, to cultivate and extend the ancient geometry, and by adopting a system of general symbols, to lay the foundation, and begin the superstructure, of algebraical science, as the person most proper for seeking and publishing his valuable manuscripts. Anderson, however, did not confine himself to the duty of a mere editor, he enriched the text with learned comments, and gave new demonstrations of the propositions of the ancients. In this way he corrected, and where necessary, improved them. He afterwards produced a specimen of the application of geometrical analysis, which is distinguished by its clearness and classic elegance.

The works of A. amount to six thin quarto volumes, now very scarce. These are,—1. *Supplementum Apollonii Redivivi*: sive analysis problematum hieraticorum desiderantium ad Apollonii Persegi doctrinam. 2. A Marino Ghentilu Patricio Rugginuensu insignissique non iuta institutianum, &c. Paris, 1612, 4to. This tract refers to the problem of inclinations, by which, in certain cases, the application of the curve called *couchis* is superseded. 3. Pro Zetetic Apolloniani problematis sejus priorem editioni in supplemento Apollonii Redivivi. Being an addition to the former work. Paris, 1615, 4to. 4. *Ad Auguralium Sectionum Analytica Theoremata aneglorietio*, &c. Paris, 1615, 4to. 5. Vindiciae Archimedis, &c. Paris, 1616, 4to. 6. Alexander Andersoni Scotti Executiveinum Mathematicarum Decas Prima, &c. Paris, 1619, 4to. Anderson, Sir Edmund, lord chief justice of the Common Pleas under Queen Elizabeth, was a native of Lincoln. He died in 1651. *Ad Aegyptum*; *Pro Generalis View of the Affairs of the East India Company," 1754, 4to.; and translated from the Greek of Archimedes, *Aremarius, or a Treatise on numbering the Sand." Anderson, James, an eminent Scottish antiquary, was born in 1662, and, after finishing a scholastic education at Edinburgh, obtained the degree of Master of Arts, on the 27th of May, 1680. He chose the law for his profession, and was admitted a member of the society of writers to the signet in 1691. In this branch of the legal profession, the study of written antiquities in some measure forces itself upon the practitioner; and it appears that Anderson, though a diligent and able man of business, became in time too fond of the accessory employment to care much for the principal. A circumstance which occurred in 1701, decided his fate by tempting him to transfer his energies into the study of literature. The application of the union of the two countries was then very keenly agitated; on the one side with much jealous assertion of the national independency, and on the other, with not only a contempt for the beasts of the Scots, but a revival of the old claims of England for a superiority or paramountcy over their country. A lawyer named Attwood, in 1701, published a pamphlet, in which all the exploded pretensions of Edward I. were brought prominently into view, and a direct dominion in the crown of England asserted over that of Scotland. For this work, Mr. Anderson, though altogether unknown to Mr. Attwood, was cited as an evidence and eye-witness, to vouch some of the most important original charters and grants by the kings of Scotland, which Attwood maintained were in favour of the point he laboured to establish. Mr. Anderson, in consequence of such an appeal, though he could not have been aware of the design of the author, was induced to publish what he knew of the matter, and to vindicate some of the best of the Scottish kings, who were accused by Attwood of a base and voluntary surrender of their sovereignty. Accordingly, in 1703, he published "An Essay, showing that the crown of Scotland is imperial and independent," Edinburgh.
Anderson, James, an agricultural and miscellaneous writer of great merit, was the son of a farmer at Hermiston, in the county of Midlothian, Scotland, where he was born in the year 1736. His father dying when he was young, he was educated by his guardian to occupy the farm, which, accordingly, he began to manage at the early age of fifteen. At the same time, he attended the chemical lectures given in the university of Edinburgh by Dr Cullen, who, although somewhat young, had formed this resolution, had soon reason to admire his pupil's laudable curiosity and good sense, and liberally afforded him every encouragement in his power. To chemistry he added the study of certain collateral branches of science; so that, when he entered upon his farm, he was not only able to keep up with his more aged and experienced neighbours, but adopted a number of improvements, suggested by scientific knowledge and native good sense, which were speedily found to be of a most profitable nature. Among his improvements was the introduction of the small two-five plough, which, since then, has so completely banished the lumbering engine formerly drawn by a string of cattle. Nor did the necessary business of his farm prejudice all advancement in knowledge. He still prosecuted his studies with great eagerness, and soon contrived to amass an immense stock of information upon almost all subjects. His first attempts in literature appeared in the shape of Essays on Planting, in Ruddiman's Weekly Magazine for 1771. In 1777, having previously removed to a large farm in Ayrshire, he published these essays in a separate volume. In 1776, appeared his Essay on Chimneys, in which the principle afterwards acted on in the patent Bath stove was first explained. In the same year with his volume on planting, appeared various pamphlets connected with rural economy, all of which were more or less calculated to gratify the increasing desire of his countrymen for scientific knowledge upon such familiar subjects. The fame of these works procured him a very extensive acquaintance with persons of eminence, who wished to profit by the remarks of so able a practical farmer; and in 1780, the university of Aberdeen acknowledged his merit by conferring upon him the degree of Doctor of Laws. Dr Anderson had from his earliest years manifested a great desire of educating a very numerous family, together with certain considerations as to the enjoyment of literary society, induced him, in 1783, to remove to Edinburgh, leaving the management of his farm to persons properly qualified. A tract which he had written on the subject of the Fisheries, though not printed, attracted the attention of the government, and he was requested, in 1784, to undertake a tour of the western coast of Scotland, for the purpose of obtaining information on this important subject. He readily acquiesced, and performed the task to the high satisfaction of his employers, who, however, never offered him any remuneration. The result of his labours appeared in 1785, as "An Account of the present state of the Hebrides and Western Coasts of Scotland; being the substance of a report to the Lords of the Treasury," passing over some minor works of Dr Anderson, is marked by the name of a literary and scientific miscellany which he commenced in 1791, under the title of "The Bee." This work was published in weekly numbers at sixpence, and, by its delightful intermixture of useful and entertaining information, and skilful selection of beautiful letters, was eminently calculated for the improvement of the young. The work ran from the

and was so acceptable to his country, that, besides a reward, thanks were voted to him by parliament, to be delivered by the lord-chancellor, in presence of her majesty's high-commissioner and the estates. Mr Anderson's publication is now of little value, except for the charters attached to it in the shape of an appendix. Under these circumstances, Anderson found it easy to secure the patronage of the Scottish estates towards a design for engraving and publishing a series of fac-similes of the royal charters, previous to the reign of James I, and of seals, medals, and coins, from the earliest to the present time. In November, 1766, he had a parli-mentary grant of land for the purpose. He then proceeded vigorously with the work, and in March, 1707, had not only expended the three hundred pounds granted by parliament, but five hundred and ninety pounds besides, which he had drawn from his own funds. A committee reported the facts; and the estates, while they ap-proved of his conduct, recommended to the queen to bestow upon him an additional contribution of one thousand and fifty pounds sterling. Intoxicated with this success, A. now gave up his profession, and, resolving to devote himself entirely to the rational service of his country, he undertook to superintend the progress of his work. The event only added another proof to what is already abundantly clear, that scarcely any prospects in the precocious fields of literature, ought to tempt a man altogether to resign a professional means of subsis-tence. The man urged by the aspiring parliament is said to have never been paid; but, in lieu of money, he was favoured, in 1715, with the appoint-ment of post-master general for Scotland; but of this he was deprived in little more than two years. What progress he now made with his great work is not very clearly known. He is found, in 1718, ad-verting that those who might wish to encourage it "could see specimens at his house, above the post-office in Edinburgh." As the expense of engraving must have borne hard upon his diminished resources, he would appear to have digressed for some years into an employment of a kindred nature, attended with greater facilities of publication. In 1727, he published the two first volumes of his well-known "Collections relating to the History of Mary, Queen of Scotland," Edinburgh, 4to, which was speedily completed by the addition of two other volumes—A field which had been better occupied by the earlier parliament. The plates were sold, in 1729, by auction, at £530, and it was not till 1737 that the work appeared, under the title of "Selectus Diplomatum et Numismatum Scotiæ Thesaurus," the whole being under the care of the celebrated Thomas Ruddiman, who added a most elaborate preface. Anderson, James, D.D., author of a large and useful work, entitled, "Royal Geographies," was the brother of Adam Anderson, author of the Commercial History. He was for many years minister of the Scotch presbyterian church in Swamp-street, Piccadilly, and was well known among the people of that persuasion in London, by the nick-name of Bishop Anderson. He was a learned but imprudent man, and lost a considerable part of his property from too deep dabbling in the South sea scheme. His mag-na-ments upon "Royal Geographies, or the Genealogical Tables of Emperors, Kings, and Princes, from Adam (!) to Theseus," London, folio, 1732. The compilation of this huge work, in which he was aided by many eminent personages, whose families entered into its plan, cost him, according to what he himself stated, a hundred thousand pounds. It is certainly the completest work of the kind in existence, though with no pretensions to discrimina-tion. Dr A. also wrote "The Constitution of the Free Masons," being the chaplain of that body in London. The dates of his birth and death are not ascertained.
ANDERSON.

22d of December, 1720, to the 21st of January, 1722. These numbers published his favourite study of agriculture, and throughout the whole of that space, we believe there does not occur one line which can be considered reprehensible for its moral effect.—About the year 1797, Dr A. removed with his family to London, where he undertook various works connected with his favourite study of agriculture. For several years he wrote the articles of this nature in the Monthly Review; and from 1799 to 1802, he conducted a separate miscellany, under the title of "Recreations in Agriculture," which was only discontinued on account of some obstacles incident to such a mode of publication. From the last mentioned date, he devoted himself almost entirely to the relaxation which advanced years and severe studies had rendered necessary, and particularly to the cultivation of his garden, which became a miniature of all his past labours. In 1801, he married a second wife, who survived him. He died on the 15th of October, 1808, at the age of sixty-nine.—In his younger days, Dr A. was remarkably handsome in his person, of middle stature, and robust make. Extremely moderate in his living, the country exercise animated his cheek with the glow of health; but the overstrained exertion of his mental powers afterwards shook his constitution and hurried him into old age. He was a man of independent mind; and in the relative duties of husband and father, exhibited a prudential care, mixed with affection, which commanded the admiration of his friends. Of Dr A.'s abilities, his works exhibit so many proofs, that they may be appealed to with perfect confidence. Although a voluminous writer, there is no subject connected with his favourite pursuit, on which he has not thrown new light. A minute specification of his works is to be found in the Scots Magazine for 1809.

ANDERSON, John, M. A., an eminent presbyterian clergyman of the last century, was at first minister at Dumfriestoun, and afterwards at Glasgow, where he died about 1723. The earliest of his productions is entitled, "A Dialogue between a Curate and a Countryman concerning the English Service, or Common-Prayer Book of England," which was printed at Glasgow, about 1710. Soon afterwards, A. published a "Second Dialogue," dated 1711, "in which," says he, "there is hardly any thing of importance which is not said in the very words of the writers of the other side," and in which South, Beveridge, Hammond, and Burnet are the current speakers. In his turn, A. says, he "attracted from a Countryman to a Curate," followed the dialogues, and received several answers, of which we shall only mention one, written by Robert Calder, an episcopalian clergyman. To this attack A. replied in a pamphlet entitled "Curate Calder Whipt." He soon after published, "A Sermon preached in the church of Ayr at the opening of the Synod, on Tuesday the first of April, 1712," printed at the desire of the Synod of Glasgow and Ayr; and in 1714, the work by which he is best known appeared, entitled, "A Defence of the Church-Government, Faith, Worship and Spirit of the Presbyterian, in answer to a book entitled "An Apology for Mr Thomas Rhind, &c." 4to.

In the same year (1720) in which he was appointed one of the ministers of Glasgow, "Mr Anderson's Letters upon the Overtures concerning Kirk Sessions and Presbyteries," appeared in 12mo. These letters extend to six, and although now little known, as they refer not only to an episcopal subject, contain some curious historical information, and not a little satire. Mr A. did not long survive his call to Glasgow; the date of his death has not been ascertained, but his successor was appointed in 1723. His controversial writings are full of valuable historical information, and it is to him we have been largely misled in ecclesiological literature, but it cannot be too much regretted that he so far indulged in intemperate language.

ANDERSON, John, F. R. S., professor of natural philosophy in the university of Glasgow, and founder of a most useful institution bearing his name in that city, was born in the parish of Rossencraig, in Dumfriestounshire, in the year 1726. He was the eldest son of the Rev. James Anderson, minister of Rossencraig, who, in his turn, the eldest son of the Rev. John Anderson, whose memoir is given in the preceding article. The subject of this memoir, having the misfortune to lose his father early in life, was educated by his aunt, Mrs Turner, widow of one of the ministers of the High church of Stirling. He received the more advanced part of his education at the college of Glasgow, where, in 1766, he was appointed to be professor of oriental languages, being then in the thirtieth year of his age. In 1768, he was appointed to the chair of natural philosophy, and entered upon the business of that class with enthusiasm. Not contented with the ordinary duty of delivering a course of lectures, though he performed that duty in a manner alone sufficient to obtain distinction, he aimed at illustrating and exemplifying the application of science to mechanical practice; visiting, for this purpose, the workshops of artisans in the town, and receiving, in return for the scientific doctrine which he had to communicate, a full equivalent of experimental knowledge. The most estimable characteristic of professor A., was his liberal and diffusive benevolence in regard to the instruction of his mec. Under the inspiration of this feeling, he instituted, in addition to his usual class, which was strictly mathematical, one for the working classes, and others whose pupils did not enable them to conform to the prescribed routine of academical study, illustrating his precepts by experiments, so as to render it in the highest degree attractive. He continued to teach this anti-toga class, as he called it, twice every week, during the session, to the end of his life; and it would not be easy to estimate the aggregate of good which he thus rendered to his fellow men. As a lecturer, his style was easy and graceful, his command of language unlimited, and the skill and success with which his manifold experiments were performed, could not be surpassed. He excited the interest, and attracted the attention of his pupils, by the numerous and appropriate anecdotes with which he adorned his lectures. Enthusiastic in his profession, his whole ambition and happiness consisted in making himself useful to mankind, by the dissemination of useful knowledge; and nothing afforded him purer pleasure than hearing that any of his pupils had distinguished themselves in the world. The only distinct work which he published in connexion with his favourite science, was a valuable one, entitled "Institutes of Physics," which appeared in 1780, and went through five editions during the next ten years. On the commencement of those political changes in France, which ended in such unhappy results, Mr A., as might have been pre- dicted from his ardently liberal and enlightened character, was among those who sympathised most warmly with the proceedings of the emancipated people. Preceding to that period, he had prosecuted a taste for the military art, and invented a species of gun, the recoil of which was stopped by the concussion of the body of the carriage. Having in vain endeavoured to attract the attention of the British government to this invention, he went to Paris in 1791, carrying with him a model, which he presented to the national Convention. The governing
party in France at once perceived the benefit which would be derived from this invention, and ordered Mr A.'s model to be hung up in their hall, with the following inscription over it—"The toy or Scythe of Smollett, invented for the use of Fruit-women, and got a six-pounder made from his model, with which he made numerous experiments in the neighbourhood of Paris, at which the famous Paul Jones, amongst others, was present; and who gave his decided approbation of the gun, as likely to prove highly useful in landing troops from boats, or firing from the round tops or poop's of ships of war. Mr A. at this period, took a keen interest in the transactions which passed before his eyes. He was present when Louis XVI. was brought back from Varennes; and on the 14th of July, on the top of the altar of liberty, and in the presence of half a million of Frenchmen, he sung Te Deum with the bishop of Paris, when the king took the oath to the Constitution, amen being said to the ceremony by the discharge of five hundred pieces of artillery. As the Emperor of Germany had drawn a military cordon around the frontiers of France, to prevent the importation of French newspapers into Germany, he suggested the expedient of making small balloons of paper, varnish-ed with boiled oil, and filled with inflammable air, to which newspapers and manifestoes might be tied. This was accordingly practised, and when the wind was from the west they were sent off, and descending in that country, were, with their appendages, picked up by the people. O'er hills and dales, and lines of hostile troops, I float majestic. Bearing the laws of God and Nature to oppressed men, And bidding them with arms their right maintain.

A posthumous work of professor A., entitled "Observations on Roman Antiquities between the Forte and Clyde," appeared in 1804. Mr A. died, January 13th, 1790, in the 70th year of his age and the 1st year of his professorship, directing by his will, dated May 7th, 1795, that the whole of his effects, of every kind, should be devoted to the establishment of an educational institution in Glasgow, to be denominated, Anderson's University, for the use of the unaccredited classes. His will was care-fully executed. Sir John Gregor, a magistrates granting a charter of incorporation to the proposed institution. According to the design of the founder, there were to be four colleges,—for arts, medicine, law, and theology,—besides an initiatory school. Each college was to consist of nine profes-sors, the senior professor being the president or dean. As the funds, however, were inadequate to the plan, it was at first commenced with only a single course of lectures on natural philosophy and chemistry, by Dr Thomas Garnett. This course was attended for the first year by nearly a thousand persons of both sexes. In 1798, a professor of mathematics and geography was appointed. The splendid apparatus and library of the founder, which were valued at £5000, added greatly to the advantages of the infant institution. In 1799, Dr Garnett was succeeded by Dr Birbeck, who, in addition to the branches taught by his pre-decessor, introduced the familiar system of philosophical and mechanical instruction to five hundred operative mechanics, free of all expense. The institution was placed by the will of the founder under the inspection and control of the lord provost, and many other honourable persons, as ordinary visitors, and under the more immediate superintendence of eighty-one trustees, who, besides paying an annual subscription of £35, continued in office for life. Since the first establishment of Anderson's University, it has gradually been extended nearer and nearer to the original design of the found-er, and it may be considered as the parent of the various Mechanics' Institutions which have of late years arisen throughout the country. Anderson, Robert, M.D. the biographer of Smol-lett and Johnson, was born in 1749, the son of a farmer in the vicinity of Staffordshire. After studying medicine, he entered into prac-tice, as surgeon to the Dispensary of Bamborough Castle in Northumberland; but in 1784 removed to Edinburgh, where he ever afterwars resided. About the year 1793 he began to prepare his edition of the British Poets, which appeared in a succession of volumes, in large octavo, between the years 1795 and 1807. To the works of each poet is prefixed a biographical memoir by Dr A.; and the work was deemed to be very respectfully executed. A collection of the works of Smollett, by Dr A., with a memoir prefixed, was gone through eight editions. To the last edition is prefixed a highly characteristical likeness of the editor. The memoir has been published repeatedly in a distinct shape, and is a very respectable production. Dr A. also published a Life of Cervantes, with critical observations on his works" which has been published in a third edition. For several years before the end of the eighteenth century, Dr A. was editor of the Edinburgh Magazine, a rival of the Scots Magazine, and more varied and lively in its details, which afforded him an opportunity of bringing forward the productions of his friends; and when it commenced in the year 1784, and at the end of 1805, was incorporated with the Scots Magazine: it was much indebted to its proprietor, James Sibbald, editor of the Chronicles of Scottish poetry, to Lord Hailes, and other eminent literary characters. Dr A. was greatly instrumental in bringing before the pub-lic, Campbell's celebrated "Pleasures of Hope," and to him that work is dedicated. As a literary critic, Dr A. was distinguished by a warm and honest sensibility to the beauties of poetry, and by extreme candour. His character as a man appeared by perfect pro- bity in all its dealings, and unshaken constancy in friendship. His manner was lively and bustling; and from his long-continued acquaintance with the literary world, he possessed an unrivalled fund of gossip and anecdote. He died in 1829. Anderson, D.D. the minister of the last century, who died in 1800 at the manse of Chirnside, of which place he had been minister for fifty years. He wrote the History of France during the reigns of Francis II. and Charles IX. 1769, 2 vols. 4to, a work which he continued in three sub-sequent volumes, down to the peace of Amiens. He also produced an Essay, in 4to, on the Philosophy of Ancient Greece, and a life of Cressus, king of Lydia, in 12mo. His works are of no repute, and his char-acter seems to have been that of a laborious fool, led astray by the ambition of authorship. His last men- tioned publication (which was his first) is said to have arisen from a conversation he had with the celebrated David Hume, with whom he was familiar. One day, Anderson said, "Mr David, I dare say other people might write books too; but you clever fellows have taken up all the good subjects. When I look about me, I cannot find one unoccupied." Hume, who liked a joke upon an unsuspecting clergyman, said, "what would you think, Mr Anderson, of a history of Cressus, king of Lydia?—that has never yet been written." Mr Anderson was delighted with the idea, and, in short, "upon that hint he wrote." In 1755 was published accordingly, "The History of Cressus, king of Lydia, in four parts: containing observations on the ancient notion of destiny, or dreams, on the origin and credit of the oracles, and the principles upon which the oracles were defended against any attack." The work was honoured with a serio-burslesque notice in the
old Edinburgh Review, then just started by Hume, Smith, Carlyle, and others—the article being written probably by the very man who incited the unhappy author to his task.

Andes, called by the Spaniards Cordilleras de los Andes, an immense chain of mountains, extending throughout South America from north to south, generally at the distance of six miles from the western coast. They extend from Cape Pilares, in the straits of Magellan, northwards to the isthmus of Darien. A mountainous ridge passes through the isthmus of Darien, dividing farther north into various branches, styled the Cordilleras of Mexico. To the north of Mexico, the principal range takes the name of the Rocky mountains, and reaches to the Frozen ocean, the northern limits of the American continent. These are by many considered as parts of one continued range, but the term Andes is usually limited to the mountains in South America. The Andes differ greatly in their general aspect and character, being in some parts blended together into an entire mass, and in others, divided into two or three distinct ridges. In Chili, they are about 120 miles in breadth, presenting numerous summits of prodigious height. To the north, they diverge in a straggling manner; and in Peru and Ecuador, divided into three irregular ridges, which continue to about lat. 6° S., where they are formed into a single chain. They divide again, in Quito, into two chains; and farther north, between lat. 2° and 5° N., they are formed into three parallel ridges, which are again blended together between lat. 6° and 7° N. Between the two ridges in Quito, there is a plain from 5 to 6 leagues in breadth, of great fertility, well cultivated, and thickly settled, having populous towns, and though under the equator, yet, owing to its great elevation, which is about 9000 feet above sea level, it possesses a temperate and delightful climate. The Andes are the highest mountains in America, and, next to the Himalayas, the most elevated in the known world. They are composed, in a great part, of porphyry, and abound in the precious metals. Many of them are volcanic, and there are numerous summits which are covered with perpetual snow. The medium height of the range, under the equator, may be estimated at about 14,000 feet above the level of the sea, while that of the Alps hardly exceeds 8000. The following table exhibits some of the highest summits, with their elevation above the level of the sea.

<table>
<thead>
<tr>
<th>Mountain</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chimborazo</td>
<td>21,441</td>
</tr>
<tr>
<td>Miste</td>
<td>20,388</td>
</tr>
<tr>
<td>Digu Champa</td>
<td>19,570</td>
</tr>
<tr>
<td>Cayamba Ocurro</td>
<td>19,388</td>
</tr>
<tr>
<td>Antisana</td>
<td>19,140</td>
</tr>
<tr>
<td>Cotopaxi</td>
<td>18,891</td>
</tr>
<tr>
<td>Altair</td>
<td>17,235</td>
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<tr>
<td>Illiniza</td>
<td>17,238</td>
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<tr>
<td>Sungar</td>
<td>17,136</td>
</tr>
<tr>
<td>Pichincha</td>
<td>16,500</td>
</tr>
</tbody>
</table>
| Mr Pentland has recently asserted, that mount Nevado de Santa is the highest mountain of America, he estimates its height at 25,200 feet. Its situation is in 15° 30' S. lat. The second in altitude he considers Mount Illimani (Neuva de Illimani), in Paz, in Bolivia, or Upper Peru, 22 marine leagues S. E. of the city Paz, between 15° 35' and 16° 40' S. lat., and between 67° and 69° W. long. The most northern peak of it he gives as 24,400 feet high. (See Annals of Sciences, iv, 293.)—A lively idea of the character and grand features of the Andes may be formed from the accounts given in the celebrated works of Alexander von Humboldt's Journey into the Equatorial Countries of the New Continent; which, at the same time, affords much scientific information on these remarkable regions. Good roads have been cut with great labour in the neighbourhood of Chimbora, one of which is 1000 miles in length; and similar labours of the ancient Incas of Peru may be found throughout the province. Over the Rio Desaguadero, in Buenos Ayres, is a singular bridge, formed of ropes and rushes, attributed to Cacique Vitorino, the 4th incas.—The approach to the Andes from the western coasts has always been admired. The road leads through the most beautiful forests, the foliage of which exhibits the most various and lovely colours. As the traveller advances, an awful sublimity pervades the mind, and the mind, in turn, divides the surrounding chasms, together with the cataracts that roll down the mountains from an amazing altitude, filling the distant view, overwhelm him with admiration.—The highest deserts of the Andes are in the north called Paramos, and in Peru, Punas; but so acute and peculiar is the cold air in these places, as not to pierce the vials than affect the exterior feelings. It is an uncommon circumstance to meet with the bodies of travellers who have perished in the cold, whose faces have the horrid appearance of laughter, owing to the contraction of the muscles by the intense cold. These fingers last of the more stately tribes of vegetables, accompanied by a low species of moss. It is found 13,000 feet in altitude above the level of the sea. Numerous orders of the larger trees appear progressively in the space between the heights of 10,000 and 9000 feet. At the height of 9000 feet, it is found that the equator will not ascend up below the elevation of 4500 feet, or ripen above that of 10,500. Humboldt says there are very fine harvests of wheat near Victoria, in the Caracas province, at 1540 and 1900 feet above the level of the sea. In Cuba, wheat crops will flourish and ripen at a small elevation. Rye and barley, from their constitution, are capable of resisting colder than wheat, and, consequently, of ripening in a superior altitude. Maize is cultivated in the same climate as the banana, but will flourish 9000 feet high. Oranges, pine-apples, and every variety of delicious fruits and vegetables, are found in the lower grounds of the Andes, within the tropics. Cassava, maize, enano, coffee, sugar, cotton, and indigo are cultivated with success. Indigo and cacao, however, require great heat to ripen them. Cotton and coffee require a more temperate cline. Sugar arrives at a superior degree of perfection in the more temperate regions of the province of Quito.—For further information, see Humboldt, and the Journal de Physique, vol. lxi, for 1801. For the different mountains of the Andes, see their respective articles. See, also, America.

**Andover, a borough, market-town, and parish in Hampshire; situated on the river Avon, and near the borders of the Downs. It is supposed to have been the Andrenon of the Romans. It is distant from London sixty-three miles. The population of the borough and parish is 4843.**

**Andover, a post-township of Massachusetts, in the county of Essex, twenty miles S. of Boston; pop. in 1820, 3889. It is situated on the S.E. side of the Merrimack, and is also watered by the Shawshern, is pleasant and flourishing, and contains three parishes, in each of which there is a congregational meeting house. A. has some manufactures, but it is chiefly celebrated for its celebrated institutions, particularly its theological seminary.**

**Anoak, major J.: an adjutant-general in the Bri-**
tish army in North America during the revolutionary war. He was originally a merchant's clerk. Employed to write the defection of the American general Arnold, and the delivery of the fortress of West Point, he was apprehended in disguise, Sept. 23, 1780, within the American lines, and sent prisoner to general Washington, who submitted his case to the examination and decision of a board of officers, consisting of major-general Greene, William Alexander (lord Stirling), the marquis de la Fayette, &c. The board declared him a spy from the enemy, and, agreeably to the law and usage of nations, he was hanged at Tappan, in New York, Oct. 2, 1780. A monument is erected to his memory in Westminster Abbey. He is the author of a poem entitled The Cove Chase. See Arnold.

**ANDREA DEL SARTO—ANDROMEDA.**

**ANDREAS.** Onuphrius, a Neapolitan poet of the 17th century, who died in 1647. His works consist of an epic poem entitled *Ilia Liberata*, several lyric effusions, and two dramatic pieces, besides some prose essays on moral and philosophical subjects.

**ANDRES, Valerius,** professor of civil law and Hebrew at Louvain, was born at Desschel, in the Netherlands, in 1581; died 1656. He was author of various works in biography, topography, philology, and science.

**ANDREONI, Francis,** an Italian comedian, who, besides his histrionic talents, was distinguished for his knowledge of languages. He wrote several pieces for the stage. His wife, Isabella, a native of Padua, was the finest performer of her day, and published several poetical works, which were much admired. She died in 1604, in the 48th year of her age. Her husband survived her nearly sixteen years. They left a son, Giovanni Battista, who inherited the talents of his parents, both in acting and composition.

**ANDREW, St.** brother of St Peter, and the first disciple whom Christ chose. Both brothers were fishermen, but left their business and followed the Redeemer. The fate of A., after Christ's death, is uncertain; the common opinion is, that he was crucified. The Russians revere him as the apostle who brought the gospel to them; the Scots, as the patron saint of their country. In the early ages of the church, a pretended Gospel of his was in circulation. The *Acta*, also, which bear his name, are not genuine. The order of St A. is one of the highest orders of the empire of Russia, instituted by Peter the Great, in 1697.—For the Scottish knights of St A., see CHAMPION.

**ANDREW, St.** cross of; a cross of the form X, because, according to tradition, St A. was executed on a cross which had this shape, Nov. 30, A. D. 83, at Patras, in Achaia.

**ANDRES, St., an ancient borough and seaport town of Fifeshire, in Scotland, and the seat of the oldest of the four Scottish universities, stands on a rocky promontory at the bottom of a bay of the same name, and on the south side of the firth of Tay, thirty-nine miles north by east from Edinburgh. It was erected into a royal burgh by David I., in 1140, and has been the scene of many memorable transactions in the civil and ecclesiastical history of Scotland. About the same time, it was rendered archiepiscopal, and was the resort of many religious orders. The revenues of the see in 1651 have been estimated at £10,000 of our present money, and an Augustine monastery has been in existence. The cathedral church, begun in 1159, was not finally completed till 1577 years had elapsed, and was demolished at the Reformation by the populace. The castle, of which little now remains, was built in the 12th century, on a rock projecting into the sea, and has been rendered famous as the scene of several events in Scottish history, particularly of the assassination of cardinal Beaton. The university of St Andrews was founded by bishop Wardlaw, in 1411; it formerly consisted of four colleges: St Salvator, founded in 1455; that of St Leonard's, founded in 1512; and that of St Mary's, completed in 1651. St Salvator's and St Leonard's were combined in 1747, under the name of the United College, in which, besides the ancient languages, the usual academical courses of philosophy are delivered. In St Mary's, divinity, church history, and the oriental languages, are taught. The burg of St Andrews consists at present of three principal streets and a few lanes, but its old ruins give an exalted notion of its former magnificence. It once had an extensive foreign trade, but now very few vessels belong to it. Its manufactures principally consist of Osnaburgs, canvas, and linen. The making of golf-balls also employs a portion of the inhabitants. The parish of St Andrews, which is about ten miles in length and three broad, is generally fertile, and in a high state of cultivation.

**ANDREWS, James Pettit,** an English miscellaneous writer, was born in Berks in 1737, and attached himself to literature until his death, which took place in 1797. His principal works are, "Anecdotes, Ancient and Modern,..." *A Continuation of the History of Britain*, 4to and Svo; and "The History of Great Britain connected with the Chronology of Europe, &c., 1794-6." **ANDREWS, Lancelot,** bishop of Winchester, in the reigns of James I. and Charles I., was born in London, 1605. He is particularly known by one of his works, *Torturis Tortus* (1609), which he wrote against a publication of cardinal Bellarmine, under the fictitious name of *Matthew Tortus*, in which the cardinal had attacked James' Defence of the Rights of Kings. His works best known at present are, a volume of *Sermons*, 1628-31, fol. 1642; *The Moral Law* Ex- pounded, or Lectures on the Ten Commandments, 1642, fol.; *Collection of Posthumous and Orphan Lectures*, delivered at St Paul's and St Giles', London, 1657, fol.

**ANDROCELLS, of ANDROBODES; a Dacian slave, who being exposed to a lion in the circus, the animal forborne to hurt him, because he had formerly taken a thorn out of its foot. He was, in consequence, liberated, and led the lion about the streets of Rome. —Aut. Gel. l. v. c. 14. *Bib. Hist. An. l. vii. c. 48.* **ANDROIDES (from ανυς, a man, and ἄνω, form); a figure of his shape, which, by certain machineries, is made to perform some of the natural motions of a living man. **ANDROMACHE; daughter of Eetion, king of Thebes in Cilicia, and wife of Hector. (q. v.) After the con- quest of Troy, she became the prize of Pyrrhus, son of Achilles, who carried her to Epirus, and had three sons by her, but afterwards left her to Helenus, brother of Hector, to whom she bore a son. Euripides has made her the chief character of a tragedy.

**ANDROMEDA; daughter of Eetion, king of Cepheus and of Cassiopia. The mother and daughter were very beautiful. The former having boasted that her daughter surpassed the Nereides, if not Juno herself, in beauty, the offended goddess called on their father to revenge the insult. He not only in- suing the territory of Cepheus, but also sent a horrid sea-monster, which threatened universal de-struction. The city began to desire a wife for Neptune could not be appeased, unless Cepheus de- livered his daughter to the monster. In this extrem-ity, Perseus beheld her, when, with the head of the Gorgon in his hand, and mounted on Pegasus, he was returning from his victory over Medusa. Touched by compassion and love, the hero promise
to kill the monster on condition that the virgin should be given him in marriage. The father promised it, and kept his word. In memory of the exploit, this vessel, by the favour of Pallas, was placed among the stars.

Andronicus of Cyrestes; a Greek architect, celebrated for having constructed, at Athens, the tower of the winds, an octagonal building, on each side of which was a figure representing one of the winds. On the top of the tower was a small pyramid of marble supporting a brazen Triton, which turned on a pivot, and pointed with its rod to the side of the tower on which was represented the wind that was then blowing. As each of the sides had a sort of dial, it is conjectured that it formerly contained a clepsydra or water-clock.

Andronicus of Rhodes; a follower of Aristotle, who lived B. C. 63, and wrote commentaries on that author. He also restored and published the works of that philosopher, which Sylvia had brought from Greece.

Andros; islands of the Holy Ghost (îles des En- spirits Santos); a group of islands extending in the form of a crescent, for upwards of fifty leagues in the neighbourhood of the Great Bahama bank, and amongst the Bahamas; in N. lat. 24° to 25° 30'; and W. lon. 77° to 78° 20'. The passages through them are dangerous. Attempts have been made to colonize one of these islands. In 1788, 500 inhabitants, including slaves, were settled there. It has the privilege of sending one member to the house of assembly of the Bahamas. The approach to it is very difficult, for various reasons.

Androscoy, or American; a river which forms the outlet of Umbagog lake, and has the first part of its course in the eastern part of New Hampshire. After entering the state of Maine, it flows first in an easterly, and afterwards in a southerly direction, and joins the Kennebec at Merry-meeting bay, six miles above Bath, and eighteen miles above the entrance of the river into the ocean. Its whole course is about 150 miles in length.

Andrecut du Cercueu, James, an eminent French architect of the 16th century, who wrote several works of merit connected with his profession. The dates of his birth and death are uncertain.

Anemometer; an instrument contrived to measure the velocity of the wind.

Anemone, wind-fower, in botany; a genus of the polygama order, and polyandra class, ranking, in the natural method, under the 20th order, multisili-gues. It has its name from the Greek anemos, (the wind), because it is supposed not to open unless the wind blows. Linnæus enumerates twenty-one species: those valuable on account of their beauty are the following: 1, anemone Apennina, a native of Britain, growing in the woods; 2, anemone coronaria; 3, anemone hortensis; both natives of the Levant, particularly of the Archipelago islands, where the borders of the fields are covered with them; 4, anemone nemorosa, growing wild in the woods, in many parts of Britain, where it flowers in April and May. Prof. Candolle, De Cand. Syst. vol. i. 189, enumerates forty-five species of anemone.

Anemone, the term denoted, in every contrivance which indicates the direction of the wind. The dome upon towers and roofs is the simplest of all anemocopes. There are also some, where the vane turns a movable spindle, which descends through the roof to the chamber where the observation is to be made. On the ceiling of this apartment a compass-card is fixed, and, whilst the wind turns the vane together with the spindle, an index, fixed below, points out the direction of the wind on the card. Some are so made that in the absence of the observer, to note down the changes of the wind. Among the most perfect of this kind, is that of prof. Moscati, and of the env. Marsilio Landriani.

Andrenia; the swelling of an artery, or the dilata- tion and expansion of some part of an artery. This is the true aneurism. There is also a spurious kind of aneurism, when the rupture or puncture of an artery is followed by an extravasation of blood in the cellular membrane. If the external membrane of the artery is injured, and the internal membrane protrudes through, and forms a sac, it is called mixed aneurism. Lastly, there is the varicose aneurism, the tumor of the artery, when, in bleeding, the vein has been entirely cut through, and at the same time the upper side of an artery beneath has been per- formed, so that its blood is pressed into the vein. The genuine aneurisms arise partly from the too violent motion of the blood, partly from a preternatu- ral debility of the membranes of the artery, which is sometimes constitutional. They are, therefore, more frequent in the great branches of the arteries; in particular, in the vicinity of the heart, in the arch of the aorta, and in the extremitis, for instance, in the hour-glass part of the artery. They are exposed to frequent injuries by stretching, violent bodily exertions, thrusts, falls, and contusions. They may, however, be occasioned also, especially in the in- ternal ones, by diseases, violent ebullitions of the blood, by the use of ardent spirits, by vehement pas- sions and emotions, particularly by anger; in such cases, the arteries may be ruptured, and sudden death produced. The external aneurisms are either healed by continued pressure on the swelling, or by an operation, in which the artery is laid bare, and tied above the swelling, so as to prevent the flow of the blood into the sac of the aneurism, which contracts by degrees. Sometimes the ligature is applied both above and below the aneurism.

Anfossi, Pasquale, was born at Naples, in 1729, played on the violin in the music schools of Naples, and studied composition under Sacchini and Piccini. He had considerable success in Naples, and was engaged in that city to the end of his life. He composed much for the stage, and the works of the theatre. The Persecuted Un- known was performed, in 1778, with great applause, as were also La Finta Giardiniera and Il Geloso d, Cimento some time afterwards. On the other hand, the Olimpia,de, 1776, entirely failed, and the morti- fication of the author, on this occasion, induced him to leave Rome. He travelled through Italy, and, about 1780, went to France. He performed in the royal academy the Persecuted Unknown; but this lovely and delicate music did not meet with the reception which it deserved. From France A went to London, where, in 1783, he was engaged at the Italian theatre. In 1787, he returned to Rome, where he brought out several pieces, the success of which made him forget his disappoint- ments, and gained him a reputation which he enjoyed until his death, in 1793. A. frequently reminds us of Sacchini and Piccini, after whose works his most of their opera, the order, and manner of progression, and style of progres- sion and resolution are extraordinary. Several of his works may be mentioned the Avaro, Il Curioso Indiscreto and I Fuggitivi Felici, which rank among the best comic
ANGEL—ANGELO BUONAROTTI.

ANGEL: a gold coin formerly current in England, so named from having the representation of an angel upon it. It weighed four pennyweights, and was twenty-three carats and a half fine. It had different values in different reigns; but is now only an imaginary sum, or money of account, implying ten shillings.

ANGEL: Peter, professor of belles lettres at Pisa, in the sixteenth century, was born in Tuscany, in 1517; died 1596. He published various works, but chiefly distinguished himself as a Latin poet. His Syracas, a Latin poem in 12 books, is on the same subject as that of Christopher Marlowe.

ANGELO BUONAROTTI, Michel; of the ancient family of the counts of Canosa; born, 1474, at Caprese or Clisiti; one of the most distinguished names in the history of modern art, eminent alike in painting, sculpture, and architecture, and, withal, no mean poet. He was also an expert fencer. A. was one of those favourites of nature, who combine in their single persons the whole range of human excellence. According to Domenico Ghirlandaio was his first master in the art of drawing. Before he was born with him two years, in the academy of arts established by Lorenzo de' Medici, he studied statuary under Bertoldo, and, in his 16th year, copied the head of a satyr in marble, to the admiration of all him with the attached no less attention as a painter, and received the honourable commission (together with the great Leonardo da Vinci) of decorating the senate-hall at Florence with historical designs. For this purpose, he sketched that renowned, though not completely preserved cartoon, which represents a scene from the Pisan war, and is praised by critics as one of his most perfect creations. Meanwhile, pope Julius II. had invited him to Rome, and entrusted him with the charge of erecting his sepulchral monument. Twice this labour was interrupted—once by the offended pride of A. and then by the envy of Julius II. At last, the pope was persuaded to complete the monument of the Sistine chapel painted by Michael A. Knowing that he had not yet attempted any thing in fresco, they hoped that the imperfect execution of this task would alienate the favour of the pope from him. After an admission, the pope would not be refused; and, in the short space of 20 months, the artist finished the work, which was admired by all connoisseurs, and of which Fernow says rightly, that it displays, perhaps, more than any other of his productions, all the sublimity of his original genius. The Sopieda Sistina is certainly the grandest ensemble of art. Its perfection is owing chiefly to Michael Angelo's divine paintings. (See Sistine Chapel.) A. was about to proceed with the monument of Julius, when this pope died. His successor, Leo, sent A. to Florence to erect the front of the Laurentian library. Leo, however, shortly after died, and his successor, Adrian VI., employed A. to make the statues for the monument of Julius; particularly the renowned statue of Moses, and the Christ, which was afterwards placed at Rome, in the church della Minerva. Clement VII., who next ascended the pontifical chair, recalled A. to Rome, and engaged him with great success in the new sacristy and the Laurentian library at Florence. In the first, the monuments of the Medici are by him; e., the figures of Day and Night. Turbulent times followed, after the lapse of which, he was employed to paint the Last Judgment in the Sistine chapel. The artist, now 60 years old, unwillingly commenced a work which might endanger his fame. Naturally inclined to deep and earnest thought; preferring the sublime conceptions of Dante to all other poetry; having, by a constant study of anatomy, investigated the most secret mechanism of the muscles, and conceptions of his own power,—he endeavoured, in this work, to strike out a new path, and to surpass his predecessors, particularly Luca Signeretti, by a display of terrible power. The picture is grand, may, gigantic, like the mind which created it. It represents Christ in the act of judging; or, rather, at the clement of condemning Martyrs are seen, who show to the Judge of the living and dead the instruments of their torture; souls ascend to the choir of angels hovering above; the condemned striving to break loose from the grasp of the devils; there the evil spirits burst into shouts of Delirium at the sight of their prey; the lost, who are dragged down, endure that which must remain in Christ's kingdom; the gulf of eternal damnation is seen opening; Jesus Christ and his mother are seen surrounded by the apostles, who place a
ANGERTEN — ANGLING.

Angerstein, a distinguished patron of the fine arts, was born at St Petersburg in 1735, and went to England under the patronage of the late Andrew Thompson, with whom he continued in partnership upwards of 50 years. A. first proposed a reward of £2000 from the fund at Lloyd's to the inventor of the life-boats. His celebrated collection of paintings has been purchased since his death by the late R. , a convinced and learned man, as the nucleus of a national gallery. Mr A. died at Woodlands, Blackheath, January 22, 1822.

Angerstein Gallery. See National Gallery.

Angle; the inclination of two lines: 1, or two straight lines. Angles are measured by arcs of a circle, the centre of which is the point where both the sides of the angle meet, the vertex, as it is called in geometry. Every circle, large or small, is divided into 360 degrees, each degree into 60 minutes, each minute into 60 seconds. It is, therefore, clear, that the size of the angle has nothing to do with the length of the lines, because only their inclination is measured. An angle of 6 degrees, 2 minutes and 3 seconds is written thus: 6° 2' 3". Angles are divided into right angles, equal to 90°, four of which are equal to the whole circle; obtuse angles, those greater than 90°; and acute angles, those which are less. 2. There are, also, spherical angles and solid angles; the former formed by arcs, the latter by planes. Whole sciences are based on the theory of angles, e.g., trigonometry. The calculations of the astronomer, and the measuring of distant objects, depend on the science of triangles, which, in fact, is nothing else but the measurement of angles. People were acquainted with the theory of angles. In fact, geometry, and, one might almost say, mathematics began with the science of angles.

Angles; a German nation, which resided in what is now the dukedom of Magdeburg, in Prussia, near the Elbe, and, probably, succeeded to the former seat of the Lombards, when these latter had driven the Cherusei from the northern half of their country. As they never approached the Rhine and the Roman frontiers, we do not find their name mentioned by the Roman authors, who comprehended them, with many others, under the general name of Chauci and Saxons, until the conquest of Britain made them better known as a separate nation. In the 5th century, they joined their powerful northern neighbours, the Saxons, and, under the name of Anglo-Saxons, conquered the country now called England. (See Great Bridge, and Danish peninsula, where, to the present day, a small tract of land, on the eastern coast of the duchy of Slesvick, bears the name Anglia.)

Anglesia, or Anglesy (ancient Mona); an island and county of North Wales, in the Irish sea, separated from the mainland by several straits, and having a coast of 120 miles. It is, perhaps, the most fertile island in Great Britain, and yields large quantities of fish and grains. Its capital is Chester. Among its other names are Cune, Menin, and Iona. The island was the seat of an old Christian church, and is now a powerful bishopric.

Angler, the profession of catching fish by whatever means. Anglers are usually divided into two classes: the freshwater and saltwater angler. The former uses a variety of baits, the latter, various artificial means. Fishing is a popular amusement in many countries, and is considered by many as a useful means of employment.

Angling; the art of ensuring fish with a hook, which has been previously baited with small fish, worms, flies, &c. Among people who has this art attracted so much attention, and nowhere have so many persons of all classes, both clerical and secular, resorted to angling as an amusement, as in England, whose literature is richer than that of any other country in works relating to this sport, both in prose and verse. Angling is considered as one of the noblest sports in the United States. In both countries, in England and North America, angling is followed by many sportsmen, men with a kind of passion. In England, it has been thought of sufficient importance to be protected by statute; and a series of acts, from the reign of Edward 1. to George 11., exists, relating to angling.
ANGLING. 167

and fishing. In the United States of America, angling, like all other kinds of sport, is free to every body.

In a rude state of society, angling was resorted to from necessity. This occupation soon became an amusement for those who had leisure enough to indulge in it. There is a certain interest and pleasure in such a pastime, and it afforded considerable pleasure, to all who practised it.

We find occasional allusions to this pursuit among the Greek writers, and throughout the most ancient books of the Bible. Plutarch mentions an amusing anecdote of Antony's unsuccessful angling in the presence of Cleopatra, and a fine fish which his lady presented him with. It is said that angling came into repute in England about the period of the reformation, when both the secular and regular clergy, being prohibited by the common law from the amusements of hunting, hawking, and fowling, directed their attention to this recreation. The invention of printing aided in drawing attention to this subject, and made known its importance "to cause the helth of your body, and speci- ally of your soul," as the first treatise concludes. Wynkin de Worde gave the world, in 1496, a small folio republication of the celebrated Book of St. Alban's, entitled, for the first time, a curious tract, entitled The Treatise of Angling. This treatise is ascribed to dame Juliana Berners or Barnes, prioress of a nunnery near St. Albans's, "The Angler," she observes, "atte the leest, hath his bole son walke and mary at his east, a sweete raye of the sweete savoure of the meede floures that makyth him hungry; he hereth the meloduous armony of the fowells, he seeth the yonge swannes, heermes, ducks, costes and many other fowles, with their brodes, which me seemyth better than alle the noysse of honeyes, the blastes of honeys, and the scryn on fowells, the haueters, fawkeners and foulers emayne. And if angler take fysehe, surely themhe is there noo man merier that he is in his spyrte." Walton's imita- ble discourse on angling was first printed in 1653, in an elegant duodecimo, with plates of the most considerable fish cut in steel. This edition and three subsequent ones consisted wholly of what is now called part the first of the Complete Angler, being Walton's individual portion of the work. For the benefit of young sportsmen, we shall here lay before him, 1. A short general description of the branches of the art require; 2. A detailed list or account of the fish; and, 3. A table, which forms a summary of the art, and in which various baits are included, not mentioned in the list.—Tackle for Angling.—In the choice of his rod the angler will generally be directed by local circumstances. The cane rods are lightest; and where fishing-tackle are sold, they most commonly have the preference; but in retired country places, the rod is often of the angler's own making, and he should, at any rate, be capable of supplying himself with one upon an emergency. No wood, as a whole, is better adapted for this purpose than the common hazel; and if to this he can add a sound ash stock, or butt-end, and a whinestone top, he is as well furnished with materials as he need desire to be. Salmon rods are sometimes wholly made of ash, with a whinestone top. Other rods may be formed thus:—a yellow deal joint of several convenient size, with a butt-end piece of fine grained yew, tapered to a whinestone top, and measuring together about two feet. Always carry a jointed rod, when not in use, tightly looped up. The line, like the rod, should gradually diminish toward the further extremity; and no materials exceed strong, plied hemp. It is found, that the hairs from the middle of the tail are best, and those of a young, and healthy, grey, or white stallion; sort them well, that the hair at every link may be of equal size with each other; and if you wash them, do not dry them too rapidly. For ground fishing, brown or dark hairs are best, as resembling the colour of the bottom. Silk lines are more showy than useful. They seldom withstand the strain of a strong fish, and readily bend without breaking, and yet retain a sharp point, which may be occasionally renewed by a whet- stone. It should be long in the shank and deep in the bed; the point straight, and true to the level of the shank; and the barb long. From the difficulty of tempering it, most skilled anglers, few and far between, undertake the task. Be careful to provide, yourself with a variety accordingly. Their sizes and sorts must, of course, entirely depend on the kind of fish for which you mean to angle. Floats are formed of cork, porcupine quills, goose and swan quills, &c. For heavy fish, or strong streams, use a cork float; in slow water, and for lighter fish, quill floats. To make the former, take a sound common cork, and bore it with a small red hot iron through the centre, length ways; then taper it down across the grain, about two-thirds of the length, and round the top, forming it into the shape of a bottom, into the shank, and two-thirds the length of your floats so as just to sink them short of the top.—Fish usually taken by anglers in Great Britain.—The Barbel, so called from its four barbs, two of which are at the corners of its mouth, and the others at the end of its snout, is a heavy, dull, fish, and gives very inferior sport to the angler, in proportion to his size and strength. They begin to shed their spawn about the middle of April, and come in season about a month or six weeks after. In their usual haunts, among weeds, &c., they are fond of rooting with their nose like the pig. In summer, they frequent the shallow estuaries of most powerful and rapid rivers, and settle, among logs of wood, piles, and weeds, where they require for a long time apparently immovable; during the winter time, they return to deep bottoms. The most killing baits for the barbel are the spawn of trout, salmon, or indeed of any other fish, especially if it be fresh, respecting which, the barbel is very cunning; the pasties that imitate it must, therefore, be well made, and of fresh flavour. It is also an advisable plan to bait the water over night, by spawn or a quantity of cut worms. The barbel will also bite well at the cobworm, gentles, and cheese, soaked in honey. The rod and line, with which you fish for barbel, must be of extraordinary length, as the fish weigh eight to twenty pounds, and the plummet attached to the latter, as they swim very close to the bottom. By a gentle inclination of the rod, you may easily ascertain when there is a bite; immediately upon which the fish should be struck, and seldom escapes, unless he break the line. The bleak, or baw, is a common river fish, so called from its bleak or white appearance, that spawns in March; and is fond of many of the baits for trout. It is usu- ally caught with a small artificial fly of a brown col- our; and the hook should be suited in size to the fly. The bleak seldom exceeds six inches in length; its flesh is highly valued by epicures, and heads are made of its scales. Bream shed their spawn about midsummer, and although they are occasionally met with in slow running rivers, are reckoned a pond fish, where they will live in the greatest perfection; and have been known to weigh from 8 to 10 lbs. 1: The method of fishing for these fish is the same as for the bleak, but several pieces of fine grained yew, tied together, and take all possible care to keep concealed from the fish, which are angled for near the bottom. His tackle also must be strong. This fish, according to Dr Shaw, is a native of many parts of Europe, inhabiting the still lakes and rivers, and sometimes found even in the estuaries and inlets of the sea. The eel and thumb is a small ugly fish, which hides itself in brooks and rivers under a gravelly bottom. They
spawning in April, and their average length is from four to five inches. When their gill fins are cut off they serve as good baits for pike and trout, and, like the carp, taste very well. Carp is, in a fish, that by its frequency of spawning, and quickness of growth, is greatly used to stock ponds, where it thrives better, and lives longer than in rivers. Gesner speaks of one who lived to 100 years old; there is much doubt about its general age, but it is supposed to be a hundred years or more. They spawn three or four times a year, but the earliest time is about the commencement of May. They are observed to live uncommonly long out of water, and in Holland are frequently kept alive for three weeks, or a month, in a cool place, by being hung with wet moss in a net, and fed with bread, steeped in milk. In angling for carp, it is necessary to make use of strong tackle, with a fine gut next the hook, and a float formed of the quill of a goose. They bite almost close to the bottom, and are rarely caught if angled for in a boat. From its subtility, it has been sometimes called the water fox. The river carp is accustomed to haunt in the winter, the most quiet and broad parts of the stream. In summer they live in deep holes, reaches, and nooks, under the roots of trees, and among great banks of weeds, until they are in a rotten condition. The pond carp loves a rich and muddy bottom, or near to the surface in cold, hungry waters. The carp ponds of Germany yield a considerable income to the gentry. The Club, or Chevin, is, like the perch, a very bold biter, and will rise eagerly at a natural or artificial fly. They spawn in June, or at the latter end of May, at which time they bite, and during that period, their legs and wings cut off, or still more successfully by a large snail. When they are fished for at mid-water, or at bottom, a float should be made of use; when at top, it is customary to dip for them, or to use a fly, and a brown wet will be the best for the angler. Strong tackle is also requisite, as they are a heavy fish, and usually require a landing net to pull them out. Their average length is from ten to fourteen inches. *Dace, Darter, or Dare,* are a very active and cautious fish and rise to a fly, either real or artificial. It is necessary, in angling for them, to remain in concealment as much as possible. They spawn in February and March, and their flesh is but inferior in point of flavour. They frequent gravelly, clayey, and sandy bottoms, leaves of the water lily, and deep holes, if well shaded. In sultry weather they are frequently caught in the shallowest place during that period, they are best taken with grasshoppers or gentles. In fishing at bottom for reach and dace, who are similar in their habits and disposition, bread soaked in water, and knotted to a good consistency, and then made up together with bran into round balls, and thrown into the place where it is proposed to angle, will be found very serviceable, but must always be thrown up the stream. There is a mode of intoxicating dace, and by this means rendering them an easy prey; but this is no part of the real angler's sport. The Thames is well known to abound in dace, and the graveling of the Mersey is thought to be a variety of the same species. The Eel is rarely angled for, but it is usually caught by the process of sniggering or bobbing, with night lines, &c. Being fond of quiet in the day time, all who expect much sport in eel fishing must devote their evenings and even whole nights to the pursuit. The method of angling for eels is as follows:— Take a common needle, attached in the middle by fine waxed twine a packthread line, or a strong small hook fixed to this kind of line; place a large lobworm, by the head end, on your needle or hook, and draw him on to his middle; affix another needle to the end of a long stick, and guide your bait with it into any of the known haunts of the fish, between will boards, or into eelts of banks or holes, holding the line in your hand; now give the eel time to gorge the bait, and then suddenly, or very quickly, throw it across his throat, or the hook into his body; strike him, and your triumph is certain. *Although this is not strictly a method of angling, the lovers of that sport will find it so successful a mode of diversifying their pursuits, where eels are common, that the present account appears the most convenient plan to insert it.* Bobbing is a rough species of angling. The best method is to provide yourself with a considerable number of good-sized worms, and string them from head to tail, by a needle, on fine strong twine, viz., to the amount of a pound, or a pound and a half in weight. Wind them round a curl into a dozen or fifteen links, and secure the two ends of each link by threads. Now tie a strong cord to the bundle of strong worms, about a foot from which put on a bored plumet, and angle with a line from two to three feet long, attached to a stout tapering pole. Eels, and perhaps pike, are found in no part of Great Britain in such numbers or variety as in the marshy parts of the counties of Cambridge and Lincoln. The silver eel is the finest, and is very common in Scotland. The manner in which this fish is propagated, has long been a matter of dispute. They have neither spawn nor eggs, but are viviparous. The greatest argument against them is that of their being bred of corruption, "is some kind of bees and wasps are;" others strongly contend for their being viviparous. It is a subject, indeed, upon which naturalists have no certain information. The lamprey, a *lambeleo petra,* from licking the rocks,* says the quaint author of the Wortheys of England, is a species of cdi varioussly esteemed. In Worcestershire and Gloucestershire, the Severn lamprey is regarded as a luxury; and, by the city of Gloucester, a pie made of this fish is annually presented to the king. In the north of Great Britain it is much disliked. Eels bite in a shower, and in windy, gloomy weather, at the lob and garden worm, designed for other fish, particularly trout. Unlike other fish, they are never out of season. They are a very greedy fish, and if you wish to angle for them in the ordinary way, they will take a lamprey, waps, or minnow, fly, *&c.* In Ireland, the *Parnock,* or *Hirling,* is a species of sea trout, which usually attains the length of from 9 to 14 inches, and is principally known in Scotland; the whiting, another species, is from 16 to 24 inches long. They will both rise equally at an artificial fly, but require more care, and are shorter compared to the common trout. The *Grayling,* or *Umber,* spawns in May, and is in the best condition in November. They will greedily take all the baits that a trout does, and frequent the same streams. They are said to have the fragrant smell of the plant Thymallus. Their average length is from 16 to 18 inches; and they must be angled for with very fine tackle, as they are a remarkably timid fish. When hooked, they must also be cautiously worked, as the hold in their mouth easily gives way; but they will speedily return to the bait. It is fine eating, unknown to Scotland or Ireland. The *Gudgeon* is a fish in some request, both for its flavour and the sport it affords to the inexperienced angler. It is very simple, and is allowed with almost any kind of bait. It spawns two or three times during the year: it is generally from 5 to 6 inches long, and fond of gentle streams with a gravelly bottom. In angling for it, a moderate sized stone should be stirred up, as this roams them from a state of inactivity, and collects them in shoals together. Anglers use two or three hooks in gudgeon fishing. A float is always used, but the fish should not be struck on the first motion of it; as they are accous-
tomed to nibble the bait before they swallow it. It frequently happens, that in angling for gudgeons, perch are caught. The Loach, or Groundling, sheds its spawn in April, and remains in the gravel; where they are usually caught with a small worm. They are principally found in the north of Great Britain, and in Ireland. They are not more than about three inches in length; and their flesh is pleasant and wholesome. The Minnow or Minnowin, one of the smallest river fish, seldom exceeds two inches in length. They spawn generally about once in two or three years, and swim together in schools, in shallow waters; and afford excellent amusement to the angler. They serve also as excellent baits for pike, trout, chub, perch, and many other fish which prey upon and devour them greedily. Mullet take almost the same baits as the trout, and will very eagerly rise to an artificial fly; they are considered free-biting, and come and go with the tide. If artificial flies are made use of, their size should be larger than those generally used to insure the trout. They are found in their greatest perfection, in the river Arun, Sussex; but are seldom or never seen in Scotland. The Par, or Samlet, is a fish that is known by different names in different places. It is a native of the river Wyre it is usually called a skirling, in Yorkshire, a branding, in Northumberland, a rack-rider; and in some parts of England, a fingerling, from the resemblance of its spotted streaks to the human fingers. Par, or Samlet, is its Scottish name, and in that part of Britain it is best known. Some have affirmed, that it is the blended spawn of the trout and salmon. This opinion is strengthened by the circumstance of their usually frequenting the same haunts with the salmon and sea trout, and being foraged in their tail like the former. The Perch is a very bold biting fish, and affords in exact proportion as the river is clear. They are distinguished by the beauty of his colours, and by a large erection on his back, strongly armed with stiff and sharp bristles, which he can raise or depress at pleasure. Defended by this natural acceulence, he bids defiance to the attacks of the ravenous and enor- mous pike, and will even dare to attack one of his own species. Perch spawn about the beginning of March, and measure from eight to fourteen inches. In fishing for perch with a minnow, or branding, the hook should be run through the back fin of the bait, which must hang about six inches from the ground. A hare's foot, or large wet fly, which should be loaded about nine inches from the hook, it must be observed, that they invariably refuse a fly. The Pike, Looe, or Jack, is a fish of enormous size, and the greatest voracity; indeed, so notorious is he for the latter quality, as to have gained the appellation of the fish shark. They are also great breeders. Their usual time of shedding their spawn is about March, in extremely shallow waters. The finest pike are those which feed in clear rivers; those of fens or mires, being of very inferior quality. They grow to a vast size in these last mentioned places, where they feed principally on frogs, and such like nutriment. They are reckoned to be the most remarkable for longevity of all fresh water fish; are solitary and melancholy in their habits, generally swimming by themselves, and remaining alone in their haunts, until compelled by hunger to roam in quest of food. There are three modes of catching pike; by the ledger, the trolling, or walking bait, and the trimmer. The Pope, or Ruff, is a fish very similar in its nature and appearance to the perch, and is frequently caught when fishing for the latter. They spawn in March and April, and are taken with a branding, or minnow. They have an extremely voracious disposition, and will devour a min- now, which is almost as big as themselves. In their favourite haunts of gentle deep streams, overhung by trees, they swim in shoals together; and you may fish for them either at the top or the bottom of the water, as they are known to bite in almost any weather, and in any situation. Their average length is from six to eight inches; and their flesh is very proper to be taken with flies under water. They will bite at all the baits which are prepared for chub or dace, and are considered a simple and foolish fish. They spawn in May, and turn red when boiled. The compact- ness of their flesh gave rise to the proverb, "Sound the fish, he is a roach." The roach is a native of the British lakes, and is a resident fish, although it is commonly taken with flies under water. They will bite at all the baits which are prepared for chub or dace, and are considered a simple and foolish fish. They spawn in May, and turn red when boiled.

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want the hook, where they are best made of three small round twisted silk worm guts, or a few strong horse hairs. Of flies, the natural ones recommended in the tables have been used with great success. The artificial ones should be generally of large dimensions, and of a gaudy and glaring colour. The materials that compose them—hairs, furs, and feathers—may be collected, mingled with the tail-feathers of cocks and game, and secured together by plated wire, or gold and silver thread, marking silk, shoemakers' wax, bees' wax, &c. Their wings may be made of the feathers of domestic fowls, or any other feathers you have. They are frequently the natural fies recommended; but you may safely indulge your fancy, rather than depart without a bite; for many anglers succeed with the most monstrous and capricious baits of this kind. A raw cockle, or muscle, taken out of the shell, prawns, and minnows, have also been recommended as salmon baits. The mode of angling with these is to drop the line, which must be totally unincumbered with shot, into some shallow which approximates to the edge of a hole of considerable depth, and in this situation to suffer it to be carried in by the current. The novice in angling and who has no previous experience of fishing, would be very liable in throwing his line to any great extent. For this we can give no recipe, but a most indefectible determination to proceed, and the most consummate patience in disappointment. It should always be thrown across the river, and on the off-side from the spot where the fish, or the shoal of fish, are supposed to congregate. When you imagine that the salmon has been struck, be cautious in giving him time sufficient to enable him to poach his bait, that is, to swallow it fairly and securely. After this, fix the hook firmly in him, by a gentle twitch. On the first sensation of this pain, the salmon will plunge and spring with great violence, and use every endeavour of strength and cunning to effect his escape. He will then, perhaps, run away with a considerable length of line, which is to be kept in a gently relaxed situation, so that it may always yield with facility to his obstinate resistance, nor can you give him too much line, if you do not clear it of weeds and encumbrances. If he now become sullen and quiet in the water, rouse him gently, by flinging in a few stones; and when he once more commences resistance, do not be too eager in checking his career, but let him finally exhaust himself, and at the same time, follow him down the stream, or allow him to cross it; while, at every opportunity, you keep winding up your line until you approach him in this wearyd state, and take him softly by the gills out of the water.

The salmon pool may be caught in the same manner; he is smaller than the salmon, and seldom exceeds fourteen or fifteen inches in length. Tench, like the carp, are generally considered pond fish, although they have been frequently caught in the river Stour. They shed their spawn about the commencement of July, and are in season from September to the latter end of May. They will bite very freely during the sultry months. Their haunts are similar to those of the carp; except that they frequent the foulest and muddiest bottoms, where they may shelter themselves among an infinite quantity of reeds; hence you must angle for them very cautiously, being careful and dextrous to gorge the bait. Trout are considered as one of the finest river fish that this country can produce. Its colours are beautifully varied at different seasons of the year, and according to the rivers it frequents. They abound in the first, experience the generality of our streams, rivers, and lakes, and are not uncommonly artificial. If this, their weight also differs from half a pound to three; some few have been caught which weighed upwards of four pounds. Trout are extremely voracious; and, by their activity and eagerness, afford famous diversion to the angler. Previous to their spawning, they are observed to force a passage through weirs and flood-gates against the stream; and, the way they are enabled to overcome some of these impediments, is a subject of much conjecture. Their guardian is the river, and the month of every year is November; in some rivers, however, it is much sooner, in others later. They are also met with in eddies, where they remain concealed from observation behind a stone, or log, or a bank that projects into the stream; during the latter part of the summer, they are frequently found under the hollow of a bank, or the roots of a tree. In angling for trout, there are many things worthy of particular observation: 1st. That the day on which the sport is undertaken, be a little windy, or partially overcast, and the south wind is superior to all others, if it do not too much disturb your tackle. 2d. The sportsman should remain as far as possible from the stream, fish it downwards, the line never touching the water, as the agitation proceeding from the fall might disturb the fish, and preclude all possibility of capturing them. 3d. Clear streams are famous for sport, and fishing on the 2nd. day, when the fly wings must be attached to the hook. When the water is thick, and the sight more imperfect from this disadvantage, a larger species of bait must of necessity be used. 4th. The line should, on an average, be about twice as long as the rod, unless in cases of emergency, when he numbers a variety of species to exclude the probability of a successful throw, if at any distance. 5th. Let the fly be made to suit the season. After a shower, when the water becomes of a brown appearance, the most killing bait is the orange fly; in a clear day, the light coloured fly; and on a gloomy day, in overhanging streams, a dark fly. Very large trout have been killed in Ullswater, in Cumberland, and still larger in Loch Awe in Argyllshire. The late Mr. Morrison of Glasgow claimed the merit of discovering these fish in the last-named locality, about 40 years ago, and the largest of these, according to his statement, were as much as twenty pounds. Mr. Lascelles, a Liverpool gentleman, has also of late years been equally assiduous and successful in their capture; and it appears that any persevering sportsman is almost certain, with the proper tackle, to obtain specimens in this country of strength and weight, equal to twenty pounds. The largest we have lately heard of weighed 191 pounds. It is said to be by far the most powerful of our fresh-water fishes, exceeding the salmon in actual strength, though not in activity. The most general size caught by trolling, ranges from three to fifteen pounds; beyond that weight they are of uncommon occurrence. If hooked upon tackle of moderate strength, they afford excellent sport; but the general method of fishing for them is almost as well adapted for catching sharks as trout; the angler being evidently more anxious to have it in his power to state that he has caught a fish of such a size, than to enjoy the pleasure of the sport itself. However, to the credit of both parties, it may be stated, that the very strongest tackle is sometimes snapped in two by its first tremendous springs. The ordinary method is that of shedding their spawn about the river, with a powerful rod, from a boat rowing at the rate of from three to four miles an hour; the lure, a common trout, from three to ten inches in length, baited upon six or eight salmon hooks, tied back to back upon strong gimp, assisted by two swivels, and the wheel-line being made as efficient as possible. After patient efforts of the fish to regain its liberty, it is frequently carried away for ever into the crystal depths of Loch Awe!
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Thank you for your attention.
Among the Anglo-Saxons History. (See the article England, and, for further information, Turner's History of the Anglo-Saxons, London, 1807; also the article Anglo-Saxon in the American edition of the New Edinburgh Encyclopaedia.)—Anglo-Saxon Language; that language, in the middle of the 17th century, was transplanted by the Angles, Saxons, and some other German tribes, into England, and continues, though much altered, to form the basis of the modern English dialect. The German language was early divided into two principal dialects, the Upper and Low German, both derived from the Gothic, and we find it in Ulphilas' translation of the Gospels. To the Lower German belonged the idiom which was spoken by the Saxons, a numerous and valiant German tribe, who inhabited almost all the north of Germany, where this idiom prevailed, and branched out, at a later period than the migration of the Anglo-Saxons and Goths or Jutes, into various dialects, of which the Frisian was the earlier, and the Dutch the more recent, formation. It remained the prevailing language, even after the subjugation of the Saxons in Germany by Charlemagne, and continued, down to the period of the reformation, not only the disk of conversation, but also of several valuable literary works, in prose and verse, many of which, from the period of the middle ages, are still preserved. At the reformation, it gave way to the High German, for the purposes of literary composition and the conversation of the higher classes; though, to this day, it continues to be the dialect of the people, and is known by the name of the Low German. There is no doubt that any one, who intends to investigate the English language scientifically and thoroughly, tracing the words, as well as the structure of the language through their origin, as far as possible, cannot dispense with studying Low German, which has been too much neglected even by those eminent scholars whose investigations have done so much service to the English language. Few readers, probably, are aware of the striking resemblance between Low German and English, even as it is now spoken, and we feel induced to quote some lines of the famous poem Regnard the Fox (q.v.), in Low German, first published in 1493, with a literal interlinear translation into English. The poem begins thus:

It shag up even Pinkie-dog,
It chanced upon a Pentecost-day,
Dat man de wolde un joldag
Then in the morn, on the woods and fields saw
Grone stün mid hü un grass, &c.
Green stand with leaf and grass, &c.

The difference between the Low and the High German is, in many respects, striking. It is found in the words, the grammar, the pronunciation, and in the whole style of expression; and it is very interesting to see how many of these deviations from the High German are common to the Low German with the English; for instance, it has not the augment ge of the participle; it often cuts off the ends of words which do not belong to the radix; and has many more monosyllables than the High German; it makes no distinction between the accusative and dative; there is no masculine, feminine, and neuter articles; they are the same; the pronunciation of a is, in many cases, mixed with the sound of o, as in the English all, and often inclines strongly to the English sound in ease; it has often an s, where the High German has sch (pronounced sh), preceding a consonant; in some words of Low German, e.g., cæ (pronounced generally, sh), before a vowel, takes the sound of s; instead of c at the end of words, it takes a k or c; in all which particulars it is nearer to the English than to the High German. A deeper investigation would show the close connection even of the Saxon, as it now forms a part of English, with the Low German; to say nothing of the innumerable words which are almost the same in both languages. (Among other works on this subject, see A Letter from De Vere to Richard Bagster, 1708, on the English and German Languages; by Herbert Croft; London and Leipsic, 1797.) The remarkable English pronunciation of the r is less common in the dialects we have just spoken of, than in the German dialect spoken in Danza and Prussia Proper. In this dialect, the German r (pronouncedrr) and the German r (pronounced ee) are uttered more in the English way than in the other German dialects. Probably this pronunciation, when the Saxon conquerors left Germany, was common to all the dialects of the north of Germany.—After the conquest of England by the Angles and Saxons, the Saxon became the prevalent tongue of that country, borrowing words, indeed, from the aborigines, and from the Roman conquerors, but these were often single and detached parts, and did not constitute an integral portion of the language. From this time to the conception of the Normans to the reformation, there have been given remarkable advances, as appears from the relics of the Saxon literature. The Saxon language of that time, moreover, seems to have been more sonorous and finer sounding than its remains in the present English tongue, in the same manner as the modern German is of a less open sound, and is poorer in vowels, than the ancient was. Who does not think the words nœma, eorþo, urna, wille, finer than their successors, name, earth, our, will? It is strange to see how both the German and English languages have lost many of their vowels and finer sounds, while at the same time, the Italian language has always had a decided tendency to soften and euphonize all the materials left from the Latin. After the conquest by the Normans, the English language exhibits the peculiar case, where languages of two different stocks are blended into one idiom, which, by the cultivation of a free and active nation and highlygifted minds has grown to a powerful, organized whole. It cannot be doubted, on the one hand, that the English language has derived great advantages from the addition of the French stock, and the closer connexion with Latin, and all the languages of Latin origin; but, on the other hand, this addition could not fail to prove injurious in some respects, of which we will here mention only two,—1. That the power of formation, of composition and decomposition, in which all the German idioms nearly resemble the Greek, has been, in a considerable degree, lost, so that we now very often find a word common to both languages, German and English, but in the former putting forth many branches, and giving birth to a whole family of words for the different shades of one idea or many connected ideas, whilst in the latter it has remained like a stump with no fruit; whereas, in the Italian language, which has acquired too great a readiness to receive foreign words, without seeking, in its own store, the means of supplying the new want. In no period, perhaps, has this disadvantage appeared more strikingly than at the present, when a greater intercourse between England and France exists than ever, and fashionable works appear full of French intruders. If we consider the Saxon stock in the present English idiom, the following circumstances appear the most striking:—1. By far the greater part of the language is of Saxon or (to include the Danish and Teutonic dialect) of Low Saxon origin, whether Gothic, Old English, or the very remote, particles, and other words, which form the frame of our speech, being of Teutonic descent. Mr Turner has shown this very strikingly at the end of his History of the Anglo-
Saxons, where he gives many passages of the most eminent writers, both in poetry and prose, of different ages, with the words of Saxon origin printed in italics. Mr Duponceau, in the article Anglo-Saxon, in the American edition of the Edinburgh Encyclopaedia, so well observes, "We must not attend to the superficial investigation of the subject, we are apt to believe that the English words of northern derivation are to those derived from the ancient, as well as the modern languages of southern Europe, in the proportion of something more than three, but not quite as much, as four to one." 2. The structure of the verb and the greater part of the grammar is, fundamentally, Saxon. 3. A large quantity of Saxon words have disappeared, which were used before the Norman conquest. Mr Turner, in the work already mentioned, says, 4. I found in three pages of Alfred's Orosius, 78 words which have become obsolete, out of 548, or about one-seventh. In three lines of his Bede, I found 230 obsolete, out of 969, or about one-fifth." 4. In many cases, the Saxon word denotes the raw material, or the thing before it is worked up or divided. The English word of Latin or French origin signifies the same thing after changes have been made in it by human labour; e. g., beef, pork, mutton. 5. If there exist two synonymous words, one of Saxon, the other of Latin origin, the former, on account of its greater simplicity, is generally preferred. 6. The English word of Latin or French origin signifies the same thing after changes have been made in it by human labour; e. g., fatherly and paternal, motherly and maternal, happiness and felicity, faithfulness and fidelity, kindred and relations, benevolence and depravity, to dwell and to lodge, &c. If the reader will take any fine passage of Shakespeare or the Bible, and change all the Saxon words for which he finds synonyms of French origin, the thoughts will appear deprived of their proper dress. This is also the reason why passages of German writers on common subjects often sound to Englishmen, who begin the study of this kindred language, as if poetically expressed, because the German words correspond to the Saxon and more poetical words of their own language. 6. In the English Bible, the Saxon stock prevails more than in any other English work, not only in respect to the words which are borrowed from German (e. g., the Saxon words) but also in respect to the construction. — We may be allowed to close this article with the remarks of Mr Duponceau in the Encyclopaedia above mentioned. "The peculiar structure of the English language," he says, "is far from having been investigated as yet with that degree of attention and accuracy that it deserves. Among other things, we do not find that any grammarian has been at pains to take a full comparative view of its two great component parts; by which we mean, on the one hand, those words which are derived from the Saxon, Danish, and other northern languages, and, on the other, those from the Greek, Latin, French, Spanish, and other idioms of the south of Europe. These two sets of vocabularies are so dissimilar from each other, that they appear at first view incapable of being amalgamated together, so as to form a harmonious whole; yet who is there that can read, feel, and understand, and does not admire the sublime harmony which Milton, Dryden, Pope, Shakspeare, Bolingbroke, and the other immortal poets and prose writers of Great Britain, have produced out of those discordant elements? To analyse, therefore, these elements exclusively, which is the task of the lexicographer, is of considerable effect, is well worth the trouble of the grammarian and philologer; and the interesting discoveries, to which such an inquiry will lead, will amply repay their learned labours." We will only add, that not only would such an inquiry lead to interesting and beneficial results, but the trouble of the student would be well repaid, if he would investigate the tendency of the language at different periods, and observe how, in some, an inclination to the Saxon stock, in others, the Latin and its derivatives is apparent. At present, the Saxon stock is undoubtedly most in favour, as may be seen by any one who will look into the writings of Byron, Sir Walter Scott, and other eminent writers of our time, although a dispositional name, free use of French and Italian words is very observable in the intercourse of society and among secondary writers in the departments of light literature. See Low German.

Angola (formerly called Abahada, or Dongo); a country of western Africa, S. of Congo. In mercantile language, it includes all the coast from Cape Lopez Gonsaivo to St. Philipe de Benguela, from about lat. 1° to 12° S. The principal object for which this coast is visited is the trade in slaves, of which the number annually obtained is estimated, at least, at 40,000. Louanda, or St. Paul de Louanda, is the principal port for obtaining negroes. The Portuguese settled there in the middle ages. A remarkable range of mountains commences at the southern limits of Angola, now cape Negro, and runs up the interior in a N. E. direction. Large herds of wild cattle and mules adorn the plains, flocks of domestic sheep are kept in the surrounding country. Vegetation is extremely luxuriant in A.

Angostura (S. Tomas de Angostura); a town of South America, in the republic of Colombia, 700 miles E. of Santa Fe de Bogota, on the Oronoco river; known by the congress held here. — The second congress of Venezuela, commonly called the congress of Angostura, was installed in the city of St. Tomas de A., Feb. 15, 1819, and the 9th year of the independence of Venezuela. Twenty-six deputies assembled at that time, being four short of the number of which it was intended to consist, but sufficient to constitute a quorum. There were five from the province of Caracas; four from the province of Varcas; five from the province of Barcelona; four from the province of Guiana; four from the province of Cumanas; and four from the province of Margarita. This session was convened at the instigation of the Cordillera de Barcelona, in compliance with a letter from the chief, Bolivar, after which, the deputy Francisco Antonio Zoa was elected president. This congress had the honour, eventually, of proposing and effecting the union of New Granada and Venezuela into one government, under the name of Colombia, by the fundamental law of the republic, dated Dec. 17, 1819. Its sessions terminated Jan. 15, 1820, arrangements being previously made for assembling the first general congress of Colombia at Rosario de Cucuta, on the 1st of Jan., 1821. (See Colombia, Rosario de Cucuta.)

Angoulême; a city of France, the capital of the department of Charente, 60 miles from Bordeaux. The inhabitants are about 14,000, and carry on a considerable trade in paper. Lou. 9° 14' E.; lat 45° 39' N. Before the revolution, it was the capital of Angoumois. Balzac and Ravaillac were born here. Angora, Angyra, or Angorea; a popular city of Natalia, 212 miles from Constantinople, and one of the nearest and most polished towns of Asia Minor. The inhabitants, the number of whom is not ascertained, are composed of Turks and Christians. It formerly was much more extensive, and its population, perhaps 50,000, had been reckoned at 80,000 souls. The town stands on an eminence, and is surrounded by hills covered with fine gardens. It is fortified, but the walls of the city are suffered to go to decay. A. was, at one time,
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a place of great trade, and the inhabitants still main- tain a considerable manufacture of yarn, Angora stuffs and shawls. It is supposed that not less than 15,000 pieces of these latter articles are yearly made in the city. It is extensively used, and is highly prized, even by the preserves of Cashmere, and fabricated from the hair of the Angora goat. The surrounding country is chiefly devoted to the raising of wheat. Opium, however, is cultivated in the district, and large quantities of hony and waxes are obtained from the extensive bee- hives in and near the city. A stands on the very site of the ancient Anycra, in E. lon. 33° 18' N. lat. 40° 4'. Numerous caravans continually pass through this city.

ANGRA: a seaport on the S. side of Territor, one of the Azores, of which A. is the capital; lon. 27° 14' W.; lat. 38° 38' N.; pop. 11,000. The town is well built, and has five parishes, a cathedral, four monas- teries, and as many numeraries. It is defended by a strong castle and deep ditch. King Alphonso VI. was imprisoned in this castle by his brother, Peter II. in 1608. The town derives its name from angra, a creek, bay, or station for shipping; this bay being the only convenient harbour in all the Azores. The English, French, and Dutch have consuls residing here.

ANGUILLA: the most northerly of the Caribbean islands, so named from its form. It was discovered in 1628 by Vos. In 1742 it was attacked by the British and defended it against the French. Some sugar is raised here. Lon. 63° 10' W.; lat. 18° 15' N.—There is a rocky island of the same name, one of the smaller Bahama or Lucayos islands; twenty miles long, five broad; lon. 73° 50' W.; lat. 23° 36' N.—Anguilla bay lies on the north side of the island of St. John’s, in the gulf of St. Lawrence, opposite the Magdalen isles.—Anguilla cape: a promontory on the west side of Newfoundland, in the gulf of St. Lawrence.

ANGUS OVEN: the adder-stone: a fabulous kind of egg, said to be produced by the salamis of a cluster of serpents, and possessed of certain magical virtues. The superstition in respect to these was very preva- lent among the ancient Britons, and there still re- mains a tradition of it in Wales. This wondrous egg seems to have been nothing more than a bead of glass, used by the Druids as a charm to impose on the people. Pliny gives a sight to believe that the possessor of it would be fortunate in all attempts. The method of ascertaining its genuineness was no less extraordinary than the powers attributed to it. It was to be enchased in gold, and thrown into a river; and, if it was genuine, it would swim against the stream. Pliny gives a similar account of an egg, which the possessor of it raised from the bottom of the sea, but which, after four months, was consumed by a hill of fire.

ANGUL; under this name, the possessions of three different dukes—those of Anhalt-Bernburg, Anhalt-Coten and Anhalt-Dessau—are comprehended. Before the right of primogeniture was introduced, in the succession of the German princes, this little coun- try was divided into four hereditary sovereignties, but was afterwards reduced to the above-mentioned three. In April, 1807, the princes of A. took the title of duke. The house has, at present, joined the German confederation, and, together with Oldenburg and Schwarzburg, has the fifteenth vote in the diet; in the general assembly (plenum), however, each of the three houses has a separate vote. Each enjoys sovereign power in its own division, yet the three together form a confederation, by the terms of which the right of mutual succession is secured to the lines respectively, and the assembly of the states, as well as the public body of the city, are under the direct control of the senior member of the house for the time being, at present the duke of Bernburg. The ducal house bears a common title and arms, and professes the Calvinistic faith. The greater part of the inhab- itants, also are of the same persuasion. Towards the close of 1825, however, the duke and duchess of Courten went over to the Catholic church at Paris. There are also among the inhabitants many Lutherans and a few Jews. The lands of the house of A., compris- ing about 120,000 acres, with 125,100 inhab- itants, are mostly situated between the Harz and the river Elbe, and are surrounded by the Prussian province of Saxony; they are fertile. The inhab- itants are wealthy, and live partly by agriculture and grazing; but, in the vicinity of Bernburg, also by mining. The manufactures are silk and wool.
with the whole chain of the organized world. The great discoveries in chemistry, magnetism, electricity, and galvanism, have shown that those elements and principles on which rest the laws of life, prevail nature in the most various forms and combinations; that life is not confined to the animate and the inanimate, but, on the contrary, an intimate connection between the energy which makes the crystallizing mineral follow the law of the strictest regularity, or the stone fall from the height, and that which makes the heart of man beat—The difficulty of defining animal life has therefore, been greatly increased. What is animal life? What constitutes an animal? Since mankind began to cultivate philosophy, they have sought in vain for a definition of life. It would require much more metaphysical discussion, to enter at all satisfactorily into this subject, than the character of the present work allows; and we are constrained to offer the reader only the following remarks on this most interesting subject.—Linnæus defines an animal an organized, living, and sentient being. An animal is indeed organized; but are not vegetables organized also? Are not the atoms arranged without exception? and do not some plants possess this faculty? Locomotion is not a more certain characteristic of animals than life or irritability, for many animals are destitute of this power, and vegetate like plants, the images of torpidity and insensibility. The same animal substances are found in the vegetable and animal kingdoms; and the vegetable kingdom is found in the animal kingdom. There are two kinds of motion in animals, one of which is voluntary, and the other mechanical. The latter is involuntary, and belongs to the vegetative life of the animal. By this the vital actions are carried on independently of voluntary action. Even in the heart, there is a certain motion, the food is assimilated. The former is voluntary, and is peculiar to animal life; it cannot exist without a nervous system, or something equivalent, by which the animal perceives and wills. However feeble the manifestations of this will may be, it nevertheless exists in proportion to the simplicity or complexity of the organization of the creature which perceives and wills. Thus the vöröio and the monas, although apparently destitute of viscera, organs, and locomotive apparatus, when they avoid or pursue surrounding objects, act by virtue of the will as completely as the highest orders of organized creatures. One sense is sufficient to produce voluntary motion, and, therefore, to constitute animal life; the vóriö and the monas have at least one sense analogous to that of touch. This kind of motion may exist without locomotion, as in the oyster. There is no one organ which characterizes the animal kingdom; there is none which is found in all animals. The head, the stomach, the system of circulation, in a word, all the complicated apparatus of the mammalia, for example, disappears in other classes, or undergoes a thousand various combinations of form and proportion. The organ, of which the slightest injury in one animal produces instant death, is introduced from another without fatal consequences: whilst some are killed by the loss of some parts of the body, others may be cut in pieces, and each fragment becomes a perfect animal.—M. de Lamarck lays down the nine following characteristics, as common to all animals, and peculiar to them, and constituting, therefore, the distinction between the animal and vegetable kingdom:—1, the necessity of food for the preservation of themselves, and thus the power of moving themselves suddenly and repeatedly; 2, that they have the power of changing place, and of acting at will, if not completely, at least to a great extent; 3, that they perform no motion, total or partial, unless in consequence of certain motives, and that these are able to repeat the motion as often as the exciting cause operates; 4, that they betray no perceptible relation between the motions they perform and the exciting cause; 5, that their solid as well as fluid parts partake of the vital motions; 6, that they nourish themselves with compound substances of a different nature from themselves, and that they digest these substances in order to assimilate them; 7, that they differ from each other in their organization, and in the faculties resulting from this organization, from the most simple to the most complicated, so that they cannot be more alike; 8, that they are able to act for their own preservation; 9, that they have no predominant tendency in the development of their bodies to grow perpendicularly to the plane of the horizon, or to preserve a parallel direction in the vessels which contain the animal fluids. Linnæus was the first who ventured to include man in the systematic classification of animals; and though he was violently assailed for thus degrading the dignity of the human race, he has been followed, in this arrangement, by succeeding philosophers. Cuvier has, however, assigned him a distinct order, ómaha, by which means he is separated from monkeys, with whom Linnæus had classed him. Linnæus divided the animal kingdom into six classes, as follow:—* Such as have the blood warm and red; the heart with two auricles and two ventricles. —I. Mammalia; viviparous; suckle their young. —II. Aves; birds; oviparous; have neither teats nor milk. ** Such as have the blood red and cold; single heart, with one auricle. —III. Amphibia; oviparous; without teats, milk, hair, or feathers. —IV. Pisces; fishes; breathe by gills, a sort of external lungs; oviparous; their organs of locomotion, fins; their covering, scales; they emit no sound, and in spite of the water, they have a single heart, without auricles; blood cold and white, consisting of a sort of transparent lymph. (These characters have since been found to be incorrect; for some of these animals have red blood, and some have no heart at all.) —V. Insects; provided with antennæ; breathe by lateral stigmata; all have feet, most have wings, and undergo transformations. —VI. Vermes, worms; provided with tentacula; no feet or fins. The progress of natural history has revealed some defects in the system of Linnæus. Cuvier has corrected its errors and supplied its deficiencies. His system is as follows:— and Vertebral animals. They have an internal skeleton, composed of a series of bones attached to each other, and called the vertebral column. It is perforated by a canal containing the substance from which the nerves, or organs of sensation, take their rise. This column is terminated at one end by the head, which is, perhaps, only a vertebra fully developed), and at the other by the ot coccygis, or tail. Two cavities, the chest and the abdomen, contain the principal organs of life. The sexes are two, male and female; testicles belong to the former, ovaries to the latter; a spine, liver, and lungs, incumbent, transversal, and provided with teeth (which are imperfectly developed in the back of birds), not more than four
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limbs, constitute the character of this class. The organization of the vertebral animals presents a striking analogy throughout.—I. **Mammalia**; producing their young alive, which they suckle by teats; having warm blood; a heart with two ventricles; lungs; a convoluted brain, with a **corpus callosum**; five senses; a muscular diaphragm between the chest and the abdomen; nearly seven cervical vertebrae (one species excepted, which has nine). The **mammalia**, among which man is included, are generally the most intelligent of animals: they are divided into orders, according to the structure of their teeth and their feet, which organs determine the habits and manner of life. The birds, reptiles, fishes; the ova of the young covered with a calcareous shell; without milk or teats; heart and blood like those of the **mammalia**; lungs; no diaphragm; no teeth apparent on the jaws, which are called the beak; feathers and wings; projecting sternum, which completes the apparatus for flying; a glue for a stomach; no external ear. These animals are the only ones which sleep standing; they are divided into orders, according to the structure of the beak and feet.—II. **Birds**; oviparous; the eggs without shells, and sometimes without an umbilical; single heart; blood almost cold, and red. The remaining classes indisputably form a separate class, but they have few common characters peculiar to them; some are inclosed in a bony shell; others are naked; and others are covered with plates, scales, or rings. There are some which have limbs; others, without the least trace of them; and others, in which the number and structure of the limbs vary. Some undergo transformations, like insects, and are, at one period of their life, real fish, and for the rest of their days, little quadrupeds.—IV. **Fishes**; fish; oviparous; eggs without shell or albumen envelope, and fecundated without coition; single heart; blood cold and red; no real limbs, their place being supplied by vertical fins: this vertical disposition of the fins is sufficient to distinguish, at the first glance, fishes from the cetaceous animals, which have horizontal fins; the body is naked, with or without thick scales; the skeleton is destitute of solidity, and, in the lower species, is reduced to a mere cartilaginous vertebral column.—**. **Mollusca**; no skeleton; the muscles attached to a soft skin, which is sometimes naked, and sometimes covered with shells of very various forms. The nervous system, in these animals, is confounded with the other parts; none of the organs is protected by a bony case; the nervous system is composed of several ganglia, a sort of little brain, connected by sensitive filaments. The organs of nutrition and generation are very complicated in some; they appear to have but two senses, touch and taste, but some have also sight; they breathe by gills, and have sometimes three hearts. Cuvier divides the mollusca into six orders: the cephalopoda, gastropoda, gasterozoa, acephala, branchiopoda, and cirripoda.—**. **Articulated**. Their nervous system is composed of two longitudinal systems, running the whole length of the body, interrupted, at intervals, by knots, or ganglia, the first of which is always the largest; the blood is cold, generally a white lymph, except in the first order, the annelides, in which it is red. The body and limbs, when they have any, are composed of rings. This great division will probably undergo some modifications hereafter.—I. **Anneli- des**; heart fleshy, visible; blood red; breathe by gills, the position of which is various; body composed of articulated rings; no feet, sometimes thread-like members in their stead. The annelides are hermaphrodites, and probably oviparous.—II. **Crustacea**; heart composed of one fleshy ventricle; blood white, circulates; breathe by gills; provided with antennae, commonly with four, and several transverse pairs; they are oviparous, and the sexes are distinct.—III. **Arachnida**, spiders; head and thorax united; no antennae, nor gills; breathing by tracheae, or by pulmonary bags; distinct sexes; eggs; the young undergo no complete transformation after they are hatched, number of eyes and feet variable.—IV. **Insecta**; the insects: breathe by tracheae; body divided into three important parts, the head, which supports the antennae, and compound eyes, consisting of numerous facets; the thorax, to which are attached the feet, to the number of six, and the wings, to the number of four; or more, in the case of the butterflies. They all inhabit the water.—I. **Echinodermata**; distinct organs of respiration and circulation; the viscid contained in an interior cavity formed by the spines disposed in rays, and sometimes star-formed; they inhabit the sea.—II. **Intestini**; intestinal worms; long body, without limbs; no distinct viscera, except a long digestive canal; parasites of other animals, in whose bodies they are found; it is not known how they enter them, nor is any thing known of their manner of respiration and generation.—III. **Acetabula**; sessile—body orbicular or radiated, containing a digestive sack; no organs of circulation, respiration, or generation distinguishable; some of them, however, emit a substance, which might be taken for eggs, and which, when touched, excites a tingling sensation in the skin, similar to that produced by nettles; the mouth serves as an anus; they inhabit the sea.—IV. **Polypia**; body soft, contractible, forming a bisthential sack, which presents the appearance of an orifice surrounded by tentacula; no appearance of organization which would lead us to suppose them endowed with any sense except that of touch; they are found only in the water, but inhabit both salt and fresh water;—V. **Insecta**; bodies transparent, microscopical; no organ discernible. For the mental powers of animals, see the article Understanding.

**ANIMAL HEAT** is that property of all animals, by means of which they preserve a certain temperature, which is quite independent of that of the medium by which they are surrounded, and appears rather to be in proportion to the degree of sensibility and irritability possessed by them. It is greatest in birds. The more free and independent the animal is, the more uniform is its temperature, and this accounts for a temperature nearly equal, about 96—100° Fahr., in the frozen regions at the pole, and beneath the equator; and on this
account, too, the heat of the human body remains the same when exposed to the most extreme degrees of temperature; in fact, cold at first rather elevates, and then, with the most violent shocks, decreases all the parts of the human body. Fordyce and Blagden endured the temperature of an oven heated almost to redness, and two girls in France entered a baker's oven heated to 280° Fahr., in which fruits were soon dried up, and water boiled. A Spaniard, Francisco Martínez by name, exhibited himself, a short time since, at Paris, in a stove heated to 279° of Fahr., and threw himself, immediately after into cold water. Blagden was exposed in an oven to a heat of 257°, in which water boiled, though covered with oil. There is also a remarkable instance of a similar endurance of heat, by the convolutionaires, as they were called, upon the grave of St Medardus, in France. A certificate signed by several eye-wit- nesses, among whom were Armand, Arouet, the brother of Voltaire, and a Protestant nobleman from Perth, states that a woman named la Societ, surnamed the anatoune, lay upon a fire nine min- utes at a time, which was repeated four times within two hours, making, in all, thirty-six minutes, during which time fifteen sticks of wood were consumed. The correctness of the fact stated is allowed even by those opposed to the abuses in which it originated. The flames did not burn her skin, nor did she seem to have slept; and the whole miracle is to be attributed to the insensibility of the skin and nerves, occasioned by a fit of religious insanity. These facts are the results of a law of all living substances, viz., that the temperature of the living body cannot be raised above certain limits, which nature has fixed. There is also an increased flow of perspiration, by means of which the heat of the body is carried off. The extreme degrees of cold which are constantly endured by the human frame without injury are well known, and are to be explained only by this power in the living body to generate and preserve its own heat. The greater the irritability of individuals, whether from age, sex, or peculiarity of constitution, the greater the warmth of the body: it seems also to depend, in part, upon the quickness of the circulation of the blood; thus children and small animals, who are the liveliest, feel the cold least. The heat and the power of preserving it differ also in the different parts of the body; those appearing to be warmest in which there is the most copious supply of blood, as the brain, the head and neck, the lungs and central parts of the body, and least when the irritability of the body, or of any part of it, is particularly increased, the heat of the part undergoes a similar change. Increased activity and motion of the body, as in walking, running, &c., and diseases of increased excitement, as fever and inflammation, produce a similar increase in the temperature of the body. All this justifies the conclusion, that animal heat depends chiefly upon the irritability of the body, and is thus most intimately connected with the state of the nervous system. This view is confirmed by the late experiments of Brodie, who ascribed this power of raising the body to the influence of the brain. He destroyed the brain of a rabbit, and kept up the respiration by artificial means; but the heat of the animal regularly diminished.

Animal Magnetism. See Magnetism.

Animal Matter is the protection, the residence, and the visible seat of the various spiritual and material elements; substances are combined by the powers of the body, according to the objects for which it was destined, into various animal substances, falling naturally under certain divisions, which all, however, in some respects, comprehend each other. These divi-

sions are as follow:—

a. Fluids. These have no distinct form or organization, and yet possess properties, by means of which, when acted upon by the vital powers, they are capable of forming and preserving all the parts of the body; and it is a surest way of view of them to regard them as destined of life. In the following list of animal fluids, which, in the processes of life, pass constantly the one into the other, we find the fluid parts or kinds of animal matter; they are chloride, clavie, lymph, venous and arterial blood, and the various secreted and exerted fluids.

b. Solids. These comprehend all the solid parts of the animal frame, both hard and soft, and are of nearly the same essential structure in all animals, although variously arranged, according to their species. A minute description of all these belongs to anatomy; we shall merely enumerate them. They appear in the form of, 1. bones, constituting the basis—the frame of the animal, and found in all animals till we come to shell-fish (whose shells may be even regarded as external bones), and to still inferior animals, possessing no substitute for bones; 2. ligaments and fibrous membranes, connecting and covering them; 3. muscles, which move them, and place the body and its limbs at the command of the animal; 4. fat and marrow, which soften and lubricate all the various parts of the body; 5. nervous or muscular membranes, constituting the nerves, in which the vital power seems more particularly to reside; 6. the cellular substance, or membrane, which pervades all parts of the frame, and serves to connect them, and to furnish with the fat, which fills its cells, a soft bed for the vessels, nerves, &c.; 7. the mucous membranes, lining the whole body, from the nose and mouth to the parts at which all evacuations take place, and thus covering the mouth, throat, lungs, stomach, and bowels, in which the important functions of digestion and respiration are performed; 8. the serous membranes, which line all the large cavities, and which, by the soft fluid that always moistens their surface, render easy the motion of all the internal organs upon each other; 9. the vascular system, or vessels of all descriptions, conveying the blood to all the organs of the body, and returning it from them to the heart and lungs; and, 10. the glandular system, which consists of various glands, in which the secretions, which are so important to life are separated from the blood, or rather formed from it by a new composition of its original elements. These various classes of animal matter comprehend all the various forms, in which it appears in all animals of all kinds; the heart of a frog and of a philosopher being composed of the same substance, and their brains of similar nervous matter. These obvious component parts of animals are, however, separable by the art of the chemist into more simple and ultimate elements. The following are all that are at present known to exist, and of these some are peculiar to animals, while others enter, more or less, into the composition of all parts of the creation. They are, 1. iron, which is found chiefly in the blood, in the state of an oxyde; 2. lime, which enters largely into the composition of bones, shells, &c.; 3. silic, in the enamel of the teeth; 4. water, which gives their liquid character to all the animal fluids; 5. nér is found, mixed with watery vapour, in the various cavities of the body; 6. sod, united with various acids, in all the various fluids of the body; 7. am- monia, in the sweet urine, &c.; 8. sulphur; 9. phosphorus, in the bones, &c.; 10. carbon; 11. various acids, as that of the stomach, muriatic, phos- foric, &c., which are found, variously combined, in most of the solid and fluid parts of the body; 12. gelatin, or glue; 13. albumen, constituting the chief part of the transparent and colourless membranes, and the fluids which moisten them; 14. fibrine, com-
ANIMALCULA.

Standing the basis of all the muscles, ligaments, &c., and the most important ingredient in the composition of all the animales, one or more of these animals are generally susceptible of still farther analysis, by which they may be resolved into the simple gases, as azote, hydrogen, oxygen, &c.; so that it appears, that the ultimate elements of all parts of the visible world are nearly the same in their essential character.

ANIMALCULA, in a general sense, denotes small animals. It is here used to denote one so minute that its form and parts cannot be distinguished without the aid of the microscope. Microscopical animals may be described as more or less translucid, destitute of members, and with which no vestiges of eyes have yet been discovered. They are characteristic in their kind, or in part, possessed of the sense of touch, and nourish themselves exclusively by absorption. If particles of animal or vegetable matter are a few days infused in the most limpid water, on applying the smallest portion of it to the microscope, innumerable such animals of various shapes are discovered. These have been denominated insuyrous animalcules. They are also found in the mud of ditches, the scum of stagnant waters, &c. The origin of animalcules is a point of extreme difficulty, because their existence seems solely dependent on the adventitious union of animal or vegetable, and a subject which no vestiges of eyes have yet been discovered. There is great reason to conclude that their germs exist, not only in the air, but also in the macerating substances, or even in the fluid itself, and are gradually unfolded according to circumstances. Among these, heat and putrescence seem the most indispensable. The degree of heat to which infusions may be exposed, and still produce animalcules, is very different. The smaller species still originate after infusions have been subjected to 210° Fahr, in close vessels. These appear to be capable of withstanding a much greater degree of heat than the larger animalcules. Milk, blood, urine, and other animal fluids, abound with animalcules after standing a certain time, though in their natural state they do not contain them. There is no certain law with regard to the particular species produced by any particular infusion. In general, several different species will be exhibited, which disappear, and are succeeded by others; and sometimes where there are myriads of one kind, a solitary animalcule of a remote genus is found among them. Vinegar is full of minute cels, which are also found in paste. Muller conceives that the sea abounds in animalcules peculiar to itself, and Spallanzani observes, that in the brine of a vessel, whatever is thrown into the water, produce swarms of animalcules. The minuteess of animalcules surpasses the conception of the human mind. Leeuwenhoek calculates that the size of some is to that of a mite, as the size of a bee to that of a horse; a hundred others will not exceed the thickness of a single hair; and ten thousand of a different species may be contained in the space occupied by a grain of sand. The most powerful microscopes can only discover points in motion in the fluid, gradually decreasing until they become imperceptible to the view. The shape of animalcules is infinitely diversified: one is a long slender line; another is coiled up like an eel or a serpent; some are circular, elliptical, or globular; others resemble a triangle or a cylinder. Some resemble thin, flat plates, and some may be compared to a number of thin articulated seeds. One is like a funnel; another like a bell; others are smooth to any object familiar to our senses. Certain animalcules, such as the producing diffusus, can change their figure at pleasure, being sometimes extended to an immoderate length, at other times contracted to a point. One moment they are inflated to a sphere, the next completely flaccid; and then various eminences will project from the surface, altering them, apparently, into animals entirely different. Their peculiar motion is not less remarkable, as with painful effort they can twist very smartly into the shape of a circle, or of a straight line. They are also capable of forming the shape of a sphere, or of a cylinder. The progression of others is by means of leaps or undulations; some swim with the velocity of an arrow. Some can hardly follow them; some drag their bodies along as if with painful effort. The others seem to remain in perpetual rest. Their food is not yet indubitably ascertained. Probably it consists both of animal and vegetable matter; and they also prey on each other. They propagate by eggs, by living fuses, and by a portion of the body being thrown off. In the majority of cases, it may be said that the female has a thousand eggs, some of which are hatched; other cases occur, and two perfect animals are produced. Other kinds divide in different manners, which we have not room to describe. We will mention only the volvox globator, a globular animalcule of a greenish colour, visible by the naked eye. It is frequently found in the water of ditches and marshes abounding with growing vegetables, as well as those in a decomposing state. Its mode of progression is by revolving on itself like a sphere; whence its name. This animalcule consists of extremely transparent membraneous substances, containing minute globules irregularly dispersed within it. On examination with a powerful magnifier, the globules appear to be so many young volvox, each provided with its diaphanous membrane, and within that again is involved another race of descendants. Some observers have discovered even down to the fifth generation in the parent; others have not been able to see farther than the third. When the volvox have attained a certain maturity, the included young begin to move; they detach themselves from the parent, and successively escaping from the investing mem- brane, swim about. When all have left it, the common mode of propagation is adopted; the parent dies, and disappears. Then the new volvox rapidly increase in size; their included globules likewise grow, they begin to move, the parent bursts, and the young swim at large. By isolating these animals in watch glasses, the thirteenth successive generation from a single parent has been obtained. The danger to which animalcules are exposed, infinitely exceeds those attendant on the larger animals, not only from the noxious qualities imparted to infusions, but from evaporation. According to Muller, several of the larger species are destroyed, and totally dissolved, by simple contact with the air. Some have been decomposed on approaching the edge of a drop; and others, amidst the rapidity of their course, have been dissolved in a moment. Too much heat and cold are alike fatal to them; the anguillula of vinegar, however, can endure a great degree of cold. The power of the animals is so great that, if properly examined, they have been known to swim for several times over, and they will still remain as lively as ever. Some animalcules can be revived after the vital functions have been suspended for a long, perhaps an unlimited, time. This is the case, for instance, with the wheel animal, a singular animalcule. When the water containing this animalcule...
evaporates, it becomes languid, the shape alters, and
the animal to appearance dies. Its figure is now so
diminuted and distorted as to have little resemblance
to the living animal. It grows dry and hard; yet
the odor of the carcass, after it has been moistened,
after days, months, and even years, has been
said, that those which have been dead for years, re-
riive as soon as those that have been dry only a few
hours. Fortuna revived them after being dry for two
years. The presence of sand with the water is absolu-
tely necessary for the preservation. Animalculae are
found in the seminal fluid, but in some of the other
fluids of the animal body, if recent.

ANIME; a resin exuding from the trunk of a large
American tree, called by Piso jetoiba, by the Indians,
courbaril, a species of hymenox. The tree is found
particularly in New Spain and the Brazils. A super-
ior kind is sometimes imported from the East.

ANISE-SEEDS are the production of an umbelliferous
plant (pimpinella anisum), which grows wild in
Egypt, Syria, and other eastern countries. They are
roundish and striated, fatted on one side, and pointed
at one end; and of a pale colour; inclining to green.
Attention should be drawn to a large, grey, and
nourishing mixture, which is cultivated in France,
and cultivated anise in England, but the summers are
seldom warm enough to bring the plant to perfe-
tion. It has, consequently, been found necessary to
import the seed from Malta and Spain, where it is
cultivated to a considerable extent. Anise-seeds have
an aromatic smell, and, when rubbed together, so
close a mixture of equal parts of anise-seed and angelica.

ANNO; an ancient province of France, 75 miles in
length and 60 in breadth, now forming, with some of
the late provinces in its neighbourhood, several
departments, viz., that of the two Sevres, of the In-
dre and Loire, the Sarthe, the Loire, but chiefly that
of Mayenne and Loire, in which also the old capital
is situated. The noble river Loire divided the old
province. The entire district contains about 256
French square miles, and is watered by upwards of
40 rivers. A. is very fertile, producing all sorts of
grains, fruits, and vegetables. It has a considerable
culture of flax and hemp; its agriculture is very
great. The wine is excellent, and its commerce is
great. The vineyards of A. have, from time immem-
orial, been the scene of the harvest of the emperor
of the Holy Roman Empire, and the province has
been one of the most important of the empire.

ANARK; a liquid measure at Amsterdam, forming
about 101 gallons English wine measure.

ANASCASSON, John Jacob, the murderer of Gusta-
vus III, was, at first, a page in the Swedish court,
aftewards an inferior officer in the regiment of body-
guards, and later, an ensign in the royal guards.
His father was lieutenant-colonel, and knight of the
order of the sword. He was of a passionate and
gory character, and maintained a continual oppo-
sition to the measures of the king, particularly those
for limiting the power of the senate and nobles. The
loss of a suit aggravated his animosity against the
king. In 1783, he received his dismissal, married
and retired to the country; but, in 1790, returned
to Stockholm. He here united himself with several
of the most dissatisfied subjects, and the counts Horn
and Ribbing, barons Bilke and Polden, and those
colonel Liljehorn and others, and they decided upon
the death of the king. A. entreated that the murder
might be left to him; but Ribbing and Horn putting
in their claims, they cast lots, and it fell to A. The
king had just assembled a diet, and from Gote, 1792,
and the conspirators went there. Here, however, they
found no opportunity to execute their plan. The
measures of the diet exasperated them still more.
The king returned to Stockholm, and it was known
that he would be present at a masquerade, March 15.
Here A. discharged a pistol at him, and wounded
him mortally. (See Gustavus III.) He was discov-
ered, arrested, and confessed his crime, but refused
to betray his accomplices. April 29, 1792, he was
condemned to death, scoured during several days,
and dragged upon a cart to the scaffold. Through
the whole of his sufferings he showed the greatest
calmness. He bore his life to the scaffold, and that
of the age of 31 years. The counts Horn and Ribbing,
and colonel Liljehorn, were banished for life.

ANJAC; a falconry or sword, shaped like a scythe.

ANNA COMENNA, daughter of Alexius Comnenus I.,
emperor of the East. After his death she endeavoured
to secure the succession to her son Alexius Com-

AEIS, a branch of the Aryan family of spirits.

AEK, a liquid measure at Amsterdam, forming
about 101 gallons English wine measure.

AELESIUM, a liquid measure at Amsterdam, forming
about 101 gallons English wine measure.

AEK, a liquid measure at Amsterdam, forming
about 101 gallons English wine measure.
ANNABERG; one of the most important manufactur- ing towns of the Erzgebirge. Mining is also carried on here, though to a less extent. The number of inhabitants is about 6000. It was, at first, only a mining place. Afterwards, manufactures were introduced, and the early annals of lace making of the town give the name to the town. About 1683, great part is exported to America. The mines are nearly exhausted. The population of the town was greatly increased by the addition of the Belgians who fled from the persecutions of duke Alva.

ANNALS; an historical account of the affairs of a nation, digested in the order of time. The name comes from the first annual records of the Romans, which were called annales pontificum, or annales maximi, and the compilation of which was the business of the pontifex maximus.

ANNAMAROE; a town of Africa, on the Gold Coast, formerly a very considerable market for slaves. It is a strongly-fortified place, having a port, where, in 1808, a British garrison of 30 men withstood the attacks of 20,000 Ashantees, who were compelled to raise the siege and retire. It is said to contain 10,000 inhabitants. The fortifications are maintained by the British company at an expense of about £1000 per annum.

ANNAMOKA, or ROTTERDAM; one of the Friendly islands in the Polynesian group of the South seas. Round the island, which is of a triangular form, and about 10 or 12 miles in circuit, lie scattered a number of small isles, sand-banks, and breakers. These, together with Middleburg, or Eoowee, and Pylstart, make a group occupying about 3 degrees of lat. and 2 of lon., named, by captain Cook, the Friendly islands or archipelago, as a firm alliance and friendship seemed to subsist among their inhabitants, whose countenance and behaviour entitled them to that appellation. Lon. 17° 4' W.; lat. 30° S. The island was discovered by Tasman, a Dutch navigator, in 1643. Cook visited it in 1777.

ANNAPOLIS; a city and port of entry, in the county of Anne Arundel, Maryland, United States. Lon. 76° 45' W.; lat. 39° N. Population, 2200. It is the seat of the state government, is a pleasant and healthy town, and contains a spacious and elegant state-house, a market-house, a theatre, and two houses of public worship. The streets converge to the state-house and to the Episcopal church, as two centres of public order here, in 1816, amount- ed to 2,553 togs.—There is another Annapolis, A. Royal, a city of Nova Scotia, on the bay of Fundy; lon. 65° 50' W.; lat. 44° 47' N. The harbour is large and safe.

ANNATON; a year's income due to the pope, on the death of any bishop, abbot, or parish-priest, to be paid by his successor. The concordata Germanica, in 1448, restored to the pope the right of raising the nunats, which had been forbidden by the council of Brie, in 1434. They were made perpetual, by Boniface IX., in 1399. In France, they were finally abolished in 1789. In England, they were at first paid to the archbishop of Canterbury, but afterwards appropriated by the popes. In 1532, the parliament gave them to the crown; but queen Anne restored them to the church, by applying them to the augment- ation of poor livings.

Ane, the last member of the family of Stuart (new extinct) who was seated upon the throne of Great Britain, was born at Twickenham, near Lon- don, 1664, four years after her uncle, Charles II., ascended the throne. She was the second daugh- ter of James II., then duke of York, and Anne, his wife, daughter of the earl of Clarendon. Her father had not then gone over to the Catho- lic church; A., was, therefore, educated accord- ing to the principles of the English church, and, in 1663, married to prince George, brother to king Christian V. of Denmark. When in 1688, the party which invited the prince of Orange to de- throne his father-in-law prevailed, A., the favourite of James II., was wished to remain with her father. But she was, in some time, given to Churchill, afterwards duke of Marlborough, to join the triumphant party. After the death of her sister, Mary, in 1694, and that of William III., in 1702, without children, and after she herself, in 1699, had lost only one child, the young duke of Gloucester, she ascended the English throne. Her activity was but moderate, and she was governed by Marlborough and his wife. The tories were satisfied to know that the sceptre was in the hands of a daughter of James II., and hoped to see the old royal house revived in her male descendants. The whigs rejoiced, at least, that the queen, faithful to the triple alliance, opposed the domineering spirit of Louis XIV., in order to defend the liberty of Europe, and to prevent the union of the French and Spanish crowns in one house. She, therefore, took part in the war of the Spanish suc- cession, in which England captured Gibraltar, the only strongly-fortified place of the invasion of the French in Spain.

During the reign of queen A., England and Scotland were united under the name of Great Britain, and, notwithstanding the wishes of the queen for the restora- tion of her own house to the line of succession, it was settled in the house of Hanover. James in vain attempted a landing in Scotland, and the queen was obliged to sign a proclamation setting a price on his head. Of her seventeen children, all died young; and, when left a widow, she would not listen to the entreaties of the parliament (although but forty-four years old at the time) to conclude a new marriage. She might have thrown new obstacles in the way of the restoration of her own family. She now intended to put all power into the hands of the tories, who were then the majority in the three kingdoms. The duchess of Marlborough lost her influence; Godolphin, Sunderland, Somers, Devonshire, Wal- pole, Cowper, were superseded by Harley, earl of Oxford, Bolingbroke, Rochester, Buckingham, George Grenville, and Sir Simon Harcourt, and the parliament was dissolved. Peace was resolved upon. Marlborough was accused, suspended, and banished. Meanwhile A., notwithstanding the measures which she publicly took, appears as if she might have given up the hope of securing to him the suc- cession, but the irreconcilable enmity of Oxford and Bolingbroke, the former of whom accused the latter of favouring the Pretender, was an insurmount- able obstacle. Grieved at the disappointment of her secret wishes, she fell into a state of weakness and lethargy, and died July 20, 1714. The words "O, my dear brother, how I pity thee!" which she pro- nounced on her death-bed, unvelled the secret of her whole life. The reign of A. was distinguished not only by the brilliant successes of the British arms, but also as the golden age of English literature, on account of the number of admirable and excellent writers who flourished at this time, among whom were Pope and Addison. It may be considered the triumph of the English high-church party, owing to her strong predilection for the principles by which it has always been actuated. Her private character was amiable, but her good sense was rendered ineffectual by want of energy. The goodness of her disposition obtained for her the title of the good queen Anne. She was an excellent wife and mother, and a kind mistress.

Anne, queen of France, was the daughter of Philip III., king of Spain, and, in 1615, married Louis XIII. On her cousin's death, his son being
under age, she became sole regent of France during the minority. She, however, brought upon herself the enmity of the nobility by her benefactions to the church, especially to cardinal Mazarin, and was forced to flee from Paris. In a little time, matters were accommodated; and, when her son took the reins of government into his own hands, in 1601, she gave up all concern with public affairs, and spent the remainder of her life in retirement. She died in 1666.

Anne of Cleves, the wife of Henry VIII., king of England, was the daughter of John III., duke of Cleves. The king asked her in marriage after having seen a portrait of her, drawn by Holbein; but it was not long before he was disgusted with the Flan-
ders: she was far from being of sort, and, in general, was remarkable for the danger of breaking from a very slight stroke than from one of considerable force. An unannealed glass vessel will often resist the effect of a pistol bullet dropped into it; yet a grain of sand, falling into it, will make it burst into small fragments, and, which is very curious, it will often not burst until several minutes after being struck. The same phenomenon are still more strikingly seen in glass-drops or tears: they are globular at one end, and taper to a small tail at the other: they are the drops which fall from the melted mass of glass on the rods, on which the bottles are made, into the tubs of water, which are used in the work. Those which remain entire, after having fallen into the water, show the properties of unannealed glass in the highest degree. They will bear a short stroke on the thick end, but, if the small tail is broken, they burst into powder, with a loud explosion. The reason of this singular fact is sufficiently given. A similar process is used for rendering cast-iron vessels less brittle.

Anne of Viterbo, or John Nanni, a Dominican friar, was born at Viterbo, in 1432. He was distin-
guished for his learning, and was made master of the sacred palace by pope Alexander VI. He died, as was suspected, of calisteria; and, at his burial, administered the imposition of Cesare Borgi, in 1502. He employed his leisure in the construction of fragments, which he palmed on the world as the remains of several ancient writers, in "Seventeen Books of Antiquities." The first edition of this work, dedicated to Ferdinand and Isabella, was printed at Rome, in 1498, and, in 1559, was reprinted in 8vo. at Antwerp. The imposition passed for sometime; and, when discovered, the Dominicans, ausing to save the credit of their order, pretended that Amius copied his inventions from a manuscript which he found in the Colbertine library; but, with great violence, was never produced. The dis-
honour was ineffaceable. The success and mag-
nitude of the forgery rendered it exceedingly remark-
able, as an instance of great but unprincipled ability.

Anno, archbishop of Cologne, died in 1075. The Hymn which celebrates his praises was composed not long after the day of his death, by a monk named Colbe-
lished by Dr Goldmann, Leipzig, 1816. The politi-
cal importance of St A., as chancellor of the emperor Henry III., and afterwards as administrator of the empire during the minority of Henry IV.; his bold spirit of government, as well as the dignity of his

holy life; his paternal care for his archbishopric; the zeal with which he laboured for the reformation of the monasteries; the removal of one of the worst abuses in churches,—gained him the character of a saint.

The hymn of St Anno begins with the popular tradi-
tions of Germany, goes over to the history of the arch-
episcopal seat at Cologne, of its thirty-three bishops
before A., among whom were seven saints, and of their residence in the city of Cologne at that time. The poet then describes the secular and spiritual government of the saints, and his grief on account of the madness of his countrymen, continually at war, and mutually destroying each other by internal dis-
cord. In despair at not being able to change this state of things, the German patriot becomes weary of life, and dies of grief at the ingratitude of his con-
temporaries, whom he led zealously to benefit. This Hymn is the only poetical monument, of impor-
tance, of the German national literature of the 11th century.

Annuities are periodical payments of money, amounting to a certain annual sum, and continuing either a certain number of years, or a hundred, or for an uncertain period, to be determined by a particular event, as the death of the annuitant, or that of the party liable to pay the annuity, or of a certain event; and, if these annuities, or any part of them, are called perpetual annuities. The payment may be made at the end of each year, or semi-annually, or at the end of every quarter, or at other periods, ac-
cording to the agreement upon which the annuity arises; and, where it is liable to cease upon the happen-
ing of an event, at the time of the occurrence of which is uncertain (e. g., the death of a person), and such event happens after the expiration of a part of the time between one payment and another, neither the annuitant nor his heirs will be entitled to any propor-
tional part of a payment for such time, unless some express provision is made for this purpose in the con-
tract. The probability of the loss of such fractional part is to be taken into consideration in estimating the present value of the annuity; e. g., if the life in question is, according to the tables of longevity, good for 53 years, an annuity for such life is worth more than if it were good for only five years, since the probability of its continuing six years is greater.

As an annuity is usually raised by the present pay-
ment of a certain sum, as a consideration whereby the party making the payment, or some other person named by him, becomes entitled to an annual, semi-
annual, quarterly, or other periodical payment of a certain sum, it is necessary, in computing the pre-
sumption at a person and in the event, the rules and principles by which this present value is to be computed have been the sub-
jects of much scientific investigation. The present value of a perpetual annuity is evidently a sum of money that will yield an interest equal to the annuity, and payable at the same periods; and an an-
nuity of this description, payable quarterly, will evi-
dently be of greater value than one of the same amount payable annually, since the annuitant has the additional advantage of the interest on three of the four quarterly payments, until the expiration of the year; or, in other words, it requires a greater present capi-
tal to be put at interest, to yield a given sum per annum, payable quarterly, than to yield the same an-
nuity equal sum, payable at the end of each year. The pre-

sent value of an annuity, for a limited period, is a sum of money, which, if laid out at simple interest, will give an amount equal to the sum of all the payments of the annuity and interest; and, accordingly, if it be proposed to invest a certain sum of money in the pur-
chase of an annuity, for a given number of years, the comparative value of the two may be precisely esti-
ANNUITIES.

mated, the rate of interest being given. But annu-
ities for uncertain periods, and particularly life annu-
ities, are more frequent, and the value of the annuity
is computed according to the probable duration of
the life by which it is limited. Many such annuities
are granted for public services; and, as these do not
arise from a specific contract, and are not usually
subjects of purchase, their precise value is not often
a subject of investigation. But life annuities are
often created by contract, whereby the government
or a private annuity office agrees, for a certain sum
advanced by the purchaser, to pay a certain sum an-
ually, in yearly, quarterly, or other periodical pay-
ments, to the person advancing the money, or some
other annuitants named by him, during the life of
the annuitant; or the annuity is granted to the an-
nuitant, his heirs, and assigns, during the life of
some other person, or during two or more joint
lives, or during the life of the longest living or
survivor among a number of persons named in the
act or agreement whereby the annuity is raised.
Such annuities are usually made transferable, and
are sold and purchased in the market as a species
of public stocks. When granted by a government, they
are generally one mode of raising loans; when created
by a contract with a private corporation or
company, their object usually is, to give the annui-
tant the use, during his life, not only of the income
of his capital, but of the capital itself.—If a person,
having a certain capital, and intending to spend this
capital and the income of it during his own life, and
leave no part to his heirs, could know precisely how
long he should live, he might loan this capital at a
certain rate during his life, and, by taking every year,
besides the interest, a certain amount of the capital,
he might secure the same annual amount for his sup-
port during his life, in such manner that he should
have the same sum to spend every year, and consume
precisely his whole capital during his life. But,
since he does not know how long he is to live, he
agrees with the government, or an annuity office, to
take the risk of the duration of his life, and agree to
pay him a certain annuity during his life, in exchange
for the capital which he proposes to invest in this
way. The probable duration of his life, therefore,
becomes a subject of computation; and, for the pur-
purpose of making this calculation, tables of longe-
vity are made, by noting the proportions of deaths,
at certain ages, in the same country or district.—
The celebrated mathematician, Dr Halley, was the
first who calculated a table of mortality, which he
deduced from observations made at the corporation
of Drury Lane, in London. In 1724, Mr De Moivre
published the first edition of his tract on Annuities on Lives. In order to facilitate the calculation of their values, Mr De Moivre as-
sumed the annual decrements of life to be equal; that is,
he supposed that out of 86 (the utmost limit of life on
his hypothesis) persons born together, one would die
every year till the whole were extinct. This assump-
tion agreed pretty well with the true values between
thirty and seventy years of age, as given in Dr Hal-
ley's table; but was very remote from the truth in the
carrier and later periods. Mr Thomas Simpson, in his
work on Annuities and Reversions, originally pub-
lished in 1742, gave a table of mortality deduced from
the London bills, and tables founded upon it of the
values of annuities. But at the period when this
table was calculated, the mortality in London was so
much higher than in the rest of the country, that the
values of the annuities given in it were far too small
for general use. In 1749, M. Deprandieu, in his
Essai sur les Probabilités dans la Décénte de
les Femmes, with a table of mortality calculated by
his perspicu-
is, and in the latter part of the century, the
medical literature is filled with tables of mortality
deduced from observations made on the mortality registers of several
religious houses, and on lists or the nominees in
several parishes. In this work, separate tables were
first constituted for males and females, and the greater
longevity of the latter rendered apparent. M. De-
prandieu's tables were a very great acquisition to the
science; and are decidedly superior to some that are
still extensively used. Dr Price's famous work on
Annuities, the first edition of which was published in
1779, contributed powerfully to direct the public at-
tention to inquiries of this sort; and, in this re-
spect, of very great utility. Of the more recent works,
the best are those of Mr Baily, and Mr Milne, which,
indeed, are both excellent. The latter, besides all
that was previously known as to the history, theory,
or practice of the science, contains much new and
valuable matter; and to it we beg to refer such of
our readers as wish to enter fully into the subject.
The table on which Dr Price laid the greatest stress,
was calculated from the burial registers kept at Nor-
hampton and some adjoining parishes. There can
be no doubt, however, as well from original defects in
the construction of the table, as from the improve-
ment that has since taken place in the healthiness of
the public, that the mortality represented in the
Northampton table is, and has long been, decidedly
above the average rate of mortality in England. Mr
Morgan, indeed, the learned actuary of the Equitable
Society, contends that this is not the case, and that
the Society's experience shows that the Northampton
table is still remarkably accurate. But the facts
Mr Morgan has disclosed in his View of the Life and
Progress of the Equitable Society (p. 42), published in
1828, are quite at variance with this opinion: for he
there states, that the deaths of persons insured in the
Equitable Society, from fifty to sixty years of age,
during the twelve years previously to 1828, were
339; whereas, according to the Northampton table,
they should have been 545! And Mr Milne has en-
deavoured to show (Art. Annuities new edition of
Encyc. Brit.) that the discrepancy is really much
greater. The only other table used to any extent in
England for the calculation of life annuities, is that
framed by Mr Milne from observations made by Dr
Heysham on the rate of mortality at Carlisle. It
gives a decidedly lower rate of mortality than the
Northampton table; and there are good grounds for
thinking that the mortality in Carlisle is not very
different from the actual rate throughout most parts of
England; though it cannot be supposed that a table
founded on so narrow a basis should give a perfectly
fair view of the average mortality of the entire king-
dom. In order to exhibit the foundations on which
such tables of life annuities and insurance have been foun-
ded in this and other countries, we give in the follow-
ing table, the rate of mortality that has been observed
to take place among 1,000 children born together,
or the numbers alive at the end of each year, till
the whole become extinct, in England, France, Sweden,
etc., according to the most celebrated authorities.
The rate of mortality at Carlisle, represented in this
table, is less than that observed anywhere else: the
rates which approach nearest to it are those deduced
from the observations already referred to, of M. De-
prandieux, and those of M. Kersboom, on the holders
of life annuities in Holland:—
### TABLE of the Probable Duration of Human Life, showing the Number of Persons alive at the end of Every Year, from 1 to 100 Years of Age, out of 1000 born together, in the different Places, and according to the Authorities undermentioned.

<table>
<thead>
<tr>
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<th></th>
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<td>682</td>
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<td>45</td>
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<td>99</td>
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<td>7</td>
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<td>1</td>
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<td>3</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
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<td>272</td>
<td>19</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
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<td>0</td>
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<td>1</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

In order to calculate from this table the chance which a person of any given age has of attaining to any higher age, we have only to divide the number of persons alive at such higher age, given in that column of the table selected to decide the question, by the number of persons alive at the given age, and the fraction resulting is the chance. We add, by way of supplement to this table, Mr. Finlaison's table of the rate of mortality among 1,000 children born together, according to the decree of life observed to take place among the nommies in government tontines and life annuities in this country, distinguishing males from females. The rate of mortality which this table exhibits is decidedly less than that given in the Carlisle table; but the lives in the latter are the average of the population, while those in the former are all picked. Still, however, the table is very curious; and it sets the superiority of female life in a very striking point of view.

### TABLE of the Progressive Decrement of Life among 1000 Infants of each Sex, born together, according to Mr. Finlaison's Observations on the Mortality of the Nominees in the Government Tontines and Life Annuities in Great Britain.

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>998</td>
<td>997</td>
</tr>
<tr>
<td>2</td>
<td>994</td>
<td>995</td>
</tr>
<tr>
<td>3</td>
<td>989</td>
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<td>4</td>
<td>983</td>
<td>985</td>
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<td>5</td>
<td>976</td>
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<td>969</td>
<td>974</td>
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<td>7</td>
<td>961</td>
<td>969</td>
</tr>
<tr>
<td>8</td>
<td>951</td>
<td>959</td>
</tr>
<tr>
<td>9</td>
<td>941</td>
<td>949</td>
</tr>
<tr>
<td>10</td>
<td>929</td>
<td>939</td>
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<td>912</td>
<td>924</td>
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<td>839</td>
<td>862</td>
</tr>
<tr>
<td>16</td>
<td>815</td>
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<tr>
<td>18</td>
<td>759</td>
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<td>20</td>
<td>690</td>
<td>749</td>
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<tr>
<td>21</td>
<td>652</td>
<td>718</td>
</tr>
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<td>22</td>
<td>610</td>
<td>685</td>
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<tr>
<td>23</td>
<td>566</td>
<td>649</td>
</tr>
<tr>
<td>24</td>
<td>517</td>
<td>597</td>
</tr>
<tr>
<td>25</td>
<td>464</td>
<td>549</td>
</tr>
</tbody>
</table>

The next table, extracted from the Second Report of the Committee of the House of Commons on Friendly Societies, gives a comparative view of the results of some of the most celebrated tables of mortality, in relation to the rate of mortality, the expectation of life, the value of an annuity, &c.

### TABLE giving a Comparative View of the Results of various Tables of Mortality, in relation to the following Particulars.

- Life Table used for both Societies. (Note: This table is not fully visible due to the resolution of the image.)
- By Mr. Finlaison, the Table founded on the Observations made by the Nominees in the Government Tontines and Life Annuities. (Note: This table is not fully visible due to the resolution of the image.)
- By Mr. Finlaison, Table founded on the Observations of the Nominees in the Government Tontines and Life Annuities. (Note: This table is not fully visible due to the resolution of the image.)
- Mean of both sexes. (Note: This table is not fully visible due to the resolution of the image.)
- Mean of both sexes. (Note: This table is not fully visible due to the resolution of the image.)
ANNUNCIATION.—ANQUETIL DU PERION.

ANNUNCIATION; the declaration of the angel Gabriel to the virgin Mary of the incarnation of Christ in her womb.—Luke i. 26—38.

When the time came which was certain before the name of him who was to be born, John came in the wilderness of Judaea, confessing and proclaiming baptism for the remission of sins. —Mark i. 4-8.

The Annunciation, a festival of the church, in honour of the annunciation, celebrated in the western churches, March 25. The institution of this festival is generally assigned to the 7th century.

Anonymous (from the Greek ἀνώνυμος, without name, and the privative α) means without name. As the name may succeed from the action, this naming must be very different. Thus, for instance, a man may be produced by infanticide; and, in this case, cooling means, Luke warm politudes, sometimes even bleeding or purging, will be the proper anony-ynes. At other times they should be of an inflammatory kind; for instance, in delirium of the nerves, cramps, or spasms. In the stricter sense, we understand by anonyynes such remedies as lessen the susceptibility to painful impressions, by diminishing the sensibility of the nerves. In early times, when the doctrine of poisons and antidotes was more attended to than any other part of poisoning, the necessity of a similar was also more closely observed, and a particular class was formed in this way. As this property existed to a high degree in opium, then already in use, it not only obtained the first place in this class of simples, but the name anodyne was given to all mixtures containing it. The use of anodynes is, however, open to the cause of being removed, or not so soon as its violence requires, or where the pain itself is more injuries than the cause which produces it; e.g., when it prevents a favourable crisis, by rendering the patient unable to sleep.

Anointing, From time immemorial, the nations of the East have been in the habit of anointing themselves for the sake of health and beauty; and to anoint a guest, was to show him one of the highest marks of respect. In the Mosaic law, and several ancient religions, a sacred character was attached to the anointing of the garments of the priests, and things belonging to the ceremonial of worship. This could be done only with oil made for the purpose, and signifies a consecration of the articles to the service of religion. The Jewish priests and kings were anoint- ed when inducted into office, and were called the anointed of the Lord, to show that their persons were sacred, and their ordinance a divine one. In addition, the prophecies respecting the Redeemer style him, on account of his royal descent and his dignity, Messiah, that is, the Anointed. The custom of anointing priests still exist in the Roman Catholic church, and that of anointing kings in Christian monarchies. In the Catholic church, the ordaining bishop anoints with the holy oil called chrism (q. v.) the palm of both hands, the thumb, and the forefinger (by which the priests hold the host), of the person to be ordained; and thus, according to the expression of the ritual of ordination, the hands receive power to bless, to consecrate, and to make holy. If a clergyman is excommunicated, these spots are rubbed off. (For the ceremony of anointing kings, see Coronation.) The Greeks and Romans, particularly, the former, anointed themselves after the bath, and thus gave a yellow colour to the body. Perhaps in order to imitate this colour, perhaps to make the figure look softer, and to deprive it of the bare white colour, they often oiled their statues. The remains of the oily matter used are still sometimes to be seen. Athlete anointed themselves in order to render it more difficult for their antagonists to get hold of their heads.

Anomaly; the deviation from a rule. That which deviates is called anomalous. We use this expression in this significancy in grammar, where it is opposed to analogy. It is also used in astronomy, to denote the deviation of the planets from the aphelion (or, rather, according to the modern usage, from the perihelion), which is owing to their unequal velocity.

The Annunciation by which the Savoys were called is in the 4th century, in contradistinction to the Semi-Arians.

Anonymous (from the Greek) literally without name; also, a person whose name is unknown, or who keeps his name a secret, e.g., the author of an anonymous piece. Hence the end applied to an assumed name. Writers often conceal themselves under a pseudo or false name, which they retain as authors, even when their true name has long been known. It was some time since decided by a legal tribunal at Stuttgard in Germany, that it was not lawful for a third person to put the pseudo name of another known writer before his own work. The knowledge of the anonymous and pseudonymous authors is indispensable to the bibliographer. (See Harberle's Dictionnaire des Ouvrages Anonymes et Pseudonymes, compiles, traduits ou publies on Fran- çais, a a.d. in this with a explanatory dictionary, see the second edition, Paris, 1822—1824, 4 vols.) Authors often keep their names secret from political motives, e.g., Junius. (q. v.)—In history we call pseudo, impostors who act a political part under a feigned name; for instance, the pseudo Sebastians in Portug- al, the pseudo Demetri in Russia, pseudo Woldmar in France, &c.

ANQUETIL DU POURRON, Abraham Hyacinthe; one of the most distinguished Orientalists of the 18th century, born in Paris, Dec. 6, 1731; studied theology at the university there, and afterwards at Auxerre and Amersfort; devoted himself with arour to the Hebrew, Arabic, and Persian languages, and returned to Paris in order to study them with more advantage. Here his assiduous attendance at the library excited the attention of the abbe Sailler, keeper of the manuscripts, who introduced him to some of his friends, by whose means the young A. obtained a small salary, under the title of a student of the Oriental languages. Having accidentally laid his hands on some fragments of a manuscript of the Zend-Avesta, India became the object of his thoughts, and he cherished the hope of discovering there the holy books of the Parsees. In the harbour of the Orient, an expedition was preparing for the East Indies, and A. was attached as one of its scientific observers, in the hope of procuring a passage for him. He immediately went in the recruiting captain, enlisted as a private soldier, and set out from Paris, with his knapsack on his back, in 1734. Struck with such extraordinary zeal for science, the government allowed him a free passage and a salary. He arrived at Pondicherry, he learned the modern Persian, and then went to Chandernagore, where he hoped to study the Sanscrit. But sickness and the war between France and England frustrated his hopes. Chandernagore was captured, and A., not to lose the whole object of his 11th historical and critical Zend-Avesta, set sail for Marseilles, and embarked for Surat. But in order to explore the interior, as well as the coast of Coromandel, he landed at Mahé, and journeyed on foot to Surat. Here he succeeded, by perseverance and address, in overcoming the scruples of some priests of the Parsees (Destaun). They instructed him so far in the Zend and Pehlevi, that he was able to translate the Dictionary and some other works from this language. He then resolved to go to Benares, to study the languages, the antiquities, and the sacred laws of the Hindoos, when the capture of Pondicherry forced him to return to Europe. He visited Europe, and returned to Paris in 1762, with 180 manuscripts, and other curiosities. The abbe Barthelemy and his other friends obtained for him a salary, with the office of interpreter of the Oriental languages, at the royal
library. In 1763, he was made member of the academy of belles-lettres. A., then commenced the ar-
nagement of his life. He was addicted with so much toil; he published in succession, the
Zend-Avesta, the Spirit of Oriental Legislation, his historical and geographical researches in India, and
his work on commerce. Afterwards, the revolution disturbed his literary labours. To withdraw himself
from its horrors, he broke off all connexion with so-
ciety, and shut himself up in his chamber, with no
friend but his books, no recreation but the recollec-
tion of his dear Brahmans and Parsees. The fruits of
this retirement were his work, l'Inde en Rapport avec
l'Europe, and the Unrevealable Mysteries (Ouverte
Chêne), vol. 4to, 1804; but, though the translation
into Latin of a Persian extract from the Vedas. When
the national institute had taken the place of the
former academies, A., was elected a member.
Exhausted by continued labours, and a very absten-
ious diet, he died at Paris, Jan. 17, 1803. Immense
learning, acquaintance with almost all the Euro-
pean languages, and a restless activity, were unit-
ed, in A., with the purest love of truth, with sound
philosophy, rare disinterestedness, and an excellent
heart.

A.S.N.E.L.—ANSON.

Anselm, archbishop of Canterbury, was born at
Aosta, Piedmont, 1034; became a monk in 1040;
some years later, a prior; and, in 1078, abbot of
the monastery of Bec, in Normandy, whether the fame
of the renowned Lanfranc had attracted him. In
1093, he succeeded Lanfranc as archbishop of Can-
terbury, in England, which place he held till his
death. Intelligence and piety distinguish his writ-
ings. He endeavoured to discover some conclusive
proofs of the existence of God, which he thought he
had finally effected in the ontological method, as it is
called, of which he is falsely styled the inventor. He
inferred the existence of a supreme and perfect
Being by arguments drawn from the abstract idea
of such a Being. Notwithstanding the insufficiency
of this proof, which found an early opponent in
Gamillo, a monk at Marmontier, the labours of A.
were of great importance. Though the influence of
the church, and the fathers of St Augustine in particu-
lar, is obvious, he deserves the praise of having de-
veloped the principles of his system of philosophical
religion in a decidedly logical form, with acuteness and
energy, and of having laid, at the same time, the
foundation of the scholastic philosophy. He died
in 1099, and will be remembered by his writings, De
Veritate, De Haereticis, his Sanctoral, and Proli-
gium; in the latter of which his argument in
proof of the existence of a Supreme Being is set forth.

Ansgar, or Anshar; called the apostle of the North,
because he introduced Christianity into Denmark and
Sweden. Born in 800, in Picardy, and educated in
the monastery of Corvey, he became, in 813, a Bene-
dictine. At the instigation of the emperor Louis le
Debonnaire, he went to Denmark in the suite of some
baptised Danish princes, in 826, and, after many dis-
appointments and persecutions, converted the king,
and the greater part of the nation, in 820. After his
return, 831, he founded a metropolitan church at
Hamburg, and became first archbishop in that place.
In 847, he transferred his residence to Bremen.
At this time, he undertook a new mission into
Denmark, in order to convert king Eric I., and went, with
recommendations from him, to Sweden, where he bap-
tised many converts, with the permission of king
Olaf, who succeeded the successor of Eric, in 858.
He died 865, with the reputation of having undertaken,
if not the first, the most successful at-
tempt for the propagation of Christianity in the
North. His piety, the purity and warmth of his
religious zeal, and the integrity of his life, are equally
praised by all his contemporaries. The Catholic
church has placed him among the saints.

Anson, Robert, a naval officer, who distinguished
himself in the annals of British navigation, was born in 1697,
at Shugborough manor, in Staffordshire, and entered
early into the navy. In 1716, he served, as second
lieutenant, under Sir John Norris, in the Baltic, and
in 1717 and 1718, under Sir George Byng, against
the Spaniards. In his 37th year, he was raised to
the rank of post-captain, and was, for a long time, on
the South Carolina station. When, in 1739, the ministry
considered a rupture with Spain as unavoidable,
he was made commander of a fleet in the South sea, di-
rected against the trade and the colonies of that na-
tion. The expedition commenced; but, after a month,
and three smaller vessels, which carried 1400
men. A. left England, with this squadron, Sept. 18, 1740,
and was attacked, on leaving the straits of la Maire,
by terrible storms, which prevented him from dou-
bling cape Horn for three months. Separated from
the rest of his squadron, he reached the island of Juan
Fernandez, where three of his vessels rejoined him in
a very miserable condition. After his men had rested,
he proceeded to the coast of Peru, without waiting
for the missing ships, made several prizes, and cap-
tured and burned the city of Ica. After a fruitless
attempt to intercept the fleet of Commodore de la
Grande, he found himself obliged to burn, not only a great part
of his booty, but all except one of his vessels, in order
to equip that one, the Centurion, with which he made
his retreat to Tinian, one of the Ladrones. Here the
Centurion was blown out to sea while the comman-
der was on shore. Upon this, much exertion was
made to enlarge and fit out a small vessel, found in
the island. The return of his ship relieved him from
this difficulty, and, after some weeks of rest, he sailed
for Macao, where he formed a bold plan for taking
the galleon of Acapulco. For this purpose, he spread
the report of his having returned to Europe, but, in
fact, directed his course to the Philippines, and
explored near the promontory Spiritu Santo. After a
month, the expected galleon appeared, which, trust-
ing to its superiority, commenced the fight. But the
valour of the British prevailed, and the galleon,
worth £400,000 was taken; thebooty gained on this
former occasion amounted to more than £600,000.
With these acquisitions, A. returned to Macao, sold
his prize, and maintained with energy the rights of his
flag against the Chinese government at Canton.
From this place he sailed for England, and, passing the
Discoveries, in the French squadron, at St Catharines,
arrived at Spithead, having circumvagiaged the
globe, June 15, 1744, after an absence of three years
and nine months. This perilous voyage through un-
explored seas added much to geography and naviga-

tion. His adventures and discoveries are described
in Anson's Voyage. A few days after his return, he
was made principal of the blue, and, not long after,
rear-admiral of the white; he was also elected mem-
ber of parliament. His victory over the French
admiral Jonquiere, near cape Finisterre, in 1747, raised
him to the peerage, with the title of Lord Anson,
baron of Soberon. Two of the prizes taken on this
occasion were called l'Invincible et la Gloire, which
induced the captain of the former to say, on giving up
his sword, "Monseigneur, vous avez vaincu l'Invincible,
et la Gloire vous sert." "Sir, you have vanquished
the Invincible, and Glory follows you." Four years
afterwards, he was made first lord of the Admiralty. In
1758, he commanded the fleet before Brest, on the
landing of the British at St Malo, Cherbourg, 

&c. and received the repulsed troops into his vessels.
Finally, in 1761, he was appointed to convey the
queen of George III. to England. He died in 1762.
on his estate at Moor Park, leaving no children.
Anspach (Orolamon); formerly the residence of the margraves of Anspach Baireuth, now the chief town of the Bavarian district of the Regent; contains 10,000 inhabitants, and is distinguished with a fine palace, a royal school, and some manufactures. In the garden of the palace stands the monument of the poet Ua, who was born at A., and died there in 1790. The last margrave ceded the marquisate or principality of A. to Frederic William H., King of Prussia, Diet 1754. His wife was lady Craven. Frederic William III. ceded A., in 1806, to France, and she exchanged it with Bavaria for Juliers and Berg. Prussia gave up, also, Baireuth, in 1807, at the peace of Tilsit, to France, and France transferred it to Bavaria. In the time when Anspach and Baireuth were under the French government, Bernadotte, the present king of Sweden, was their governor, and gained the love of all the inhabitants, by his strict justice, even where French soldiers were concerned, and by his endeavours to alleviate, as much as possible, the evils of war. His conduct presented a striking contrast to that of several other French governors of conquered parts, generally cruel and rapacious.

Anstey, Christopher, an ingenious poet of the 18th century, was the son of the reverend Christopher Anstey, D. D., and born in 1724. He was educated at Bur St Edmond's, whence he removed to Eton. In 1754, he succeeded to his patrimonial property, where he married Ann, daughter of Mr. Culver, Esq., of Albany Hall, Herts, by whom he had thirteen children, eight of whom survived him. He then retired, for the most part, at Bath. He had long cultivated poetry, but most of his early productions were Latin translations of English popular poems, one of which was Gray's Elegy. It was not until 1766, that his humorous production, the New Bath Guide, was published, which at once became highly popular for its pointed and original humour, and, as usual, led to numerous imitations. He also wrote several other pieces, which are incorporated in an edition of his entire works, edited by his son. He died in 1803, in his 81st year.

Ant (formica, L.), a genus of hymenopterous or membranous-winged insects, belongs to Cuvier's second section, aculeata; family, heterogyna.—This race of insects, celebrated from all antiquity for singular objects, and foremost among the animals, has a volume for the enumeration of all the curious and interesting circumstances observed by various naturalists, who have devoted themselves to their investigation. But as such amplitude and minuteness of detail are inconsistent with the present work, our remarks will be confined to essentials. To the works of Swammerdam, Reaumur, and, most especially, Huber, we must refer those who desire to be particularly informed on the subject: the last-named author has, in his work on ants, rivalled his father's justly celebrated treatise on bees, and bestowed upon lovers of natural science a gift as precious as it is rare.—Most of the species live in large companies or societies, composed of three sorts of individuals,—males, females, and neutrals. The males and females have long wings, not so much veined as in other insects of the same section, which are very temporary; the neutrals, which are actually females with imperfect ovaries, are destitute of wings. The males and females are found in the vicinity of their habitation but a short time, as they speedily mount into the air, where their sexual connection is consummated, after which the males perish, and return no more to their former dwellings; while the impregnated females, alighting on the ground, detach their wings by the aid of their feet, and commence the great work of their existence,—the deposition of their eggs for the continuance of the species. Some of the females, which couple in the vicinity of the ant hill, are frequently seized upon by the numerous neutrals, carried into the galleries or nest, and there detained until they destroy their wings, and lay their eggs; after which they cease to be of consequence, and are driven forth. The males are much smaller than the females, and have larger eyes, though the head and mandibles are proportionally smaller. The males have neither wings nor smooth eyes; their heads are larger, their jaws strong, and their corset compressed, or even knotty; their feet proportional. These neutrals perform all the labours of the ant hill; they excavate the galleries, procure food, and wait upon the larvae until they are fit to leave their cells, appearing always industrious and solicitous. They are apparently endowed with the power of communicating to each other the result of their searches after food, and thus obtain the co-operation of several, where the strength of an individual would be insufficient. They feed the larvae, or young ants, which are destitute of organs of motion, with matter absorbed, and their observations have shown otherwise, and which seem to have undergone some preparation in their stomachs. In fine weather, they carefully convey them to the surface for the benefit of the sun's heat, and as attentively carry them to a place of safety, either when bad weather is threatened, or the ant hill is disturbed. The insects do not, however, dispense with the safety of the nymphs or larvae about to acquire their perfect growth, some of which are in cocoons, and some uncovered. When the time arrives at which the former are to undergo the final change, they open the cocoons to permit them to escape. If the weather be unfavourable, they detain those which have acquired their wings till a suitable opportunity offers, and then aid them to gain their liberty by the easiest route.—There is a very considerable variety in the ant hills, or nests, according to the peculiar nature or instinct of the species. The greater number make their nests in the earth, under buildings, &c., where they excavate extensive galleries for the reception of their young; and of these the dwelling is almost entirely concealed. But others build their hills or nests of various substances, and form cones or domes of considerable size above ground. Some, again, prefer rock crevices, and build their ant hills in the fractures of the hills, or on the tops of the hills, or where the physiology and possibly the safety of the nymphs or larvae about to acquire their perfect growth, some of which are in cocoons, and some uncovered. When the time arrives at which the former are to undergo the final change, they open the cocoons to permit them to escape. 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quishers. Another exceedingly curious fact, in relation to ants, is the subserviency of the little insects, called aphides or vine-fretters, to their necessities. The aphides are remarkable for ejecting from little prominences on the posterior part of their bodies, a small drop of limpid and sweet-tasted fluid. Not a leaf of the vine is untouched by them, for they exude, which is greedily drunk up by the ant, who repeats the same treatment to several, until his hunger is entirely satified. These aphides have been appropriately called the cows of the ants, which, in fact, seem to regard them as their peculiar property, not only taking great care of them, but fighting for their possession. So fully sensible are they of their great value, that they carry the eggs of the aphides into their nests, where they take care of them till they are hatched. Some species of ants keep their aphides altogether under ground, or at least during bad seasons, where they feed on the roots of plants; others build with clay small galleries from the ant-hills up trees, and even to the branches; upon which the aphides abound.—Male and female ants survive, at most, till autumn, or to the commencement of cool weather, though a very large proportion of them cease to exist long previous to that time. The members pass the winter in a state of torpor, and of course require no food. This well-ascertained fact proves that their remarkable foresight has no other object than the continuance of the species by perfecting and securing their habitations. The only time when they require, during the winter, that they have a vast number of young to feed. It would be well for mankind if ants derived all their nourishment from the aphides, or from the dead bodies of other insects, small birds, &c. Unfortunately, they are but too celebrated, in most countries, for their destructive operations among the grain, in gardens, pastures, and conservatories. Their larvae and nymphs are, in some parts of the world, collected for the purpose of feeding pheasants and young turkeys, but we know of no other economic use, to which they are particularly applicable. The bodies of small animals, skinned, and secured near an ant-hill, are good food for the ants. But they take very little care but must be taken to prevent them from being carried off by larger animals, or from remaining too long exposed to the weather after having been stripped by the ants of their flesh.

**ANT-EATER (myrmecophaga, L.)**; a genus of mammiferous quadrupeds, of the order edentata, C.—This peculiar race of animals is only found in the southern part of the American continent, where they aid in diminishing the numbers of immense hordes of ants, which desolate the country in the vicinity of their dwellings. Every particular of their construction renders the ant-eaters especially fit for the duty they perform. The whole head is remarkably elongated, and destitute of teeth, but furnished with a very narrow, long, smooth tongue, by the aid of which they gather their prey. Their limbs, especially the anterior, are very robust, and furnished with long, coarse, very strong claws, covered with very small hair, and a great extent of hair, which is mixed with white on the trunk and tail, though the predominant colour is brown. On each side of the shoulders there is a black band between two white ones, which ascend towards the middle of the back, where the hair is elongated to a sort of mane, which increases in length and thickness towards the hinder parts of the tail. The skin is lined and rounded for the rest of its length, somewhat reminding the hair of the deer. The fore feet have five digits, with very strong claws; the hind feet, four; there are two pectoral mammae. The great ant-eater leads a harmless and solitary life, but is not so incapable of self-defence as might be supposed, from its exceeding small mouth and entire want of teeth. When irritated, it erects its long, brush-like tail, and waves it in the air, and, when attacked by a dog or other small quadruped, either seizes and compresses it to suffocation between its powerful fore legs, or, sitting on its hinder limbs, strikes destructive blows with its strong, sharp claws.

To man, however, they offer very little resistance, being easily killed by blows on the head. In feeding, the great ant-eater either thrusts its long, narrow tongue, covered with a glutinous fluid, into the ant-hill, and extracts the ants; or it destroys the nests; or else, having partially demolished the hill by means of his fore limbs, it, with wonderful celebrity, transfers the alarmed inhabitants to its stomach, by repeated extensions and retractions of its tongue, which operation it does not, by observers, to effect twice in a second. The savages and negro slaves hunt the great ant-eater for the sake of its skin and flesh, which the negroes esteem highly. This species may be domesticated, and then feeds upon small pieces of bread or meat, and various insects. Two other species have been long known, both of them of a smaller size, in Brazil. These are the three-toed ant-eater, myrmecophaga tamandua, C.; tridactyla, L.; and the two-toed ant-eater, myrmecophaga didactyla, L. These, as might be inferred from their size (the first twenty-five inches, with a tail sixteen inches long; the second seven or eight inches long, with a tail of eight or nine inches), and the prehensile character of their tails, are adapted for climbing trees and preying upon ants which make their nests in such situations. The two-toed ant-eater brings forth but a single young one at a birth, on a bed of leaves prepared in a hollow tree. Krusenstern, in the narrative of his voyage, mentions, in a note, a species which he supposed somewhat like a hog, had a tail shorter than the body, was of a white colour, with twelve blackish bars. The name of myrmecophaga annulata has been given to this by Desmarest. All the ant-eaters are slow in their movements, and the two smaller species are especially helpless when on the ground, though they defend themselves bravely when attacked. In order to use their defensive force claws to greater advantage, they sit upon their hinder limbs like the bear, and strike with great force.

**ANT-EARS**; the giant son of Neptune and of the Earth, who lived in a cave in Libya, and fought every stranger who arrived to fight with him. Whenever he was thrown to the earth, his strength was restored by his mother. By this means, he succeeded in killing his antagonists, and planted their skulls round his dwelling. But Hercules, whom he challenged to a fencing-match, perceived the secret of his strength, grasped him in his arms, and stifled him suspended in the air.

**ANTAGONIST MUSCLES**; those muscles which have opposite functions, as flexors and extensors, abductors and adductors.

**ANTANACLIASIS** (Greek; from antanaklesis, I drive back); the repetition of a word in a different mean-
ing, or as a different part of speech, which attracts attention, and gives expressiveness to the phrase; e. g., "Let the dead bury their dead;" or, "Live while you live." The returning to a subject after a long parenthesis is also called anteculaisis.

The antelope is a famous Antean horned animal, that was first discovered in the middle of the 6th century, and one of the seven poets, whose successful verses, embroidered with gold upon silk, were hung up at the door of the Cnabs. (See Arabian Literature, and Moallakut.) He describes in his Moallaka his warlike deeds and his love for Antaeus. The main part is that of the Menl (Leyden, 1816, 4to.) Hartmann's German translation, from the English translation by Sir W. Jones, was published in the Hellstrathenden Piéjad- en, am Arab. poet. Himmel. (Munster, 1802.) In the Arabian romance Antar, the author, Asmai, a renowned grammarian and theologian at the court of Haroun Al Raschid, in the beginning of the 9th century, who first collected the old Arabian traditions, has added to the name, and the heroic adventures of Antar, the other most famous chivalrous deeds of the Antaeus. Sir W. Jones first made us well acquainted with this remarkable and attractive romantic literature. In the Antaeus, a Persian gentleman, in Constantinople, has translated it into English (Antar, a Bedouin Romance, translated from the Arabic, by Terrick Hamilton; London, 1819, 4 vols.) A French translation has since appeared at Paris.

Antarctic Circle (of ant, opposite, and aere, a bear) is one of the smaller circles of the sphere, parallel to the equator, and distant from the south pole 23° 30'. Antarctic pole, being opposite to the arctic pole, denotes the opposite end of the earth's axis, or the south pole. Till lately, no land was known to exist beyond the 60th degree of south lat. Only a few degrees, however, were discovered since the time of the prophet, and the fidelity of the picture is even now to be recognized in many features of the modern Be- douins. It is written in the purest Arabic, and marked among the classics of Arabian literature. It is so attractive, that critics prefer it to the Arabian Nights. Hamilton, secretary of the British embassy in Constantinople, has transliterated it into English (Antar, a Bedouin Romance, translated from the Arabic, by Terrick Hamilton; London, 1819, 4 vols.) A French translation has since appeared at Paris.

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Antelope; a genus of mammalious, ramifying quadrupeds, intermediate to the deer and goat, first established by the Russian naturalist Pallis, and subsequently divided into numerous sections by Blainville, founded on characters furnished by the shape and curvature of the horns, &c. The character of the following sections is the following: persistent, hollow, resting on a solid, bony nucleus of the os frontis; straight, spiral, tyre shaped, annulated at base; marked with transverse bands, a solute spiral line, or bifurcated in different species; gall bladder uniformly present, which is not possessed by deer. In other characters, the antelopes bear a very marked resemblance to the deer, except that some species have founds, but the horns of Antelope, not falcon.
sented as a prudent old man. He received Ulysses and Menelaus as guests, during their embassy to Troy, accompanied Priam to the field of battle, to ratify the terms of peace. The single combat between Ajax and Hector, proposed, though in vain, the restoration of Helen. This was probably the foundation of the story that he was friendly to the Greeks, and traancherous to the Trojans. He is said to have delivered the Palladium to the Greeks, to have given the signal for their entrance by a light from the wall, and to have himself opened the famous horse. His house remained safe in the sack of the city, which may, however, he explained by the former hospitality of A. to Meneclus. He himself escaped in the same manner as Eneas, and became like him, the founder of a new dynasty. Traditions differ concerning it. The most common is the story told by Virgil, that he removed with his sons to Thrace, and thence, with the Heneti, to Italy, where he founded Patavium, now Padua.

Anteros, in mythology; the god of mutual love. The later mythology says, that as soon as Eros, the god of love, was grown up, his mother bore Anteros to Mars, a fiction which indicates that love must be mutual. According to some modern interpreters, however, Anteros is the enemy of love, or the god of antipathy. See Antipathy.

Anthology (Greek; a collection of flowers) is the name given to several collections of short poems, mostly epigrams, which have come down from antiquity. The first compiler of this kind was Meleager, a Syrian, who, about sixty B. C., made a collection of his own poems, and those of others. In later times, the work is done by Philip of Byzantium, who compiled the Anthology, probably in the time of Trajan; Diogenianus of Heraclea, Strato of Sardis, both under Adrian; and Agathias, in the 6th century. But all these ancient collections are lost. We now possess two of a later period, the one by Constantine Cephalus, in the 10th century, the other by Philip of Byzantium, made much use of the earlier one, particularly that of Agathias; the other by Maximus Planudes, in the 14th century, a monk of Constantinople, who, however, by his tasteless extracts from the Anthology of Cephalus, rather injured than improved the existing stock. The latter is the most common. It contains seven books, which, with the exception of the 5th and 7th, are subdivided in alphabetical order. It agrees only in part with the Anthology of Cephalus, which has been preserved in a single copy. This copy was carried from Heidelberg to Rome, and thence to Paris, but has been again restored to the Heidelberg library. The last and most complete edition of this original text is that of Jacobs, Lips., 1813, four volumes. The editions of Brunck (Annecta), Strassburg, 1772, three volumes, which appeared accompanied with the commentary of Jacobs, Lips., 1794, thirteen volumes, are compiled from the Anthology of Planudes and Constantinus. In Germany, the Greek Anthology has been often translated, and the rich poetical vigour, the delicacy of feeling, the sporting gayety, the noble and elevated thoughts, displayed in these little pieces, have secured for them a deserved admiration. A similar Latin Anthology has been collected by Joseph Scaliger, Linnebruch, and several others; the best edition is that of Peter Burmann, junior, Amsterdam, in two volumes, 1756, when he had never known the pleasures of knowledge, and, probably never learned to read. A.D. 305, several hermits united with him, and formed the first community of monks. A.D. 311, he went to Alexandria, to seek the honour of martyrdom, amid the persecutions then raging against the Christians; but, as his life was spared, he returned to the cottages of his monks. He afterwards left this institution to the care of his scholar Pocamius (see Monastery), and retired with two friends to a more remote desert, where he died, A.D. 356. That he used no garments but a shirt made of hair and a sheep-skin, and never washed his body, is more credible than the strange stories of his contests with devils, and the wonders which he himself made known, as related in his life by St Athanasius. All his conduct indicates a fervent and melancholy imagination. Seven letters, and some other ascetic writings attributed to him, are very probable that he was their author. There is, also, but little proof that he instituted laws for the monks; and the opinion is wholly unfounded that he established a particular order. Yet the monks of the heretical churches in the East, e. g., the Maronites, Armenians, Jacobites, Copts and Abyssinians, pretend to belong to the order of St A., but they only follow the rules of St Basil. As a saint of the Catholic church, A. is much esteemed. Prayer for his intercession was intended, particularly, to preserve from the St Anthony's fire, so called from him,—a violent and terrible disease of the middle ages, which dried up and blackened every limb which it attacked, as if it were burnt. Gaston, a rich nobleman in Dauphiny, whose son had been cured (as he supposed) by the pretended bones of St A., at St Didier-la-Mothe, in token of his gratitude, established, A.D. 1096, a hospital, called St Anthony, for the care of the sick, and the assistance of pilgrims, of which he was the first chief. This order received, from the churches assembled at Clermont, A.D. 1096, the papal confirmation; took the monastic vows, A.D. 1218; and were declared by Boniface VIII., A.D. 1298, a fraternity of regular canons, according to the rules of St Augustin; their chief was to be termed abbot, have his seat at St Didier-la-Mothe, and be the general of all the houses of that order. The priors of these houses called themselves custos, afterwards preceptors, and were subject to the abbot. The dress of these Anthonians was black, marked on the breast with a blue cross, nearly in the form of a T. They afterwards altered the rules of their institution, and devoted themselves to a silent, contemplative life of devotion. This society became very rich by reason of the many pilgrimages to the grave of St A., and the presents which they received. Their order now became widely extended. Even in the 18th century, they numbered 30 convents, mostly in France; but not one of them has continued to the 19th.

Anthos, St; a cape on the coast of Buenos Ayres. It forms the southern point of the entrance into the La Plata. There are three other capes of the same name, one of which forms the western extremity of the island of Cuba; another on the coast of Todos Santos in Brazil; another on the coast of the straits of Magellan.
ANTHONY — ANTHROPOMORPHIS.

ANTHONY, St, falls of, on the Mississippi; lon. 93° 40' W.; lat. 41° 15' N. The river is 627 yards broad above the falls, and immediately below it is contracted within a cape, as by a silex, an island, which divides the falls into two parts. The perpendicular height of the cataract is 16 feet, besides 55 feet more of a rapid below; so that, when viewed from a distance, it appears to be much higher than it really is. When the river is high, the appearance of these falls is heightened, as they are then brightly reflected in all the colours of the rainbow. The surrounding country is extremely beautiful, exhibiting many gentle ascents, with eminences covered with the finest verdure. The portage around the falls is 260 rods long.

ANTHONY, St, island of; the most northern of the cape Verdans islands. Topazes are found in one of its mountains, and it is said to contain mines of gold and silver. The inhabitants, chiefly negroes, are about 500 in number.

ANTHONY of Padua, St; born August 15, A. D. 1195, of a noble family in Lisbon; one of the most renowned disciples of St. Francis of Assisi, and a powerful advocate of the Franciscan orders. He entered A. D. 1220; was shipwrecked on the coast of Italy, in a voyage to Africa, which he had undertaken, with a view of becoming a martyr to the Christian faith, and preached, with great applause at Montpellier, Toulouse, Bologna, and Padua, where he was killed and buried. His miracles are full of prodigies; but all agree in extolling his talents as a preacher. According to tradition, the very fishes were affected by his eloquence. The Catholic church, particularly in Portugal and Italy, honoured him as one of its most eminent saints, among whom pope Gregory IX. assigned him a place, A. D. 1228. At Padua, a church, containing his sepulchre, is consecrated to him, which is a master-piece of architecture.

ANTHRACITE (from anthrac, coal) is the name of one of the most valuable kinds of coal used in the arts and domestic economy. Its mineralogical character is as follows: colour, greyish-black, or iron-black; lustre, imperfectly metallic; opaque; specific gravity, from 1.4 to 1.6; fracture, conchoidal. Some varieties abound in fissures, in consequence of which they possess an irregular columnar structure, and a lower degree of lustre, and occasionally higher. Anthracite is a black coal, with a shining lustre, and occasionally highly tarnished with indescribable colours. Anthracite consists wholly of carbon, mixed with a slight and variable proportion of oxide of iron, silice, and alumine. It is inflammable with some difficulty, and burns without smell or smoke, leaving a more or less earthy residue. It is less widely distributed than the bituminous coal, and belongs exclusively to transition rocks. It has been found in several European countries, where owing to its limited extent and other causes, its use appears to be but little known. In the United States, on the contrary, it occurs in the greatest abundance, and, within the last ten years, has acquired a high degree of importance. Its difficult combustibility was, for a time, an obstacle to its introduction; this, however, was obviated by the invention of peculiar furnaces and grates. It is now very largely used in all the maritime parts of the United States, not only for manufacturing purposes, in which its utility is immense, but in the warming of apartments, both private and public; and its cheapness, the intensity and equability of heat it produces, together with its perfect safety, and freedom from all disagreeable smoke and smell, give it a decided preference over every other species of fuel. In Pennsylvania, the anthracite coal formation is known to cover a tract of country many miles in width, extending across the two entire counties of Luzerne and Schuylkill. Mauch Chunk, upon the Lehigh, Pottsville, at the head of the Schuylkill canal, and Wilkesbarre, upon the Susquehanna, inviting annual navigation by the use of this precious fuel, as well as the greatest proportion consumed in the United States. At Mauch Chunk, 800 men were employed in digging coal, in 1825, in which year 750,000 bushels were sent to Philadelphia. The anthracite, throughout this region, is explored with very little difficulty, and continues to be worked at from 600 feet above the level of neighbouring rivers and canals, and existing in nearly horizontal beds, from 15 to 40 feet in thickness, covered only by a few feet of gravelly loam. At Portsmouth, in Rhode Island, an extensive bed of this coal has been worked, with some interruption, for 20 years; and, more recently, a mine of anthracite has been opened at Worcester, in Massachusetts, at the head of the Blackstone canal.

ANTHROPOLITES; petrifications of human bodies or parts of the body. (See Petrifications.) Those of animals are called zoophites.

ANTHROPOLOGY (from anthrop, man, and ypsis, a discourse) signifies the science which treats of human nature, either in a physical or an intellectual point of view. It is frequently used to denote the science of anatomy. In zoology, it denotes a way of speaking of God after the manner of men, by attributing to him human passions and affections. (See Philos.)

ANTHROPOMORPHISM (from anthrop, man, and morph, a form); called also Arianism; the adherents of Audius, or Audias, a teacher in Syria, who was banished to Scythia, introduced Christianity among the Goths, and died about 370 after Christ. They were excommunicated by the orthodox church, rather on account of their persevering in the old way of celebrating Easter, at the same time with the Jewish Passover, their deviation from the usual penances, and their zeal against unworthy priests, than on account of their representation of God in a human shape. Towards the close of the fourth century, they still existed, as schismatics of severe morals, in small bodies in Syria; in the fifth century they were extinct.—The Italian divines at Vicenza, about the year 938, who were called Anthropomorphists on account of similar representations of God, formed no sect.

ANTHROPOMORPHI (from anthrop, man, and morphe, I eat); man-eaters, cannibals. The practice of eating human flesh, unnatural as it may seem to us, is found to prevail among some nations. In some cases, hunger, in others, revenge, in others superstition, is the motive: at least, it is reported that the Mexicans used to eat the flesh of the virgins whom they had sacrificed to their idols. In some instances, a horrid desire for human flesh appears to have been occasioned by disease, like other perversions of the appetite. Thus a cowherd, named Goldschmidt, who had committed a murder, and in order to prevent discovery, had cut the body in pieces, is said to have fell a victim for human flesh arise within him, and, after devouring the body of the murdered man, to have killed an infant expressly for the purpose of gratifying his unnatural longing. (See Gruner's Almanac for Physicians, Almanach fur Aerzte, 1782, page 312.) Boethius reports, in his history of Scotland, an instance in which this disease seized a whole family. A robber, his wife and children, were burnt, because they had killed and eaten several persons whom they had enticed into their dwelling. Only one daughter, who was very young, was left alive; but scarcely had she reached her 12th year, when she was executed for the same crime. Thrice there are nations who eat the flesh of enemies slain in battle, e. g., the New Zealanders, is well known; but there are none who make human flesh their usual
food, except, perhaps, the Batteau In Sumatra, according to the report of Anderson (London, 1766). The cruelty of the first conquerors of America, the Spaniards, inflamed the gentle natives to a barbarous revenge; and they were calumniated as cannibals, to afford a better pretext for their destruction. Under this pretence, the Caribs were exterminated. Modern navigators have not corrected these sweeping accusations of barbarism and cannibalism; and even where they have met with nations who ate human flesh (that of slaughtered enemies), they have found them mild and kind-hearted. In Germany, during the reign of Joseph II., it was pretended that gipsies had been known to murder travellers, cut their hair, and pretend that cannibalism prevailed among the savage Scythians and Sarmatians, also among the ancient inhabitants of Canaan.

Antipatres. See Rhytmus.

Antipodes; an old town of Provence, in the department of the Var, on the Mediterranean, with a companion harbour and a strong citadel. It was founded by the Massilians, 340 B.C. and named Antipolis. A. now contains 500 houses, with 2570 inhabitants. It is an important barrier fortress on the side of Italy, and was, in 1747, besieged without effect by the Austrians and British. A. is remarkable for its large number of不经留 or: as the Spaniards and French soldiers refused to join Napoleon on his landing from Elba, in 1815. Lon. 7° 11' E.; lat. 43° 35' N.

Antigonus. See Antique.

Antichrist. In the last centuries before Christ, the Jews connected with their idea of the Messiah the notion of an Anti-Messiah, or an enemy to the attempts of the Messiah to promote the good of their nation, who would cause great sufferings before the advent of the latter. The books of the New Testament mention the Antichrist as one or several false prophets, who would pretend to be the true Christ, and would deceive the world. In the Apocalypse alone, he is represented as a powerful ruler, opposed to Christianity. The Christians, in the first centuries, retained the idea of such a powerful enemy of the church, whose appearance, announced by their own persecutions, would precede the re-appearance of Christ, which was then commonly expected. With the belief of the millennium, which was to succeed the vexations of the church by the Antichrist, the idea of such a being continued under various forms, and heightened by the most lively descriptions on the part of the Christian fathers, until the year 1000 had elapsed without the fulfilment of these prophecies, and the idea of a persecutor of the church itself was cooled. The interpretation of the Apocalypse constantly occasioned new calculations on the appearance of the Antichrist. In the middle ages, the opponents of the Roman hierarchy eagerly applied this character to the pope, in whom not only the Waldenses, Wicliflists, and Hussites, but even Luther and his friends, recognized the true Antichrist, as having placed himself against and above Christ. On the other hand, the Catholics bestowed this title on Luther and other reformers. Thus the idea of the Antichrist, as a dangerous enemy to the true church, remained under a variety of forms, without ever regaining universal acknowledgment. The fathers have generally agreed, that the Antichrist will appear, at the approach of the last day, in a bodily shape; but as to his origin, and time and place of appearing, their opinions differ. Some believe that he will be a mere man—of the man of sin, the son of perdition's spiritual offspring of the St bee; that he will be the recreation of the devil. Malvenda, in a large work, consisting of thirteen books, has given the most minute account of the birth, childhood, education, character, power, wars, persecutions, and death of Anti-

christ. The church of Rome has never pronounced any decision with regard to the various notions its members have entertained on this subject. The town of Alexandria was styled Antichrist by some persons, and several passages of the Apocalypse were referred to him. At present, the great party of fanatics, political and religious, perceive the Antichrist in human reason, or, rather, in the use of it against the views and pretensions of fanaticism. Among the Jews, too, since the destruction of Jerusalem by Titus, the wonderful prophecy of a contest is preserved, in which an Antichrist, by name Armilus, will be vanquished by the true Messiah, after a severe oppression of the Jews. At Ancyra, a town of Phocis, in Greece, famous for the hellebore which it produced. This plant was of great service in curing diseases, particularly insanity, and A. was therefore much resorted to by the ancients; hence the expression of Homere, Newton Antigonus.

Antinoos, the fruit of the incestuous marriage of DÉlipus and Jocasta, though innocent, bore the curse of her father's house. For her history, see the articles Eotoces and Edilipus. Sophocles has immortalized her in a tragedy.

Antiochus; one of the generals of Alexander, whom, after the first conquests in Asia, he intrusted the government of Lyceia and Phyrgia. A. not only defended his provinces with very small forces, but also subdued Lycaonia. When, after the death of Alexander, his generals divided his conquests among themselves, he obtained the Greater Phyrgia, Lycia, and Pamphylia. Perdiccas, who strove to unite all the states of Alexander under his own dominion, and who feared the energy of Antiochus, accused him of disobedience to the commands of the king. A. saw through his intentions, embarked secretly for Europe, and connected himself with Craterus and Antipater. These three, then, together with Ptolemy, declared war against Perdiccas. The latter was killed by his own soldiers. Eumenes, the general of Perdiccas, was still, however, very powerful in Asia. A. continued the war against him alone, got him into his power, and put him to death. Thus, in a short time, he became master of almost all Asia; for when Seleucus, who reigned in Syria, and had endeavoured to oppose his usurpations, was likewise overpowered by him, and sought shelter with Ptolemy. A. possessed himself also, of the greater part of the treasures of Alexander at Ecbatana and Susa, but would not render an account of them to Ptolemy, Cassander, or Antigonus, and the civil war against Cassander, in order to revenge, as he said, the death of Olympus, and to deliver the young Alexander, who lived with his mother, Roxana, at Amphipolis. Disgusted by his ambition, all the generals united themselves against him; and, whilst Cassander attacked Asia Minor, Ptolemy and Seleucus invaded Syria, where they defeated Demetrius, the son of A. Seleucus retook Babylon. As soon as A. was apprized of these events, he returned, and obliged Ptolemy to retreat. Demetrius recovered Babylon from the hands of Seleucus. Antigonus, Ptolemy, Lysimachus, and Cassander, concluded a treaty of peace, by which they were to retain, till the majority of the young Alexander, who bore the title of king, the territories in their possession. But, after the murder of the young king, with his mother, by Cassander, the war was rekindled among the four. As the conqueror of Egypt, A. was obliged to give up his plan of conquering Egypt, as part of his fleet was lost at sea in a storm, and Ptolemy frustrated every attempt at invasion by land. Soon afterwards, young Demetrius drove Cassander from Greece. He applied for aid to Ly-
sallenus, who went with a powerful army to Asia; here Sceleneus also joined him. Near Iapous, in Phrygia, he was killed in a battle engaged by the three allies against A. and his son, in which A. fell, aged 84 years. There are several other persons of the name of Antigonus mentioned in history. A. king of Judea, son of Aristobulus. He besieged Jeri- 
salem, was taken prisoner by Herodes, and sent to death, B. C. 96. — A. Gontius son of Demetrias Polioctetes. He was distinguished by his mild and humane disposition. At his father's death, he succeeded him in the king- 
dom of Macedon, and all his other European domin- 
ions. He died, after a peaceful reign of 34 years, B. C. 143. Demetrias II., succeeded him. Antigus- 
us II., surnamed Dosen, king of Macedonia, the 
son of Antigonus I., succeeded his brother, Demetri- 
us II., B. C. 223, and was soon after chosen com-
mander-in-chief of the Aeolean forces by sea and 
land. A. defied Cleoeadus, king of Sparta, at 
Sellasia. He was succeeded by his nephew, Phillip 
VI., B. C. 220.

Antigua ; an island in the West Indies, one of the 
Caribbees, 21 miles long, and nearly the same in 
breadth, upwards of 50 miles in circumference. It 
contains 59,858 acres ; a great part of which 34,000 
are arable, and the remainder are devoted to the 
growth of sugar and to pas- 
tanger; its other principal commodities are cotton, 
wool, and tobacco. Population, in 1817, 2,102 
whites, exclusive of troops; 1,747 free people of 
colour, and 31,452 slaves. Official value of exports, 
in 1803, £219,000; imports, £105,000. Antigua is 
divided into six parishes, and eleven districts. The 
name of the capital is St John's. No island in this 
part of the West Indies can boast of so many ex- 
cellent harbours. Of these the principal are English 
harbour and St John's, both well fortified; and at 
the former the British government has established a 
royal navy-yard and arsenal, and conveniences for 
careening ships of war. Lon. 61° 48' W.; lat. 
17° 5' N. Antigua constitutes, along with St Chris- 
Topher, Nevis, Montserrat, and those of the Virgin 
islands which belong to the British, a separate 
government. The governor, who is styled captain-
general of the Leeward and Caribbean islands, 
generally resides at A., and occasionally visits the 
other islands. Antigua was discovered by Columbus in 
1493. The first settlement was made, in 1632, by a 
few English families. In 1663, Charles II. granted 
it to lord Willoughby. In 1666, a French expedi- 
tion attempted to land with the Caribs, tortured 
and waste the settlements, and committed great cruelties. 
The island was re-settled a few years afterwards, 
through the enterprise of colonel Codrington, of 
Barbadoes, who was appointed commander-in-chief of 
the Leeward islands. In 1706, and during the 
three succeeding years, Antigua was cursed by the 
government of a ferocious and unprincipled tyrant, 
whose varied crimes and tragical end will not soon 
be forgotten in the West Indies. The administration 
of governor Park seems to have resembled more 
closely the barbarous despotism of Nero or Caracalla 
than the governments of modern times. Ample 
vigour was taken by the people, who, driven to 
madness by oppression, rose in a body, overpowered 
the regular troops, tore the living body of the oppres- 
sor limb from limb, and gave the fragments to beasts of 
prey. So well was this punishment thought to be des- 
ereted, that a British government, and in order to 
by granting a general pardon to all concerned in it, 
and shortly afterwards promoted two of the principal 
actors to public offices. No event of importance has 
occurred in the recent history of A. which still re- 
ains under the British government.

Antigonea : a word in Scripture criticism de-
well as in distinct rhombic prisms. Its colour is a light lead-grey; its lustre, pearly, and often iridescent. Specimen 48. It melts in the flame of a candle; and before the blowpipe, on charcoal, is wholly evaporated, with a sulphureous odour. It is composed of antimony 72-95, and sulphur 27-14, and in its composition exactly resembles the artificial compound which possesses the same properties. To obtain the crude antimony of commerce, the above ore is reduced to fragments, and put into large earthen pots, with holes in their bottoms, and these are inserted into other similar vessels; heat is applied to the upper ones, which causes the sulphuret of antimony and the crude mineral to be riven, and the former is allowed to flow into the lower vessels, which are kept cold; here it concretes into friable, crystalline masses, without having undergone any change in its nature during the process. In this condition, it constitutes the crude antimony of commerce. From this substance the regulars of antimony is prepared, by boiling the sulphuret of antimony in a reverberatory furnace, until it forms a grey oxide, 100 weight of which is afterwards mixed with eight or ten pounds of argol, or crude tartar, and smelted in large melting pots in a wind- furnace. It also affords, by calcination and subsequent fusion, in earthy crucibles, the classed black antimony, which is of so much importance in the preparation of tartar emetic. The kermes mineral, a popular medicine, is likewise prepared from the sulphuret of antimony, by boiling crude antimony and pearl ashes; the kermes mineral is deposited in the form of a few lumps or grains; a supernatant liquid, on the addition of any acid, yields an orange sediment, called golden sulphur of antimony, which is used by the calico-printers as a yellow colour.

Antinomianism (opposition to the law); the name given, by the reformers of Wittenberg, to the disregard of the moral law, particularly the law of Moses, by certain Protestants, who aimed thereby to exalt the efficacy of faith in the salvation of man. John Agricola was the most conspicuous member of this party, and, in 1537, violently attacked Luther and Melancthon on this ground, in a public disputation, in Wittenberg. But, in 1539, he recanted, and published a renunciation of his errors, in 1540, at Berlin. Antinomians is the name given to those who adhere to his doctrine, which had its origin in an erroneous apprehension of the grace of God and the necessity of good works. Antinous is a young Bithynian, whom the extravagant love of Adrian has immortalized. Whether he threw himself into the Nile, with the intention of preserving the life of Adrian, whom he accompanied on his travels, or because weary of his own life, is not to be decided; Adrian sets no bounds to his grief for his loss. Not satisfied with giving the name of his favourite to a newly-discovered star in the galaxy, which appellation is still preserved, he erected temples in his honour, called cities after him, and caused him to be adored as a god throughout the empire. His image was, therefore, represented by the arts in every way. Several of these figures belong to the finest remains of antiquity, particularly the statue called the Antinous of Belvidere, in the Vatican, found in the bath of Adrian; and the A. of the Capitol, found in the vith of Adrian at Tivoli. A story has also been told in much opinion concerning these statues, and many will not allow them to be images of A., but recognise in them the characteristics of certain heroes or gods. This dispute is difficult to be decided, because the artists, who represented A. as a god, chose divine ideals, to which they gave the names of Apollo or Hercules. Moreover, he bears under his name, probably a Herma, the Capitoline probably a Hermes-Antinous. In all the figures of A.,” says Winckelmann, “his countenance has something melancholy; his eyes are always large, with good outlines; his profile gently descending; and in his mouth and chin there is something expressed which is truly beautiful.” (See Levevoy on A., represented in the Monuments of Ancient Art; Berlin, 1803.) Antioch, or Antakia (anciently, Antiochia, and Antigonia, and Theopolis, and Seleucia, and Epiphanes, and Selebatos), in Syria, fifty miles W. of Aleppo, lon. 30° 18' E., lat. 36° 6' N., once greater and richer than Rome itself, but often ruined by earthquakes, and finally razed by the Mamelukes, in 1263, is now only a small town, inhabited by Christians and captured by Seleucus, who changed its situation, and called it Antioch, from his father, Antiochus. Long celebrated as one of the first cities of the East, it was the residence of the Macedonian kings of Syria, and of the Roman governors. It is frequently mentioned in the New Testament, and the name Christiana was first given to the disciples of Christ in this city (Acts xi. 26). In the 7th century, it was taken by the Saracenis, and, in the 11th, by the crusaders, who established a principality under the name of A. Boemond was the first ruler. A. is situated on the banks of the Orontes river, with a full view of Tivoli. The “Queen of the East” now exhibits hardly any relics of her former splendour; even the ruins are constantly thrown down by earthquakes. The population is less than 20,000; the houses are low, with only one story above ground; the streets narrow; and the whole appearance of the city is those of a little antiques (pisidia) in the Greater Phrygia, where the Romans settled a colony. It was famous for a temple of Luna. Antiochus, a name of several Syrian kings, which marks an epoch in Roman history. The one who was known by this name, a Macedonian, and general of king Philip, was father of the famous Seleucus (q. v.), by his wife Laodice. The son of the latter, A. Soter, carried on many unsuccessful wars, and is chiefly known for his love of his step-mother, Stratonice. This woman endeavored to rob Seleucus of his life, and threw him into a lingering sickness, which continued till the king’s physician, Erastistratus, perceived the cause, and disclosed it to his father, who, thereupon, from love to his only son, gave him his young and beautiful bride in marriage. One of his descendants was A. the Great, who succeeded his brother, Seleucus Cenamus, as king of Syria, 244 years B.C. He chastised Molo, governor of Media, and conquered Ptolemy Philopator, who was obliged to surrender all Syria. He was no less successful against the Parthians, and at length engaged in a contest with the Romans. This was the famous war of A., for which, with the aid of Hannibal, he made great preparations. He did not, however, enter fully into the plans of this general, and sent only one army to Greece, which remained inactive, and was defeated, first at Thermopylia, and several times by sea, till, at length, his entire army was killed, the sea, and even the land army were defeated with such c to the Romans the passage into Asia Minor, where they gained a victory at Magnesia, and obliged him to contract a disgraceful peace. Afterwards, attempting to take away the treasures from the temple of Jupiter Elymaus, he was slain, with all his following, about twenty-one miles from the sea, represented, in the history of the Maccabees, as the most cruel oppressor of the Jews, attacked the Egypt.
ANTIOPE—ANTIPOPE.

ANTIOPE, daughter of Nycteus, king of Thebes (according to Homer, of the river Asopus), renowned through all Greece for her uncommon beauty. Epopeus, king of Sicyon, carried her off, and married her; but Lyceus, the successor of Nycteus, who had promised his daughter, with his son Epopeus and carried A. prisoner to Thebes, where he delivered her to his wife, Dirce, by whom she was treated with the greatest cruelty. A., however, was happy enough to escape, and to see herself avenged by her own sons, Zethus and Amphion, whom she boasted to have conceived in the embraces of Jupiter. The rest of her story is told in a variety of ways.

ANTIPODES. See Paros.

ANTIPHASIS, among ecclesiastical writers, denotes the first Sunday after Easter. It is also called domini
cus in utiba.

ANTIPOPE; a general, and a confidential friend, of Philip of Macedon. Alexander left him governor of Macedonia when he went to Asia. Although he filled this post with honour, reducing to obedience Memnon, a seditious governor of Thrace, and, after a hard-fought battle, overcoming the Spartans, who were struggling for independence, yet Olympia, the mother of Alexander, with whom he was constantly at variance, succeeded in making him an object of her son's suspicion; so that he summoned him to his presence in Asia, and appointed Craterus governor of Macedonia. But Alexander died before this change was accomplished. A. received Macedonia and Greece in the well known division of the empire, and was appointed guardian of the child with which Roxana, Alexander's widow, was then pregnant. Soon after, he was involved in a war with all the powers of Greece. At first, he was unsuccessful; but, when Leonatus and Craterus came to his assistance, the Greeks again submitted. This war was followed by another with Perdiccas, which terminated as happily. A. died 317 years B.C., at an advanced age, having confided to Polypserchon the guardianship of the young king. The assertion that he had tried to poison Alexander, is wholly unfounded.

ANTIPATHY; a natural enmity or aversion of one thing towards another. In a more restricted sense, antipathy denotes the natural aversion which an animate and sensitive being feels towards some object presented to it, either in reality or imagination, the cause of which is often mysterious and inexplicable. Such is the aversion of which some persons are conscious under the apprehension or at the sight of particular objects, as cats, mice, spiders, serpents, eels, &c. Many instances of antipathy are no better than fables, and a severe examination would reduce them to the class of vulgar errors. There are also fictitious aversions, having their source in affectation, and a pretended delicacy of nerves. The greater part of antipathies arise from prejudice; many from terrors, superstitions, and, in some cases, reflection and a gradual accustoming of ourselves to the objects of our dislike, will weaken or remove the feeling of aversion; yet there are instances of incurable A., which seems to have its seat in the nervous system.

ANTIPHAGE. See Chemistry.

ANTIPHONY (alternate song); applied particularly, in the Catholic church to the verse which is first sung by a single voice, and then repeated by the whole choir. After the psalm has been sung by the two choirs of the choir alternately.—Also, a song of the priest, to which the choir or the congregation responds. Hence Antiphonarian, or Antiphonale, a large volume of Latin songs, from which the canons and other ecclesiastics sing antiphonies, hymns, litanies, &c. The 87th psalm, 7th verse, proves that this mode of antiphonate singing formed a part of the old Jewish worship. Its introduction into the Christian church is ascribed to Ignatius, a father of the church, in the 1st century after Christ. The Western church is said to have received it more particularly from Ambrose. (q. v.) At this time of Antiphonarian singing, the psalms were composed an Antiphonary in honour of the virgin Mary, and the other saints. In the Protestant church, two sorts of antiphony are known. They consist either of whole psalms, as the litanies, or of only a few words of scripture. The latter sort includes the introductory chant of the preacher, and the mutual response of the choir and the congregation.—A species of English cathedral music is called an anthem, or antiphony. Handel has composed several anthems.

ANTIPHRAE. This may be defined a form of speech, in which we affirm a thing by denying it to be the contrary; as, He is no foot. It is also used, though less correctly, to signify a figure of speech, by which the name of any thing is derived from a quality it does not possess; e.g., the name of the Fates, Parce, from parce, to spare, though to spare is foreign to their nature. So also the name of the Furies, Eumenides. Such appellations are usually ironical.

ANTIPODES; the name given to those inhabitants of the earth who are diametrically opposite to each other, and, of course, turn their feet towards each other. The name comes from the Greek anti, against, and podes, a foot. The zenith of the one is the nadir of the other. The antipodes live in similar but opposite latitudes, and their longitudes differ 180 degrees. Hence the difference in their days is about 12 hours, and their seasons are reversed. The spherical form of the earth naturally leads us to the idea of the antipodes, of whose existence some idea was entertained even before the age of Cicero. The fathers of the church, however, found in this theory a contradiction of the Bible, and, in the 8th century, Virgilius, bishop of Salzburg, was excommunicated for it. Creating it, he said, was the first of the globe first put the question beyond all doubt, and the opposition to the doctrine of the sphericity of the earth, and the existence of the antipodes, is now done away.

ANTITHESE; thus are called all those who, at different periods, have produced a schism in the Roman catholic church, by opposing the authority of the pope, under the pretence that they were themselves popes. This is the catholic explanation, because it is evident that the Roman church cannot admit that there ever existed two popes; but the papists say, that in many cases, both competitors for the papal chair (sometimes there were even three) were equally antipopes; that is to say, the claims of all were equally good. Each was frequently supported by whole nations, and the schism was nothing but the struggle of political interests, against each other, to have a pope against the pope supported by other governments. Those were the most unhappy periods of the Roman church, when to many other evils were added violent contests between rival candidates for the papal chair, and the consequences of the latter were offended men and perplexed by the excommunications which the adversaries thundered against each other. These quarrels, of course,
lessened much the belief in the pope's sanctity and infallibility, shook the whole fabric of the church, and contributed much to prepare the way for the great novelty of that period, viz. the accumulation on the popes alone of the blame of these unhappy conflicts. They were natural consequences of the diminution of the dependence of the different governments on the papal see, resulting, in a great measure, from the increase and diffusion of knowledge. Another cause in this respect was the decline, particularly in the clergy, whose corruption and prodigality, in many countries, had given the greatest offence throughout Christendom. Of this the most melancholy proof may be found in almost any work of the 14th and 15th centuries, as well as in the proceedings of the councils. Those, for instance, of the councils of Constance and Basle, and some of the writings of Petrarch, who lived at Avignon when it was the seat of the papal court, are full of such facts and complaints of them. Only one antipope is recorded to have existed at an earlier period—Novatianus, a Roman, and at Rome, in the reign of Cornelius, in 232. Amadeus VIII. duke of Savoy, was the last antipope. He was elected by the council of Basle, in 1439, in opposition to Eugene IV. and Nicholas V. But he renounced his title in favour of the latter, in 1449. Similar scenes had taken place in the latter ages of the dominion of Rome. When the gigantic struggle was fast verging to ruin, emperors rose against emperors, elected and supported by their soldiers in different quarters of the world. In fact, such divisions must always take place whenever a vast empire, spiritual or temporal, declines, and loses that energy which had conducted it to greatness. Thus we find in the Mohammedan history, at one period, many antipilgrims. Antiquaries; men who employ themselves in the study or collection of antiquities. In Italy, the eccle-
sori are often antiquaries. In England, and particularly in Scotland, there are important associations of antiquaries. In Germany, those booksellers who deal exclusively in old books, are called by this name, and the custom has extended beyond this country. In France, these dealers are ironically called bouquinistes, from bouquin, a book of little value. In Lon-
don, the most valuable collections may be found at Lowesmore's and Newberry's; in Paris, at Remondini's; in Madrid, at Sanché's; in Rome, at de Romanis's; in Florence, at Molini's; in Utrecht, at Wild's and Altheer's; and in Leyden, at Luchtmans's. In Ger-
many, Weigel in Lepsius, Meusel in Coburg, Hassler and Nessler in Hamburg, and Sommerbrod in Berlin, are among the best known, and often have very va-
larable editions. Antiquities. After the convulsions which attended the settlement of the tribes of the North and the East, on the ruins of the Roman empire, had, in some degree, subsided, and the nations of Europe began to recover, to a certain degree, the blessings of peace, a regard for science and the arts grew up among the rude conquerors, and revived in the minds of the vanquished. In the midst of barbarism, the remains of Grecian and Roman civilization, literature, and art, appeared like the productions of a better and nobler world; and the word antiquus, applied to literature, science, or art, became almost synonymus with excellent. By degrees, the relics of ancient literature were collected in libraries, and those of art in museums. It was not, however, till the 14th and 15th centuries, that the effects of the admiration and study of antiquity were at all perceptible. Collections of antiques began to be permissible, and first of all in Italy. What is termed modern art, in contradistinction to ancient, then had its origin. This was based, indeed, on different principles from the ancient, inasmuch as it was influenced by the spirit of Christianity, of chivalry, and the prevailing char-
acter of the Teutonic nations. Still the noble im-
pulse, which had worked towards the downfall of the popes alone the blame of these unhappy con-
flicts. They were natural consequences of the dimin-
ution of the dependence of the different governments on the papal see, resulting, in a great measure, from the increase and diffusion of knowledge. Another cause in this respect was the decline, particularly in the clergy, whose corruption and prodigality, in many countries, had given the greatest offence throughout Christendom. Of this the most melancholy proof may be found in almost any work of the 14th and 15th centuries, as well as in the proceedings of the councils. Those, for instance, of the councils of Constance and Basle, and some of the writings of Petrarch, who lived at Avignon when it was the seat of the papal court, are full of such facts and complaints of them. Only one antipope is recorded to have existed at an earlier period—Novatianus, a Roman, and at Rome, in the reign of Cornelius, in 232. Amadeus VIII. duke of Savoy, was the last antipope. He was elected by the council of Basle, in 1439, in opposition to Eugene IV. and Nicholas V. But he renounced his title in favour of the latter, in 1449. Similar scenes had taken place in the latter ages of the dominion of Rome. When the gigantic struggle was fast verging to ruin, emperors rose against emperors, elected and supported by their soldiers in different quarters of the world. In fact, such divisions must always take place whenever a vast empire, spiritual or temporal, declines, and loses that energy which had conducted it to greatness. Thus we find in the Mohammedan history, at one period, many antipilgrims. Antiquaries; men who employ themselves in the study or collection of antiquities. In Italy, the eccle-
sori are often antiquaries. In England, and particularly in Scotland, there are important associations of antiquaries. In Germany, those booksellers who deal exclusively in old books, are called by this name, and the custom has extended beyond this country. In France, these dealers are ironically called bouquinistes, from bouquin, a book of little value. In Lon-
don, the most valuable collections may be found at Lowesmore's and Newberry's; in Paris, at Remondini's; in Madrid, at Sanché's; in Rome, at de Romanis's; in Florence, at Molini's; in Utrecht, at Wild's and Altheer's; and in Leyden, at Luchtmans's. In Ger-
many, Weigel in Lepsius, Meusel in Coburg, Hassler and Nessler in Hamburg, and Sommerbrod in Berlin, are among the best known, and often have very va-
larable editions. Antiquities. After the convulsions which attended the settlement of the tribes of the North and the East, on the ruins of the Roman empire, had, in some degree, subsided, and the nations of Europe began to recover, to a certain degree, the blessings of peace, a regard for science and the arts grew up among the rude conquerors, and revived in the minds of the vanquished. In the midst of barbarism, the remains of Grecian and Roman civilization, literature, and art, appeared like the productions of a better and nobler world; and the word antiquus, applied to literature, science, or art, became almost synonymus with excellent. By degrees, the relics of ancient literature were collected in libraries, and those of art in museums. It was not, however, till the 14th and 15th centuries, that the effects of the admiration and study of antiquity were at all perceptible. Collections of antiques began to be permissible, and first of all in Italy. What is termed modern art, in contradistinction to ancient, then had its origin. This was based, indeed, on different principles from the
ANTHONY. The word antiquity, old time, in opposition to new, is in itself indeterminate, but is, in general, applied to the time which elapsed between the creation of the world and the invasion of the barbarians into the Roman empire, which, in connection with the wide spread of Christianity, makes a great epoch in the history of the human race. In a narrower sense, it is applied to the two principal nations of former times, Greece and Rome, or to the early age of any nation. The name of antiquities is given to the remains of ancient art. The phrase is used in a wider sense, to signify all which belongs to a knowledge of the politics, manners, religion, literature, and arts of the nations of antiquity, or of the modern nations, until the existing order of things commenced. We leave no single work giving such a general picture of nations and states, but only separate treatises on the antiquities of the Hebrews, Greeks, Romans, Etrurians, Gauls, Germans, Britons, &c. The want of a knowledge of antiquities was first felt in the 15th century, when the zeal for classical learning began to revive. In the earlier works on this subject, one finds extensive learning, but no fixed plan, no critical division of the time and subjects. In the 18th century, the rich collections of materials, which had formerly been made, were critically examined and systematically distributed. The Bibliothèque des Antiquités de l’Empire (Hamburg, 1713—1716) contains valuable information, especially the new edition by Schaffhausen (1740), to which it is desirable that some additions should be made. Among the principal works treating of Greek and Roman antiquities are, Thesaurus Antiquitatum Graecorum (1697—1703, 12 vols.); Thesaurus Antiquitatum Romanorum, by Graavius (Utrecht, 1694—99, 12 vols.); Novus Thesaurus Antiqu. Roman. by Sallengre (Hague, 1716—19, 3 vols.); and Poënti Urusqui Thea, nova Sallengre (Venice, 1737, 5 vols.). Burmann has left Catalogus Librorum qui in Thea. Rom., Grece, Italiaic et Siculo continentur (Utrecht, 1724). The information collected by these antiquaries has been revised and arranged by later scholars. A very useful work on Roman antiquities is Som. Pictet Lexicon Antiquitatum Rom. (1724). Plutarch has left Catalogus Librorum qui in Thes. Rom., Grece, Italiaic et Siculo continentur (Hamburg, 1735). The information collected by these antiquaries has been revised and arranged by later scholars. A very useful work on Roman antiquities is Som. Pictet Lexicon Antiquitatum Rom. (1724). Plutarch has left Catalogus Librorum qui in Thes. Rom., Grece, Italiaic et Siculo continentur (Hamburg, 1735). An edition of which appeared at Berlin, 1713. The assistance which these works afforded to the scholar, desirous of obtaining a just idea of Greek and Roman literature and history, stimulated the students of the oriental languages, especially in the Protestant churches, to direct their attention to Hebrew antiquities, on account of the connexion between Hebrew literature and customs and the evidences of Christianity. On the subject of Hebrew antiquities, Iken, Faber, Warnekros, Beller- mann, Jahn, and others, have given us books as useful as they are interesting. On the antiquities of the other nations of the East, the Asiatic Researches, and the labours of Goguet, furnish valuable information. Sir William Jones, Anquetil du Perron, A. W. von Schlegel, and others, have thrown light on the antiquities of India; Zoega, Denon, and others, on those of Egypt; Vossius, Hammer, Rhie, Gores, on those of Persia. Many collections exist, which treat of the antiquities of the modern nations of Europe. 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three kingdoms of nature, to which an antisiphilitic power has not been ascribed. The most efficacious are preparations of mercury, which is administered in a great variety of ways; sudorific vegetables, the combinations of which are also extremely numerous; and preparations of gold, particularly of the murici of this metal.

**ANTITHESIS (opposition); a figure of speech, by which two things are attempted to be made more striking, by being set in opposition to each other. This figure often produces a great effect, yet, by too frequent use, becomes disgusting. Lessing affords an instance of a happy antithesis, when, in the review of a book, he says, "This book contains much that is good, and much that is new; only it is a pity that the good is not new, and the new is not good."

The following is an example in poetical composition.

"Though deep, yet clear; though gentle, yet not dull; Strength, without rage; without overwhelming, fall."

Some use antithesis only to express the connexion of things exactly opposite.

**ANTITRINITARIANS; all who do not receive the doctrine of the divine Trinity, as it is represented by the Nicene and Athanasian creeds, and either put the Son and the Holy Spirit in the Godhead below the Father, or consider them to be a mere idea, and the Holy Spirit an arbitrary personification of the divine mind. In the early period of the Christian church, parties maintaining these sentiments were very numerous; especially the Arians, Sabellians, and Pneumatomachians. The name Antitrinitarian first arose in the 16th century, and was applied to Socinians, or Unitarians, who renounced against the system of Episcopius, who died in 1643, and to a great number of theologians, who ventured, in their writings, to maintain the preceding opinion. Many were unwilling to acknowledge the Trinity, or to ascribe to the Holy Spirit an equal power and person, as was given to the Father and the Son, in their engagement to remain to eternity, and to establish a church for the spread of religion. They often alleged, that the Son and the Holy Spirit were sent by the Father, and therefore, not eternal. But, however strong this reason may appear to establish the unity of the Godhead, I must insist on the necessity of maintaining the Trinity of the persons. I hold that the Father, Son, and Holy Spirit are three persons in one God, and that it is inconsistent with the glory and majesty of God, to ascribe the three persons to the same or a part of the same essence. It is difficult to see how the Father and Son can be said to be one God, unless the Holy Spirit be a part of that God.

**ANTITRINI; an ancient city of the Volsci, situated on the Tuscan sea. In the neighbourhoud, the Romans gained their first naval revolution, in an engagement with the Antites. It was entirely destroyed by the Saracens; but vestiges of it still remain in Capo d'Anfo, or Antio.

**ANTOINETTE (Marie Antoinette Joseph Jeanne) of Lorrain, archduchess of Austria and queen of France, born at Vienna, Nov. 2, 1755, was daughter of the emperor Francis I., and Maria Theresa. She received a careful education, and obtained an acquaintance with various branches of knowledge. Nature had bestowed upon her an uncommon share of grace and beauty. In a letter of Maria Theresa to her future husband, she says, among other things, "Your bride, dear dauphin, is separated from me. As she has ever been my delight, so will she be your delight. In length it behoves me to tell you more; for I have long been aware that she was to be the companion of your life. I have enjoined upon her, as among her highest duties, the most tender attachment to your person, the greatest attention to every thing that can please or make you happy. Above all, I have recommended to her humility towards God, because I am convinced that it is impossible for us to contribute to the happiness of the subjects confided to us, without love to Him who breaks the sceptres and crushes the thrones of kings according to his own will."

The departure of Marie Antoinette from Vienna filled the capital with sorrow. Her arrival at Strasburg, and her journey to Compeigne, where Louis XVI. of France received her, and to Versailles, where her marriage took place, May 10, 1770, had the appearance of a triumph. It was subsequently remarked, that, immediately after the marriage ceremony, a fearful thunder-storm, such as had scarcely ever before been witnessed, threw Versailles and the whole province of that city into the greatest terror. Anxious minds indulged in yet more fearful forebodings, when, at the festivity which the city of Paris prepared, May 30, for the celebration of the dauphin's marriage, through the want of judicious arrangements, a great number of people, in the rue Royale, were pressed or trodden to death in the crowd, fifty-three persons were found dead, and about three-hundred dangerously wounded.

When Marie Antoinette, after the death of Louis XV., became queen, she imitated the example of Louis XII. An officer of the garde du corps, who had formerly dispersed her, and now returned to resign, reported that the queen was still at her post, and forget the past—"Heaven forbid that the queen should avenge the injuries of the dauphiness!" Thus she continued to win the hearts of the people by mildness and generosity; in particular, she took the most energetic measures to relieve the sufferers in the dreadful winter of 1788. But, about this time, she drew upon herself the hurried of the court party, who used every means to make her odious to the nation. She was accused, in pamphlets, of continually contriving plots, and though none of the accusations could be proved, and many of them were equally improbable, yet it must be confessed that the young and inexperienced queen gave cause for them. Her lively imagination often gave her the appearance of levity, and sometimes of dissimulation. A natural restlessness led her to change, to new fashions, to a continual varying of her diversions. Great sums of money were, by this means, taken from more important objects. It was still more to her disadvantage, that she injured her dignity by neglecting the strict formality of court manners. Besides, she expressed herself with pettishness, in reply to the censures that were passed upon her. Her enemies now spread abroad a report, which was still more hurtful to the heart, and a natural enemy to the French, to whose happiness she could no longer contribute. An extraordinary occurrence added fuel to the flame of calumny, while it subjected the name of the queen to a disgraceful law-suit. Two jewellers demanded the payment of an immense price for a necklace, which had been purchased in the name of the queen. At the examination which she demanded, it was proved that she had never ordered the purchase. A lady of her size and complexion had impulsively passed herself off for the queen, and at midnight had been bleeding with a cardinal in the park of Versailles. (See La Mothe and Rohan.) Notwithstanding this, the enemies of the queen succeeded in throwing a dark shade over her conduct. When Calonne had reported a great deficiency in the finances, the cause was blindly attributed to the queen's extravagance. At length it became necessary to call the Estates-General. The queen was present at the opening of the first session; but from that moment her tranquillity was gone. Events soon followed, which put her courage to the test. She appeared with her husband at the banquet, which the gardes du corps gave at October 1, to the honour of the troops of the line, where, soon after the de-
parture of the court, the national cockade was trampled on. This excited the Parisians still more against the queen. They regarded her as the soul of the party which, at that time, was collecting an army against Paris, and against the national assembly. On the 5th, the Parisians rushed violently to Versailles, and were in the castle, when they broke into the castle, murdered several of the body-guards, and uttered against the queen the most furious threats. In the middle of the night, a clergyman wrote to her, "Take measures for your preservation; early in the morning, at 6 o'clock, you are to be murdered." She remained motionless, but all heard the words. The infuriated mob rushed into her chamber; she flew to the king. To put to a stop to the scene of murder, the king and queen showed themselves, with both their children, in the balcony. This spectacle made a momentary impression upon the enraged people; but soon the cries resounded from every mouth, "No children! queen—the queen alone. She instantly, "As the king wished to depart with his children, nothing in the world could hinder me from accompanying him. I have given sufficient proof; for these two years, that I would never desert him. What made me more decided on that point was, the firm conviction that the people of France will love France; if he had wished to do so, I should have employed all my efforts to endeavour to restrain him." This tempest was followed by a momentary calm. In the meantime, on the 20th of June and the 10th of August, 1792. Prepared for whatever might happen on the latter of these days, the queen exerted all her power to excite her husband to meet death sword in hand. Led with him into the legislative assembly, she heard his deposition announced, together with the appointment of his judges; and then went with him to the temple. None of her female attendants were suffered to accompany her. Here she occupied the most comfortable chamber with her daughter and the princess Elizabeth. Close bars of iron secured the window, admitting only a glimmering light. She now exhibited the full strength of her character. Invariably calm in the circle of her friends, she urged them to disregard sickness and suffering. When Louis XVI. informed her of his condemnation, she communicated to him on the approaching termination of an existence so painful, and the unmerited reward that should crown it. After her husband's death, she asked nothing of the convention but a mourning-dress, which she wore the remainder of her days. She was separated from her son. She felt that this separation was for ever; yet her firmness was unchanged. August 5, at midnight, she was removed to the keeper's house. A dark and damp dungeon here was her last abode. Oct. 3, the convention ordered her to be brought before the revolutionary tribunal. She was charged with having dissipated the finances, exhausted the public treasury, given large sums out of it to the emperor, with having corresponded with foreign enemies, and committing other crimes. But, indi-
This he and Lat. and, all and, the arrangement, which was brought, was surrounded on every side by his enemies, he was reduced to extremity from want of water. A fearful tempest arose, a sudden shower refreshed the army, and the Quadi were vanquished. Afterwards, the Marcomanni, the Quadi, as well as the rest of the barbarians, sued for peace. The sition of the Syrian governor, Avidius Cassius, who had brought Egypt and the region within mount Taurus to own his authority, called off the emperor from his conquests; but, before he reached Asia, the rebel was slain by his own party. Aurelius pardoned all, and did not execute him for the benefit of the emperor, till new incursions of the Marcomanni compelled him once more to take the field. He conquered the enemy several times, but was taken sick at Sirmium, and died, according to Aurelius Victor, at Vindobona, in the 55th year of his age, and 19th of his reign.—The best editions of the Meditations, which he wrote in Greek, and in which he acknowledges himself a follower of the Stoics, are by Cassabon, London, 1643; Morus, Lepisic, 1778; and Schulz, 1802, translated by Schulz and Amstelodam, in the 55th year of his age, and 19th of his reign. The most important among the best emperors who ever governed Rome, although his philosophy and the natural magnanimity of his character did not restrain him from ordering the persecution of the Christians in Gaul.

Aurelianus PIUS (Titus Aurelius Fulvia), of a family originally from Nismes, in Gaul, was born at Lavinium, in the neighbourhood of Rome, A.D. 86. His father, Aurelius Fulvia, had enjoyed the consulship, and, A.D. 120, he succeeded to the same dignity. He was one of the four persons of consular rank, among whom Adrian divided the supreme administration of Rome. He endeavoured to advance the emperor, and after his return to Rome, became more and more the object of Adrian's confidence. By his wife, Faustina, the daughter of Annias Verus, whose licentious conduct he wisely endeavoured to conceal from the view of the world, he had four children. They all died but Faustina, who afterwards became the wife of Marcus Aurelius. A.D. 138, he was adopted by Adrian, for which reason he, in his turn, adopted L. Verus and M. Annius Verus (Marcus Aurelius). The same year, he ascended the throne, and under him the empire enjoyed tranquillity and happiness. The influence he had in his private station enabled him, when he was ready to assist the necessitous, an admiral of virtue and wisdom, he was truly the father of his people. He often repeated those beautiful words of Scipio, "I had rather preserve the life of a citizen than destroy a thousand enemies. His wise frugality enabled him to diminish the taxes. The riches of the Christians he speedily abolished. He carried on but a few wars, viz., in Britain, where he extended the Roman dominion, and, by raising a new wall, put a stop to the desolating invasions of the Picts and Scots. The senate gave him the surname Pius, i.e., remarkable for filial affection, because, in gratitude to the memory of his father, he had built a temple in honour of him. Configurations, floods, and earthquakes, spread desolation in many places during his reign, but his generosity did much to mitigate the consequences of these unhappy events. He died, A.D. 161, 74 years old, having reigned 23 years. His remains were deposited in the tomb of Adrian. The Senate built a pillar to his memory, which is yet standing, in the Forum Romanum. The whole kingdom lamented him, and the following emperors assumed his name as an honour. It has been said of him, "He is almost the only monarch that has lived without spilling the blood of his countrymen or his enemies."

Aurelianus ANTONINUS PIUS, eldest son of a barrier erected by the Romans across the isthmus between the Forth and the Clyde. The whole length of it exceeded 36 miles. It was constructed A.D. 140, and consisted, when entire, of a ditch 40 feet wide and 20 feet deep, and a wall on the south side 24 feet thick and 20 feet in height, the wall being formed of the earth that was thrown up. This wall is now nearly demolished by the ploughshare. General Roy, in his 35th plate, has traced its course, and given plans of the stations belonging to it. This wall was the third rampart built by the Romans against the incursions of the Germans; the first was built by the people in the neighbourhood, Graham's dyke.

Aurelius, St.; a Dutch fort of Axim, on the Gold Coast of Africa. It belongs to the West India company. This is also a name of one of the cape of Verd Islands, separated from St Vincent by a narrow, navigable channel, 15 miles broad. The inhabitants, mostly negroes, about 500 in number, live, notwithstanding all the plenty of the island, in wretched poverty. Lon. 0° 26' E.; lat. 18° 4' N.

Aurelius, Nicholas; a native of Seville, in Spain; born in the year 1017. After 22 years spent at Rome, in the year 1039, he went to Madrid, and obtained a seat at the council board. His works are, Bibliotheca Hispana Vetus, in two folio volumes; De Exilrf, Lib. iii., folio, published in 1639; Bibliotheca Hispana Nova, two vols. folio, 1672, reprinted in 1783; and Censura de Historiae Fabulata, folio, 1742. His library was of great value. He died, 1684.

Antonius, Marcus, the triumvir, son of the praetor, and grandson of the orator of the same name, born 86 years B. C., was connected with the family of Caesar by his mother Julia, a lady of distinguished character and excellence. His unhappy fated marked his youth. To study eloquence and the art of war, he went to Greece, and from thence followed the consul Gabinius on a campaign in Syria. He showed much activity and courage here, as well as in Egypt, where he aided in the establishment of Podemni Auletes. The soldiers, whom he treated with extreme generosity, indulgence, and confidence, conceived a strong affection for him. In Rome, he united with Curio, and, like him, supported the party of Caesar. He became augur and tribune of the people; but some of his projects excited such odium against him, that, with Curio and Cassius Longinus, he fled for refuge to the camp of Caesar. This became one of the pretences for civil war. At the breaking out of this war between Caesar and Pompey, A. was appointed by Caesar commander-in-chief in Italy: he afterwards led a considerable force to Epirus, to his assistance. In the battle of Pharsalia, he commanded the left wing, and afterwards returned to Rome with the appointment of master of the horse and governor of Italy. He degraded himself so far by acts of excess and violence, that, on his return, Caesar treated him with great coldness. About the third year of his second consulship, he married Poppaea, the widowed wife of Claudius, who long ruled him. When Caesar returned from Spain, A. regained his favour by the basest
that hostilities had commenced in Italy, between his wife, Fulvia, and Octavius. A short war followed, which was decided in favour of Octavius, before the arrival of A. in Italy. The death of Fulvia facilitated a reconciliation, which was sealed by the marriage of Octavius with the sister of Cleopatra. The armies made a new division of the Roman dominions. A. obtained the East, Octavius the West. For more form, Africa was consigned to the feeble Lepidus. With Sextus Pompey, who ruled the Mediterranean, a treaty was made. Upon this, A. went to Athens, made himself mad of his government, fought him but little honour, and then returned to Italy. By the interposition of Octavius, there appeared to be perfect harmony between the triumvirs; but, after his return to Asia, A. gave himself up to a most abandoned course of life; lavished upon Cleopatra, without regard to the interests of the state, whole kingdoms and provinces; and exercised the most open injustice. After a second disgraceful campaign against the Parthians, he took A. avowed king of Armenia, prisoner, by treachery, accusing him of want of fidelity, and carried him to triumph to Alexandria. Octavius executed A., A. himself, by the decision of the Romans, by a relation of his conduct. War between the two rivals was inevitable, and both began to prepare for it. Amid a round of pleasures, A. neglected his most important affairs, and filled the island of Samos, the rendezvous of his troops, with fountains, planted gardens, and so gained the affections of the army, so that Lepidus was obliged to resign the command to him. Plancus, also, and Pollio, strengthened his party with their forces; so that A., who, a short time before, had fled from Italy, returned now at the head of 33 legions and 10,000 horse. Octavius, who had hitherto appeared to be a supporter of the senate, and a defender of republican freedom, now suffered the mask to fall off. He marched against A. and Lepidus, and, on the small island of Reno, not far from Holgona, or, according to some, on the island of Panaro, near Modena, had that memorable meeting with them, in which they divided among themselves the whole Roman world. Here they decided upon the proscription of their mutual enemies: each gave up his friends to the other. Upon this, the triumvir made good his promise, and his troops marched with cruelty and rapine throughout Italy. A. caused Cicero's head and right hand to be fixed up, as a spectacle, on that same rostrum from which his eloquence had so often been victorious. 300 senators and 2000 knights perished in this proscription. When the sum of money necessary for the war was procured, viz., 200,000,000 sestercies (above a million and a half sterling), and the triumvir appointed magistrates for several years, B. C. 42, A. and Octavius departed for Macedonia, where the united forces of their enemies, Brutus and Cassius, formed a powerful army. At Philippi, A. commanded in an engagement against Cassius, who, when he perceived the event of the fatal battle, ordered one of his slaves to stab him. After the second battle, Brutus, also destroyed himself. At the sight of his body, A. discovered the deepest emotion, covered it with his cloak, and gave orders that it should be interred with the highest honours. He then went to Greece, visited the public schools at Athens, and manifested his admiration of this city, splendid even in its ruins. Thence he proceeded to Asia. In Cilicia, he ordered Cleopatra, queen of Egypt, to apologize for her insolent behaviour to the triumvir. She appeared in person, and her charms fettered him forever. He followed her to Alexandria, where, in a constant course of dissipation, he bestowed not even a thought upon the affairs of the world, till he was aroused by a report
talents for a splendid and captivating, though unsubstantial eloquence. He made the first public display of his talents in the renowned *Memoire sur les États Généraux, leurs Droits et la Manière de les conquérir*, A. D. 1788, in which his love of liberty, extending to the entire condemnation of all despotic government, led him to declare, in the plainest terms, the states exasperated with such force, that, in the excitement of the age, the work was honoured with the greatest applause, and may justly be regarded as one of the first sparks, that lighted the flame of the French revolution. But when he was appointed deputy to the states general of Brabant, he did not shew the privilege of hereditary nobility, was among those who most violently opposed the intended union of the three estates, and voted for a constitution fixing the rights of man, or rather of citizens, in which he declared the veto of the king an indispensable support of monarchy. In 1790, he left the assembly, renounced his oath of citizenship, with certain limitations, was accused of disturbing the public peace, openly defended himself, and then went to Petersbourg and Vienna, engaged, continually, in diplomatic business. He was now the most proselytes of the French revolution. Having been sent from Russia to Italy, in 1798, he was imprisoned, by order of Bonaparte, at Milan. His wife, the renowned opera singer St Hubertii, procured for him the means of escape. He returned to Vienna, and then to Russia, where, in 1805, he was made counsellor of state by Alexander I., and sent on public business to Dresden. He wrote here a remarkable work against Napoleon—*Fragment du 18me Liere de Polye, trouvé sur le Mont Athos*. After his return to Russia, he found means to become acquainted with the secret articles of the peace of Tilsit, went to England, and communicated them to the ministry, by which means his influence became so great, that Canning did nothing in relation to France without his advice. He maintained his diplomatic connexions, especially in France, and was everywhere esteemed one of the first politicians of the age. In spite of his attachment to the Bourbons, and his numerous struggles in their behalf, he did not succeed in gaining, entirely, the confidence of Louis XVIII. In 1812, he was murdered, in a village near London, together with his wife, by his servant Lorenzo, an Italian, who immediately after, shot himself also.

Antrim county, in the province of Ulster, was, in Ireland, bounded on the east by the Irish channel; on the west by the counties of Londonderry and Tyrone; on the north by the northern ocean; and on the south by Lough Neagh and the county of Down. It extends from north to south 54 miles, and from east to west 35 miles, embracing 430,000 acres. Its population is estimated at 262,600. The mountainous districts of this county are towards the east and north, but no part of the elevated land rises to a great height. Knoll Lade (1820 feet above the sea) in the north, Slenis in the middle of the county, and Davis, near Londonderry, are the principal mountains. The general soil of the plains and valleys is strong loam, interspersed with patches of gravel and sand; but the mountainous parts are basalt or limestone rock, or covered with heath and bog. Gypsum is dug out, for exportation, near Belfast; coal has been long wrought at Ballycastle, on the northern coast; the shores of Lough Neagh furnish masses of peatified wood; and pearl stone, a rare mineral production in the British islands, is found at Sandybrae, twenty miles from Belfast. But the stupendous range of basaltic strata, exhibiting, in many places, magnificent colonnades, stands forth in all its grandeur. The Sheffield sands, stretching almost the whole length of the northern coast, forms the most striking object to the geologist. The extent of sea-coast produces great scientific variety, and there is much picturesque beauty in the more fertile parts of the interior, particularly in the vale of Lagan, between Belfast and Lisburn. The Lagan and the Bann, which in different directions form the boundaries of the county, are its chief rivers. The other rivers are, the Rawl, the Braid, the Glenesh- mer, the Six-mile Water, the Glenavy, the Careg, and the Gleneshile, all of which, except the last two, fall into Lough Neagh. The staple manufactures of the county are linen and cotton. Flax, potatoes, barley, and oats, are the principal agricultural produce. The cattle are small, and the venison plentiful. Salmon fisheries are also successfully prosecuted. No county of Ireland includes a larger proportion of presbyterian protesters than Antrim, many of whom are descended from natives of Scotland. The principal towns of the county are Belfast, Carrickfergus, Antrim, Lisburn, and Randalstown. The assizes, elections, &c., are held at Carrickfergus, and the quarter sessions at Antrim. The town of Antrim is pleasantly situated on the north end of Lough Neagh, on the east side of the twelve-mile-Walk, and is connected by a bridge. The inhabitants are chiefly engaged in the linen manufacture. The population of the town is 2485, and that of the parish 5129.

Antwerp (Anvers, French; Amburgo, Spanish; Antwerpen, German and Dutch); a large, well-built city, and chief seaport, to a large extent, of the same name in the Netherlands, which, in 1814, was formed out of the former marquisate of A. and the lordship of Mechlin, which, under the French government, had composed the department of the two Nethes. The province contains 1017 square miles, and 287,347 inhabitants. The city lies on the Scheldt: E. 4° 29', N. 51° 14'. The largest vessels can ascend the river to the wharfs of A. on eight chief canals and three basins, built by the French. The city contains 60,000 inhabitants, is strongly fortified, has a citadel, more than 10,000 houses, among which is the magnificent exchange, the oldest in Europe; also the council-house, the cathedral, in which Rubens (whose family was from A.) lies buried, the ample house of the Ostrelini (the former warehouse of the Hanseatic league), &c. A. is the see of a bishop, contains an academy of sciences, an academy of painting and sculpture, a medico-surgical institute, and a hospital. It is the principal manufactures of laces, sugar, white lead, linen, cotton cloth, and fine thread, are very important. Its sewing silk, black silk stuff, and printers' ink, are known throughout Europe. Its commerce has greatly increased since the Scheldt was once more opened; and, in 1828, 636 vessels, amongst which were 75 from America, entered this port. Before the war of the Netherlands with Spain, A. was even more important than Amsterdam, which increased very much by the decline of A., in the 16th century. At that time, the Scheldt was covered with vessels belonging to all nations, of which, in one day, 200,000 entered the harbour. An animated description of the commerce and activity of A., at that period, is given in Schiller's introduction to his Thirty Years' War. It then had 200,000 inhabitants, and the Hansa, the famous league of the Hanse towns, had numerous warehouses here. The first blow was given to its prosperity by the memorable siege under the prince of Parma, in 1585, and it was entirely ruined by the closing of its harbour after the peace of Westphalia. Joseph II. attempted in vain to open the Scheldt. This was not done till after the conquest of the Austrian Netherlands by the French. They then demolished the sandbanks, and commerce would soon have revived, had not Napoleon made the place a military depot. In 1814, it was besieged by the English and Saxons under
Graham, and defended by Carnot, who did not surrender it till the 5th of May, after the armistice with Monsieur had been concluded. Carnot's conduct was such, that he gained the admiration of all soldiers and military consulters, and the love of the people of A. though they hated the French, and suffered much, which was increased by the latest news. Antwerp was besieged in 1832, and originated thus: — Belgium was given to Holland by the Holy Alliance, at their settlement of Europe, grievously against the will of the Belgians. In 1835, the Belgians endeavoured to throw off the Dutch yoke; a fierce war ensued, which was stopped by the intervention of the great powers of Europe. Both Holland and Belgium agreed to abide by the decision of these powers, and Belgium promptly adhered to the terms of the award, which Holland, on the contrary, refused to do. After two years spent in protocols, Holland persisted in stopping the navigation of the Scheldt, and in retaining possession of the citadel of Antwerp. France and Britain, the only two of the five powers who considered their honour compromised by this violation of the imposed treaty, resolved to drive the Dutch out of Antwerp. With this view a combined fleet of the Dutch, English, and Russian was sent off the Dutch coast; and orders were given to the French army of the north, to besiege the citadel, which was under the command of Baron Chassé. A force, accordingly, consisting of about 55,000, under the command of Marshal Gerard, sat down before it, and hostilities commenced towards the close of November. The precise position of the garrison and defences of the citadel on the 29th of November, 1832, may be summed up in a few words. At the moment operations commenced, the Dutch held the citadel, including the lunettes Kiel and St. Laurent, with a garrison of about 400 men; they had an ample supply of provisions, ammunition, and 130 pieces of artillery of different calibre. The Tete de Flandre, the forts Burcht, Zuyndrecht, and St. Hilaire, were armed and garrisoned by about 500 men, whilst eleven gun-boats and a steamer were anchored in the river. The whole of the Polders, included within the bend of the Scheldt from near the village of Burcht to the Pipe de Tabac, were laid under water to the depth of seven to nine feet, and thus completely secured the forts, flotilla, and citadel from all molestation from the left bank. These inundations were fed by a rupture in the dykes of the river, which lay opposite the citadel, and another in the vicinity of the Pipe de Tabac. By this means it was intended to have secured a free communication and passage for the gun-boats between the Upper and Lower Scheldt, without the necessity of their passing under the fire of the Belgian batteries; but the operations of the French army neutralized the effect of this measure. After a spirited defence of four weeks, the citadel surrendered, and was delivered over to the Belgians on the first of January, 1833. By all accounts, the French conducted the siege in a masterly manner; and when the garrison surrendered, treated their opponents with the characteristic courtesy of the nation. Of the besieging army, the number killed was 108, the wounded, 693. Of the besieged, the number killed was 122; the wounded, 569.

Anvil, a smithy, and other manufactures of the malleable metals, is an instrument on which substances are laid for the purpose of being hammered. For some purposes anvils are made of cast iron; but when the face of the anvil is required to possess great hardness, or a bright surface, it is made of wrought iron and covered with plate; or wrought iron is prepared at the forge, where malleable iron is first formed into bars, or into masses for any particular purpose. The body of the anvil is formed by welding a number of smaller masses together under the forge-hammer. These are rude blocks of different sizes, according to the size of the anvil. Smaller masses are also furnished in this way, which the anvil-maker occasionally welds to the large blocks, for giving to the anvil any particular form. The fire-place or hearth of the anvil-maker's forge is similar to the common smith's forge. His bellows are made of hide, like the latter. His fuel is wood, which produces a great heat without much flame. Adjacent to the hearth is a crane, which, turning upon a pivot, brings the heated masses of iron from the fire to the anvil. The latter is a large mass of cast metal, about eighteen inches square on the face, and about a foot from the ground. When the core of the anvil to be formed is heated, the first thing is to make three square holes, one in the bottom, and one at each end of the anvil. These holes are about one and a fourth inch long, one inch broad, and about two inches deep. They are for the purpose of receiving a bar of iron, which is connected with the core by means of a hinge. When the anvil is held in the position by which it is turned and guided while forming with the hammers. The common smith's anvil is generally made of seven pieces, namely, the core or body; the four corners, for the purpose of enlarging its base; the projecting end, which contains a square hole, for the core; seven holes are required to be welded to the core, one fire is not sufficient to heat both at the same time. In this case two hearths are employed. The core and the piece are both raised to a welding heat. The piece being put into its place, is hammered by a quick succession of blows till it adheres. The whole is again employed in the same way until the due form is obtained. The hammering is performed by a number of men at the same time, each using a large swing-hammer. The blows follow each other in regular succession, great experience and care being required to prevent the hammering out of the piece in contact with the anvil. When the anvil has received its due form, it now requires to be fixed with
steel. This is performed by first preparing the steel face to the size of the anvil. The anvil is then heated to a strong welding heat in one fire, while the steel facing is heated in another, but not so hot as the iron. The anvil is now brought out and placed in a large iron frame, and the facing is laid on and hammered as rapidly as possible, till it is closely united. The whole is finished by repeated heating and hammering. The next process is that of hardening the anvil. This consists in heating the face, in parts, to a full red heat, and quenching it in cold water. When a stream of water can be employed it is better. Where this cannot be had, the mass of water should be great and the anvil moved about as quick as possible. The facing should be laid on as thin as it can be firmly welded; and when it is too thick it is apt to crack in the hardening. After hardening, the face is round till it is perfectly even, and the edges made sharp or round, as may be required. When the anvil is required for planishing metals, it is polished with coarse emery and crocus; and the smith's anvil is generally planished on a wooden block, the root-end of an oak-tree being preferred. The anvils used in tinning and for files are fastened into a large block of stone, which is doubtless better than having the anvil loose upon a small block. The most of them now used with the earth upon which the substance it stands upon, the greater will be the effect of the blow of the hammer.

Anville, Jean Baptiste Bourguignon d'; first geographer of the king, pensionnaire of the academy of inscriptions and fine arts, &c., was born at Paris, in 1657. A map, which chance put into his hands, awakened his love for geography at the age of 12. He began to sketch regions mentioned in the Roman historians, and directed all his studies to geography. He read the ancients only to ascertain the position of cities, and to fix the limits of the remote kingdoms, of which words and traces are in history. Thus he early acquired an extensive knowledge of geography, became acquainted with the learned, and, at the age of 22, received the office of geographer to the King. He now began to examine and set in order the mass of his knowledge, and acquired a nice tact, resembling that of a master of fencing and a skilful swordsman, in giving correct and careful comparison. Almost everywhere, his accuracy was rewarded by the discovery of truth. The highest estimation is due to him as a critic, and most of his opinions and conjectures have been verified by later inquiries on the spot. He has published 211 maps and plans, and 78 treatises. His atlas of ancient Egypt is the most deserving. His Orbis Veteribus notus, and his Orbis Romanus, ought to be in the hands of all who read ancient history. So, also, his maps of Gaul, Italy, and Greece. His maps of the same countries for the middle ages are of equal value. His maps of modern times are as good as could be formed of the materials in his possession. He was modest and unassuming, although too irritable when censured. The natural delicacy of his constitution did not hinder him from labouring fifteen hours daily, two years before his death, his mental powers sunk beneath the infirmities of age. He died in 1729. His valuable collection of maps was purchased by the government in 1779.

Aonian Mount; Parnassus (q. v.); the residence of the Muses. The name Aonia was sometimes given to a part of Boetia.—Antides; one of the many names of Mount Cyllene, which was at the head of a chain of mountains, of which Helicon was one.

Aorasia (Greek, aorasia, from a priv. and aor, to see), the invisibility of the gods. The ancient opinion with regard to the appearance of the gods to men was, that they never showed themselves face to face, but were known from their backs as they withdrew.

Aorta; the great artery, which rises immediately out of the left ventricle of the heart. It is distinguished into two grand divisions by the epithets ascending and descending.

Apanage; an allowance which the younger princes of a reigning house (in which the right of primogeniture prevails, as is now generally the case) receive from the revenues of the country, that they may be enabled to lead a manner becoming their rank. It consists generally in money, with the use of a proper castle and hunting grounds, attended, frequently, with the right of jurisdiction over these domains. When it is once fixed, it passes to the descendants of the apanaged princes, sprung from a lawful marriage, of a suitable rank, and, in their default, commonly falls in the hands of the reigning sovereign. Sometimes it is added to the possessions of the surviving apanaged princes. A tract of land with the right of ruling it, set aside for an apanage, is called perogium.

Ape. This designation, often indiscriminately applied to the members of the higher first order, is also the term by which Ray, the precursor of Linnaeus, to those quadrumanous animals which, in structure, most closely approximate to the human configuration. In speaking of apes as distinguished from monkeys, we have reference to those genera of the great family quadrumanous, which, by their long arms and check passages, attain nearly to human height, and present a facial angle, varying from 65° to 50°. The apes at present known are classed differently by different naturalists: Cuvier considers them all as species of one genus; Desmarest, whose arrangement in this instance we prefer, places under the three genera, tragologytes, pithecos, and pongo, the second of which he divides into two sub-genera, orang proper, having no gluteal callosities; and gibbons, or long-armed apes, having callosities. The species are tragologytes niger, the chimpanzee or orang-outang, which is a native of Africa; and, especially of the coasts of Angola and Congo, pithecos satyrus, the red orang, found in the most eastern parts of Southern Asia, particularly in Cochin China, Borneo, and Malacca; pithecos lar, the great gibbon, a native of the Molucca islands, Coromandel, &c.; pithecos leneicensis, which is found on a few islands in the same countries; pithecos syndactylyus or simia, and the pithecos agilis or active gibbon, both from Sumatra. As to the pongo, Cuvier has given excellent reasons for believing it to be nothing but the first-mentioned species in a state of maturity.—Like all the four-handed animals, the apes are destined to live among the branches of trees, and are especially adapted, from their size and strength, to occupy large forests. All of them have the power of assuming a nearly erect position, though on the ground this is by no means convenient, as they stand upon the outer edges, being unable to apply the palms of the posterior hands fairly against the soil, and require a staff, or other support, to maintain this attitude, except when they have been taught to stand erect by man. They generally live in troops, and some of the species are said to construct a sort of hut of leaves, as a defence against the weather. They defend themselves with clubs, and employ these weapons with considerable effect, even against the human race. They are frugivorous in a state of nature, but, from the resemblance of their teeth to those of the human species, it is very evident that their diet is of a vegetable kind, as variously distinguished. Some of them, the gibbons, are very remarkable, from the exceeding length of their superior extremities, the arm being so long that the hands hang near the ground when the animal is in the erect position. This
APE—APENNINES.

singular conformation serves to adapt these creatures to their situations, in a manner which would scarcely be imagined, without having been witnessed. They spend their days chiefly upon the tops and branches of lofty trees, canes, and bamboos, and, in passing from one to another, form forests.

The advantage of their vast length of limb is then rendered evident, as the gibbons would be unable to cling with their hinder hands to a long, flexible branch, swayed in various directions by the breeze, were it not that they can maintain their position by balancing themselves with their long arms. On the loflier branches of the gigantic eastern forest trees, troops of these animals are seen sitting balanced in perfect security, and some of the species at sunrise and sunset scream forth discordant cries from such positions. If any circumstance occur to disturb these orisons, the apes disappear with amazing celerity into the depths of the forest, springing from tree to tree, swinging themselves to great distances by their long arms, and catching as readily at the next object with the posterior hands. The oranges of Borneo attain to the greatest size, growing to be five or six feet high; and the finest oranges are of the larger size. They are represented, with justice, as terrible animals, and are endowed with unexampled strength of limb, one adult ape being more than a match for several unarmed men. They cause much terror to the natives residing near their haunts, and commit great ravages among the plantations of fruit, 

The orang most frequently exhibited and closely observed in captivity is the chimpanzee, joco or wild man of the woods, commonly called orang-utang (S. troglodytes, L.). This species is an inhabitant of Africa, and especially of the coasts of Congo and Angola. In the proportions of its members, and form of the head, it most closely resembles the human kind. It is a very amusing, though, at the same time, an unproductive employment, to read the monstrous exaggerations and ridiculous fables, which have been written of this animal by various learned authors. As they are always obtained when very young, they are trained to the performance of actions, which their exhibitors afterwards are careful to say have been acquired by voluntary imitation. It is, however, only after long and painful discipline that this education is effected; and, this once terminated, they advance hardly ever exactly to the same degree of capacity as is shown by a good dog, nor are they capable of an equal degree of improvement. As they advance in life, they become untactable and savage, and, if Cuvier's opinion be confirmed, that the pongo of Africa is this orang-utang in a state of maturity, they become, with age, the most terrible and inimitable of their whole race. Lascivious, filthy, glutinous, and ferocious, they offer to man a perfect picture of what he would be, were he, like them, desirous of the infinite faculty of reason, which controls the brute impulses of his organization. In their native haunts, these animals exude in a disagreeable exhalation, which seems to emanate from their breath. This exhalation has been observed by several individuals, and is supposed to be a mark of mental excitement. The females manifest an ardent attachment to their offspring, and make vigorous efforts to save them from injury. All show various degrees of that restless mobility, which indicates how much they are under the exclusive influence of sensation, without appearing to form conclusions from their repeated experience. An ape, in captivity, on seeing his image in a mirror, will look behind, in consequence of his seeing himself, and will as eagerly perform this action after the thousandth repetition; as the first. Our limits will not permit us to enter more particularly into this subject; but the curious reader will find in the works of Cuvier details sufficiently ample to satisfy the most inquisitive spirit.

APE—APELLES (a pique, Fr.); perpendicular to the anchor. A ship is said to be in this situation, when the cable is drawn up to the utmost length and is made fast to the stern of the ship. Aptness of the wind is a point of great importance in sailing. 

APPELLES, the most famous of the ancient portrait-painters, was the son of Pythis; probably born at Colophon. At Ephesus, he received the rights of citizenship, and therefore is called, sometimes, the 

Ephesian. Ephorus of Ephesus was his first teacher, but, attracted by the renown of the Sicyonian school, which distinguished itself by exact study, he became the disciple of Pamphilus, in Sicyon, though already himself an artist of reputation. Here he executed, with some other pupils, of the same master, different paintings, which, for a long time, enjoyed great fame. In the time of Philip, A. went to Macedonia, and there, probably, the friendship and familiar intercourse between him and the king was established, which have given origin to so many anecdotcs. But of the anecdotes which are related of him, the most famous is the story of Alexander, where A. had gone, after a short stay at Rhodes, Cos, and Alexandria. While staying at Rhodes, being in the study of Protegenes, during the absence of the latter, he drew a sketch, in which Protegenes, on his return, recognised the masterly stroke of A., and asked him the hour of his return. A. returned and drew a third sketch, superior to both, so that the Rhodian painter declared himself conquered. The table containing the figures was afterwards brought to Rome, and ornamented the palace of the Caesars, till destroyed in a conflagration. The most celebrated of A.'s pupils was Apelles of Alexandria, who, in drawing the lightening, from which the chief light of the picture proceeds—stood in the temple of Ephesus. By a happy application of perspective and chiaro-oscura, the hand with the lightning seemed to project from the picture. The talent and renown of A. were at their height in the 118th Olympiad. Yet, after the death of Alexander, he several times painted king Antiochus. This must have happened in the 118th Olympiad. Death seems to have surprised the artist in Cos, where an unfinished Venus was shown as his work, which nobody dared to complete. But the story that A., at the court of Ptolemcy, at Alexandria, was accused, by the painter Antiphilus, of being engaged in a conspiracy, and that, his innocence being proved, he took revenge on the king and his rival, by a picture of Calymnus, must refer to another artist of the same name. Tolken, professor at the university of Berlin, in his lecture, Apelles and Antiphilus, in vol. iii. of Amathia, has proved that this Apelles lived between the Olympiads 139 and 144, consequently 100 years later than the contemporary of Alexander. The greatest merit of A. was inimitable grace; his works were full of life, grace, and poetry, and he, therefore, was justly called ars Apelles. According to Pliny, A. generally painted with four colours only, which he made to harmonize by means of the varnish, which he himself had invented.

APENNINES, or APENNINES; a chain of mountains beginning near the Maritime Alps, not far from Genoa, there forming the pass of Bocchetta, extending through all Italy to the shores of Otranto and the straits of Sicily, and dividing it into two nearly equal parts, eastern and western. The Apennines are covered to the top with trees, especially chestnut trees, the fruit of which, in some countries, is the principal food of the rustics, and wild honey is collected there. The Apennines present only a few elevated summits; e. g., the Gran Sasso, at Aquila, in the province of Abruzzo, 8255 feet high, and the Velino. 7572 feet
HIGH. The Apennines are covered with snow in winter, which sometimes melts late, and, concealing, forms ice, indispensable in a warm climate like Italy; in the Apennines there are some large lakes, as well as the extreme south: both exhibit a great variety of older formations. The lower elevations between the plains and the central chain display considerable diversity of construction. Primitive formations are wanting entirely in the next range of heights. In the highest of all, they are not abundant. Yet, in the southern part, granite, gneiss, and mica slate are considerably diffused. The transition rocks, however, are widely spread, and abundant in various parts of the chain; e.g., grey wacke, clay slate, limestone (e.g., the Carrara marble) and gabbro. Very widely diffused, also, is the compact float limestone, known under the name of *Apennine limestone,* which probably belongs to the limestone formation of the Jura. These mountains also are rich in recent formations, and in the volcanic *tufa*, which is an aggregate of volcanic substances transported and deposited by water. Proper volcanic formations are absent, as they are called, are foreign to the principal chain of the Apennines. These are confined to the south eastern part of Italy. Only Vesuvius, the extinct volcanoes of Nemi and Albano, and the lava stream of Borghetto, approaches the borders of the chain.

**Aphrodite** the goddess of love among the Greeks; synonymous with *Aphrodisia,* that is, *bora of the foam of the sea:* *Aphrodisia:* a festival sacred to Venus, which was celebrated in various parts of Greece, but with the greatest solemnity in the island of Cyprus. See *Venus.*

**Apices,** M. Gabius; an epicure in the time of Augustus; bought the most delicate table in Rome, proved his genius for cookery by the invention of new dishes, and at last, when he had exhausted his vast fortune, he poisoned himself, that he might not die with hunger.—There were two other notorious epicures of the same name at Rome. The book of cooks of Apicius, dealing with the rarest and most delicious dishes under the name of Apicius, was written by one Cecilius, who assumed the proverbial nickname *Apicius.* The latest edition was by Bernhold, Amsbach, 1806.

The bull to which divine honours were paid by the Egyptians, chiefly at Memphis. According to the belief of the people, a cow became pregnant of him by a beam of light from heaven, coming particularly from the moon. It was necessary that he should be black, with a triangle of white on the forehead, a white spot, in the form of a crescent, on the right side, and a sort of knot, like a beetle under his tongue. When a bull of this description was found, he was fed four months in a building facing the east. At the new moon, he was led to a splendid ship, with great solemnity, and conveyed to Helipolis, where he was fed 40 days more by priests and virgins, in order that the priestesses and women might be impregnated before him various indecent ceremonies. After this, no one was suffered to approach him. From Helipolis the priests carried him to Memphis, where he had a temple, two chapels to dwell in, and a large court for exercise. He had the gift of prophecy, which he imparted to the children about him. The omen is good or bad, according as he goes into one chapel or the other. His birth-day was celebrated every year, when the Nile began to rise; for the festival of the Nile began when the bull was thrown into the Nile, and the crocodile was always tame as long as the feast continued. Notwithstanding all this veneration, the bull was not suffered to live beyond 55 years; the reason of which is probably to be found in the principle of the longevity of the Egyptians. He was buried in a fountain. Being thought he had discovered a tomb of Apis in one of the stone sepulchres among the mountains of Upper Egypt, which enclosed the valley of tombs, or the gates of the kings. In the same place, he found a colossal sarcophagus of alabaster, transparent and sonorous (now in the British museum), ornamented within and without by carved hieroglyphics and figures. In the interior of the apartment was found the body of a bull, embalmed with asphaltum. The death of Apis excited universal mourning, which continued till the priests had found a successor to him. As it was extremely difficult to find one with all the above distinctions, fraud was often practised by the priests.

**Apocalypse** (Greek; from *a+pokalypsiw,* I reveal); the name of the last book of the New Testament, containing an account of the visions of St. John the Evangelist. It is generally believed the Apocalypse was written by John, in his old age, at the end of the first century, in the isle of Patmos, whither he had been banished by the Roman emperor Domitian. Though the book was commonly regarded as genuine in the first centuries of Christianity, critics have not been wanting who doubted the evidence of its being the work of St. John. Its genuineness seems to have been first questioned in the 2d century; but archdeacon Woodhouse, in his Dissertation on the divine origin of this book, in answer to the objections of Michaelis, has, we think, set this question pretty well at rest. The Apocalypse, on account of its metaphorical language, has been explained differently by almost every writer who has ventured to interpret it; and, for the same reason, it is one of those parts of the Bible which has furnished all sorts of sects and fanatics with quotations to support their creeds or pretensions. Even at the present time, people who have no clear and simple views of religion, but make it a mere matter of feeling and passion, refer more to this mysterious book, and to some parts of the Old Testament, than to the Gospels, and the other comparatively intelligible portions of the Christian scriptures. In the metaphorical and symbolic expressions with which the Apocalypse abounds, the author seems to have had in view, the then existing state of the church of Christ, and its future prospects. The Apocalypse contains 22 chapters, which may be divided into two principal parts. The first, after the title of the book, (ch. i. 1—3.), comprises "the things which are," that is, the then present state of the Christian church, including the epistolary instructions and admonitions to the angels or bishops of the seven churches of Ephesus, Smyrna, Pergamos, Thyatira, Sardis, Philadelphia, and Laodicea, situated in Asia Minor. The second part comprehends a prediction of "the things which shall be hereafter," referring either to the future state of the church through succeeding ages, from the time when the apostle beheld the apocalyptic visions, to the grand consummation of all things, and the fate of the souls of men after the great resurrection of the dead. The millennium, which is spoken of in the Apocalypse, has, at different times, seduced people into the strangest expectations respecting the end of the world, particularly in the earlier times of Christianity; but, the expectation of a speedy destruction...
of the world appears to have been an idea of the apostles themselves, based on a misinterpretation of the assurance of Christ, that he would soon return, connected with the idea, that the only object of his return was to change the condition of mankind.

**Apocryphal (Greek; concealed):** an epithet generally applied to certain books not admitted into the canon of the Old Testament; being either spurious, or not acknowledged as of divine origin. They are opposed to the **canonical writings**, i.e., those which are considered as affording rules of faith and conduct, because a divine origin is attributed to them. Besides the apocryphal books of the Old Testament which usually stand after the canonical books in our editions, there are numerous spurious books, composed in the early days of Christianity, and published under the names of Jesus Christ and his apostles, their companions, &c. These bear the names of *Acts, Epistles, Revelations*, &c. They are entirely destitute of evidence to justify their admission into the sacred canon, and, on this account, are omitted entirely. They may be found in the Cod. Apocryph. V. Pf. 1719, 3.

**Apoge (Greek; from απο and άφετον, the earth):** that point in the orbit of the sun, or of a planet, which is at the greatest distance possible from the earth. The point of greatest nearness is called the *perige*. The ancient astronomers, regarding the earth as stationary, paid the greatest attention to these points, which the moderns, making the sun the centre, change for the *aphelion* and *perihelion*.

**Apograph (Greek, from απο and γραφα, I write):** a copy or transcript of some book, or writing. In this sense, apograph stands opposed to autograph; as a copy to an original.

**Apollinarian Games:** games at Rome, celebrated yearly in honour of Apollo, on the fifth day of July, under the direction of the priest, in the circus Maximus. They were instituted in the year of Rome 542; and were purely scenical, no chariot races, or other exercises, being performed at them.

**Apollinaris, in ecclesiastical history:** a sect which maintained the doctrine that the Logos (the Word of God) holds in Christ the place of the rational soul, and consequently that God was united in him with the human body and the sensitive soul. Apollinaris, in this opinion, derives the human nature of Christ from Adam. He was bishop of Laodicea, in Syria, and a zealous opponent of the Arians. As a man and a scholar, he was highly esteemed, and was among the most popular authors of his time. According to the old historians of the church, when the emperor Julian forbade Christians the use of schools and the study of the Greek classics, Apollinaris, with his father, of the same name, a teacher of languages, and a presbyter, composed imitations of them, for the use of the Christians; for instance, heroic poems and tragedies, from the historical matter of the Old Testament, and dialogues in imitation of Plato's, from portions of the New. None of these works are now extant. His doctrine above mentioned was first made known A.D. 371, and has been condemned as heretical, since A.D. 375, by various councils; among others, by the ecumenical council at Constantinople, A.D. 381. Apollinaris, however, formed, a congregation of his adherents at Antioch, and made Vitalis their bishop. The *Apollinarians, or Vitalians*, as the followers of Apollinaris and Vitalis called, soon spread their sentiments in Syria and the neighbouring countries, established several societies, with their own bishops, headed by Vitalis, in Constantinople; but, after the death of their leader, between A.D. 382 and A.D. 392, they separated into two parties—one, the Valentinites, who adhered to the doctrine of Apollinaris; the other, the Polemicists, who assert that God and the body of Christ became one substance, and who, consequently, pay divine honours to the flesh; for which reason they were called *Monophysites*. Apollinaris thus admits the union of both natures in Christ, *Syzygians*. Imperial edicts, A.D. 388 and 397, forbade them to hold religious assemblies; and, A.D. 428, they were wholly forbidden to have ecclesiastics, or to dwell in cities. This sect, never numerous, now disappeared, being partly mixed among the orthodox, partly, at first, receiving the Monophysites. The doctrine of transubstantiation, and divine honour to the consecrated host, arises from the same view, which the Catholics deemed a crime in the Polemicists.

**Apollo:** son of Jupiter and Latona, who was persecuted by the jealousy of Juno, after having won the favours of the Muses and the goddesses of the arts and sciences. He invented the harp and lyre. He symbolized the sun, and the other gods. He was considered as a preserver of the body, and presiding over the sciences, especially the arts of music and poetry. According to Homer, in the Iliad, he is the brother of Apollo, and the twin sister, Artemis (Diana), on the island of Delos. (q. v.) He appears in mythology as the god of poetry, music, and prophecy, the patron of physicians, shepherds, and the founders of cities. Skilled in the use of the bow, he slew the serpent Python on the fifth day of the month of July; afterwards, he killed in the temple of Diana, he killed the children of Niobe, &c. He aided Jupiter in the war with the Titans and the giants. He destroyed the Cyclops, because they forged the thunderbolts with which Jupiter killed his son and favourite, Asclepius. All the male sex who were slain by the gods were considered as the works of Apollo. He is represented without previous sickness, were supposed to be smitten by the arrows of A. In the oldest poems, A. is exhibited as the god of song. In the festivals of the gods on Olympus, and those of men in which they took part, he plays and sings, while the Muses dance around him. He invented the harp and lyre. These instruments, together with the Flute, were celebrated for their excellence. The Apollo of Delphi had already decided in favor of A., when Midas opposed the sentence, and was decorated with a pair of ass's ears for his insolence. That A. had the gift of prophecy, appears from the Iliad, where he is said to have bestowed it upon Calchas; and, in the Odyssey, mentions it as made of an oracle, answer, delivered by him in Delphi. (q. v.) The oracle of A. at this place was celebrated at the festival of the gods, in the year 542; and was answered at Delphi and other events at Didyma, Chios, Tenedos, and Patara. As medical advice was sought chiefly from oracles and soothsayers, A., in later times, came to be regarded as the god of physic. He was called the father of Aesculapius, and poets feigned that he taught the Asclepides the art of healing. Fables about the pastoral life of A. were not unknown in Homer's time, and Cinnaminus mentions him among the gods of shepherds. He is reported to have taken charge, for a long time of the herds of Admetus, to some authorities, voluntarily, according to others, compelled by Jupiter, on account of the murder of the Cyclops. As a builder of cities, the founding of Cyzicus, Cyrene, and Naxos in Sicily, is ascribed to him. Homer relates that he built the walls of Troy together with Neptune, and affixed the city afterwards with a pedestal, because Laoamadon defrauded him of his pay. According to Pausanias, he assisted in building the walls of Megara; at which time he laid down his lute upon a stone, which ever after sent forth the music of the lute, as often as it was touched. According to the descriptions of poets, and the representations of sculptors, A. with Mars, Mercury, and Pans, is represented to the heards gods, in whom the dawning of early manhood appear. His attributes are a bow, a quiver and plectrum, a serpent, a shepherd's crook, a griffin and a swan, a tripod, a laurel, an olive-tree, &c. My-
thology relates many of his amours. (See Daphnis.) In later times, he was confounded with Helios, among the Romans, Sol, the sun. Besides many temples, the island Delos, the city Delphi, mount Helicon, Leucadia, and Parnassus were sacred to him.—The Apuliadaria were games, celebrated in honour of him at Rome, which consisted of bull-fights, theatrical shows, and athletic exercises. He is often called Phidias, both by Greeks and Romans. Among the ancient statues of A. that have come down to us, the most remarkable, and, in the judgment of the learned and acute Winckelmann, the best and most perfect that art has produced, is the one called the Apulian Venus. It is placed in the Vatican, at Rome; also called the Phidian Apollo, because it is supposed that the artist has represented the god as the conqueror of the serpent Python. This statue was found in the ruins of Antium, at the end of the 15th century. On the peace of Tolentino, 1797, it was carried to Paris, with other treasures of art, whence it was restored to Rome in 1815.

APOLLO (BELVIDERE), an ancient marble statue of the most exquisite finish and workmanship, so called from being placed in the Belvidere gallery of the Vatican palace at Rome. It represents the god of day and good fortune, and is of a much later date than from which he appears to have just discharged an arrow, and he seems in an attitude of suspense, awaiting its descent upon the object of his wrath. It has been always considered, by the best judges, as one of the most beautiful of the remains of ancient art, now extant in Italy. Winckelmann, lord Byron, and other writers, have expressed themselves in raptures as to its exquisite beauty, high finish, fine proportions, and great expression. The learned Visconti, in his Dissertation on its merits, attributes it to the chisel of the Greek sculptor Calamis, and thinks that it is a representation of Apollo Belvedere from which he was to deliver from evil—the Apollo destroying the Python or great serpent—and thinks that it has been described both by Pliny and Pausanias. The history of its discovery and removal is to be found in the Museum Pio-Clementinum, and in the works of several modern travellers. It is noticed as rather a remarkable fact, that only one small antique repetition of this statue is to be found, whereas the statue of the Venus de Medici, now at Florence, seems to have been so great a favourite with the ancient Greeks and Romans, that not fewer than one hundred ancient copies or reproductions are known of. It was considered, and the reason why this Apollo seems to have been so unjustly depreciated in ancient times, is thought by Visconti to arise from the fact that the transcendent Phidias, that prince of sculptors, had produced a statue similarly occupied, but of which the attitude was more energetic and daring, and that the applause bestowed on the work of Phidias, joined to his great reputation, had caused this work of Calamis to be overlooked in a great degree. Of this work of Phidias, which has been lost in the ruin of ages, nothing remains but a description by Maximus Tyrius. See Winckelmann, Art, Histoire des Arts, Byron’s Childe Harold, Visconti, Forsyth, Estrange, &c.

APOLLONIUS; son of Asclepiades; an Athenian grammarian, who flourished about 140 B. C.; studied philosophy under Panassius, and grammar, in the ancient sense of the word, under Aristarchus. He wrote a work on the catalogue of ships, and a history in verse. The mythological work entitled Bibliotheca, which bears his name is probably a later extract from the larger work of A. It is very closely connected, however, with his history of the gods and heroes. The best edition is the Sagen’s, 2d edition, Gottingen, 1806, 2 vols., and Clavier’s, Paris, 1802, 2 vols., with a French translation. — A. is also the name of a distinguished architect, who built the forum Traiani.

APOLLONIUS of Athens; a distinguished painter, about 408 B. C. See Painting.

APOLLONIUS; a large hand-organ, completed, in 1817, by Flight and Robson, organ-builders, which, however, may be played by the aid of keys, of which there are five rows arranged together in such manner that several musicians may perform at the same time. It is said to resemble the panharmonicon of Maelzel, and is calculated to produce a powerful effect, which is greatly enhanced by the variety of its stops. Prior to this, Roeller, an instrument-maker, born in Hesse, produced an instrument similar to the instrument with two rows of keys, which might be played as a piano-forte and as a chamber organ, combined at the same time with a musical automaton. It is described in the 2d vol. of the Leipzig Musical Journal. This instrument was called the apollonius.

APOLLONIUS of Perga, in Pamphylia; one of four authors (Euclid, Archimedes, Apollonius, and Diophtante) whom we must regard as the founders of mathematical science. He lived about 240 B. C., and studied mathematics at Alexandria, among the scholars of Euclid. The most renowned of his numerous mathematical works is a book on Conic Sections (Oxford ed., 1710, fol.) a branch of the science to which he added much by new inventions and happy explanations.—A. of Rhodes, according to some authorities, was born at Alexandria, according to others, at Nouraenia, about 230 B. C. As the jealousy of other learned men incessantly persecuted him in his own country, he retired to Rhodes where he taught rhetoric with so much reputation, and obtained, by his writings, so much fame, that the Rhodians bestowed upon him the rights of citizenship. He returned to Alexandria to succeed Eratosthenes, as the head of the library, and of his various works, we have only the Argonautica, a poem of moderate merit, though written with much care and labour. There are some passages, however, of great beauty, especially the episode on the love of Medea. The best editions are those of Brunei, Strasb., 1760, Leipzig, 1810, and that of 1813, with notes, &c.; the latter is not yet completed. (See Weichert On the Life and Poetry of Apollonius, Meiss, 1821.)—A. of Tyrus in Cappadocia, was born in the beginning of the Christian era, and became a follower of the Pythagorean philosophy. Euthydemus, the Pythagorean grammarian, rhetoric, and the various philosophical systems, and Eusebus of Hieraclea taught him the Pythagorean philosophy. A. felt an irresistible desire to become a disciple of Pythagoras, according to the rigid rules of his sect. At Aegae, there was a temple consecrated to Asclepius, where this god wrought miracles for the cure of the sick. To this temple A. repaired. In obedience to the precepts of Pythagoras he abstained from all animal food, and lived only on fruits and herbs, drank no wine, dressed in stuff prepared from plants, went barefooted, and suffered his hair to grow. The priests of the temple instructed him, and initiated him into their mysteries. It is said that Asclepius himself made him a witness of his cures; yet we have never been told that he had then attempted to perform miracles. He established a philosophical school, and enjoined silence upon its members for five years. During this period he visited Paphlagonia and Cilicia, and afterwards, Antioch, Ephesus, and other cities. He then determined to pass beyond Babylon, to India, in order to become acquainted with the doctrines of the Brahmins; and, as his scholars refused to follow him, he began his journey alone. A certain Brahmin, who met him and regarded him as a deity, was his companion,
and the narrator of his travels. At Babylon, he conversed with the Magi, and imparted to them what he richly presents, on his way to Taxila, where he met the Plutarches, King of India, and his seat of government, who gave him letters of introduction to the first among the Brahmins. After four months, A. returned to Babylonia, whence he proceeded to Ionia, and visited several cities. His letters everywhere preceded him, and the people came far to see him. They publicly reproofed them for their insolence, and recommended community of goods, according to the doctrines of Pythagoras. He prophesied pestilence and earthquakes at Ephesus, which afterwards really came to pass. He spent one night in several cities of Asia. After this, he passed through Athens, and pretended to have had a conversation with the shade of that hero. At Lesbos, he conversed with the priests of Orpheus, who at first refused to imitate him into the sacred mysteries, regarding him as a sorcerer; but they received him some years later. At Athens, he recommended to the people sacrifices, prayers, and reformation of their morals. In every place which he visited, he maintained that he could prophesy and perform miracles. At last he came to Rome. Nero had, just before, banished all the magicians from the city. A. felt that he might be arrested in consequence of this reflection; however, did not prevent him from entering the city, with eight of his companions; but his stay was short. He raised a young lady from the dead, says an historian, and was expelled from the city. He then visited Spain, returned through Italy to Greece, and thence to Egypt, where Vespanian made use of him for the support of his authority, and asked advice of him as of an oracle. Thence he journeyed to Ethiopia, and, after his return, was received as favourably by Titus, who asked his advice in all the affairs of government. When Domitian ascended the throne, A. was accused of having excited an insurrection in Egypt, in favour of Nero. He readily submitted to a trial, and was acquitted. After this, he went once more to Greece, and passed over to Ephesus, where he opened a Pythagorean school, and died, almost 100 years old. Among the many miracles related of him, he is said to have announced the murder of Domitian, at the very moment it happened. He himself compared him to Christ, as a worker of miracles. Flavius Philostratus wrote a history of his life, very favourable to him, in eight parts.

Apologetics. A great number of apologetics were written in defence of Christianity, in the early ages of the Church. Among the others, but apologetics did not form a separate branch of theological science till the 18th century. We understand by them a philosophical exhibition of the arguments for the divine origin of Christianity. They are to be carefully distinguished from polemical writings, which have for their object only to maintain the peculiarities of one religious sect or party against another. Hugo Grotius is one of the most eminent among the writers of these works. The Génie du Christianisme of Chateaubriand is a superficial declamation, with little merit but that of elegance. One of the principal apologetic works of modern times is in Danish—Kristelig Apologetik, eller Videnkaltig Udvikling af Grundene for Kristendomsmaenens Gudsammenhet, ved P. E. Muller (Christian Apologetics, or philosophical Arguments for the divine Origin of Christianity), Copenhagen, 1810.

Apose. See Falbo.

Apologet: defence of one who is accused. Judicial trials, among the ancients, were public, as they are in Britain and America, and consisted of speeches for and against a person or cause, and of the examination of witnesses. From judicial decisions, which were often written down during the trial, and frequently composed accurately, and committed to paper by the spectres themselves, and afterwards made public, arose apologetics. Of this kind are the writings of Socrates, attributed to Plato and Xenophon. The former is a labourous speech, in which Socrates is introduced speaking himself; the latter, rather a narration of the last hours and words of the wise man, with ingenious conjectures as to the reason why he preferred death, by which he seemed to show that his accusers were less than he would have been by a formal defence, which he scorned to make. Later rhetoricians wrote upon the use of apologetics, and caused them to be composed by their scholars. Of this sort are the Apologies of Paulus Florus, Tatian, Justin, Irenaeus, and Tertullian. Thus the name passed over to Christian doctors, leaving before now orators or philosophers, borrowed a great part of their technical terms from the public courts of justice. They gave the name of apologetics to the writings which were designed to defend Christianity against the attacks and accusations of its enemies, particularly the pagan philosophers, and to justify its professors before the emperors. Of this sort were those by Justin Martyr, Athenagoras, Tertullian, Tatian, Irenaeus, and others, which are lost, written by Quadratus, Arians, Melito, Miltiades, and Theophilus. To these might be added several works of Origin, Cie- menetus, and others, and translated into Latin. Those of Lactantius, Arnobius, Minucius Felix, and Augustin, though they are published under another title. We must not expect in them strict philosophical connexion, nor the accurate interpretation of the sacred writings. It must be remembered, that most of the authors, part of whom had belonged to the profession of advocates, made use of all the arts of eloquence that were permitted in public courts. After the secure establishment of Christianity, such apologists, in a great measure, ceased to appear, till, in later times, several writers have again attacked it, either directly or by indirect insinuation. In consequence, new apologetics have been written, and, among many weak ones, some exhibit great power and eloquence. There are, also, apologies for the doctrines of particular sects; e.g., Robert Barclay's Apology for the People in Solem called Quakers.

Avero, Peter, one of the most celebrated physicians of the 18th century, was born at Apouulio, or Alano, a village near Padua, in 1520. He studied at the university of Paris. His reputation as a physician became so great, that his rivals, envious of his celebrity, gave out that he was aided in his cures by evil spirits, and brought him under the notice of the inquisitors. He was allowed to pursue his studies; but his body was consigned to the flames, but for the attachment of a female domestic, who had it privately disinterred, and secretly re-buried. His memory received honours more equal to this attempted disgrace, for the duke of Urbino and the senate of Padua afterwards erected statues to him. Besides the work, Conciliator Differentiarum Philosophorum, et praecipue Medicorum, which he composed in Paris, and which was published at Padua, in 1490, and reprinted at Florence and at Venice, this author wrote De l'evenienorum Remediis, Marpurg, 1517, and Venice, 1550; De Medicinam Omnium; Questions de Februlis; and various other works.

Aphorism (from the Greek ἀφορίσμα): a short pithy sentence, or maxim, as, for example, the sayings of the seven wise men, so called. Julius Caesar wrote a collection of them, but history has not handed them down. Several modern writers have written such aphorisms, in prose and verse. Some parts of the Bible are entirely composed of aphorisms.

Apologety is the name applied to a disease which occurs very suddenly, as if a blow had been inflicted upon the head, and deprives the person of conscious-
ness and voluntary motion; while the respiration and action of the heart continue, although much oppressed.

In a complete apoplexy, the person falls suddenly to the ground, the face is contorted, there is no proof of seeing, hearing, or feeling, and the breathing is stertorous or snoring, like that of a person in deep sleep. In a case of less violence, the symptoms are more moderate. Consciousness sometimes remains in part; some power of motion is retained, upon one side, or part of the body, at least. The speech is not entirely lost, but is only an unintelligible muttering of incoherent words. The immediate cause of this disease is some affection or injury of the brain, or of some portion of it; and it is most commonly produced by a fulness of blood in the head, either resting in the blood vessels, or pressed out, in, or upon the brain, from the rupture in some part, and in sufficient quantity to exert considerable pressure upon that organ. As the state of the whole body depends much upon the sound condition of the brain and nerves, it is evident that such an unnatural state of these organs cannot continue long without danger to life. The temperature and etherial state of the disease vary with the violence of the attack; and it is either fatal in a few hours, or after a few days, during which a degree of fever is often observed, or the patient recovers, entirely or with a weakness or lassitude of one or more limbs. The immediate cause of the symptoms first occurring, and of those not wholly subsequent, is not known with absolute certainty; but from the examination of the bodies of those who have died with this disease, or in whom death has been produced by mechanical injuries to the head, which have been attended by similar appearances; and from the entire similarity of the symptoms in persons whose brains are injured by the pressure of bones, or blood, or in whom the brain exposed by some wound is purposely compressed, &c., to the symptoms presented by apoplexy; there is scarcely room to doubt, that genuine complete apoplexy is produced by the pressure of blood (whether extravasated or not) upon the brain. This arises from the destruction of the equilibrium or balance of the circulation by various causes, by which an unnatural quantity of blood is forced into an otherwise healthy brain, or the brain and its vessels so weakened, that they are unable to sustain the pressure. This being the case, the pressure of these causes operate directly upon the brain, as strong passions, hard study, exhaustion from fatigue, &c.,; others, indirectly, through the medium of the stomach, as when this disease is produced by indigestible food, &c. The disposition to it is sometimes hereditary and is more unusually found in a short, stout person, a short neck, and a system disposed to a too copious sanguination. It sometimes also, occurs in people who are exhausted by old age, excessive labour or anxiety, and, in these cases, the brain seems to be too weak to perform its common functions, and the efforts required of it produce an injurious or destructive flow of blood to it. It will be readily conjectured, from what has been said, that the cure of this disease is by no means easy, as the treatment must be accommodated to the various causes which may have produced it. It is at all times a disease of great danger, but by no means always fatal; and those affected by it sometimes recover as entirely as from any other complaint, although some lameness or defect of motion is apt to remain, either in the limbs, the organs of speech, the eyes or mouth, or some other part. A fatal result is to be anticipated, when the consciousness is lost for some time, and the patient is insensible to light, and the pupil does not contract; when the patient cannot swallow, the respiration grows more laborious, and froth or blood appears at the mouth or nose. But if, on the contrary, the remedies used appear to afford relief, and produce a gradual diminution of the symptoms above described, a favourable result may be expected. Although an at- tac of apoplexy, in general, is sudden, short, and unexpected, yet it is often preceded by appearances, which give warning of its approach. These are a high colour of the whole face, giddiness or vertigo, sparks, or flashes of light before the eyes, noises in the ears, bleeding at the nose, and pain in the head. The danger, in such cases, may most commonly be averted by bleeding and abstemious diet, to be continued till these symptoms are removed. When a person is unfortunately attacked by apoplexy, the first step should be to open the cravat and collar, so as to leave the neck free: if it be a short time after a meal, or if the last meal has been of an indigestible character, the stomach should be emptied by an emetic, or by tickling the throat with the finger, without waiting for a physician, and, at the same time, a vein or two should be opened, so as to produce a free flow of blood, which should be continued, if the face is flushed and red, till relief is obtained. Subsequent treatment will of course be directed by a medical attendant. Great care should be taken, in such cases, that no attempt is made to arouse the person by rubbing, or any sort of stimulation, internal or external, as these can only do harm. Palsy is sometimes a consequence of this disease, and is commonly produced by causes of a different character, and constitutes a different disease. See Palsy.

Apostasy (from Greek αὐτοκατάδεσυ, I stand off); a renunciation of opinions or practices, and the adoption of contrary ones, usually applied to one who has forsaken his religion. It is always an expression of reproach. What one party calls apostasy, is termed by the other conversion. History mentions three eminent apostates—Julian the Apostate, who had never been a Christian, except nominally, and by compulsion; Henry IV., king of France, who thought that Paris vaut bien une messe; and that, of course, all France was worth the whole Catholic faith; and William of Nassau, the stadtholder, who separated himself from the Catholic church, and became a Protestant, according to the faith of his father, which, in fact, had always been secretly his own. One day, Henry IV., standing with the marshal Joyeuse on a barge, and on the question of his conversion to the Church, he said, Mon cousin, ces gens-là me paraissent fort aise de voir ensemble un apostat et un renégat. General Bonneval, a Frenchman, was a famous apostate. He became a Turkish pasha. Generally, apostates, religious or political, are violent partisans. Catholics, also, call those apostates who forsake a religious order, or renounce their religious vows without a lawful dispensation. The apostasy of a Christian to Judaism or paganism was punished, by the emperors Constantius and Julian, with confiscation of goods; to which the emperors Theodosius and Valentinian added capital punishment, in case of the apostate's perverting others. Also, in ancient England, it is said, that apostasy was punishable by burning, and tearing to pieces by horses, Statutes 9 and 10 of William III., c. 32, also provide that, if any person, educated in, or having made pro fession of the Christian religion, shall deny it to be true, he shall be rendered incapable of holding any office for the first offence, and, for the second, shall be made incapable of bringing any action, of being guardian, executor, legatee or purchaser of lands, and shall suffer three years' imprisonment without bail. The punishment of the forfitter, however, is not remitted in case the delinquent, within four months after conviction, publicly renounces his error in open court. Penal laws of this sort, relating to religion, have generally lain dormant in England.
A POSTERIORI. See *A priori.*  

**Apostles;** such as are sent; (from the Greek *apostellein,* to send;) in the Christian church, the 12 men whom Jesus selected from his disciples as the best fitted to fill the important duties for which they had been chosen. They numbered 12, because Simon Peter, John, James the great-  

er, and Andrew were fishermen; and Matthew, a publican or tax-gatherer. When the apostles were reduced to 11 by the suicide of Judas, who had betrayed Christ, they chose Matthias by lot, on the proposition of St. Peter. Soon after, their number was increased to 15, by the miraculous vocation of Saul, who, under the name of Paul, became one of the most zealous propagators of the Christian faith. The Bible gives the name of apostle to Barnabas also, who accompanied Paul on his missions (Acts of the Ap. ch. xii. 25) and testifies to his apostolical claims. James, Peter, Andrew, and John are called in the scripture (Acts, ch. iv. ver. 13), *hominis sine litteris, idotea.* Questions have often been started respecting the domestic circumstances of the apostles. Were they very poor? Were they married? &c. Our information on these points is very limited. Some eminent theologians have thought that Christ was not poor, and that the apostles had a common fund sufficient to meet many expenses, of which some indications exist. Tradition reports that several of the apostles were married. The wife of St Peter is said to have been worthy of honor on his part, and died a martyr. The tradition further states, that Peter had a daughter, Petronilla, who was also a martyr; but, at least, say St Augustin, St Epiphanius and St Clement of Alexandria. St Philip, also, is said to have been married, and to have had several daughters, among whom was St Hermione. Hegesippus speaks of two martyrs, grandchildren of Jude. His wife was called Mary. St Bartholomew is also said to have been married. But tradition affords almost our only authority respecting their private lives. During the life of the Saviour, the apostles more than once showed a misunderstanding of the object of his mission, and, during his sufferings, evinced little courage and firmness of friendship for their great and benevolent Teacher. After his death, they received the Holy Ghost on the day of Pentecost, that they might be enabled to fulfill the important duties for which they had been chosen. Their authority, therefore, as the Catholic church represents as follows, partly on the authority of the book of Acts, mostly on that of tradition:—St John made some excursions into Asia, and preached among the Parthians, and in India. In the reign of Domitian, he was carried to Rome, tortured, and exiled to Patmos, where he wrote the Apocalypse. He died in Ephesus. St Bartholomew travelled through India, Persia, Abyssinia, Arabia Felix, and finished his course in Armenia. St Philip preached in Phrygia; St Thomas in Media, Cappadocia, Ethiopia, to India, and even in China; but this last fact is not positively asserted. St Matthew preached in Ethiopia. St Simon, say the Greeks, after having baptized in Egypt, Cyrenaica, Libya, and Mauretania, went to England, and thence to Persia, where he died. St Jude preached in Syria, Mesopotamia, Persia, Armenia, and Libya. St Peter, afterwards bishop of Antioch, and then of Rome, visited Asin Minor, and also Babylonia, as one of his letters shows, provided Baby- lon, does not signify in that passage, Rome, as some critics have thought. St Paul visited Asin Minor, Greece, and Rome. The two Jameses seem also to have gone far from Jerusalem; yet the body of James the greater is said to be buried at Compostella in Spain. According to Matthew (ch. xvi. ver. 18), Christ considered St Peter the first in rank of the apostles; and it is known, that the pope derives his authority from St Peter and the dead from the power which Christ gave to St Peter, of whom all the popes, according to the Catholic dogma, are successors in an uninterrupted line. In Venice, the 12 first families were called apostles, as are likewise 12 islands in Buguria; St Paul and Andromeda are 2. Our Lord, the papal see is called the apostolical see, because it is supposed to have been founded by the apostle Peter.  

The apostolical office, at Rome, is the name of the office which manages the papal revenues. The apostolical blessing is the blessing bestowed by the pope, as successor of St Peter and the city of Hiers. It is styled apostolical king, apostolical majesty. Pope Sylvester II. bestowed this title on Stephen I., duke of Hungary, A. D. 1000, because he not only greatly promoted the Christian religion in Hungary, but also in imitation of the apostles, preached himself, Clement XI. reviving the use of Hiers. A pope is styled apostolical king, in 1758. The apostolical symbol is a short summary of the Christian faith, and bears this name because it contains, in three articles, the doctrines of the apostles. This apostolical symbol is found even in the writings of Ambrose, who lived in the beginning of the 4th century.  

St Peter Gamphius, in the 5th century, ordered the constant repetition of the same in the church service.  

**Apostoloi,** or **Apostles:** the name of three sects who professed to imitate the manners and practice of the apostles. The first flourished at the close of the second century. They had all things in common. Little else is known of their peculiar tenets. The second sect of this name existed in the twelfth century. It was composed of imprisoned men of the lower class who preserved all their lives, as Bernard admits, were exemplary. Their peculiarities were as follows:—They held it to be unlawful to take oaths; they suffered their hair and beards to grow to an enormous length; they preferred celibacy to wedlock, calling themselves the *chaste brethren;*
and sisters; each man, however, had a spiritual sister, with whom he lived in a domestic relation.—

The third sect of A. was founded, about 1260, by Gerhard Sagarelli. They went barefooted, beggared provisions, and sold the drugs prescribed by physicians. They were prohibited in England, and France; announced the coming of the kingdom of heaven, and of purer times; had females in their retinue, as the apostles had their female companions, and were suspected of unlawful intimacy with these sisters. This society never received the papal confirmation; on the contrary, it was prohibited by A. D. 1286, by Honorius IV. Though they were persecuted by the inquisition, they continued in existence, perpetually wandering about; and, when Sagarelli was burnt as a heretic, A. D. 1300, another chief apostle appeared,—Dolceo, a learned man of Milan, who encouraged the sect, now increased to 1,400 men, with his prophetic promises. To defend themselves against persecution, they were compelled, about the year 1304, to station themselves in fortified places, whence they might resist attacks. In the plundering habits which they were forced to adopt, they wholly lost the original design of their institution, and, after having devastated a large tract of country belonging to Milan, they were subdued, A. D. 1307, by the troops of bishop Raynerius, in their fortress Zebelo, in Vercelli, and almost all destroyed. Dolceo was burnt. The survivors afterwards repaired to France, and the south of France, as late as A. D. 1368. Their heresy consisted in reviling the pope and the clergy.

Apostolos; a Mennonite minister at Amsterdam, who established, in 1664, a sect called Apostolists, a branch of the Mennonists.

Apostrophe; a figure of speech which received this name from the ancients, because the orator, in using it, turned from the judge to the accuser, or the accused, and spoke to him. In a more limited sense, we understand by it, an address to one absent as if he were present, or to things without life and sensation, as if they had life and sense. The apostrophe, according to its nature, is spoken in an elevated tone. The same term is also used to signify the contraction of a word by the use of a comm.

Apotheosis is a name given to the art of pharmacy, in ancient times; preparing and confounding medicines for the use of the sick. Previously to the reign of James I., the apothecaries were confounded with the druggists and grocers, and retailed syrops, Venice treacle, and wine; but upon the joint solicitation of his physicians, Dr Mayner and Dr Akin, that monarch was pleased to turn them to a separate channel of trade; and they were withdrawn from their spicy associates, in order to enable them to make up the physicians’ prescriptions with greater nicety and accuracy—and during the reign of George I., they were exempted from serving on juries, or in parish offices. They are obliged to prepare all their medicines according to the rules laid down from time to time in the Pharmacopoeia of the College of Physicians, and are liable to the domiciliary visits of the four censors of that body, who can enter their shops, examine all their drugs, and burn, destroy, and throw into the kiln all such articles as are not properly prepared or in good preservation. The counties of apothecaries of London, are governed by a warden and masters, and have a large laboratory and hall in Blackfriars, where they retail drugs to the public, and from which all the medicines required for the hospitals of the British nation are dispensed. They cannot be allowed any right, by the laws of England, to visit the sick in their own houses, or prescribe for them; for they are not allowed to make any charge for medical attendance or visits; and in making out their bills, they can only charge for their potions, draughts, powders, electuaries, pills, boluses, &c. To account for this absurdity, which is the source of a great deal of folly, it should be known, that before the last great plague in London, the sick were always attended and cured by physicians, who prescribed, which were sent to the apothecaries or druggists, to be there prepared, and the medicine sent back to the sick persons’ houses. But during that dreadful visitation, a great majority of the regular physicians having died, and many of the survivors fled into the country, the friends of the sick were forced to procure the aid of the apothecaries, who thus left their counters and shops and came, for the first time, to the bedside of the sick. Having become the attendants of the infirm, on the return of order, the physicians abandoned the poorer classes to their care, and obtained for them a royal charter; and since then, the increasing demands of a large and industrious population have fostered the increase of apothecaries, who are now generally called in by the rich on all slight occasions, and have, conjointly with the surgeons, rendered their former patrons, the physicians, dependent on their bounty; for it is a general maxim with an apothecary, never to permit a physician to be called in, as long as his patient will swallow his medicines wholesale, without disputing their necessity, or unless his victim is absolutely in the agonies of death, and then a physician is called, merely for the sake of the fee. This is their warrant. It is agreed on all hands, that the state of the medical profession in England requires a thorough investigation and legal reform; but no person seems inclined to meddle with such a nest of hornets, and in the meantime, the race are permitted to prey on the lives of the poor Promethean public as it best pleases them so to do.

Apostleship (deification); a solemnity among the ancients, by which a man was raised to the rank of the gods. The custom of placing mortals, who had rendered their countrymen important services among the gods, was very ancient among the Greeks, who generally followed, in so doing, the advice of an oracle. On their coins, most of the founders of cities and colonies are immortalized as gods; and, in subsequent times, living princes assumed this title. The Roman emperors, for several centuries, defied nature and the gods, and claimed the Greeks, in the fashion of frequent apotheosis, after the time of Augustus Caesar. From this period, apotheosis was regulated by the decrees of the senate, and accompanied with great solemnities. There are still many monuments extant exhibiting the Roman emperors, as gods. It became, however, so common, as to be an object of contempt. Ves- pesian, in an attack of sickness, said, by way of joke, "I am a god, or, at least, not far from it."

—According to Eusebius, Tertullian, and Chrysostom, Tiberius proposed to the senate the apotheosis of Jesus Christ, which, however, was refused by this body. Justin, satirizing the frequent practice of A., introduces poor Atlas, complaining that he could not any longer bear the immense and daily increasing mass of gods. That virtuous persons, after their death, were raised to the rank of demigods, was a doctrine of Pythagoras, who probably derived this idea from the East. It corresponds with the notions of many Christians, who believe that virtuous men become angels after their death. The period of the Roman emperors, so rich in crime and folly, offers the most infamous instances of apotheosis. After Caesar, the greater part of the Roman emperors were deified. The emperor Nero had murdered a predecessor often placed him among the gods. The savage Nero defiled the beautiful Poppaea, his wife, after having killed her by a kick when she was pregnant; and Caracalla, having murdered his brother, Geta, with his own hands, in his
APPALACHIAN MOUNTAINS—APPEAL.

mother's avis, granted him divine honours, accompanied with the infamous remark—*Sic divus, dum non sit vivus.* The first emperors were not adored in their life time; but, with the progress of insanity, temples were raised to them, and the colossus was not satisfied with being a god; he wished to be a priest too, and, taking his horse as a companion in the office, offered sacrifice to himself, and, immediately afterwards, appeared as Jupiter or as Cythera, &c. Constantinus had the double advantage of being defined by the religion which he had persecuted, and canonized by that which he supported. It was quite customary for the Christian emperors to have altars, and be adored by their pagan subjects. Critics are not wanting, who see, in the canonization of the Catholic church, nothing but a continuance of this Roman fashion of defying men, with this difference only—that saints were never canonized during their lifetime. This delusion of the living, the Romans derived, perhaps, from the Greeks, whose lively and poetical imaginations led them sometimes to build altars to their mistresses, and offer sacrifices to them. The apotheosis never degenerated to such a criminal excess among the Greeks as among the Romans. The ceremonies of the Roman apotheosis were very curious, but are too long to be repeated here.

APPALACHIAN MOUNTAINS. See Allegheny Mountains.

APPALACHICOLA; a river of the United States, formed by the Chattahoochee and Flint rivers, which unite near the northern border of Florida. The A., after a course of about 70 miles, flows into St. George's sound, in the gulf of Mexico, and is navigable through-out for schooners of considerable size. The Chattahoochee, the western and larger branch of the A., rises in the Appalachian or Allegheny mountains, on the confines of Georgia and Tennessee, and is navigable for boats nearly 400 miles from the gulf of Mexico.

APPANAGE. See Apance.

APPARENT; among mathematicians and astronomers, denotes things as they appear to the eye, in distinction from what they really are. Thus they speak of apparent motion, magnitude, distance, height, &c. So important is this difference between reality and appearance, particularly in regard to the heavenly bodies, that we find all early astronomers, who were ignorant of this fact, running continually into errors; and a great advancement in science was required, before mankind were able to establish systems opposed to appearances. Every one knows that a body may appear to move while it is, in fact, at rest, and the motion is in the spectator, or the place on which he stands, as is the case with the sun, irrelevance to the inhabitants of this earth. The phrase *apparent heir, or heir apparent,* signifies one whose right of inheritance is indefeasible, provided he survives his ancestors; as the eldest son or his issue, who must, by the course of the common law, be heir to the father. *Heire presumptive* are such as, if the ancestor should die immediately, would, in the present state of things, be his heirs.

APPARITION; a spectral illusion, involuntarily generated, by means of which figures or forms, not present to the actual sense, are nevertheless depicted with a vividness and intensity sufficient to create a temporary belief of their reality. It is the result of the re-action of an excited imagination, renovating past feeling or impressions, with an energy proportioned to the degree of excitement; arranging them often in the most fantastical groups; and thus surrounding us with the fantasiasm of the bodiless creation of the brain, so distinct both in outline and lineament, that, while the existing cause continues to operate, the illusion of reality predominates over the mind with an intensity generally equal to, sometimes greater than, that of the impressions produced by actual perceptions. But although the illusion thus generated is necessarily co-existent with the state of passion in which it has its origin; or, in other words, cannot be active in its nature, the phenomenon vanish; it does not therefore follow that the mind, when it regains its ordinary condition, becomes immediately sensible of the hallucination under which it has for a time been labouring, or capable of distinguishing between the perceptions of sense and the phantasms of imagination. On the contrary, observation proves, what theory equally sanctions, that the conviction of reality generally outlasts the impressions which originally produced it; and that, so far from any suspicion of illusion being entertained, or any power of distinguishing the actual from the imaginary being evinced, this conviction takes upon possession of the mind, and, in many instances, maintains its hold with a firmness which all the force of argument and reason is insufficient to overcome. Hence the tenacity, and, we may add, the universality of belief in apparitions. Which of the prodigious diversity of forms under which these spectral illusions are presented in the popular legends and superstitions of different ages and countries—a diversity, in fact, which seems commensurate with the incredible variety of influences, whether moral or other, which the imagination may be excited, and past feelings or impressions vividly reawakened in consequence of its re-action on the organs of sense. —Dr Brewster has remarked, as a physical fact, that "when the eye is not exposed to the impressions of external objects, or when it is insensible to these objects in consequence of being engrossed with its own operations, any object of mental contemplation, which has either been called up by the memory or created by the imagination, will be seen as distinctly as if it had been formed from the vision of a real object. In examining these mental impressions," he adds, "I have found that they follow the motions of the eye-ball exactly like the spectral impressions of luminous objects, and that they resemble them also in their apparent immobility when the eye-ball is displaced by an external force. If this result shall be found generally true by others, it will follow that the objects of the imagination are not only indistinctly seen as distinctly as external objects, and will occupy the same local position in the axis of vision as if they had been formed by the agency of light." This goes to the very root of the theory of apparitions; all the phenomena of which seem to depend upon the relative intensities of the two classes of impressions, and upon the manner of their accidental combination. In perfect health, the mind not only possesses a control over its powers, but the impressions of external objects alone occupy its attention, and the game of imagination is consequently checked, except in sleep, when its operations are relatively more feeble and faint. But in the unhealthy state of the mind, when its attention is partly withdrawn from the contemplation of external objects, the impressions of its own creation, or rather reproduction, will either overpower or combine themselves with the impressions of external objects, and thus generate illusions which the one case appear alone, while in the other they are seen projected among those external objects to which the eye-ball is directed, in the manner explained by Dr Brewster. We may add, that the same reasoning which applies to the impressions derived from the sense of sight, is equally applicable through the medium of any other sense,—as the ear, for instance, an organ which ministers abundantly to the production of spectral illusions. *Appeal (late)* signifies the removal of a cause from
an inferior tribunal to a superior; from the French appelleur, of the same signification. In England, appeals lie from the ordinary courts of justice, and also from the equity courts to the parliament. Appeals from courts of equity differ from writs of error, which impugn the judgments of the ordinary courts, in these respects: (1) they are brought upon in 

solvency matters, that is, questions occurring in the course of the trial; the latter, upon definitive judgments only. On writs of error, the house of lords pronounces judgment; in appeals, it directs the court to rectify its judgment. In Germany, originally, appeals could be brought only when local lords refused to administer justice. The cause might then be carried before the king's court; and, if magistrates decided wrongly, their decisions might be called in question (Fr. Jausser le jugement), and thus the appellate became at issue with his former judges, and the dispute, according to law, was to be decided by mortal combat. Subsequently, all judgments were examined by a superior court. This change had been already introduced in France by king Louis IX., but was first firmly settled in Germany, by the establishment of the court of the imperial chamber, A. D. 1405. Appeal was made from the tribunals of the lords of manors to the courts of the princes, and from these latter to the tribunals of the empire, the court of the imperial chamber, and the aulic council. The states of the empire endeavoured, as far as possible, to shackle off this subordination of their tribunals to the supreme chamber of the empire, and each of the states, in the very first, kept herself perfectly free from this dependence. The electors were entitled to the same liberty, by virtue of their ancient privileges; but it had now become a fundamental law, that there should be three degrees of courts, and that no state should not establish tribunals of the third or highest degree (high courts of appeal), were obliged to allow the right of appeal to the supreme courts of the empire, and could obtain exemption therefrom only by particular imperial privileges (privilegia de non appellantando). The same privilege was granted to other states, who might establish their own supreme tribunals (as Sweden at Wismar, Hanover at Celle, Hesse-Cassel, &c.), or else send the documents, belonging to questions at issue, to foreign colleges, which had the right of final judgment. The tedious forms in the supreme courts of the empire, and other defects in the judicial administration, gave popularity to these establishments, on the part of the separate states; although the maxim, that three consecutive decrees are requisite for the entire settlement of a controversy at law, infinitely delayed the process; and the want of a supreme court, extending its authority throughout Germany, was highly prejudicial to the improvement of the German code. The dissolution of the German empire increased the difficulties attending the administration of justice in the small states; and it is one of the most salutary resolves of the German compact (while recognizing the necessity of three consecutive judgments as a fundamental law of the empire), that the smaller states shall be compelled to erect, in common, high courts of appeal, and not confine themselves to petty, local jurisdictions. These supreme courts, common to several states, have all, within a few years past, been reduced to a regular order. The great limitation, almost amounting to exclusion of criminal cases, is a remarkable circumstance in the constitution of these courts. The diversity in the amounts of property in question, for which appeal is allowed from the different states, is also within a few years past, been reduced to a regular order. 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detained in prison till the end of the year, unless bail was given for his appearance to answer to the appeal. The jury on the appeal was usually different from that on the indictment, and examples are not wanting where a man has been brought in guilty by the second jury, on the same grounds upon which he was ac-Quited by an A. D. 1708. Slaughterford, his friend, with whom he was last seen. He was acquitted at the assizes, but the public were so convinced of his guilt, that a subscription was opened to pay the expenses of a private accusation, and the accused was found guilty by a special jury at the second trial, and executed. Another similar event happened, A. D. 1818.

A young lady, Mary Ashford, was found murdered under circumstances which fixed the strongest suspicions upon one Abraham Thornton. He had waited upon her home from a ball, and had been with her, as he himself confessed, a short time before the discovery of her body, not far from the pit, full of water, in which it lay. Notwithstanding this, he was acquitted, and the brother of the deceased now prosecuted him by an appeal of murder. Upon this, Thornton made use of a right, the existence of which had been almost forgotten, and the accused was tried by a special jury, i.e. a trial by battle, i.e. trial by combat, instead of submitting to a trial by jury. The validity of this right could not be questioned, and the advocate of the accuser received a severe reproof from the court, because he suffered himself to call it unreasonable and barbarous. The accuser, a weak young man, twenty years old, did not venture to engage in a contest, with clubs, and the athletic Thornton: he was obliged to recall his accusation, and the suspected murderer was once more acquitted. The public feeling, however, was so strong against him, that he emigrated to America, whence he returned. This event occasioned the abolition, not only of the wager of battle, but also of the right of appeal, as experienced lawyers were of opinion that the accused could not be deprived of the choice between a second trial by jury and a wager of battle. This was done, A. D. 1819, by the act of parliament 50 George III., c. 46. Some may think that this abolition has occasioned an essential defect in the English laws; but it is merely applying to such cases a just and proper principle of criminal law, which is now generally adopted both in England and America, that no person shall be twice tried for the same offense, to prevent that capital injustice against oppressive and successive prosecutions. The process of appeal and the trial by combat were never introduced into the American law.

APPellants.—A religious party. See Unigenitus.

APPennz.—A canto of the Swiss confederation, surrounded on all sides by the canton St. Gall. It is divided into two parts, called Inner-rood, or Rodel, and Outer-rood, each having, since 1597, a separate government, independent of the other. In respect to the other cantons of the confederation, both are considered as forming one canton. The form of government is entirely democratic. Every man, above the age of 16 years, annually appears, with his sword, in the general assembly, when the officers are chosen. A contains, on 222 square miles, 55,000 inhabitants. The canton is active in manufactures of different kinds, and in rearing cattle. The chief place is the market-town, Apenne, in the Inner-rood; lat. 9° 31' E.; lat. 47° 20' N.; pop. 3,000. See Swiss Confederation.

Appian of Alexandria; governor and manager of the imperial revenues, under Adrian, Trajan, and Antoninus Pius, Rome. He wrote a Roman history, from the earliest times to the death of Antonius, in 29 books, of which only half have come down to us,—an unequal work, according to the sources from which the author drew his materials. The best late edition is that of Schweighauser, Leipsig, and Strasburg, 1785, 3 vols.

APPian Waj, leading from Rome to Cupan; the oldest and most renowned Roman road. It was made by Appius Claudius Crassus Cæcumen, when he was censor, 26 years B. C., and afterwards extended to Brundisium, a distance of 240 miles, the road exactly fitted to one another; and there may still be seen, particularly at Terracina, important remains, which prove its excellent workmanship.

APPIAN, Andrew: a painter, born at Milan, May 23, 1754, of no family, but poor family. He was obliged to work with scenes made by his supporter, and to go with his masters from town to town. In Parma, Bologna, and Florence, he had an opportunity to see and study the master-works of his art, and to form his style. He visited Rome three times, in order to penetrate the secret of Raphael's style of fresco-painting, and soon excelled in this art every living painter in Italy. He displayed his skill particularly in the copula of Santa Maria di S. Celso, at Milan, and in the paintings which he prepared for the walls and ceiling of the villa of the archduke Ferdinand. Having approached the great and him royal court painter, gave him the order of the legion of honour, and that of the iron crown, and made him member of the Italian institute of sciences and arts. A. painted afterwards almost the whole of the imperial family. His best works are the fresco-paintings, on the ceiling of the royal palace at Milan, allegories relating to Napoleon's life, and his Apollo with the Muses, in the villa Bonaparte. Almost all the palaces of Milan have fresco-paintings by him. Napoleon's fall affected A.'s fortune severely. He died in 1817, in straitened circumstances.

A. C. was the elder son of the patrician family of the Claudi, though cruel and arrogant like his ancestors, was kindly appointed consul, B. C. 401, when, to gain the favour of the people, he supported the law proposed by the tribune Terentius, or Terentius, which had for its object a change in the form of government. Instead of the usual tugsists, decemvirs (ten men) were appointed to compose a code of laws for Rome (afterwards called the laws of the twelve tables), and to possess sovereign power for a year. He was himself chosen decemvir, and when, after the first year, this office was prolonged for two years, he succeeded, by his influence over the chief men among the people, in being re-chosen. He was re-
fearful disturbance arose, and the decemvir was com-
pelled to leave Virginia in the hands of her family; but he declared that he would pronounce his decision the next day. Virginia, summoned by his brother and the friends of her sons, appeared on the scene in a mourning dress. He brought the most indubitable proofs of the groundlessness of the claim; but A., trusting to the number of his guards, still com-
manded Claudius to take her as his slave. When Virginia asked permission of the decemvir to speak to her nurse, in Virginia's presence, that he might, for his own satisfaction, be convinced of his error, A. consented. Upon this, the unhappy father tenderly embraced his daughter, suddenly seized the knife of a butcher who was standing by, and plunged it into her bosom, with these words: "Go, free and pure Virginia, to thy mother and thy ancestors." A. com-
manded Virginius to be seized; but he fled to the camp. The senators Valerius and Horatius, who hated the decemvirate, inflamed a spirit of vengeance in the people, already excited by the sight of Virgi-
nia's body, and A. could silence the disturbance only by a promise that he would resign his office. While he was deliberating whether to offer the re-
time, Virginia had related the affair to the army, which marched to Rome, demanding revenge. The decemvirs, seeing they could no longer maintain their authority, resigned their offices. The senate, with-
out delay, resolved to restore the tribunes and con-
suls; but three, by the way, were given by their own hand; according to Dionysius of Halicarnassus, the tribunes caused him to be strangled. Oppius, also, who was accused of being his companion in crime, killed himself. The abject Claudius, as he had only been the tool of a tyrant, was banished to Tibur, then a desert. Various tragedies have been written on the subject of Virginia, the latest as well as the most successful of which is by Mr Knowles.

Applause (from Latin plaudere); to express approbation by any movement of the hands. No nation has systematized applause like the Romans, who, accord-
ing to Suetonius, had three kinds—ludus, the noise of which was like the humming of bees; imbrices, which sounded like rain falling on the tiles; and testae, a sound like the breaking of pots. The two latter were produced by instruments placed in the thea-
tre, and persons were instructed to give applause with skils, cymbals, or gonges, or to divide themselves into chori, and disposed in theatres opposite each other, like the choristers in cathedrals. In France, Brit-
ain, and America, applause is often given by making a noise with the feet, which, in Germany, always signifies a high degree of dissatisfaction. For further information, see the article Acclamation.

Apple. The apple, in all its innumerable varieties, is said to have been derived entirely from the crab-
apple (pyrus malus), which grows wild in every part of Britain. The uses of the apple are very various; even the bitter crab-apple is not without value; for its fermented juice, known by the name of scrivious, is employed both in cookery and medicine, and also for the purifying of wax. Hogs and deer are fond of them. The wood is hard and durable, and makes good wheel-cogs, &c. All good apples, and many of the common kinds, are produced by the process termed grafting. This is performed by inserting young twigs or shoots from trees bearing fine fruit into stocks of inferior kinds, raised upon every farm, from the pomace of the cider-mill. The branches formed by the twig inserted are found to bear fruit corres-
ponding in quality to the tree from which it was cut. There are also apples known by the names of the gods of fruit-trees; for inoculated or ingrafted fruit is always found to be the best. The kinds of apples most high ly prized in all countries are the varieties of pippin. The common family uses of the apple are too fami-
lar to need specification; but its most important ap-
plication is to the manufacture of cider. The pro-
cess for making the best cider is simple; perhaps quite as much so as any mode of spoiling it. The apples should be gathered at the proper times of ripeness, &c., and left a few days in heaps to ripen, if necessary. They should then be ground in a mill, till they are entirely bruised. They are afterwards allowed to stand a day or two in open vessels or troughs, and then pressed between hair-cloths or lay-
ers of clean straw; the last is not so good, from ab-
sorbing and wasting a portion of the juice. The li-
quoi running from the press is then received into a vat, or large casks, till it has fermented, when it is drawn off, and placed in clean, tight barrels or casks, to stand till it is fine and clear; it is then racked off from the lees, and kept in casks or bottled for use. A portion of brandy and a little flowers of sulphur render it more pure, and less likely to grow hard and sour. Cider is a very wholesome drink during the heat of summer, although more apt to derange the stomach, produce colic, &c., than beer. A liquor obtained by distillation from cider, termed cider-
brandy, of which great quantities are made in the United States; while a very strong liquid may be obtained by allowing cider to be frozen, and then drawing off the portion which remains fluid, and thus retains its heat. But a far more wholesome liquor than either is the pombona wine, which is prepared by adding one gallon of brandy, to six of new cider, after it is racked off. This, when eight or twelve months old, is a very good substitute for wine, for the use of the poor or the sick, and is, beyond all comparrison, more wholesome than the wretched mixtures sold so cheap under the name of Lisbon wine, &c.

Appogiata denotes, in music, and particularly in song, a blended and not abrupt utterance of the tones; so that they insensibly glide and melt into each other without any perceptible break. It is from appogiature, to lean on. Hence, also.

Apprentice; a small additional note of embel-
ishment preceding the note to which it is attached, and taking away from the principal note a portion of its time. It is expressed thus:

Apprentice; a young person of either sex, bound by indenture to serve some particular individual, or company of individuals, for a specified time, in order to be instructed in some art, science, or trade. Ac-
cording to the common law of England, every one has a right to employ himself at pleasure in every law-
ful trade. But this principle was almost entirely sub-
verted by a statute passed in the 5th year of the reign of Elizabeth, which enacted, that no person should for the future exercise any trade, craft, or mystery in England, unless he had previously served to it an ap-
prenticeship of seven years at least; so that what had formerly been a bye-law of a few corporations, became the general and statute law of the Kingdom. Though the impolicy of this enactment was long apparent, it was not till 1814 that it was repealed by the 54 Geo. III. c. 90. The repeal did not interfere with any of the existing rights of privileges, or bye-laws of the dif-
f erent corporations; but wherever these do not inter-
pose, the formation of apprenticeships and their du-
ration is left to be adjusted by the parties themselves. The ancients had nothing similar to our apprentice-
ships, not even a term of corresponding significance. The modern apprenticeship were carried on, among the Greeks and Romans, by slaves. Apprenticeships in these and the liberal arts and professions grew up in the middle ages, when the members of a particular trade or profession formed a corporation. These cor-
Mathematical but either a 10-year-old is treated with great harshness and severity. The usual time of service was seven years, and the custom of apprenticeships was extended to almost every trade and profession. The time of technical apprenticeship, among barbers in England, was 16 years, for which period the candidates were apprenticed to a master barber. For this period, which they might take the degree of sergeant, servants ad legem. Adam Smith, in his Wealth of Nations, b. i. e. 10, maintains that apprenticeships are entirely unnecessary. He says,—Arts which are much superior to commoning; such as those of watchmaking, contain no such mystery as to require a long course of instruction. The first invention of those beautiful and useful machines, indeed, must, no doubt, have been the work of deep thought and long time; but, when both have been fairly invented, and are well understood, to explain to an young man, in the most complest manner, how to construct the machines, cannot well require more than the lessons of a few weeks; perhaps those of a few days might be sufficient. In the common mechanical trades, those of a few days are sufficient; in others, much longer may be required. The change of the name of the novitate, from that of apprentice to that journeyman, would effect no material alteration in the relation between the employer and the employed, except in respect to the authority of the former over the latter. Adam Smith, probably, would not recommend that industry of going to learn a trade, should, from that time, be free; and, if not, it is much better that his master should stand to him, in some respects, in the relation of a parent. This is what is intended in the ordinary articles of an apprenticeship; and the advantage to the parties, mutRec 1014: made in the relation, is so great, and its beneficial influence in the community is so apparent, that there seems to be hardly any ground for questioning the expediency of continuing it. For information respecting the correctional and disciplinary authority formerly exercised by these corporations, in relation to apprentices, see Corporation.

APPRECIATION. See Trenches.

APPRAISAL; a term used in mathematics to signify a continual approach to a quantity required, when no process is known for arriving at it exactly. Although by such an expression, the exact value of a quantity cannot be discovered, yet it may be found sufficiently correct; thus the diagonal of a square, whose sides are represented by unity, is \( \sqrt{2} \); the exact value of which quantity cannot be obtained; but its approximate value may be substituted in the most calculations. This process is the basis of many calculations in pure and applied mathematics, and is of frequent use and great importance in all practical operations.

Aracrid (Aracridae) is a family of the phalangid tribe, or mantis, which inhabits the marshes of Armenia, and was introduced into England about the middle of the 16th century. Some consider the apricot the most delicate of all our hardy fruits. For pastry, certainly none is more excellent. It is used for tarts, both green and ripe; it is also preserved with sugar in both these states, and is sometimes dried as a sweet. Meat care should be taken to gather it before it becomes soft and mejl. The kernels of apricots have a pleasantly bitter flavour, and answer much better, for several purposes in confectionary, than bitter almonds, which are commonly used. They likewise contain a substance of which they, in abundance, was formerly used in emulsions. The gum that issues from the apricot-tree is similar to that of the cherry. The wood is strongly-grained and soft, and is consequently seldom used in carpentry. Apricot-trees are chiefly raised against walls, and are propagated by grafting upon plum-tree stocks.

April; the name of a month; either from aprius to open, because, at this time, the earth seems to be opening and preparing to enrich us with its gifts; or according to Varro, from Aphrodite, because April is consecrated especially to this goddess. The first derivative is almost certain. The opening and opening of the year, in which the earth is nourished by alternate rains and sunshine. Something similar to April fruit day, about the origin of which there are different opinions, is said, by Mr. Hammer, to exist in the East Indies, at the time of the Hindu festival of spring and opening of the year, in which the earth is nourished by alternate rains and sunshine. One of the explanations of the custom is as follows: In the middle ages, scenes from biblical history were often represented by way of diversion, without any feeling of impropriety, in the form of burlesques. The life of Jove, from Pilate to Herod, and back again from Herod to Pilate, was represented in April, and may have given occasion to the custom of sending on fruitless errands and other tricks practised at this season. The phrase of "sending a man from Pilate to Herod" is common in Germany, to signify sending about unnecessarily. The reason of choosing the first of April for the exhibition of this scene was, that the feast of Easter frequently falls in this month, and the events connected with this period of the life of Jesus would naturally afford subjects for the spectacles of the season. The term Easter begins the first of April may, however, be the spring remains of some Roman custom, derived from the East, and spread over Europe, like so many other customs, by these conquerors. In France, the unhappy party who may be fooled is called un poison or poison (mischievous) d' Avril. In Scotland, he is called a grock, which signifies, in the Scottish dialect, a cuckoo. One of the best tricks of this description is that of Rabelais, who, being at Marseilles without money, and desirous of going to Paris, filled some phials with brick-dust or ashes labelled them as containing poison for the royal family of France, and put them where he knew they would be discovered. The bail took, and he was conveyed as a traitor to the capital where the discovery of the jest occasioned universal mirth.

A PRIORI; the opposite of a posteriori. To judge or prove any thing a priori, means to do it on grounds or reasons preceding actual knowledge, or independent of it. This is the opposite of a posteriori knowledge. On the contrary, judgments or proofs a posteriori are founded on knowledge before acquired, like the conclusions of natural history, and all experimental science.

APRON, in ship-building; a piece of curvett timber fixed behind the lower part of the stem, immediately above the foremost end of the keel.
APSIDES.—AQUA TINTA.

APSIDES. The orbits of the planets and comets are ellipses, in one of the foci of which is the sun. In the same way the satellites move round their planets. The nearest point of the ellipse from that focus, or the point of closest approach of the planet, is called the perihelion; the farthest point, or the higher apsis, is called the aphelion. In the orbit of our moon, the corresponding terms are peri-gee and apogee. The straight line which joins the apses, or the transverse axis of the ellipse, is called the line of the apsides. It moves slowly backward in the direction of the planet’s course. Therefore, if the earth sets out from the apogee, it must make more than a whole revolution in its orbit before it returns to the same point. The time which it employs in so doing is called an anomalistic year. It is, therefore, longer than a tropical one. See Year.

APULEIUS, A. Lucius, born at Madaura, in Africa, towards the end of the reign of Adrian, descended from respectable ancestors, and flourished about the middle, and in the latter half, of the second century. He studied at Carthage, became acquainted with Greek literature, and was initiated into the mysteries of Pythonism, and thence went to Rome, where, he himself says, he learned the Latin language without a teacher, by great exertions,—a circumstance not to be over-looked, in judging his style. To satisfy his thirst for knowledge, he performed tedious journeys, in which he wrote, no doubt, the eye-catching adventures of his next novel. Perhaps the most interesting of these adventures was an event that took place at Rome; study law; returned, finally, to his own country; married a rich widow, and was much respected.—A. was of an ardent and active spirit, with an uncommon share of wit, though much devoted to religious mysticism and magic. His Golden Ass, a romance in eleven books, contains, in the same measure, a powerful satire, and much poetical merit. He drew the materials from Lucian. The finest part of this work is the episode of Psyche, called by Herder, the most tender and diversified of all romances. It is sufficient to render him immortal, even if he be, as some have supposed, only the narrator, and not the inventor, of the story. A. was also the author of many works on philosophy and rhetoric, some of which are still extant. His style is not pure. He is fond of numerous epithets and unusual constructions, and sometimes falls into a flowery and bombastic manner. We may, however, say that the Metamorphosis ("golden" was a subsequent addition, to express the value of the book), is by Oudendorp, Ruhmkern and Bosch; Leyden, 1786—1823; 3 vols. 4to. Elmenhorst published the Metamorphosis, with a large part of the rest of A.’s philosophical writings, Frankfurt, 1823.

APULIA. Iapigia, so called from Iapyg, son of Daedalus, comprehending the south-eastern parts of Italy, from the river Siris to mount Garganus, contains A. within its limits. In the most ancient times three distinct nations dwelt here—the Messapians, or Salentine, the Peucetians, and the Dauni, or Apulians. (See Niehuiro’s Inquiry concerning the oldest historical Accounts of this Country, in his Roman History, part i., sect. 90, compared with Wachsmuth’s older History of Rome, sect. 61.) The Peucetians were in the southern part as far as the Daufis; the Dauni in the northern, as far as mount Garganus. The old Latin traditions speak of Daunus, a king of the Apulians, who was expelled from Illyria, and retired to this part of Italy. According to the tradition which conducts the wandering heroes of the Trojan war to Italy, Dioméd settled in A., was supported by Daunus in a war with the Messapians, whom he subdued, and married his daughter, the beautiful Ino. This was, probably, who desired to monopolize the fruits of the victory. Roman history informs us of no other Apulian kings, but mentions Arpi, Luceria, and Canusium, as important cities. Aulius, a river of A., has been celebrated by Horace, who was born at Venusia, in this territory. The second Punic war was carried on for years in A. Carthage, famous for the defeat of the Romans, is situated on the coast, and the orbit of the planets and comets, perturbation; the farthest point, or the higher apsis, is called by some authors, the apsides. In the orbit of our moon, the corresponding terms are peri-gee and apogee. The straight line which joins the apses, or the transverse axis of the ellipse, is called the line of the apsides. It moves slowly backward in the direction of the planet’s course. Therefore, if the earth sets out from the apogee, it must make more than a whole revolution in its orbit before it returns to the same point. The time which it employs in so doing is called an anomalistic year. It is, therefore, longer than a tropical one. See Year.

APURIMAC; a river of South America, which rises in the Andes, near Pampapita, in Colombia, and, after an easterly course of about 500 miles, runs into the Orinoco, of which it is one of the most important tributaries. Lon. 66° 36’ W.; lat. 7° 36’ N.

APURIMAC; a river of Peru, which rises from a lake N. of Arequipa, and, after running some miles, becomes the Umayra. Lon. 7° 40’ W.; lat. 10° 28’ S.

AQUA FORTIS; nitric acid in a diluted state. See Nitric Acid.

AQUA MARINA. See Beryl.

AQUA REGIA; the name given by alchemists to what is now called nitromuriatic acid,—a mixture of nitric and muriatic acid, yellow, and possessing the power of readily dissolving gold, which neither possessed separately. See Nitric Acid.

AQUA TINTA; the art of engraving on copper, after the manner of Indian ink, by which happy imitations are made of figures that have been drawn with ink, black, white, and tinted with a variety of shades, peculiarly those which are on a large scale. There are several sorts of it. In the first, after the outlines of the figure have been etched, finely powdered mastic (colophonium) is sifted over the plate, which is then warmed over coals, so that the mastic may be melted. In this way, sensible spaces are formed between the particles of mastic, upon which the nitric acid is afterwards to act. The work then goes on as in the mes- zo-tinto, only that the scraper is used in this, and the pencil in that; and all the places where there is to be no work or shade, are covered with a thick black varnish, on which the acid does not act. The nitric acid is now poured on, and left to stand as long as is necessary for the lightest shade,—about five minutes. The light shades are now stopped out with varnish, and the acid allowed to act a second time, and this stopping out is continued till we come to the deepest shade, which acts in like manner. This method is best for historical and architectural subjects; but in landscapes, in which the trees require more freedom of the pencil, the second is used. In this, a good etching ground is spread over the plate, and covered by means of a hair-pencil, with oil of lavender or oil of turpentine, to which lamp-black is sometimes added. The oil softens the ground, which may be wiped off with a fine linen cloth, leaving all the marks made with the pencil apparent on the copper. Then, as in the first process, fine mastic is sifted over the plate, melted in and etched. This operation may be repeated many times, according as there are more or fewer tints in the original. By a happy union of these methods, this style of engraving is carried to a high degree of perfection, and is particularly adapted to express the colouring of the air, where large surfaces are often represented of one tint. In France and Switzerland, the roulette is used—a little wheel or roller of steel, with a rough surface, and several prominences, which, when it is rolled back and forth on the plate, deepens the excavations made by the acid. They have roulettes of all degrees of size and fineness, to make deeper or more shallow impressions on the plate. From time to time, the particles separated by this process are removed with a rag or sponge. The aqua tinta mode was first introduced a short time since into Britain and Germany; and the British, particularly since Gilpin brought the art into notice, have adopted their lite-
AQUEDUCT.

Aqua Tofana—AQUEDUCT.

Aqua Tofana; a poisonous liquid, which excited extraordinary attention at Naples, at the end of the 17th century, and of which, however, is obscure. Tofana, a Sicilian woman, seems to have invented it. According to Lo- but, after she had murdered many hundred men, she was strangled, although on the discovery of her guilt, she fled to a convent. Kessler, on the contrary, af- firmed that she was still alive in prison, 1720—The drink is described as transparent, tasteless water, of which five or six drops are fatal, producing death slowly, without pain, inflammation, convulsions, or fe- ver. Gradual decay of strength, disgust of want, of appetite, and constant thirst, were the effects, which soon changed to an entire consumption. That the exact day of death can be predicted, is a mere fable. The strangest stories, with regard to its com- position, have gone abroad. A solution of crystall- ized arsenic seems to have been the chief ingredient to which something else was added, probably to con- ceal the character of the poison. Vita, (water of life) is a name familiarly ap- plied to native distilled spirits. It answers to the whisky of the Scottish and Irish, the eau de vie or brandy of the French, and the geneva of the Dutch.

Aquarius; one of the greatest kingdoms on the coast of Guinea, in Africa, stretching 20 miles in breadth, and ten times that space, in length from E. to W. The inhabitants are very warlike, and infest their neighbours much.

Aquarians. 1. Christians in the primitive church, who consecrated water instead of wine, for the cele- bration of the Lord’s supper; some for the sake of abstemiousness, others because they thought it unlawful to eat flesh or drink water. 2. Those Christians, also, were denominated Aquarians, who used water instead of wine at the celebration of the eucharist, for fear the smell of wine should discover them to the heathens.

Aquarius is the name of the eleventh sign of the so- dian, emblematical of the rainy season. The constel- lation of the same name contains 108 stars in the Brit- tanic catalogue, and 119 in that published at Berlin.

Aquaviva, Claude, son of the duke of Atri, was born in 1522. He became general of the Jesuits in 1581, and about 1607—There is another A., with the baptismal name of Ottavio, car- dinal and papal legate at Avignon. He was renown- ed for moderation, wisdom, and patronage of the sci- ences and arts. He was the particular friend of the learned Peiresc, and lived under Clement Vlll.

Aquaviva, (Latin, aqueductus); a conveyance of any kind made for conducting water. The Greeks did very little towards the construction of aqueducts and roads. The Romans, on the contrary, who were more persevering, and had abundant resources of men and money, made prodigious structures of both kinds. Some of the immense aqueducts of the Ro- mans are still in use; some, in the state of ruins, are among the greatest ornaments of Italy. In other ancient countries, also, large aqueducts were built; e. g. under Sesostris, in Egypt; under Semi- namis, in Babylonia; under Solomon and Hezekiah, among the Israelites. The consul Sextus Julius Frontinus, who had, under the command of Cæsar, the direction of the aqueducts, has written a treatise on this subject,—De Aqueductibus Urbis Romae,—and is of opinion, that they are the most distinguishing proofs of the grandeur of the empire. He mentions ninety-nine main works, of which 1594 pipes of an inch and upwards in diameter.—Aqueducts were either formed by erecting one or several rows of arcades across a valley, and making these arcades support one or more level canals; or by piercing through mountains, which would have interrupted the water-course. When the aqueduct was conveyed under the ground, there were openings at about every 240 feet. Some of the best known of these, are the well-known A. of the Catena, which is a continuation of the aqueduct of Rome, the Cæsar A., 70 miles long, the distance of upwards of sixty miles, through rocks and mountains, and over valleys in places more than 190 feet high. The declivity of the aqueduct, according to Pliny, was one inch, and according to Vitruvius, half a foot, in a hundred,—The censer Appius Clau- dius, Cæsanus Cæsar, the aqueduct which was called after him, caused the first aqueduct to be built at Rome, the Appia. Frontinus, as we stated, mentions nine, Procopius fourteen, and P. Victor twenty-four aqueducts; some of which were one, some two, some even three stories high, and many miles long. In almost all countries where the Romans extended their conquests, aqueducts were built; thus we find the remains of them in France, Spain, and Asia. The principal Roman aqueducts now remaining are the aqua Virgina, repaired by pope Paul IV., and the aqua Felice, constructed by Sessa, in the 16th century; the latter in Tuscany may be compared with the most admired wonders of the world.

At a recent period, there remained 159 arcades, wholly consisting of enormous stones joined without mortar. Louis XIV. began an aqueduct, in 1684, near Maintenon, to carry water from the river Eure to Versailles; but the works were abandoned in 1688. This would have been, perhaps, the last aqueduct in the world; the whole length being 60,000 fathoms, the bridge being 2070 fathoms in length, 220 feet high, and consisting of 632 arches. Though the system of pipes has superseded the use of stone channels all raised to a level in the convey- ances, there are still cases, such as those of some canals, where the water must be kept on a perfect level, and where, therefore, aqueduct bridges are still necessary in conveying it over the valleys; and of these we have but few examples in France, on the Languedoc canal. The first aqueduct bridges for canals in this country were those made by the duke of Bridgewater, under the direction of the celebrated Brindley, and which, being quite new here, excited no small degree of astonishment. The first and largest was the aqueduct at Barton Bridge, for con-veysing the canal across the Irwell, 90 feet above the surface of the river, and resembling the Cæsar A., the middle one 63 feet span, and admitting under it the largest barges navigating the Irwell with sails set. It was commenced in September, 1760; and in July of the following year the spectacle was first presented in this country, of vessels floating and sailing across the course of the river, while others in the river itself were passing under them. Since that period canal aqueducts have become more common; and many ex- cellent examples are to be found both in England and Scotland. Of these are the aqueducts over the river Lune, on the Lancaster canal, designed by Rennie, a very excellent and splendid work of five arches, each 78 feet span, and rising 66 feet above the level of the river; and the Kelvin aqueduct, near Glasgow, which conveys the Forth and Clyde canal over the valley of Kelvin, consisting of four arches, each 70 feet span, and rising 70 feet above the level of the river. In Plate IV. we have given views of several aqueducts. Of the above, Mr. Telford, exclusively, is celebrated for his magnitude, for the simplicity of the design, and the skilful dispositions of the parts, combining lightness with strength in a degree, seldom at- tempted. This aqueduct serves to convey the waters of the Ellesmere canal across the Dee and the vale of Llangollen, which it traverses. The channel for the water is made of cast iron, supported on cast iron
The aqueduct of Aquinas, descended from the springs of Aquino, in Calabria, in the kingdom of Naples, was born in the year 1224. He acquired the rudiments of education at the school of Monte Cassino, and was then removed to the university of Naples. At the age of seventeen, he entered a convent of Dominicans, much against the wishes of his mother, who persevering in her wishes to recover him, the monks, anxious to secure so honourable an addition to their fraternity, determined to send him out of the kingdom to Paris. He was, however, arrested by his two brothers on his way, and, refusing to give up his intention, was shut up in a castle belonging to his father for two years.

At last, however, found means to escape to Naples, and, in the year 1244, was conducted by John, master of the Teutonic order, to Paris, whence he soon after departed to Cologne. At Cologne, he studied under Albert, an eminent tencher of philosophy, who foresaw his future celebrity. In 1246, he visited Paris, in company with Albert, and, at the age of twenty-four, became a preceptor, at the university of that capital, in dialectics, philosophy, and theology, and acquired the highest repute. The cardinals at Rome, who had held him in the greatest estimation, and he was invited by St. Louis, then reigning in France, to his court and table. On a visit to Rome, Aquinas distinguished himself by a neat refutation: being in a
AQUITANIA—ARABIA.

closet with Innocent IV., when an officer brought in a large sum of money produced by the sale of absolutions and indulgences, "You see, young man," said the pope, "the age of the church is past, in which she said, "Silver and gold have I none."

"True, holy father," replied the angelic doctor; "but the age is also past, when belief said to a paralytic, 'Rise up, and walk.'" In 1683, he returned to Italy, when pope Clement IV. offered him the archbishopric of Naples, which he refused. A general council was summoned at Lyons, in 1274, for the purpose of uniting the Greek and Latin church. Aquinas was called thither to present the council with a book, which he had written on the subject, but died on the way, near Terracina. After his death, the honours paid to his memory were prodigious: besides the title of angelic doctor, bestowed on him after the fashion of the times, he was called the angel of the schools, the eagle of divines, and the fifth doctor of the church; and, at the request of the Dominicans, he was canonized by John XXII., his tomb supplying the necessary testimony of miracles. His writings, which were held in the highest estimation in the next century, gave rise to a sect, called, and named, the Thomists. They are exceedingly voluminous, amounting to seventeen volumesfolio. His principal work, Summa Theologica, bears a high reputation in the Roman Catholic church, and the second section on morals is universally esteemed. The latest edition of his works at large is that of Anwerp, 1612; but his Summa Theologica has passed separately through various editions. The resemblance, in thinking and writing, between Augustin and Aquinas is so marked, that it has been fancifully said, that the soul of the one had passed into the body of the other.—Another A., properly called Philip d'Agano, a monk, was canonized in the twelfth century, by means of his knowledge of Hebrew, which he taught at Paris, in the reign of Louis XIII., as well as by his Dictionarium Hebrew-Chaldean-Thalmudic-Rabbinicum. AQUITANIA; the name of a Roman province in Gaul, which comprehended the countries which now form the Garonne to the Pyrenees, and from the sea to Toulouse. Augustus extended it to the Loire. Those who dwelt near this western coast were called, by the Celts, Armoricisc, and were probably of Spanish origin, driven towards the west by the incursions of the Celts. They were always engaged in commerce; the Aquitana the Visigoths established a kingdom, A. D. 412. Since that time, it has been sometimes a kingdom, sometimes a duchy; and, more lately, it has passed under the name of Guienne. At present, the ci-devant Guienne forms the two departments of Gironde, and of Lot and Garonne.

ARABELLA STUART; commonly called the lady Arabelia. This unhappy and innocent victim of jealousy and state policy was the only child of Charles Stuart, earl of Lennox, younger brother to Henry lord Darnley, the husband of Mary queen of Scots. She was therefore cousin-german to James I., to whom, previously to his having issue, she was next in the line of succession to the crown of England, being the grand-daughter of Henry VII., by the second marriage of his eldest daughter, Margaret. She received an excellent education. Her proximity to the throne was the source of her misfortunes. Elisabeth, for some time before her decease, held the lady Arabella under restraint, and refused the request of the king of Scotland to give her in marriage to the duke of Lennox, his kinsman, with a view to remove her from England. The pope had likewise refused of placing her to the English throne, by espousing her the niece of Savoy, to which project is said to have been listened to by Henry IV. of France, from a wish to prevent the union of England and Scotland. The detection of a plot of some English nobles to set aside James in favour of A., of which she was altogether innocent, ultimately proved her destruction; for, although left at liberty for the present, when it was some time after discovered that she was secretly married to the Roman Catholic cardinal of York, and that his wife were committed to the tower. After a year's imprisonment, they contrived to escape, but the unhappy lady was retaken. Remanded to the tower, the remainder of her life was spent in close confinement, which finally deprived her of her reason. She died on the 11th of January, 1587, or 1588, in the age of sixty-three years. She possessed talents of a superior order, and a very pleasing person.

ARABLE, of Moresque, in painting or sculpture, is a term applied to a particular species of ornamental Frieze or border, first introduced into Europe, as has been asserted, by the Moors, when they conquered Spain. This assertion, however, is not altogether well founded, since some indications of this style of ornament may be observed on the friezes of the ancient buildings in Rome. The Moors being prohibited by the Alcoran from representing the figures of men and animals, they invented this law by inventing a series of monsters, griffins, dragons, strange birds, and chimeras, passing by wild gradations from one class of beings into another; affixing the head, wings, and talons of birds to the bodies of lions, horses, and other quadrupeds; and making the upper parts of children, men, and beasts spring out from amidst luxuriant clusters of foliage, &c. This strange and incongruous admixture of parts is, however, capable of being formed into beautiful arrangements; since, in some of the chambers of the palace of the Vatican, there are ornamental paintings of this kind, and which are admirably executed. Most of the ornaments around the capitals of Gothic columns in our cathedrals, belong to this species of ornament; as, for instance, in York-minster, Roslin chapel erected, in Iceniun, and many others. In the old Moorish palaces in Spain are superb specimens of this sort of ornament, as in the Alhambra at Granada; and the cathedrals of Corin, Salamanca, Cadiz Rodrigo, Valladolid, &c, abound with it. In the painted chambers of Pompeii, also, it has been detected, and in some of the triumphal arches of ancient Rome, particularly in that called the Sepulchro Nasoni, as well as in the baths of Titus.

ARABIA; a peninsula containing about 1,000,000 square miles, and 12,000,000 inhabitants; the most westerly portion of southern Asia, extending from 35° to 35° 30' E. lon., and from 12° to 50 N. lat. By the inhabitants, it is sometimes called Arobin, sometimes Dschesira al Arab; by Turks and Persians, Arakan. It lies between the Red sea and Persian gulf; bounded on the north by the great deserts Irak and Dschesira, on the south by the Arabian sea, and connected with Africa on the north-west by the island of Socotra. Instead of the old divisions of Arabia, —A. Deserta, A. the Stony, or A. Petraea (from an ancient fortified place, used for merchandise, called Petra), and A. the Happy,—the more natural division is that which distinguishes the coast, covered with aloes, mastic, myrrh, frankincense, indigo, musk, and especially coffee, from the interior, consisting of a desert of moving sand with thorns and saline herbs. The civil divisions are five provinces: —1. The country of Yemen, containing about 68,700 sq. miles, and 3,000,000 inhabitants, is governed by the hereditary chief of Yemni, called the Bab, or supreme of the Turkish caravans, and resides at Sana. In 1818, the viceroy of Egypt subjected Yemen, which contains Mocha, on the straits of Babelmandel. The
tribute which he obtains from it is 2000 hundred weight of coffee. Aden, the chief gum market, lies in ruins. 2. The province Oman, under the imam of Mascat, a seaport, containing 60,000 inhabitants, to which belong the pearl fisheries, of which pearls also furnish the best aloes, on the coast of Africa. 3. The province Lachisa, or Hadsjar, whose harbours, in the Persian gulf, are infested with pirates, has also rich pear fisheries. 4. The provinces Nedschad and Jemmama, the original and principal country of the Walabies, with their chief city, Derrejeh. This country, or central Arabia, has become very familiar by M'ogenic's 'Hist. d' Egypte sous Mohammed Ali, and a map of Jomard, 1823. 5. The province Hedjaz, on the upper shore of the Red sea. Here is the Holy Land of the Mohammedans, containing Mecca, Medina, &c. Not far from the valley of Moses are the remarkable antiquities of Petra and Jerash. The seaport, Jidda, population 5000, is indeed the residence of a Turkish pasha, but the sherif of Mecca conducts the government himself. In the Syrian deserts lie the ruins of Palmyra. (q.v.) On the western side of the Red sea are the ranges of mountains, which unite on the north with the mountains of Syria, and are connected with the primitive mountains of Asia; among them are Sinai and Horeb. Of the rivers, which appear only after great rains, and seldom reach the sea, the Afinn, on the sea coast is the most important. The climate is very various: the mountains being wholy or in part clothed with wild vines, which is as dangerous to life as the larmattan and klimseen in Africa. The soil consists of sandy deserts and the most fruitful fields. Wheat, millet, rice, kitchen vegetables, coffee (which grows on trees in Arabia, its home), &c. are the rich products of Arabia. There are also, besides stones, iron and other metals (gold excepted, which the ancients, however, seem to have found pure in rivers and in the earth). The animals are, mules, asses, camels, buffaloes, horned cattle, goats, noble horses, lions, hyenas, antelopes, foxes, apes, jerboas ; birds of all sorts, pelicans, ostriches, &c.; esculent locusts, scorpions, &c. The inhabitants are principally genuine Arabs, who speak a peculiar language, and profess the Mohammadian religion. The Arabians are still, as in the most ancient times, Nomades, of patriarchal simplicity. They are herdsmen and husbandmen. A passionate love of liberty, independence, and justice keeps them in a condition in many respects happy. The old " Peace be with thee" is still their common salutation. "Welcome! what do you wish?" is the address to a stranger, whose entertainment costs only a "God reward you!" They practise robbery, though never at the expense of the laws of hospitality. This warlike people have much activity and skill in bodily exercises ; a good physical conformation; in warm plains, a skin of a brownish-yellow : their hardy education, cleanliness, and temperance secure them from sickness. They call themselves Bedouins (Bedeei, sons of the desert, the Arabes Sienaiti among the ancient), and are distinguished by their mode of life. The sons in some tribes, dwell in houses, and carry on, exclusively, agriculture, trade, and commerce. Besides the original inhabitants, Christians, Jews, Turks, and Banyans dwell in the country. Formerly, Arabia was the great depot of the Phenician land trade: at present, the trade by land and sea is wholly in foreign hands. That by land is conducted by caravans. In the high schools of the Arabians, instruction is given in astronomy (rather astrology), pharmacology, and philosophy, so called: attention is also paid to history and poetry. The Bedouins remain in the deepest ignorance. Their government is very simple: the chiefs are named the great emir, the emir, and sheikh, and the judges are called qadi. The Turkish sultan is, indeed, nominal master of the country, but the free Arabian scorns his imbecile rule, and only obeys when he pleases. The history of the Arabians, before Mohammed, is obscure, and, on account of its slight connexion with the rest of the world, of little interest. The original inhabitants of the country are called by the present Arabs Beyjeddees (the last). The present Arabs derive their origin from Joktan or Kahtan in part, and in part from Ismael. The descendants of the former call themselves, emphatically, Araba; those of the latter, Mostarobs. The name Arab signifies an inhabitant of the West (for they are in that direction from the Asiatics); in Europe and Africa, they were called Saracens (inhabitants of the East). The older Arabian historians understand by Arabia only Yemen. Hedjaz (the rocky) they regard as belonging partly to Egypt, partly to Syria; and the rest of the country they call the Syrian desert. The princes (tobabi) of this land were, anciently, entirely of the race of Kahtan, to which belonged the family of the Homeyrites, who ruled over Yemen two thousand years. The Arabians of Yemen and a part of the desert of Arabia lived in cities, and practised agriculture: they had commerce, also, with the East Indies, Persia, Syria, and Abyssinias; and to the latter of these countries they sent many colonies, so that it was probably peopled by them. The rest of the population then, as now, led a wandering life in the deserts. The Arab is courteous in his manner, temperate, and sprightly. Reared to continual wandering, he possesses great bodily activity, and power of enduring fatigue. The attachment of the Arab to his horse, is as well known as the swiftness of the animal itself. The following cut represents an Arab on horseback in the ordinary dress of the country.

The costume of the Arabian women is not well fitted to display the graces of person, yet, they are generally elegant and refined, and would, to many, appear drab. The case in the eyes of Europeans, did they not abuse their skin by paints. The following cut represents an Arabian woman, in the common rank of life, with her earthen pitcher for carrying water over her shoulder.
The religion of the Arabians, in the time of their ignorance (as they call the period before Mohammed), was, in general, adoration of the stars; varying much, however, in different tribes, each of whom selected a different constellation as the highest object of worship. For a thousand years, the Abaranians manifoldly defended the free faith, and manners of their fathers against all the attacks of the Eastern conquerors, protected by deserts and seas, as well as by their own arms. Neither the Babylonian and Assyrian, nor the Egyptian and Persian kings, could bring them under their yoke. At last they were overthrown by Alexander the Great; but, immediately after his death, they took advantage of the disunion of his successors to recover their independence. At this period, the northern princes of the country were bold enough to extend their dominion beyond the limits of Arabia. The Arabian Nomades, especially in winter, made deep inroads into the fertile Ira or Chalda. They finally conquered a portion of it, which is hence still called the Arabian Gulf. Thence the tribe of Hareth advanced into Syria, and settled in the country of Gassan, whence they received the appellation of Gassanites. Three centuries after Alexander, the Romans approached these limits. The divided Abaranians could not resist the Roman arms everywhere; their country, however, was not completely reduced to a province: the northern princes, at least, maintained a virtual independence of the emperors, and were regarded as their governors. The old Homyrites in Yemen, against whom a unsuccessful war was carried on in the time of Augustus, preserved their liberty. Their chief city, Saba, was destroyed by a flood. With the weakness of the Roman government, the struggle for absolute independence increased, which a union of all the Arabian tribes would have easily gained; but, weakened and scattered as they were, they never, in the course of centuries in this contest, during which the mountainous country of the interior (Nedschid) became the theatre of those chivalrous deeds so often sung by Arabian poets, till a man of extraordinary energy united them by communicating to them his own ardour, and union was followed by augmented force.—Christianity early found many adherents here, and there were even several bishops, who acknowledged as their metropolis Bosro in Palestine, on the borders of Arabia. Yet the original worship of the stars could not be entirely abolished. The former opposition of the Abaranians to the despotism of Rome drew them to a multitude of heresies, who had been persecuted in the orthodox empire of the East, especially the Monophysites, and the Nestorians, who were scattered through all the East; and the religious enthusiasm of those exiles rekindled the flame of opposition. The Jews, also, after the destruction of Jerusalem, became very numerous in this country, and made proselytes, particularly in Yemen. The last king of the Homyrites (Hamjarites) was of the Jewish faith, and his persecutions of the Christians, A. D. 504, involved him in a war with the king of Persia, whom he killed in his life and his throne. To the indifference excited by so great a variety of sects is to be referred the quick success of Mohammed in establishing a new religion. He raised the Abaranians to importance in the history of the world, and with him begins a new epoch in the history of this people. See Moors, and Caliph, Caliphate.

The Arabian Gulf, see Red Sea.

Arabian Literature and Language. Of the first cultivation and literature of this country, we have but few accounts. That poetry early flourished in Arabia, is inferred from the verses addressed to the inhabitants, who are known to be bold, valiant, adventurous, proud, and excessively fond of honour. The tribes who wandered, under the government of their sheiks, through the beautiful region of Arabia the Happy, had nothing favourable to the growth of poets in delightful country, lively warm fancy. If it were beyond doubt, that the poem of Job was of Arabian origin, this would show, not only that Arabia Petraea had its poets, but also the character of their productions. We find in it bold images, noble metaphors, comparisons and descriptions, mingled with enigmas. The antiquity of philosophy among the Abaranians might also be shown from Job,—a poem comprehending, at the same time, physical and astronomical knowledge, which is, however, very imperfect. Even before the time of Job, Homer's name is found among the people. See Alkadah (hump). The collection of the Alkadah contains seven poems by seven authors—Armalkeis, Tharassah, Zohor, Lebid, Antharan, Amru Ben Khalchun, and Hareth. They are distinguished by deep feeling, high imagination, richness of imagery and sensibility, and sometimes false pride, violent breathings of revenge and love. The brightest period of the Arabian history commenced with Mohammed, and was soon followed by the golden age of their literature. Mohammed announced himself to the people as a prophet sent from God, and laid down rules of faith and life, which were collected by Abbasbek, first caliph after his death, corrected and published by Othman, the third caliph, and constitute the Koran. (q. v.) By this, the Arabian language of literature was fixed, the first literary direction given to the people, and their national character determined. The Arabian literature for centuries in this contest, during which the mountainous country of the interior (Nedschid) became the theatre of those chivalrous deeds so often sung by Arabian poets, till a man of extraordinary energy united them by communicating to them his own ardour, and union was followed by augmented force.—Christianity early found many adherents here, and there were even several bishops, who acknowledged as their metropolis Bosro in Palestine, on the borders of Arabia. Yet the original worship of the stars could not be entirely abolished. The former opposition of the Abaranians to the despotism of Rome drew them to a multitude of heresies, who had been persecuted in the orthodox empire of the East, especially the Monophysites, and the Nestorians, who were scattered through all the East; and the religious enthusiasm of those exiles rekindled the flame of opposition. The Jews, also, after the destruction of Jerusalem, became very numerous in this country, and made proselytes, particularly in Yemen. The last king of the Homyrites (Hamjarites) was of the Jewish faith, and his persecutions of the Christians, A. D. 504, involved him in a war with the king of Persia, whom he killed in his life and his throne. To the indifference excited by so great a variety of sects is to be referred the quick success of Mohammed in establishing a new religion. He raised the Abaranians to importance in the history of the world, and with him begins a new epoch in the history of this people. See Moors, and Caliph, Caliphate.

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princely salaries. He caused the works of the most famous Grecian authors to be translated into Arabic, and spread abroad by numerous copies. Al Mamun, who ruled soon after him, offered the Grecian emperor 10,000 gold pieces as a perpetual peace, if he would send him the philosophical and scientific works to instruct him. Under his government, excellent schools were established at Bagdad, Bassora, Bochra, Cufa, and large libraries at Alexandria, Bagdad, and Cairo. The caliph Moassem, who died A. D. 841, was of the same disposition, and gave a high degree of literary rivalry existed between the different schools of the Arabians. What Bagdad was to Asia, the high school at Cordova was to Europe, where, particularly in the 10th century, the Arabians were the chief pillars of literature. At a time when learning found scarcely any where else a place of rest and encouragement, the Arabians employed themselves in collecting and diffusing in it the three great divisions of the world. Soon after the beginning of the 10th century, students travelled from France, and other European countries, to be instructed, in a more decided manner, with the view of learning mathematics and medicine. Besides the academy of Cordova, the Arabians had established 14 others in Spain, without mentioning the higher and the elementary schools. They had five public libraries, and Casiri mentions 17 Arab libraries in France. Such rapid advances did this nation make (which, scarcely half a century before, was limited to the Koran, poetry, and eloquence), when they had formed an acquaintance with the Greeks. In geography, history, philosophy, medicine, physics, mathematics, and especially in arithmetic, geometry, and astronomy, their efforts have been crowned with great success, as is proved from the various terms of Arabic origin, still in use; for example, almanae, algebra, alcohol, azimuth, zenith, nadir, and many others. The invention of the common ciphers, also, has been generally ascribed to them; but professor SeySarth, who has been lately engaged in examining the precious collection of papyra and other Egyptian antiquities in the royal museum of Turin, among other important discoveries, asserts, that the Arabic figures are found among those of the Egyptians, which renders it probable, that the things mentioned above are merely borrowed, their ciphers. The Egyptians wrote, as we do, 1, 2, 3, &c. Even their fractions resemble ours, their fractional figures being written above and below a small horizontal line. He has also discovered that they employed the decimal system. Most of the geography in the middle ages is the work of the Arabians. They extended, in Africa and Asia especially, the limits of the known world. In the north of Africa, they penetrated as far as the Niger; in the west, to the Senegul; in the east, to Cape Corinete. When they first commenced their conquests, the generals were ordered, by the caliphs, to give a geographical description of the conquered countries. The countries, nations, and wealth of Asia were, in a great degree, known to them. They extended the knowledge of Arabia, their own country, of Syria and Persia, and gained some acquaintance, at least, with Great Tartary, the south of Russia, China, and Hindostan. Al Marun, Abu Ischak, Shefer Edrisi, Nassir Edkin, Ebh Haikal, who wrote between A. D. 95 and 21, Abuveda, and Ulug Beg Abdollatif, distinguished themselves as geographers; and much the most renowned among them, Abu Ali Abu Edrisi, has remained, in most cases, an immortal in regard to historical geography. The Arabian historians, since the 8th century, have been very numerous, though they have not yet been long enough known to European scholars to enable them to derive much advantage therefrom. The oldest and best known historian is Hesham ibn Muhamed ibn Schoaib Alkhekebi, A. D. 818. Praise is due, also, to Abu Abdallah Mohammed ibn Achmed, Alphurargius, George Almakin, Abuulfeda (who wrote a universal history), and the three Almuza, Almuraq, Arabschah, and others. The later historical works are in a calmer and more simple style. The philosophy of the Arabians was of Greek origin, and derived principally from that of Aristotle, which was studied first by those in Spain, and thence in all the rest of Europe, having been translated from Greek into Latin. Hence the origin of the scholastic philosophy may be traced to the Arabians. To dialectics and metaphysics they paid particular attention. Of their philosophical authors, Alfarabi must be mentioned, who wrote on the principles of nature. Alfarabi (who died A. D. 1036), and, besides other philosophical writings, was the author of a treatise on logic, physics, and metaphysics, and of a commentary on the works of Aristotle. Ibn Rajah distinguished himself as an original thinker. Algates is said to have written a treatise on the Platonian philosophy, to which Hapulath Halaphallah published an answer. The commentary on Aristotle, by Averroes, was particularly esteemed, and his paraphrase of Plato's Republic, which appears formerly to have been little read, even among his countrymen, deserves mention. Many of his works, however, at the same time, physicians; for the physical sciences, including medicine, were not then separated from philosophy. Next to geography, the Arabians, without doubt, have contributed most to these sciences. At Despondiaabur, Bagdad, Isphan, Firanzaib, Bukhara, Cufa, Bassora, Alexandria, and Cordova, from the 8th to the 11th century, medical schools were instituted, and, with the devoted study bestowed on this branch of science, the nation could not fail of making important advances in it, though, in reality, they were here also dependent on the Greeks. Anatomy made no progress among them, because the Koran expressly prohibited dissections. Yet they had an extensive knowledge of medicine, zealously studied botany, and might be regarded as the inventors of chemistry; at least, they have made many discoveries in it, and Dschieber is regarded as the inventor of alchemy. In the mechanical sciences (nosology) they made much progress, and learned how to treat judiciously various kinds of sickness. To their famous writers on medicine belong Alhramun (who first described the small-pox), Jahish Ibn Sceramon, Jacob Ibn Iskik Alkeni, John Mesve, Rhazes, Almanuar, Ali Ibn Abbas, Avicenna (who published the Canon of Medicine, for a long time the best work of the kind), Iskik Ben Soleiman, Abucessis, Abu Zohar, Averroes (the author of a compendium of physics). It cannot be denied, that honour is due to the Arabians for having maintained the scientific knowledge of medicine during the middle ages, and revived the study of it in Europe. If physics made less progress among them, the cause lies in the method of study. This science was treated metaphysically, in order to reconcile the principles of Aristotle with the doctrine of fate taught in the Koran. Mathematics the Arabians enriched, simplified, and extended. In arithmetic, they introduced the use of the ciphers which go under their name, and of decimals, into Europe, and, in trigonometry, sines instead of chords. They simplified the trigonometrical operations of the Greeks, and made algebra a general and useful applications of algebra. Mohammed ben Musa and Thilbet Ben Corrah particularly distinguished themselves in this department. Alluzen wrote on optics. Nissiredin translated the elements of Euclid. Dschieber Ben Afa wrote a com-
ARY LITERATURE—ARABIAN NIGHTS.

mentary on the trigonomotry of Ptolemy. Astronomy they especially cultivated, for which famous schools and observatories were erected at Bagdad and Cordova. As early as A.D. 812, Alhazen and Sergius had translated into Arabic the Almagest of Ptolemy, the first regular treatise on astronomy, of which, in Sicily, the sons of the wise men still later, in 1079, published new editions. Alhazen, in the 10th century, observed the motion of the aphelion. Mohammed Ben Dschber noticed the obliquity of the ecliptic, and compiled a theory of the sun. Alhmasor formed astronomical tables, in which appear some observations on the obliquity of the ecliptic. Alperin, vizier of Bagdad, wrote a theory of the planets. Geography was brought into connexion with mathematics and astronomy, and treated scientifically, particularly by Abulfeda. The division of the earth into seven climates, various geographical measures, and the like, belong to the Arabians. Much as the severer sciences were cultivated, the gruins of the people for poetry was not fettered. Abu Temam, in 830, collected the greater Hamassah, an anthology in ten books, and Bochieri, in 880, the lesser Hamassah, as a supplement to the other. These contain the seven prior poems of the Maasilakih. After the fall of the first oriental peculiarities of Ambly of poetry became more and more strong, the tone grew more melodic and extravagant, and the language lost its purity. Moteabbi deserves to be noticed for his tender elegies in a classic style; (see Proben der Arabischen Dichtkunst.—Specimens of Arabic Poetry.—by Reikke, Leipsic, 1765; and Moteabbi, translated by Eichhorn, Berlin, 1763. Adami's great heroic romance, Antar's Life (see Antar), is still said to produce amusement in the coffee-houses of Aleppo. It is written in 35 parts. The dramatic excepted, there is no sort of poetry which the Arabians have left unattempted. The ballad, a production of the bold and adventurous spirit of the nation, was invented by them. There is no doubt that they had, by this means, a powerful gift of poetry; for so small share of the romantic poetry of the middle ages belonged to the Arabians. The adventurous, chivalrous spirit, the tales of fairies and sorcerers, and perhaps, also, rhyme, passed from the Arabians to our western poetry. Thus this nation, in the period of the middle ages, contributed, in various ways, to the literature and the refinement of Europe, and left behind many traces of its former superiority. Hence the importance of their language to learned inquirers must appear evident to all. No one can do without it, who would take an accurate view of knowledge and human character. It belonged to the Semitic dialects, so called, among which it is distinguished for its antiquity, richness, and softness. By the Koran it was fixed as a written language, and, a short time after Mohammed, and still more since the 10th century, among the Arabian authors, who established the principles of the language, its beauties were explained, and it was well defined in dictionaries. By the entrance of the Arabians into Sicily and Spain, their dialect became known in Europe. But, notwithstanding it has left many traces in the languages of those countries, the knowledge of a text has been lost since the Moors from Europe. Postel again introduced the scientific study of it into France, and Spey into Ger-

many. In the 17th century, it flourished in the Netherlands, and was afterwards zealously pursued in Germany, Holland, and England. We have valuable grammars by Erpen, Michaelis, Richardson, Jahn, Rosenmuller, de Saucy; good dictionaries by Erpen, Goliis, Giegeri, Castel, Meninski, Wilmet, L. de Saucy, Schultens, Koseimuller, Jahn, de Saucy, Savary, and others. Kirsten, Schultens, Jones, Eichhorn, Tyechsen, Schmurrer, Hesse, Kosegarten, Hezel, Wahl, Pruhns, Rosenmuller, Vater, Augusti, and others have done the world important services, by their great cultivation, investigation, and labours. The learned Professors of Alexandria and Sprengel have shown how important the knowledge of it is to physicians. In fine, the remains of Arabian architecture, in Spain and Africa, deserve the attention of travellers. The French architect P. Coste, in 1818, studied this style, particularly in Cairo and Alexandria. Thence arose his work, Architectura Arabica ou Monuments du Caire, desseins et mesures, with seventy-four engravings, fol., Paris, 1823.

ARABIAN NIGHTS, or THE THOUSAND AND ONE NIGHTS; a celebrated collection of Eastern tales. The East is famous for the elegance and the skill of its poets. The ever active fancy of the people, their love of adventures, their belief in spirits, and their fondness for lively stories, are attested by numerous travellers. This character appears in the amusements of their coffee-houses and caravansaries. It gave rise perhaps first in India and Persia to those thousand fables which, contrary to Mohammed's express command, found in Arabia a second home, and were spread, with alterations and improvements, first separately, and afterwards in large collections, through all Europe. Many of them found their way thither in the time of the crusades or soldiar. They were derived from the fountains which supplied the writers of the French fabliaux, and the story-tellers and fabulists of Germany. In the beginning of the 18th century (1704), the collection which had long existed in the East, under the above title, was introduced to the literary men of Europe, and, in a short time, to the public generally, by means of the translation of Ant. Galland, a distinguished French Orientalist. Its appearance was hailed with universal delight, and it became one of the most popular works in all Europe. The manuscript of Galland, now in the royal library at Paris, was only the second part of the collection, and led to more careful investigation; and, in the year 1788, appeared at Paris the New Thousand and One Nights, by Chois and Canotte, from a manuscript deposited in the royal library by the former, who was a native Arab. The genuineness of the book was, at first, suspected, on account of the freedom which the editors used with the original; but the suspicion was afterwards proved to be without foundation. Much is due, however, to Caussin de Perceval, the successor of Galland in the chair of the Arabic professorship, who made a new version, in 1806, from the original text, and to the improvements of Galland and the other translators. It was reserved for the German literati to put a finishing stroke to this rich collection, by the use of manuscripts, before unknown. In 1823-4, appeared a German translation, superintended by Zimmering, of a splendid collection of the tales, translated by Hildebrandt, from the Persians, the Turks, the Egyptians, and the Arabs. It was a translation of the work of Galland and the others, and was dedicated to King Louis XVIII. of France, and to the French government.
was ushered into the world by Mr von Hammer. Still more valuable was a Tunistian manuscript in the possession of professor Habicht, of Breslau, by the assistance of which every defect was corrected, and, with the advice of two other learned men, a German translation was made, far excelling every previous one—*Tausend und eine Nacht*,
Ara, or Rack; A strong spirituous liquor, distilled from rice, sugar-cane, or the juice of the coconut.  The last which is the best, comes from Batavia; the others from Goa. At Goa, there are three kinds—single, double, and treble distilled. The double is most sought, although weaker than the Batavian.

Arapat, of Gibe  the orphan (the mountain of kinds of gold), in Armenia near Mecca. The Mohammedans say that it was the place where Adam first received his wife, Eve, after they had been expelled from Paradise, and separated from each other 200 years. On the summit is a chapel ascribed to Adam, ridden, in 1007, by the Walabees. The mountain not being large enough contains all the devotees that come annually on pilgrimage to Mecca, stones are set up round it, to show how far the sacred limits extend. The latest description of a celebration is by the indefatigable traveller Burckhardt (q.v.), who visited the place in July, 1814. He estimates the number present at 70,000. The camp covered a space of between three and four miles long, and from one to two broad, containing 300 tents and 25,000 camels. In this Babel, he reckoned about forty languages, and had no doubt there were many more. The sermon delivered on the mount constitutes the main ceremony of the Hadji, and entitles the bearer to the name and privileges of a Hadji. The hill is about 200 feet high, with stone steps reaching to the summit. After concluding the ceremonies at A., the pilgrims set out for Mecca, passing through the valley of Muni, on their return, in which they spend some time in "tasting the devil." This ceremony consists in throwing stones against small pillars set up at each end of the valley. Each completes 63 jaculations. 6 or 8000 sheep and goats are then sacrificed. The third day brings them back to Mecca, where some further ceremonies finish the festival. Arames, or Arames, a poet of the 16th century, descended from an illegitimate branch of the royal family of Spain. Her father, Pietro Tagliava, cardinal d'Aragon, whose natural daughter she was, placed her first at Ferrari, and afterwards at Rome, where her fine talents received the highest degree of cultivation. Her first work is called "Rime," in one 8vo vol. printed in 1547; Diologo dell'infinito d'Amore, which appeared in the same year; and II Mezchino a S. Gervasio, 4to, in 1560. Her beauty and accomplishments acquired her the title of one of her sex.

Aras, next to the Caspian sea, the largest inland collection of water in Asia. It was unknown to the ancients. It lies amid the plains of Turevensis and Kirghiz, its length is estimated at 250 miles, and its greatest breadth at 120. Its water is salt, like all standing collections without an outlet. It receives the Oxus and the Jazaxt, and contains a multitude of sturgeons and seals. It is encircled by desert, sandy benches, and the coasts there are hilly. Evaporation, as there is no outlet, seems to draw off its water. It lies very low, and is surrounded by many small lakes and morasses, but no hills. It was once, probably, united with the Caspian sea, the eastern coast of which is separated from the western coast of the A. only by eighty miles of low, sandy, and marshy lands. Both ends of these seas, where they approach each other, are very shallow. The A. is full of islands, which, like its banks, are without inhabitants.

Aras, Eugene, a man of considerable learning, and a friend of the French academies. He was born at Paris, 1748; son of a tradesman, was sent to a grammar-school at the age of seven, and was afterwards educated in a grammar-school at York-shire, 1704. His education consisted in learning to read; but, being of a studious disposition, he made great progress in mathematical studies and polite literature, by his own unaided exertions. He acquired the Latin and Greek languages, reading all of the Roman and most of the Greek classics, and also became acquainted with the oriental and Celtic tongues. In 1734, he set up a school at Knaresborough, where he married. About 1745, a shoe-maker of that place, named Daniel Clarke, was suddenly missing under suspicious circumstances; and no light was thrown on the matter till five or six years afterwards, when an expression dropped by one Richard Houseman respecting a skeleton then discovered in a cave, caused him to be taken into custody as one concerned in the murder of Clarke. From his confession, an order was issued for the apprehension of Arum, who had long since quitted Yorkshire, having been usher, first in a school in London, and afterwards at another at Hayes, in Middlesex, and in 1757 at the grammar-school at Lynn, in all which places he had acquitted himself with credit, and prosecuted his studies with great diligence. He was brought before justice and arraigned, and was brought to trial on the 3d of August, 1759, at York, where, notwithstanding an able and eloquent defence which he read to the court, he was satisfactorily convicted of the murder of Clarke, and sentenced to be executed. After his conviction, he confessed the justice of his sentence, and alleged his suspicion of an unlawful intercourse between Clarke and his wife, as his motive for the commission of the murder. He attempted to end his life, while in prison, by bleeding, but was revived and executed. His case produced at the time a great sensation, and has of late been pressed into the service of more than one political purpose.

Aranda (don Pedro Pablo, Aben de Rolen) count of; born 1719, of a distinguished family in Aragon. He devoted himself to military pursuits; but, as he discovered a remarkably penetrative spirit, Charles III. appointed him his minister at the court of Augsburg and later in Poland, an office which he filled for seven years. After his return, he became governor-general of Valencia. In 1765, the king recalled him, in consequence of an insurrection that broke out in Madrid, and appointed him president of the council of Castile. A. not only restored order, but also effected a series of important measures, and, in particular, the reign of the kings of Aragon. The influence of Rome and the priests, how-
ever, succeeded in inducing the king to send him on an embassy to Ptolemy. For a. living years; then to Madrid, as councillor of state, he lived in a sort of disgrace, till the queen, not content with the count Florido Blanco, in 1702, gave his place to A. Some months after, he was succeeded, greatly to the displeasure of the court and nation, by don Manuel Godoy (q. v.). A. continued president of the council of state till he declared his opinions respecting the war against France, when he was banished to Aragon. He died here, A. D. 1794, leaving a young widow, and no children. Madrid was obliged to him, in a great degree, for its security, good order, and the abolition of many abuses.

His son was A., who became one of the most splendid gardens, beautiful walks shaded with elms, a park for hunting, in the Spanish province of Toledo, in a charming shady vale of the Tagus, which receives here the waters of the Xarana; thirty miles from Madrid, to which a Roman road, built by Ferdinando VI., leads; every mile of which cost 3,000,000 reals, about 147,000 dollars. A. lies in lon. 3° 36' W., lat. 4° 5' N. The court usually resides here from easter till the close of June, when the number of people increases from 2500 to about 5000. Charles V. marked out this vale as the seat of a royal resi-
dence. Philip II. founded the palace and gardens here, His successors, particularly Ferdinand VI., Charles III., and Charles IV., improved and greatly enlarged it. The village is built in the Dutch style, and has broad and straight streets, which cut each other at right angles. The palace has marble mirrors, superb mirrors from the manufactury of St. Idefonso, rich works of art; and both the church and the monastery are adorned with many fine paintings by Spanish and Italian masters. The casa del labrador was designed by Charles IV. with great richness and splendour. 

The palace of A. has been often celebrated by Span-
ish poets, and is renowned for its gardens, shaded walks, and waterworks. The gardens are in the form of a star. The chief walk, overshadowed by elms, is 600 or 700 paces long, twelve feet wide, and is bordered by a quick-set hedge. Every seventy or eighty paces, there are resting-places, in the form of a hexagon, cooled with fountains. Twelve passages, shaded by elm-trees, unite in forming a large, round area. The royal stud, the herds of nules and buffa-
loes, the grounds under tillage, the orchards and gardens here, were formerly in a good condition. There is a fountain in the neighbourhood, from which a strong jet of water rises in a circular motion through a salt islets is obtained. A. has become celebrated, of late years, by the revolution of March 18, 1803. See Spain.

AraRAT; a mountain in Armenia, in the pachalic of Erzerum. It stands on an extensive plain, and is connected by low hills with mount Shuruz. Its summit, covered with perpetual snow, in the form of a sugar-loaf cut into two peaks, presents a formidable appearance with its craggy cliffs and deep precipices. Its highest peak, Maiz, is in the Persian province of Iran, rising to the height of about 9650 feet. It is the greatest elevation in the whole region, and sacred history affirms that Noah's ark settled upon it. 

AraRAT, or PILOT MOUNTAIN; a mountain of North Carolina, on the N. side of the Yadkin about sixteen miles N. of Salem. It is about a mile in height, and rises in the form of a pyramid, with an area of an acre at top, on which is a stupendous rock 300 feet high. From the summit of this rock there is an ex-
tensive, untrampeled, and delightful prospect. It is seen at the distance of seventy miles, and served as a beacon or pilot to the Indians in their routes.

Aratos; a Greek poet, born at Soli (Pompeipoli,) in Cilicia. He flourished about 270 B. C., was a fa-
vourite of Ptolemy Philadephus, and a firm friend to Antigonus Gonatas, son of Demetrius Poliorcetes. We know his only from his poem Phaenomena, in which he has given us, in correct and delightful form, all that was then known of the heavens, with their signs and appearances, although there is reason to believe that he was not himself an astronomer. The poet, which the ancients had for this work, appears to have been translated by Cicero, Caesar Germanicus, and Avienus. Eratosthenes, with many other great astronomers, wrote commentaries on it. The best editions are by Fell, Oxford, 1672; by BuHle, Leipsic, 1793—1801, 2 vols.; and by Matthine, Frankfort, 1817—18. It has been translated into German by Heins H., and into English by Mitford, 1823, and published with the Greek text and illustrations. 

Aratus of Sicyon, son of Clinias, was born 273 B. C. His father fell in a tumult excited by Aban-
tidas, and A. fled, without knowing it, into the house of the tyrant's sister, who, struck with the circum-
sance, saved the life of the boy, then seven years old. Afterwards he was sent to Argos, and the ex-
iles from Sicyon expected in him their future restorer. When he had scarcely reached his twentieth year, he delivered Sicyon from the tyrant Nicoles. He would not stain the liberty of his native city with the blood of any citizen, but met with much difficulty in the ad-
ministration of the affairs of his city. He was made a thirty to the city, the king of Macedon also espoused the cause of the deposed Nicoles. Under these circumstances, he deemed it best to join Sicyon to the Achaean league,—the only remaining support of freedom in Greece. By his influence with Ptolemy, king of Egypt, he obtained a sum of money sufficient to set-
tle the various claims of the returned citizens, and, being vested with the supreme constitutional power in Sicyon, he governed with justice and moderation. In due time, being made general of the Achaean league, he recovered the almost inaccessible fortress of Corinth from the king of Macedon, by a plan which is one of the most admired instances of ancient military strategy. In the end, however, owing to a hostile league against the Achaeans between the Electolians and Spartans, A. in opposition to his own principles, was obliged to call in the assistance of Antigonus, king of Macedon. This turned the tide of affairs for a while, but, on the death of Antigonus, similar difficulties occurring, his successor, Philip, was in the same manner called to the aid of the Achaean. At first, Philip highly esteemed A., but was gradually estranged from him, and it was thought that a scheme had been administered to him, for A., spitting blood in the presence of a friend, exclaimed, " Behold the friendship of Kings!" He died in his fifty-seventh year, 216 B. C., and was interred with the highest honours. A. was one of the most virtuous and noble-minded men that shed lustre on the declining days of Greece. Polybius speaks in high terms of Constantine, written by A. on his own actions and the affairs of the Achaeans, which, it is much to be regretted, have not reached posterity. The chief materials for his his-
tory are to be found in Polybius and Plutarch. 

AraRUT; This is a South American nation, of 400,000 inhabitants, in the southern part of Chile. They occupy a territory containing 64,000 square miles, and stretching from 33° 44' to 39° 50' of S. lat. They have maintained their independence against the Spaniards to the present time. "Bounded on the N. by the river Bio, Bio, on the W. by the Pica, on the E. by the Andes, and W. by the Pacific ocean, they live under a free, though aristoc-
ratical form of government, agreeably to common laws and customs. They dwell in villages, and em-
ploy themselves in agriculture and raising cattle. The woollen dress of the men is a shirt and a dark-

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blue mantle; the women wear a mantle and a long petition. The freemen live in huts. Vegetables form their principal food, and butchers among them, yet the domestic affairs are managed by the women. Their language is allied to the Patagonian. One of the four toquis (high hereditary nobility) conducts the public affairs. If he does not, however, enjoy universal respect, the ulmenes, or hereditary nobility of the other class, displace him, and substitute one of their own number. Distinguished knowledge and boldness must be shown by the nobility, to excite respect. The general appoints his own lieutenant, who, in his turn, appoints another for himself. Thus every brave soldier, dependent upon the one above it, yet not on the supreme power. In establishing laws and determining in military operations, every A. has a voice. The executive power, however, is not bound by expression of the popular opinion. Till 1531, the A. fought only on foot, and then, for the first time, they learned the value of cavalry. Now they have many horses, and, on their marches, each rider carries a foot soldier behind him, so as to advance with more speed. In battles, the cavalry are posted on both wings. The lieutenant-general, vice-toqui, commands one of the wings. In the battle array, the cavalry, armed with lances and spears. They are, likewise, well skilled in the use of firearms. In their battles, a portion of the warriors usually remain behind as a corps de-reserve. The A. advance to an attack with a hideous noise. In the revolutionary struggles of the South American states, the toqui of the A. resolved upon neutrality, which he honourably maintained.

Arhela; Arhele; or Archele; a small place in Eastern Assyria, renowned for a decisive battle fought by Alexander the Great against Darius, at Gaugamela, in its neighbourhood, B. C. 331. A. fell.-A name applied among the Romans, 1. to a judge, whom the prator had commissioned to decide a controversy pending before him, according to the principles of equity (ex aquo et lono); 2. to a person to whom the contend ing parties had committed the decision of their dispute, without the interference of a magistrate, by an agreement partly with one another (compromissum), partly with him (receptum); finally, 3. one whom the contending parties had only consulted, with the design of his drawing up terms of settlement, without binding themselves to assent to them. To an arbiter, in the first signification, declaration was made by the parties of their willingness to delegate trust and confidence (in negotio bona fide), not in cases of strict right (in negotiis stricti juris). In the latter cases, the prator appointed a judge (judex pedaneus) who was to decide according to a strict rule (formula) which was given to him. In this threefold signification, the arbiters (arborers) among the Athenians are comprehended. From the arbiter comes the arbitrator, i.e. one to whom the deciding judge proposes questions depending on scientific or technical knowledge, which affect the decision of the dispute. From the opinions of such a man, the parties may appeal to the opinion of a third (to a reducio ad arbitrium boni viri). But as soon as they have committed the decision to a third by an agreement (compromissum), and the commission (receptum) has been received by him, they must submit to his decision. His sentence (arbitrium, or laudum) can only be assailed by him, e.g. libel, which can be proved against him. In the opinion of many learned jurists, however, it may be called in question in case of a great though unintentional violation of justice (propter levisinem enormissimam). Justinian established the distinction between the decision to which the parties subscribe, or which he makes obligatory by a silence of ten days, and that against which they have protested within ten days. The former is called arbitrium homologatum; the latter, non homologatum. The latter is considered the more binding. 

Arbitration. Parties may submit a dispute to arbitration either orally or in writing, and, in either case, the award, when properly made, will be binding upon the parties. The submission is in the nature of a committee by both parties to the arbitrators to determine the victory in dispute. The small body of this authority before the award is made, the award will not be binding upon the party so provoking. But if the submission were by bond or covenant, or in writing, and, in some cases, if it were merely oral, the other party might not be bound against the party so revoking, for the breach of his duty to submit the matter in dispute to arbitration. General agreements to submit disputes that may arise, such as those contained in policies of assurance, are not binding by the laws of England. Similar agreements, are, however, binding in Germany, and some other parts of the continent, where articles of compact frequently contain a clause to submit disputes between the partners to arbitration; and will often contain a provision that disputes among the legates and devises shall be so settled. In submitting disputes to ordinary courts, parties have as much right to choose the judge as to settle the case, to take an oath to comply with the award, or they agree upon a penalty for not complying. Each is binding. One reason for not giving effect to such general agreements in England is, that it substitutes other tribunals in the place of those established by the laws of the country, which may be done in case of a dispute that laws actually arise, but not by a general and prospective agreement. The laws of most countries, however, favour the settlement of disputes by arbitration. The parties may agree in court to refer their case to arbitration, and the judges will recognize the agreement. Crimes cannot be submitted to the subjects of adjustment and composition by arbitration, for the public is here one party; but the personal injuries and pecuniary damage resulting from crimes or breaches of the peace may be made subjects of reference. As to the persons who may agree upon a submission, any one may do so who is capable of making a disposition of his property, or a release of his right; but one under a natural or civil incapacity cannot, as a married woman or minor. The arbitrators chosen by the parties are often authorized to choose an umpire, in case they disagree; but in some countries it is a public function of the commission or sealed and executed in Germany, the umpire is agreed on beforehand by the parties. As an arbitrator is a judge who receives a commission from the contending parties, it must be left to them to decide on his qualifications, and the laws do not generally make any specific provisions on this subject. If, however, it appears that the arbitrator was interested, and his interest was unknown to one of the parties, or that he was bribed, or that any other strong objection lay against his acting as arbitrator, exception may be made to the award on that account. The provisions of various statutes for carrying awards into execution, and the exceptions that may be made to them on the ground of interest, circumvention, mistake, or informality, are too numerous to be stated particularly.

Arbroath, Aberbrothick, a royal burgh and sea-port town in the county of Forfar, Scotland, situated on the river Forfar, or River Braes, with the German ocean, 56 miles N. E. from Edinburgh. The early history of Arbroath is chiefly connected with its abbey, the ruins of which afford striking proofs of its former magnificence. King William the Lion granted the privileges of Arbroath, in the middle of the 12th century, to the monks of the abbey founded in 1178, which was dedicated to
the memory of Thomas à Becket. The monks were of the Tyroncian order, and enjoyed great privileges. Its last abbot was Cardinal Beaton, after whose death it fell a prey to the religious zeal of the reformers. Thus, many friaries were closed, and their ordinances, and commerce began to revive, and the manufacture was undertaken of Osnaburgs, brown linens, and sail cloth, which has eminently succeeded, and forms the principal employment of the inhabitants. The harbour of Arbroath is artificial, but well sheltered by a long pier, and defended by a small battery. About 50 vessels of from 60 to 100 tons burthen belong to the port, which are chiefly employed in the Baltic and coasting trades. Population of Arbroath, 8972.

Arbuthnot, Alexander, a Scottish divine, in the reign of James VI., and zealous promoter of the reformation, was born in the year 1558. He was much employed by the church of Scotland in its tedious disputes with the regency during the minority of James VI.; and displeased the king so much by the part he took in these affairs, as well as by editing the publication of Buchanan’s History, that he was ordered to confine himself to Edinburgh. He was the principal by which he was principal. This is supposed to have hastened his death, which took place in 1583. His only existing work is an elegant treatise, entitled “Oratones de origine et dignitate Juris,” Edin. 1572, 4to.

Arbuthnot, John, an eminent physician and discerning wit, was, born in Arbroth, in Scotland, soon after the restoration, but in what year is uncertain. He received the degree of doctor of physic at the university of Aberdeen, and engaged in the business of teaching mathematics in London, where he soon distinguished himself by his writings and by his skill in the practice of his profession. In 1704, he was chosen fellow of the royal society, in consequence of his communicating to that body a curious and instructive treatise “on the regularity of the births of the sexes;” and soon after he was appointed physician extraordinary, and then physician in ordinary, to queen Anne. About this time he became intimate with Swift and Pope, and this brilliant triumvirate formed the plan of a satire on the abuses of human learning. But the completion of this design was interrupted by the death of the queen, and we have only an imperfect essay, under the title of “An Essay to the True Character of an Heiress.” The death of queen Anne made such an impression on doctor Arbuthnot, that, to divert his melancholy, he visited Paris, and, on his return, was deprived of his place at St James’s. He continued, however, the practice of his profession, and, in 1725, was chosen second censor of the royal college of physicians, and afterwards an elect of the same college. Being afflicted with an asthma, which, having increased with his years, was at last become incurable, he retired to Hampstead for relief; but, being sensible that his disease was mortal, he returned to London, where he died in 1735.—The principal works of doctor Arbuthnot are, an Examination of Doctor Woodward’s Account of the Deluge, 1697, and an Essay on the Usefulness of Mathematical Learning, which were the foundation of his literary reputation; the Table of Ancient Coins, Weights and Measures, explained and exemplified, in several dissertations, which appeared in 1727; the treatise of the Nature and Choice of Alliments, 1732; and that of the Effects of Air on Human Bodies, 1738. In these he displays his solid and extensive learning. His treatise on the Altercation or Sokking of the Ancients, his History of the connexion of swimming with different parts of the body, his Art of Political Lying, and other pieces usually published in Swift’s works, are equally distinguished for ingenuity, wit, and exquisite satire. His Epitaph on: Charteris is a finasterly composition in its kind.

His miscellaneous works have been published in 2 vols. 12mo., with a memoir of his life prefixed, but some of the pieces there given, are now known not to be his. Arbuthnot was greatly beloved by his literary friends, and Swift, in his “Gulliver’s Travels,” refers to the Satires,” and Swift affectionately adverts to him in more than one of his poems. “Arbuthnot,” he says in one place, “has more wit than we all have, and more humanity than wit.” The following sketch of his character, from Dr Johnson’s life of Pope, is justified by the testimony of his contemporaries to the excellence of his works:—“Arbuthnot was a man of great comprehension; skillful in his practice, versed in the sciences, acquainted with ancient literature, and able to animate his mass of knowledge by a bright and active imagination; a scholar, with great brilliance of wit; a wit, who, in the crowd of life, retained and discovered a noble arbour of religious zeal; a man estimable for his learning, amiable for his life, and venerable for his piety.”

Arcadia, the middle and highest part of the Peloponnesus; the Greek Switzerland; bounded on the north by the sea of Sicyon, on the south by Messenia, and on the west by Elis. It is rich in rivers, springs, and pastures, and is watered by the Eurotas and Alpheus. The principal mountains were called Cyllene, Ergynanthus, Symphatus, and Menitus. From its first inhabitants, the Peloæni, the land derived the name Pelopæa. In later times, it was divided among the fifty sons of Lycaon, and received from his grandson, Arcas, the name Arcadia. In the course of time, the small kingdoms made themselves free, and formed a confederacy. The principal were, Mountene, where Epyammondus obtained a victory and a tomb (now the village of Mond), Tegea (now Tripoliza), Orchomenus, Pheneus, Psophis, and Megalopolis. The shepherds and hunters of the rugged mountain country remained for a long time in a savage state. By degrees, they acquired the rudiments of civilization, and began to cultivate the soil. The object of ambition to the shepherds was Pan, and the occupation of the people almost entirely pastoral. This, together with the romantic character of the country, occasioned the pastoral poets to select Arcadia for the theatre of their fables.

Arcadians, Academy of the; a society of Italian poets in Rome, established in the latter half of the 17th century, for the improvement of taste and the cultivation of Italian poetry. The whole constitution of the society had as its object the imitation of the pastoral life of the Arcadians. Hence their meetings are held in gardens, and every member adopts the name of a Greek shepherd, by which he is called in the society. Under these names the poems of the members are usually published. The laws of the society are drawn up after the model of the twelve Roman tables: the most important are, that the society shall have no poet, and that no poems are to be read which are contrary to religion and good morals. The device of the society is the syrinx (the ancient shepherd’s pipe), entwined with pines and laurels. Only poets (without distinction of sex, however) can be members of it. Formerly, the society was greatly enjoyed by the poets, but by the admission to obtain admission to it; but this is no longer the case. In imitation of the chief society in Rome, societies for the same purpose were instituted in several Italian cities. Crescimbeni (q. v.) has publi-
lished collections of the poems of this association, and biographies of several of its members. In 1824, Leo XII., under the name of Leo Pietatæ Cecropisio, was admitted a member.

Arcanum; a secret; especially a secret remedy, or a medicinal herb whose ingredients and preparation are kept secret.

Arcadia, a Greek philosopher, the founder of the School of the Muses, was born at Parnassus, in the year of the 116th Olympiad, B.C. 316, and sent to Athens to study rhetoric, but philosophy attracted him more. He enjoyed the instructions of the Peripatetic Theophrastus, then of Polemon, and, after the death of Crates, stood at the head of the Academy, but made important innovations in its doctrines. Plato and his successors had distinguished two kinds of objects—material, which act upon the senses, and those that are only comprehended by the mind. Our notions of the former, they say, compose opinion; of the latter, knowledge. Arcesilus, who approached to scepticism, or rather was a sceptic, said that a man was not bound by any thing—and even the fact that he knows nothing. He rejected its false and delusive the testimony of the senses, and accordingly maintained, that the truly wise man can maintain nothing. In this way he was able to combat all opponents. As he was obliged, however, to reconcile these strange maxims with the necessities of life, imposed alike on every being, he said their strict application was admitted only in science, and that a man may even adhere to what is only probable in the present life. Moreover, he was kind to the distressed, and a friend to pleasure. A rival of Aristippus, bequeathed his time between the Muses and the Muses, without ever filling a public office. He died, from an intemperate indulgence in wine, seventy-five years old, in the fourth year of the 134th Olympiad.

Arch, a building. See Architecture.

Arch (from the Greek prefix αρχή); a syllable which is placed before some words, in order to denote the highest degree of their kind, whether good or bad, e.g. archangel, archdike, archchancellorl, archbishop, archspirit of evil, archfiend, archflatterer, archfelon, &c. Many of the highest officers in different empires have prefixed this syllable to their titles, and, in the German empire, the arch-offices (erzämter), as they were called, were of high importance. They were established in France, by the same constitution which conferred the imperial dignity on Napoleon.

Archbishop; a dignitary who holds the post of archbishop. See Archbishops.

Archangel; the chief city in a Russian district of the same name, which contains 366,400 sq. miles, with 263,100 inhabitants, among whom are 7000 Samoyedes. The city lies between twenty and thirty miles from the mouth of the Dvina, on the White sea; long. 39° 59' E.; lat. 64° 34' N. It contains 1900 houses and 15,100 inhabitants. The monastery of Michael the archangel, founded there in 1584, gave the city its name. The English first discovered a passage thither through the Frozen ocean, A.D. 1555, and, until the building of Petersburg, A. was the only port whence the productions of Russia were exported. When Petersburg became a place of export, and St. Petersburg was used as a Russian port, the trade of A. was carried on till 1725, when the English were granted to it all the privileges of Petersburg. The trade on the Dvina has since increased more and more with the growing population of Russia; and A. has become the chief mart of all imports and exports for Siberia, being connected by canals with Moscow and Astracan. In June or July, foreign vessels arrive, which sail again in the last of September or October. In those two months, there is a perpetual demand for fish, fish-oil, salt, flax seeds, fur, fish, fish-oil, &c. More than 200 foreign vessels arrive annually; in 1823, 250 sailed. The trade is seriously obstructed by a tax of 6 per cent on all sorts of fur, skins, ship-timber, wax, iron, coarse linen, hogs' bristles, china and japanned vases, caviare, sturgeon, &c. The house of the admiralty and the barracks of the soldiers are situated on the island Solombol, formed by the river Cuschenida. In 1816, the value of imported goods subject to duties was 1,138,000 rubles, and of the exports, 6,000,000 rubles. The paper ruble fluctuates in value with the exchange; in 1823, it was estimated at about 11½ sterlings; while the silver ruble is worth 3s. 2½d. The shortness of the nights, during the time the harbour is navigable, presents a natural obstacle to smuggling. The shortest day is three hours and twelve minutes long. Many expectations have been entertained that the commerce of the river may be extended, and that the waste of such an abundant source of revenue may be prevented. The provincial government has recommended the building of a canal from this place to Spitbergen and Nova Zembla, by water in summer, and by sledges in winter, to the mouth of the Lena, and perhaps further.

Archbishop (from the Greek; in Latin, archiepiscopus); a metropolitan prelate, having several suffragan bishops under him. In Catholic countries, the archiepiscopal chapters elect the archbishop, who is confirmed by the pope. The establishment of this dignity is to be traced up to the earliest times of Christianity, when the bishops and inferior clergy met in the capitals to deliberate on spiritual affairs, and that the business of the church was held presided. Certain honours were allowed him, the title of metropolitan particularly, on account of his residence. The synod of Antioch gave the archbishops, in the year 341, the superintendence over several dioceses, which were called their provinces, and a rank above the clergy of the same, who were obliged to ask their advice in some cases. By degrees, their privileges increased; but of these the pope has retained many since the 9th century, so that only the following were left to the archbishops:

—jurisdiction, in the first instance, over their suffragan bishops, in cases not of a criminal nature, and appellate jurisdiction from the bishops' courts; the right of convoking a provincial synod, which they were required to do at least once in every three years, and the right of presiding in the same; the care of enforcing the observance of the rules of the church, of remediying abuses, of distributing indulgences; the right of consecration (q.v.), of having the cross carried before them in all parts of the province (if the pope himself or a legatus a latere is not present), and of wearing the archiepiscopal pallium (q.v.) in England there are two (Protestant) archbishops—those of Canterbury and York. The latter is primate of England, the latter, primate of England; but with regard to the exact distinctions between these appel-
ARCHDEACON — ARCHERY.

ARCHDEACON. This ecclesiastical officer, who was at first only the chief among the deacons in a cathedral or metropolitan church, in the 5th century, acquired the secular dignity of an archbishop and ranked as such in the rank of presbyters, and placed him nearly on an equality with the bishops. The archdeacons have since been not mere assistants, but representatives of the bishops in the dioceses and councils. By degrees, the affairs of the bishop's jurisdiction, the superintendence of the clergy, the churches, convents, and ecclesiastical possessions, the right of visitation, the trial of heresies in the western bishoprics, came to be exercised by the archdeacons. Until the 9th century, they were only delegates of the bishops, but they afterwards became independent officers of the church, with almost episcopal power, partly through the weakness and ignorance of their principals, partly through the division of the dioceses, which took place in the 8th century, into several smaller districts or archdeaconies, over which the archdeacons presided. In the 11th and 12th centuries they were increased in number and power as the episcopates were diminished, and their jurisdiction in most dioceses, in the 16th and 17th centuries, passed to the new archbishops. In the 18th century, they were still regarded as dignitaries in some chapters; but now this office, the chief of all the principal officers of the Church, with the deans and other officers, is almost wholly abolished in the Catholic Church. In the chapters established again since the downfall of Napoleon, it has not been revived. In the Greek church, since the 7th century, there have been no archdeacons, except one in the Greek imperial court at Constantinople. The episcopal church in England, on the contrary, still has archdeacons, who are the deputies of the bishops, to superintend the districts. The archdeacons in the evangelical Lutheran church enjoy no particular privileges, except precedence over the diocesan deans. In the three principal churches, the United States, England, and Ireland, they are the second ecclesiastics in the principal churches.

ARCHDEACON.—1. A Greek philosopher, a disciple of Anaxagoras. He flourished about 440 years B. C. Like his predecessor, he chiefly devoted his attention to the origin of things. He first taught at Lampscus, and subsequently removed to Athens, where Socrates became his disciple and successor.—2. A king of Macedon, natural son of Perdiccas II., and his successor. He entertained at his court Euripides, and employed Zeuxis' pencil. He died about 395 B. C.—3. The son of Herod the Great. His reign is said to have occupied 9 years. He was at length accused before Augustus (Juda being then dependent upon Rome). The emperor, after hearing his defence, banished him to Vienna, in Gaul, where he died. To avoid the fury of this monster, Joseph and Mary retired to Nazareth.—4. The son of Apollonius, a sculptor. He was a native of Ionia, and is thought to have lived under Claudius. He executed in marble the apotheosis of Homer, which was found, in 1768, at a place called Fratocchia belonging to the house of Colonna.

ARCHER, John William von; a very voluminous German author; born 1743, died 1812. He is known in foreign countries by his England and Italy, translated into almost all the living languages of Europe. He also wrote Annals of British History, from 1788, in twenty vols. 1789—98. Perhaps his most important work is his History of the Seven Years' War (in German), two vols. Berlin, 1788.

ARCHERY; the art of shooting with a bow and arrow. This art, either as a means of offence in war, or of subsistence and amusement in time of peace, may be traced in the history of almost every nation. The first notice of archery in the sacred writings occurs in the history of the first chapter in which is said, that Ishmael, the illegitimate son of Abraham, "dwelt in the wilderness, and became an archer." It appears that the Jews did not excel so much in this art as some of the neighbouring nations, by whom they were infested with perpetual hostilities. When David succeeded to the throne, he found it necessary to issue an order, that Judah, the most warlike of all the tribes, should be taught the use of the bow. Jonathan, the son of Saul, appears to have been so expert in the practice of archery, that he never drew his bow in battle, without drenching his arrows in the blood of the mighty; but in that fatal encounter, in which he and his father fell, the Philistines manifested a great superiority over the men of Israel, in the use of that military weapon. From different passages of the Old Testament, and from other ancient books, we learn, that archery was used not only as a means of destruction, but one of the means of divination. From the accounts transmitted to us by Herodotus, it would appear that the Scythians were superior to all other nations in the practice of archery; and that the Ethiopians and Egyptians also greatly excelled the Persians. Among the Greeks, the bow and arrow appear to have been
employed from the earliest times. If the descriptions of battles given by Homer, are to be admitted as genuine, or light armed of the mode of fighting in the heroic ages, we must conclude that the archers were interspersed among the other troops; and that, sheltering themselves behind the shields of their companions, they took their aim deliberately and securely. In later times, the archers formed part of the vase, or light armed troops, who were not held in such estimation as the _ vexilla._ The Athenians, however, were indebted for some of their greatest victories to the feats of the archers; and particularly for the success of the bloody engagement with the Lacedaemonians, near Pylos. The guards of the city of Athens were archers. There is no early account of bows having been used in the Roman armies. In the time of Scipio Africanus, they were applied with great effect against the Numantines in Spain. Tiberius owed his success in the war with Arminius and Inguiomerus chiefly to the great execution done by his archers, some of whom fought on foot, and others were mounted on horseback. After his time, the practice of archery was not discontinued; but it would require a great share of credulity to admit the narratives of Suetonius and Herodian, concerning the surprising expertness of Domitian and Commodus, to be founded on facts given by eye-witnesses. The Roman Sagittarii were part of the Velites, composed of _pauperes et juvenes, _often also of auxiliaries. Their service was peculiarly dangerous; they were sometimes placed in front, sometimes in the wings, sometimes in the rear; and the chief purpose for which they were employed was to harass the enemy, by attacking the weakest parts of their lines, before the general attack commenced. The subjoined cut represents the costume of a Roman archer.—In the middle ages, the Goths, Vandals, and Huns, gained their victories chiefly by the use of the same destructive weapons. The Swiss were famous archers. The English claim to be considered the best of modern archers, and their claims have seldom been disputed. Edward III. was at great pains to provide bows and arrows. In the battle of Cressy, his archers cut off the flower of the French nobility. The French had as many archers in the field as the English; but the former are understood to have used the cross bow, which is not easily protected from the rain; and, it is said, their bows or their strings were so completely soaked as to be altogether unfit for use. The victory gained by the Black Prince at Poictiers, when the French king and the dauphin, and almost all the peers of France, were taken prisoners, was also ascribed to the archers, very few of whom fell, though the slaughter of the French was enormous. The battle of Agincourt, still more fatal to the French, and more glorious to the English, was gained by the same mode of fighting. The advantages from time to time obtained over the Scots were chiefly owing to the strength and skill of the English archers. The great example which Robert the Bruce set at the battle of Bannockburn, of dispersing the archers with his cavalry at the commencement of the conflict, was, unfortunately for Scotland, too seldom followed. Notwithstanding the encomiums which ancient and modern writers have lavished on archery, it must be admitted, that, in many respects, it was not worthy of the weapons of which it was the subject. In the states of the atmosphere it could not be applied with any effect; moisture not only impairs the elasticity of the bow, but relaxes the strings, and soon renders them unfit for use. The direction and intensity of the winds must often have been still more disconcerting; except in a calm, or in a very moderate wind, the best marksman cannot shoot straight, and when the wind is very boisterous, especially if it either be opposite or a side wind, it is impracticable to shoot far. Another disadvantage under which the archers must have laboured, was being attacked in the night, or in a fog, in either of which cases they might have been cut off before they found time to bend their bows. In modern times, this weapon is used by the Asiatic nations, by the tribes of Africa, by the Indians, &c. In 1513 and 1514, irregular troops, belonging to the Russian army, particularly the Dushekkers, appeared in Paris, armed with bows and arrows, and made surprising shots.—Concerning archery as a pastime, or a healthful exercise, it has the sanction of Galen, as being sufficiently active and not too violent; in addition to this salutary and moderate exertion of the muscles, it possesses two other advantages. It leads the mind to thinking, exercising the mind, and exciting the mind, especially when it is attended by competition. For more than two hundred years after fire-arms were introduced, attempts were made by the English government from time to time to encourage the practice of archery. Charles I., in the fourth year of his reign, ordered that the king's guards should be allowed under the great seal for enforcing the use of the long bow; and though this was revoked a few years afterwards, another was granted in the year 1633, to two persons of the name of Meade, authorizing them to teach an invention for uniting the use of fire-arms and archery. Ten years afterwards a precept was issued by the earl of Essex, calling upon all well-affectcd persons to assist in raising a company of archers for the service of the king. Since that time, and, indeed, long before, archery can claim only to be considered as a recreation. In Great Britain, a number of societies have contributed to preserve the exercise from falling into total disuse. The archers of Finsbury are now extinct, but their society is incorporated with the archers' division of the Artillery Company of London, founded by royal charter in the twenty-ninth year of the reign of Henry VIII.; who were permitted to shoot not only at marks, but birds, except pheasants or herons, and to wear dresses of any colour, except purple, or scarlet. The only other companies still subsisting in England, are the Kentish Bowmen, the Woodmen of Aros, and the Toxophilites. The Royal Company of Archers in Scotland is said to have arisen in the time of James I. The commissioners appointed by that prince to superintend the exercise of archery in different districts, selected the most expert archers, and formed them into a company, to act in the capacity of the king's principal body of guards; and the Royal Company still claim within seven miles of Edinburgh. In 1677, we find them recognised by an act of the privy council, as his Majesty's Company of Archers; and at the same time a king's prize, consisting of a piece of plate valued at £200 sterling, was ordered to be given annually to be shot for at their weapon shooting. Their attachment to the unfortunate family of Stuart subjected them, at different periods, to fluctuations of bad fortune, and occasionally threatened their entire dissolution. In the year 1703, they obtained a royal charter from queen Anne, confirming their privileges, and increasing their pay; by which the illustrious peace, which had been withdrawn by king William soon after the revolution,
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was restored about twenty years ago by George III. This company, which includes a great proportion of the Scottish nobility and gentry, as well as many respectable citizens of Edinburgh, contains above 1000 members. A president and six councillors, chosen annually, only, manage their concerns; many of the members who reside in Edinburgh meet weekly during the summer in the Meadows, and shoot at butts or rovers. Their uniform is t华an lined with white, and trimmed with green and white fringes; a white sash, with green tassels, and a blue bonnet, with a gold tasselled feather. The only prize shot for at butts, or point-blank distance, is called the goose: originally it was shot for thus: a living goose was inclosed in a butt made of turf, having nothing but the head left visible, and he who first pierced the head with his arrow, received the goose as his reward. A practice so barbarous has long been discontinued; a mark, an inch in diameter, is now placed on the butt, and the archer who first hits it is captain of the butt shooters for the succeeding year. The other prizes annually given are shot for at rovers, the marks being 100 and 200 yards. The king's prize already mentioned, becomes the property of the winner; all the others are retained by the victors for a year, and are restored, each with a medal affixed, having a motto and device engraved on it. The first is a silver arrow given by the town of Musselburgh, 1603, or earlier. The second is a silver arrow given by the royal borough of Peebles, 1726. The third, a silver arrow given by the city of Edinburgh, 1709. The fourth, a punch bowl, value £50, made of Scottish silver, at the expense of the company, 1720, which is now surrounded with rows of gold medals, and always used at the convivial meetings of the company in the Archers' Hall, a neat building adjoining to the Meadows, where all their business is transacted.

Archies Court (curia de arcubus); the chief and most ancient consistory court, belonging to the archbishop of Canterbury, for the debating of spiritual causes. It is so called from the church in London, commonly called St Mary le Bow (de arcubus), where it was formerly held, which church is named Bow church, from the steeple, which is supported by pilars built archwise, like so many bent bows. The jurisdiction of this court extends over the province of Canterbury, who is obliged to submit to it. All such matters which are disputed between archers, and which are not amicably adjusted, are referred to it. A. (Thirsk), Archi, or Archilla, called, also, rocella and orvietle; a whitish moss, which grows upon rocks, in the Canary and Cape Verd islands, and yields a rich purple tincture, fugitive, indeed, but extremely beautiful. When it is prepared for dyeing, it is called lucmus, or lilum (q. v.).

Archilochus; a Greek poet, born on the island of Paros. He flourished about 700 B. C. His ardent spirit hurried him into the whirlpool of political party, and he was obliged to leave his country. He retired to Taras, where he fought against the Thra- cians; but his countrymen gave him the name of cowardice. He afterwards visited Greece, but the Spartans banished him from their state. He gained the laurel crown, however, at the Olympic games, for a hymn to Hercules. Some say he was killed in battle; others, that he was assassinated. A. was no less formidable with the pen than with the sword. Lycur- mus, who had promised him his daughter, and faithlessly violated his agreement, hunged himself in despair on account of the satires in which the offended poet wreaked on him his revenge. With the same severity, he persecuted all his fellow countrymen; and his satires were so Rivolent against him. His memory was honoured in all Greece so highly, that he was placed beside Homer. His lamentic poems were renowned for the force of the style, the liveliness of the metaphors, a sententious conciseness, elevated feeling, and a powerful, but bitter spirit of satire. In other lyric poems of a higher character, he was also considered as a model. All his works are lost but a few fragments, collected by Liebel, Liebel's fragments are called mandree, archi. An archi is the Greek prefix (see Arch). In Sicily, the arches are called thus because their canons were originally of Greek institution, and conform to the rules of St. Basil. The general-abbots of the united Greeks in Poland, Gallicia, Transylvania, Hungary, Selavonia, and Venice bear this title.

Archimedes, the most celebrated among the ancient geometers, born at Syracuse, about 287 B. C. A relation of king Hiero, appears to have borne no public office, but to have devoted himself entirely to science. We cannot fully estimate his services to mathematics, as the want of surviving record prevents an accurate estimate of his previous state of science; still we know that he enriched it with discoveries of the highest importance, upon which the moderns have founded their admisms of curvilinear surfaces and solids. Euclid, in his elements, considers only the relation of some of these magnitudes to each other, but does not consider them with surfaces and solids bounded by straight lines. A. has developed the propositions necessary for effecting this comparison, in his treatises on the sphere and cylinder, the spherical and conoid, and in his work on the measure of the circle. He rose to still more astruse conceptions, in his treatise on the spiral, which, however, even those acquainted with the subject can with difficulty comprehend. A. is the only one among the ancients, who has left us any thing satisfactory on the theory of mechanics, and on hydrostatics. He first taught the principle, that a body, immersed in a fluid, loses as much in weight as the weight of an equal volume of the fluid, and determined, by means of it, how much alby an artist had fraudulently added to a crown, which king Hiero had ordered to be made of pure gold. He discovered the solution of this problem without difficulty; and it is said to have caused him so much joy, that he hastened home from the bath undressed, and crying out, "I have found it, I have found it!" Practical mechanics, also, appears to have been a new science at the time of A.; for his explanation that he could move the earth, if he had a point without it to stand upon, shows the enthusiasm with which the extraordinary performances of his machines had inspired him. He is the inventor of the compound pulley, probably of the endless screw, &c. During the siege of Syracuse, he devoted all his talents to the defence of his native country. Polybius says: "It may not appear strange to hear of the prodigious exertions of a man, who was by the sword only, and with admiration, of the machines with which he repelled the attacks of the Romans. They make no mention of his having set on fire the enemy's fleet by burning-glasses,—a thing which is, in itself, very improbable, and related only in the later writings of Galen and Lucian. At the moment when the Romans, under Marcellus, gained possession of the city by assault, tradition relates that A. was sitting in the market-place, absorbed in thought, and contemplating some figures which he had drawn in the sand. To a Roman soldier, who addressed him, he is related to have replied, 'Boy, I have nothing to do; I am a rough warrior little heeded his request, and struck him down. As the conquest of Syracuse is placed in the year 212 B. C., Archimedes must have been
seventy-five years old when he lost his life. On his
tombstone was placed a cylinder, with a sphere in-
scribed in it, thereby to immortalize his discovery
of their mutual relation, on which he set particular
value. That occurred in the manuscript of Archi-
medes, found in the library of Ercole II, Duke of
Sicily, found this monument in a thicket which con-
celed it. The works of Archimedes, as arranged by
Torelli, are 1. De Planorum Equilibriis, cum Comment. Eutoc. Ascalonii. 2. Quadratura Parab-
olas. 3. De Planorum Equilibriis, cum Comm. Ento-
clindro, lib. sec. cum Comm. Eutoc. Ascalon. 6. Cir-
Torelli Comment in Prop. 12. 9. Aretinaris. 10. De
via quæ in Humido I'cchantur, lib sec. 12. Leminata.
13. Opera Mechanica, ut cuiuscumque mentio ab antiquis
scriptoribus facta est. After the taking of Consta-
tinople, in the middle of the 15th century, the works
of Archimedes were brought, by the Greek refugees,
from that city to Italy, where they were first found by
the learned Torelli, who carried them into Germany. In 1544, they were published at Basel, in Greek and Latin, by Hervagius, and were
accompanied with the Commentaries of Eutocius.
They have since passed through many editions, and
have been illustrated by the annotations of some of
the most eminent mathematicians of modern times.
A very complete and splendid edition of the works
of Archimedes issued from the Clarendon press, at
Oxford, in 1792. This edition was prepared by
Joseph Torelli of Verona. The Latin translation
is new; and there is a large collection of the various
readings, and the manuscripts of Archi-
medes's works which are preserved at Paris and Flo-
rence. This edition was printed under the direction
of the learned and reverend Abram Robertson, of
Christ's Church College, Oxford; who has added a
commentary of his own, on the treatise of Archimedes relative
to floating bodies. In the large work, en-
titled, "Mathematici Veteres," which contains a
collection of the works of the Greek mathematicians,
and which appeared at Paris in 1693, the writings
of Archimedes hold a principal place.

ARCHIPELAGO.—ARCHITECTURE.
A corruption of ηγερπελαγος, die
means "Greek gathering of the
Alyssan islands," the
Ægean sea. The term, however, is applied to any
to tract of sea abounding in small islands, and to the
custers of islands situated therein. The group to
which the name is most generally given is that lying in
the Ægean sea, between the coasts of ancient Greece and Asia Minor. According to their situ-
tion, they are divided into the islands belonging to
Europe and to Asia. The former lie together, almost
in a circle, and for this reason have been called, by
the Greeks, the Cyclades (q. v.); the latter, being
farther from one another, the Sporades (q. v.) All
these islands are the government of the government of
the Ottoman empire, to which, however, Candia, with the little islands lying about it, does not belong.

Compare with this article Hydra, Negropont, Scio, Samos, Rhodes, Cyprus, &c.—Archipelago, Northern, ex-
tends between the coasts of Kamschatka and the west
coast of America, and comprehends four clusters: 1.
Sasquehan, containing five islands; 2. Khoo, in-
cluding eight islands; both these groups together
are called the Aleutian islands (q. v.); 3. the An-
dreanofski Ostrova, comprising sixteen islands; 4.
the Lysil or Fox islands, including, also, sixteen
islands; 5. the Malabar and Malacca. Archipelago of the Great Cy-
clades; a cluster of islands in the South Pacific ocean,
so named by Bongainville, and afterwards called the

New Hebrides by Cook.—Archipelago of the Philipp-
ines, containing the Philippines, Moluccas, Celebes, &c. Some call it, also, the Great A.—Archipelago of
the Redheere; several groups of islands, rocks,
and coral reefs, lying off the coasts of South
America and South Africa, extending from between 34° to 34° 30' S. lat., and 121° 30' to 125° 30' E. lon. The largest islands were
named, by the French, Mondrain and Middle island.

—Many other A. might be mentioned.

Architecture, in the general sense of the word, is
the art of preserving the comfort of the human
race, either in commoned, healthful, and
handsome buildings of all kinds, adapted to the
purposes of the builder. According to the objects
to which it is applied, architecture is commonly divided into civil architecture, military architecture (see Par-
tification), and naval architecture. For the sake of
convenience, further divisions are sometimes intro-
duced, such as hydraulic, mining, &c., architecture.

Upon the continent of Europe, architecture is often
divided into private and public. The latter includes
all structures commonly undertaken or particularly
superintended by government. In Germany and France,
there is a building police, which oversees both public and private edifices, and that security and health are provided for in both. There is
something divine in man, which prompts him to
look beyond the mere supply of his necessities, and
to aim continually at higher objects. He therefore
soon expected from his habitation and his temples
more than mere utility. He aimed at elegance, and
architecture became, by degrees, a fine art, differing
essentially, however, from the other fine arts in these
respects: 1. that it is based on utility; 2. that it
elevates mathematical laws to rules of beauty. Paint-
ing and sculpture are only the expression of the
feeling of the beautiful, and the art of architecture must appear to have utility in view. A column or an architrave, which supports
nothing, appears ridiculous, and every part of a
building ought to show the purpose for which it is
designed. Architecture appears to have been among
the earliest inventions, and its works have been
commonly regulated by some principle of hereditary
imitation. Whatever rude structure the climate and
materials of any country have obliged its early inhab-
habitants to adopt for their temporary shelter, the same
structure, with all its prominent features, has been
afterwards kept up by them, and transferred to perma-
nancy. Thus the Egyptian style of building has its
origin in the cavern and mound;* the Chinese archi-
itecture is modelled from the tent; the Grecian is
derived from the wooden cabin, and the Gothic from the
boxer of trees. The elementary parts of a building are those which contribute to its sup-
port, enclosure, and covering. Of these, the most
important are the foundation, the column, the wall,
the lintel, the arch, the vault, the dome, and the
roof. In laying the foundation of any building, it is
necessary to dig to a certain depth in the earth, to
secure a solid bed below the reach of frost and
common accidents. The most solid basis is rock, or
gravel which has not been moved. Next to these
are clay and sand, provided no other excavations
have been made in the immediate neighbourhood.
From this basis a stone wall is carried up to the sur-
face of the ground, and constitutes the foundation.
Where it is intended that the superstructure shall
press unevenly, as at its peers, chimneys, or columns,
it is sometimes of use to occupy the space between
the points of pressure by an inverted arch. This
distresses the pressure equally, and prevents the
pressure of the foundation from springing from the
least unexpected points. In loose or muddy situations, it is always

* Wilkinson's Vitruvius, p. xvii.
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unsafe to build, unless we can reach the solid bottom below. In salt marshes and flats, this is done by depositing timbers, or driving wooden piles into the earth, and raising walls upon them. The preservation quality of the salt will keep these timbers unimpaired for many centuries. In order to distribute the foundation equally secure with one of brick or stone.

The simplest member in any building, though by no means an essential one to all, is the column or pillar. This is a perpendicular part, often of equal breadth and thickness, not intended for the purpose of enclosure, but simply for the support of some part of the superstructure. The principal force which a column has to resist, is that of perpendicular pressure. In its shape, the shaft of a column should not be exactly cylindrical, but, since the lower part must support the weight of the superior part, in addition to the weight which presses equally on the whole column, the thickness should gradually decrease from bottom to top. The outline of columns should be a little curved, so as to represent a portion of a very long sphere, or pamboloid, rather than of a cone. This figure is the joint result of two calculations, the one of strength, the other of appearance. One of these is, that the form best suited to the nature of the use made of the shaft of the column is that of a cone; the other is, that the figure, which would be of equal strength throughout for supporting a superincumbent weight, would be generated by the revolution of two parabolas round the axis of the column, the vertices of the curves being at its extremities. The swell of the shafts of columns was called the entasis by the ancients. It has been lately found, that the columns of the Parthenon, at Athens, which have been commonly supposed straight, deviate about an inch from a straight line, and that their greatest swell is at about one-third of their height. Columns in the primitive styles are usually made to diminish one-sixth or one-seventh of their diameter, and sometimes even one-fourth. The Gothic pillar is commonly of equal thickness throughout. The wall, another elementary part of a building, may be considered as the lateral continuation of a column, answering the purpose both of enclosure and support. A wall must diminish as it rises, for the same reasons, and in the same proportion, as the column. It must diminish still more rapidly if it extends through several stories, supporting weights at different heights. A wall, to possess the greatest strength, must be composed of masses, the upper and lower surfaces of which are horizontal and regular, not rounded nor oblique. The walls of most of the ancient structures, which have stood to the present time, are constructed in this manner, and frequently have their stones bound together with bolts and cements of iron. The same method is adopted in such modern structures as are intended to possess great strength and durability, and, in some cases, the stones are even dovetailed together, as in the light houses at Elydon and Bell Rock. But many of our modern stone walls, for the sake of cheapness, lack the best qualities of this product. The inner half of the wall being completed with brick so that they can, in reality, be considered only as brick walls faced with stone. Such walls are said to be liable to become convex outwardly, from the difference in the shrinking of the cement. Rubble walls are made of rough, irregular stones, laid in mortar. The stones should be broken, if possible, so as to produce horizontal surfaces. The coffer walls of the ancient Romans were made by enclosing successive portions of the intended wall in a box, and filling it with stones, sand, and mortar, promiscuously. This kind of structure must have been extremely insecure. The Pantheon, and various other Roman buildings, are surrounded with a double brick wall, having its vacancy filled up with loose bricks and cement. The whole has but a very imperceptible tendency to a mass of great firmness. The reticulated walls of the Roman buildings, having bricks with oblique surfaces, would, at the present day, be thought highly unphilosophical. Indeed, they could not long have stood, had it not for the great strength of their cement. Modern brick walls are built with great precision, and tend for firmness more from their position than upon the strength of their cement. The bricks being laid in horizontal courses, and continually overlaying each other, or broken joints, the whole mass is strongly interwoven, and bound together. Wooden walls, composed of timbers covered with boards, are a common, but more perishable kind. They require to be constantly covered with a coating of a foreign substance, as paint or plaster, to preserve them from spontaneous decomposition. In some parts of France, and elsewhere, a kind of wall is made of earth, rendered compact by being thrown in with great force. This method is called building in pisé, and is more durable than the nature of the material would lead us to suppose. Walls of all kinds are greatly strengthened by angles and curves, also by projections, such as pilasters, chimneys, and buttresses. These projections serve to increase the breadth of the foundation, and are always to be made use of in large buildings, and in walls of considerable length. The lintel, or beam, extends in a right line over a vacant space, from one column or wall to another. The strength of the lintel will be greater in proportion as its transverse, vertical diameter exceeds the horizontal, the strength being always as the square of the depth. The floor is the lateral continuation or connection of beams by means of a covering of boards. The arch is a transverse member of a building, answering the same purpose as the lintel, but vastly exceeding it in strength. The arch, unlike the lintel, may consist of any number of constituent pieces, without impairing its strength. It is, however, necessary, that all the pieces should possess a uniform shape,—the shape of a portion of a wedge,—and that the joints, formed by the contact of their surfaces, should point towards a common centre. In this case, no one portion of the arch can be made to resist the force inward; and the arch cannot be broken by any force which is not sufficient to crush the materials of which it is made. In arches made of common bricks, the sides of which are parallel, any one of the bricks might be forced inward; were it not for the adhesion of the cement. Any two of the bricks, however, constitute a wedge, by the disposition of their mortar, and cannot collectively be forced inward. An arch of the proper form, when complete, is rendered stronger, instead of weaker, by the pressure of a considerable weight, provided this pressure be uniform. While building, however, it requires to be supported by a centring of the shape of its internal surface, until it is complete. The upper stone of an arch is called the key-stone, but is not more essential than any other. In regard to the shape of the arch, its most simple form is that of the semi-circle. It is, however, very frequently a smaller arc of a circle, and, still more frequently, a portion of an ellipse. The simplest theory of an arch supporting itself only, is that of Dr Hook. The arch, when it has only its own weight to bear, may be considered as the inversion of a chain, suspended at each end. The chain hangs in such a form, that the weight of each portion of the chain is held in equilibrium by the result of two forces acting at its extremities; and these forces, or tension,
are produced, the one by the weight of the portion of the
beam below the link, the other by the same
weight increased by that of the link itself, both of
them acting originally in a vertical direction. Now,
supposing the chain inverted, so as to constitute an
arc of the same depth, these contrary situa-
tions of the forces will be the same, only they will act
in contrary directions, so that they are compounded
in a similar manner, and balance each other on the
same conditions. The arch thus formed is denomi-
nated a continuous arch. In common cases, it differs
but little from a circular arc, and, except in the case
of one third of a whole circle, and rising from the abut-
ments with an obliquity of about 30 degrees from a
perpendicular. But though the continuous arch is the
best form for supporting its own weight, and also all
additional weight which presses in a vertical direction,
it is not the best form to resist lateral pressure, or
pressure like that of fluids, acting equally in all direc-
tions. Thus the arches of bridges and similar struc-
tures, when covered with loose stones and earth, are
pressed sideways, as well as vertically, in the same
manner as if they supported a weight of fluid. In this
case, it is not the lateral force that arise most
perpendicularly from the abutment, and that its gen-
eral figure should be that of the longitudinal segment
of an ellipse. In small arches, in common buildings,
where the disturbing force is not great, it is of little
consequence what is the shape of the curve. The
outlines may even be perfectly straight, as in the tier
of bricks which we frequently see over a window.
This is, strictly speaking, a real arch, provided the sur-
faces of the bricks tend towards a common centre.
It is the weakest kind of arch, and a part of it is ne-
cessarily superfluous, since no greater portion can act
in supporting a weight above it, that can be in-
cluded between two curved or arched lines. Besides
the arches already mentioned, various others are in
use. The acute or lancet arch, much used in Gothic
architecture, is described usually from two centres
outside the arch. It is a strong arch for supporting
vertical pressure. The rampant arch is one in which
the two ends spring from unequal heights. The
horse shoe or Moorish arch is described from one or
more centres placed above the base line. In this
arch, the lower parts are in danger of being forced in-
ward. The ogee arch is concavo-convex, and there-
fore fit only for ornament. In describing arches, the
upper face is called the extrados, and the inner face
the intrados. The springing lines are those where
the intrados meets the abutments, or supporting walls.
The span is the distance from one springing line to
the other. The wedge-shaped stones, which form an
arch, are sometimes called voussoirs, the uppermost
being the key-stone. The part of a pier from which an
arch springs is called the impost, and the curve
formed by the upper side of the voussoirs, the archi-
volt. It is necessary that the walls, abutments, and
pier, on which arches are supported, should be so
firm as to resist the lateral thrust, as well as vertical
pressure, of the arch. It will at once be seen, that
the lateral or sideways pressure of an arch is very con-
siderable, when we recollect that every stone, or por-
tion of the arch, is a wedge, a part whose force acts to
separate the abutments. For want of attention to this
circumstance, important mistakes have been commit-
ted, the strength of buildings materially impaired, and
their ruin accelerated. In some cases, the want of
lateral firmness in the walls is compensated by a bar
of iron stretched across the span of the arch, and
connecting the abutments, like the tie-beam of a roof.
This is the case in the cathedral of Milan, and some
other Gothic buildings. — In an arcade, or continu-

* Cadell's Jour. through Carniola and Italy, vol. ii. p. 77.
architectura

with the relative position of walls, columns, doors, &c. The elevation is the orthographic projection of a front, or vertical surface; this being represented, not as it is actually seen in perspective, but as it would appear if seen from an infinite distance. The section shows the interior of a building, the part in front having been removed, to show what lies behind. The perspective shows the building as it actually appears to the eye, subject to the laws of scenographic perspective. The three former are used by architects for purposes of admeasurement; the latter is used also by painters, and is capable of bringing more than one side into the same view. Perspective is employed—As the most approved features in modern architecture are derived from buildings which are more or less ancient, and as many of these buildings are now in too dilapidated a state to be easily copied, recourse is had to such imitative restorations, in drawings and models, as can be made out from the fragments and ruins which remain. In consequence of the known simplicity and regularity of most antique edifices, the task of restoration is less difficult than might be supposed. The ground-work, which is commonly extant, shows the length and breadth of the building; with the position of its walls, doors, and windows, and columns, if any which has succeeded it. The elementary features of Egyptian architecture were chiefly as follows: 1. Their walls were of great thickness, and sloping on the outside. This feature is supposed to have been derived from the mud walls, mounds, and caverns of their ancestors. 2. The roofs and covered ways were flat, or without pediments, and composed of blocks of stone, reaching from one wall or column to another. The principle of the arch, although known to them, was seldom, if ever, employed by them. 3. Their columns were numerous, close, short, and very large, being some- times one foot in diameter. They were generally without bases, and had a great variety of capitals, from a simple square block, ornamented with hieroglyphics, or faces, to an elaborate composition of palm-leaves, not unlike the Corinthian capital. See this illustrated in the view of the Portico of the Great Temple at Tentyra, given in Plate VI. 4. They used a sort of corinthian entablature, or cornice, composed of vertical flutings, or leaves, and a winged globe in the centre. 5. Pyramids, well known for their prodigious size, and obelisks, composed of a single stone, often exceeding seventy feet in height, are structures peculiarly Egyptian. (See examples of obelisks in the view of the entrance to Luxor, given in Plate VI.) 6. Statues of enormous size, sphinxes carved in stone, and sculptures in outline of fabulous deities and animals, with innumerable hieroglyphics, are the decorative objects which characterize this style of architecture. The architecture of the ancient Tartars, and wandering shepherds of Asia, appear to have lived from time immemorial in tents, a kind of habitation adapted to their erratic life. The Chinese have made the tent the elementary feature of their architecture; and of their style any one may form an idea, by inspecting the figures which are depicted on some of their porcelainware. The Chinese have at times put the upper side, as if made of canvas, instead of wood. A Chinese portico is not unlike the awnings spread over shop windows in summer time. The verandah, sometimes copied in dwelling houses, is a structure of this sort. The Chinese towers and pagodas have small roofs, slightly projecting, and their several stories. (See Plate VI.)—The restoration of a Chinese Pagoda. The lightness of the style used by the Chinese leads them to build with wood, sometimes with brick, and seldom with stone.—11. The Greek style. Greek architecture, from which have been derived the most splendid structures of later ages, had its origin in the wooden hut or cabin, formed of posts set in the earth, and covered with transverse poles and rafters. Its beginnings were very simple, being little more than imitations in stone of the original posts and beams. By degrees, these were modified and decorated, so as to rise to the distinction of what is called the orders of architecture.—By the architectural orders are understood certain modes of proportioning and decorating the column and its entablature. They were in use during the best days of Greece and Rome, for a period of six or seven centuries. They were lost sight of in the dark ages, and again revived by the Italians, at the time of the restoration of letters. The Greeks had three orders, called the Doric, Ionic, and Corinthian. These were adopted and modified by the Romans, who also added two others, called the Tuscan and Composite. (See Plate VI.)—The Doric is the earliest and most magnificent order of the Greeks. It is known by its large columns with plain capitals; its triglyphs resembling the ends of beams, and its metopes corresponding to those of rafters. The column, in the examples at Athens, is about six diameters in height. In the older examples, as those at Paestum, it is but four or five. The shaft had no base, but stood directly on the stylobate. It had twenty flutings, which were superficial, and separated by angular edges. The perpendicular outline was nearly straight. The Doric capital was plain, being formed of a few annuluses or rings, a large echinus, and a flat stone at top called the abacus; the base was plain; the frieze was intersected by oblong projections called triglyphs, divided into three parts by vertical furrows, and ornamented beneath by guttae, or drops. The spaces between the triglyphs were called metopes, and commonly continued sculptures. The sculptures representing Centaurs and Lapiths, carried by lord Elgin to London, were metopes of the Parthenon, or temple of Minerva, at Athens. The cornice of the Doric order consisted of a few large mouldings, having on their under side a series of square, sloping projections, resembling the ends of rafters, and called mutules. These were placed over both triglyphs and metopes, and were ornamented, on their under side, with circular guttae. The best specimens of the Doric order are found in the Parthenon (see Plate VI.), the Propylaea, and the temple of Theseus, at Athens. The Ionic is a lighter order than the Doric, its column being eight or nine diameters in height. It has a base and capital, and two torus, with intervening fillets. This is called the Attic base. Others were used in different parts of Greece. The shaft had twenty-four, or more, flutings, which were narrow, as deep as a semicircle, and separated by a fillet or square edge. The examples of this order consisted of two parallel double scrols,
called volutes, occupying opposite sides, and supporting an abacus, which was nearly square, but moulded at its edges. These volutes have been considered as copied from ringlets of hair, or perhaps from the horns of Jupiter Ammon. When a column made the angular column, this was an abacus without volutes, or opposite, but on contiguous sides, each fronting outward. In this case, the volutes interfered with each other at the corner, and were obliged to assume a diagonal direction. The Ionic entablature consisted of an architrave and frieze, which were continuous or interrupted, and a cornice of mouldings, at the lower part of which was often a row of dentels, or square teeth. The examples at Athens, of the Ionic order, are the temple of Erectheus (see Plate VI), and the temple on the Ilissus, which was standing in Stuart's time, seventy years since, but is now extinct. — The Corinthian was the lightest and most decorated of the Grecian orders. Its base resembled that of the Ionic, but was more complicated. The shaft was often ten diameters in height, and was fluted like the Ionic. The capital was shaped like an inverted bell, and covered on the outside with two rows of scallops or leaves, and on the outside was a crown of leaves. Above these were eight pairs of small volutes. Its abacus was moulded and concave on its sides, and truncated at the corners, with a flower on the centre of each side.

The entablature of the Corinthian order resembled that of the Ionic, but was more complicated and ornamental. It had two kinds, and each had a large, oblong projection, bearing a leaf or scroll on its under side, and called modillions. No vestige of this order are now found in the remains of Corinth, and the most legitimate example at Athens is in the choric monument of Lycurgus (see Plate VI). The Corinthian column was much employed in the successive buildings of Rome and its colonies. — Caryatides. The Greeks sometimes departed so far from the strict use of the orders, as to introduce statues, in the place of columns, to support the entablature. Statues of slaves, heroes, and gods appear to have been employed, occasionally, for this purpose. The principal specimen of this kind of architecture, which remains, is in a portico called Pandroseum, attached to the temple of Erectheus, at Athens; in which statues of Carian females, called Caryatides, are substituted for columns (see Plate VI). One of these statues has been cut from the Acropolis, and is the most remarkable public edifice of the Greeks were their temples. These being intended as places of resort for the priests, rather than for the convening of assemblies within, were, in general, obscurely lighted. Their form was commonly that of an oblong square, having a colonnade without, and a walled cell within. The cell was usually without windows, receiving its light only from a door at the end, and sometimes from an opening in the roof. The part of the colonnade which formed the front portico, was called the pronaoς, and that which formed the back part, the posistus. The colonnade was usually entered by great variety in the number and disposition of its columns, from which Vitruvius has described seven different species of temples. These were, 1. The temple with ante. In this, the front was composed of pilasters, called ante, on the sides, and two columns in the middle. 2. The prostyle. This had a row of columns at one end only. 3. The amphiprostyle, having a row of columns at each end. 4. The peripteral temple. This was surrounded by a single row of columns, having six in front and in rear, and eleven, counting the angular columns, on each side. 5. The dipteral, with a double row of columns all round the cell, the front consisting of eight. 6. The pseudo dipteral differs from the dipteral, in having a single row of columns on the sides, at the same distance from the cell as if there had been but two. — Temples, especially some of the Egyptian capitals, which it certainly resembles.

* The origin of the Corinthian capital has been ascribed to the sculptor Callimachus, who is said to have copied it from a basket accidentally enveloped in leaves of aschamias. A more probable reason is to have originated in one of the Egyptian capitals, which it certainly resembles.

* The intercolumniation, or distance between the columns, according to Vitruvius, was differently arranged under the four species of columns. — In the prostyle the columns were a diameter and a half apart; in the stylostyle, they were two diameters apart; in the euthystyle, three; in the aristeostyle, more than three; in the eustyle, two and a quarter.
not at the corners, and used horizontal mutilae, or introduced foreign ornaments in their stead. The theatre of Marcellus has examples of the Roman Doric. — The Romans diminished the size of the volutes in the Ionic order. They also introduced a kind of circular volute, in which there were four pairs of diagonal volutes, instead of two pairs of parallel ones. This they usually added to parts of some other capital; but, at the present day, it is often used alone, under the name of modern Ionic. — The Composite order was made by the Romans out of the Corinthian, simply by combining its capital with the finishing of the diagonal, or modern Ionic. Its best example is found in the arch of Titus (see Plate VI.). The favourite order, however, in Rome and its colonies, was the Corinthian, and it is this order which prevails among the ruins, not only of Rome, but of Nimes, Pola, Palmyra and Balbec. — The temples of the Romans sometimes resembled those of the Greeks, but often differed from them. The Pantheon, which is the most perfectly preserved temple of the Augustan age, is a circular building, lighted only from an aperture in the dome, and having a Corinthian portico in front. The entrance, however, was from a frontage at right angles to the axis, and not in being a completely circular, or rather elliptical building, filled on all sides with ascending seats for spectators, and leaving only the central space, called the athena, for the combatants and public shows. The Colosseum is a stupendous structure of this kind. The aqueducts were stone canals, supported on massive arcades, and conveying large streams of water, for the supply of cities. The triumphal arches were commonly solid, oblong structures, ornamented with sculptures, and open with lofty arches for passengers below. The basilica of the Romans was a hall of justice, used also as an exchange, or place of meeting for merchants. It was lined on the inside with colonnades of two stories, or with two tiers of columns, one over the other. The earliest Christian churches at Rome were sometimes called basilicae, from their possessing an internal colonnade. The monumental pilastres were towers in the shape of a column on a pedestal, bearing a statue on the summit, which was approached by a spiral staircase within. Sometimes, however, the column was solid. The thermae, or baths, were vast structures in which multitudes of people could bathe at once. They were supplied with warm and cold water, and also provided with several rooms for purposes of exercise and recreation. — In several particulars, the Roman copies differed from the Greek models on which they were founded. The stylobate or substructure, among the Greeks, was usually a plain succession of platforms, constituting an equal access of steps to all sides of the building. Among the Romans, it became an elevated structure, like a continued pedestal, accessible by steps only at one end. The spiral curve of the Greeks was exchanged for the geometrical circular arc, as exemplified in the substitution of the ovolo for the echinus in the Doric capital, and of the abacus for the metope, as already mentioned. After the period of Adrian, Roman architecture is considered to have been on the decline. Among the marks of a deteriorated style, introduced in the later periods, were columns with pedestals, columns supporting arches, convex friezes, entablatures squared so as to represent the continuation of the columns, pedestals for statues projecting from the sides of columns, niches covered with shallow pediments, &c. — V. Greco-Gothic style. After the dismemberment of the Roman empire, the arts degenerated so far, that a custom became prevalent of erecting a spire over the frontispiece of old ones, which were dilapidated and torn down for the purpose. This gave rise to an irregular style of building, which continued to be imitated, especially in Italy, during the dark ages. It consisted of Grecian and Roman details, combined under new forms, and piled up into structures wholly unlike the antique originals. Hence the names Greco-Gothic and Romanesque architecture have been given to it. It frequently contains several stories, and is characterized by the use of massive acco- dates, which were accumulated above each other to a great height. The effect was sometimes imposing. The cathedral (see Plate VII.) and leaning tower, at Pisa, and the church of St Mark, at Venice, are cited as the best specimens of this style. The Saxon architecture, used anciently in England, has some things in common with this style. Two examples of this will be found in the doorways given in Plate VII. — VI. Saracen, or Moorish style. The edifices erected by the Moors and Saracens in Spain, Egypt, and Turkey are distinguished, among other things, by a peculiar form of the arch. This is a curve, constituting more than half of a circle or ellipse. This construction of the arch is unphilosophical, and comparatively insecure. A similar peculiarity exists in the domes of the Oriental mosques, which are sometimes large segments of a sphere, or otherwise formed by the repetition of the arches, on several levels, concavo-convex in their outline, as in the mosque of Acheim. The minaret is a tall, slender tower, peculiar to Turkish architecture. A peculiar flowery decoration, called arabesque, is common in the Moorish buildings of Europe and Africa. Sometimes the Grecian ornamentation appears to have been modernized in this style, and the Greek, and the Moorish, formed after the remains of the Roman buildings in Spain, which seems a good division. With regard to the latter, nobody can be held the remains of the Moorish buildings at Grenada, Seville, and Cordova, without admiration. (See Plate VII.) The Arabian style is particularly distinguished by light decorations and splendour. — VII. Gothic style. By this style is generally understood what is strictly called the modern Gothic, which flourished after the destruction of the Gothic kingdom by the Arabians and Moors. The old Gothic style, which probably originated under Theodore, king of the Ostrogoths, during whose reign in Italy the Romans, with little sense of beauty, imitated the ancient Roman style, is coarse and heavy. The style now called Gothic exhibits a wonderful grandeur and splendour, and, at the same time, the most accurate execution; yet it is only in modern times that the buildings have attained that degree of grandeur which the ancients have possessed. The minster of Stringsburg, the cathedral of Cologne, the minster at York, &c., have begun to be justly appreciated. (See Plate VII.) Very great attention is, at present, paid to the study of this style. Its principle seems to have originated in the imitation of groves and bowers, under which the Druids performed their sacred rites. Its striking characteristics are, its pointed arches, its pinnacles and spires, its large buttresses, clustered pillars, vaulted roofs, profusion of ornaments, the general predominance of the perpendicular over the horizontal, and, in the whole, its lofty, airy, and spirited. As the common place for the disposal of Gothic architecture has been in ecclesiastical edifices, it is necessary to understand the usual plan and construction of these buildings. A church or cathedral, is commonly built in the form of a cross, having a tower, lantern, or spire, erected at the place of intersection. The part of the cross situated toward the west, is called the nave. The opposite, or eastern part, is called the choir, and within this is the chancel. The transverse portion, forming the arms of the cross, is called the transept. Any high building erected above the roof is called a steeple; if square-topped, it is called a steeple-tower and octagonal, if round and short, and, if round and tall, a tower. Towers of great height in proportion to their diameter are called turrets. The walls of Gothic churches are
supported, on the outside, by lateral projections, extending from top to bottom, at the corners, and between the windows. These are called buttresses, and form the corbeled bases of the towers. The summit, or upper edge of a wall, if straight, is called a parapet; if indented, a battlement. Gothic windows were commonly crowned with an acute arch. They were long and narrow, or, if wide, were divided into perpendicular lights by mullions. The lateral spaces on the upper and outer side of the arch, are called spandrels; and the ornaments in the top, collectively taken, are the tracery. An oriel, or bay window, is a projecting window. A wheel, or rose window, is large and circular. A cornice is a bracket, or short projection from a wall, serving to sustain a statue, or the springing of an arch. Gothic patters or columns are usually clustered, appearing as if a number were bound together. The single shafts, thus connected, are called follets. They are confined chiefly to the inside of buildings, and never support any thing, like an entablature. Their use is to aid in sustaining the vaults under the roof, which are always lighter than those of the later periods. Here, and also in the vaults intersect each other, forming angles, called groins. The parts which are thrown out of the perpendicular, to assist in forming them, are the pendentives. The ornamented edge of the groined vault, extending diagonally, like an arch, from one support to another, is called the ogee. The Gothic term gable indicates the erect end of a roof, and answers to the Grecian pediment, but is more acute. The Gothic style of building is more imposing, admits of richer ornaments, and is more difficult to execute, than the Grecian. This is because the weight of its vaults and roofs is upheld, at a great height, by supporters acting at single points, and apparently but barely sufficient to effect their object. Great mechanical skill is necessary in balancing and sustaining the pressures; and architects, at the present day, find it often difficult to accomplish what was achieved by the builders of the ancient world. On the other hand, the day, the Grecian and Gothic outlines are commonly employed to the exclusion of the rest. In choosing between them, the fancy of the builder, more than any positive rule of fitness, must direct the decision. Modern dwelling houses have necessarily a style of their own, and the supporting walls, chimneys, windows, and roofs, can give them one. No more of the styles of former ages can be applied to them, than what may be called the unessential and decorative parts. In general, the Grecian style, from its right angles and straight entablatures, is more convenient, and fits better with the distribution of our common edifices, than the pointed and irregular Gothic. The expense, also, is generally less, especially if any thing like thorough and genuine Gothic is attempted. But the occasional introduction of the Gothic outline, and the partial employment of its ornaments, has undoubtedly an agreeable effect, both in public and private edifices; and we are indebted to it, among other things, for the spire, a structure exclusively Gothic, which, though often misplaced, has become an object of general approbation, and a pleasing landmark to cities and villages. (For further information on Gothic architecture, see Embree, "History of Architecture," Boston, 1829, p. 112-152, from which the above article is chiefly extracted. The illustrative plates we have gathered from various sources.)

Architectures, history of. The first habitations of men were such as nature afforded, with but little labour on the part of the occupant, and sufficient to satisfy his simple wants,—huts, grottos, and tents. But as soon as men rose above the state of rude nature, formed societies, and found it convenient to extend their dwellings, they began to build more durable and more commodious habitations. They wrought the materials with more care, fitted the parts together more closely and neatly, prepared bricks of clay and earth, which they first dried in the air, and afterwards baked by the fire; they smoothed stones, and joined them, at first, with cement. After they had learned to build houses, they began to erect temples for their gods, who first dwelt with them in caverns, huts, and tents. These temples were larger and more splendid than the habitations of men. Thus architecture became a fine art, which was first displayed on the temples; afterwards, on the habitations of princes, and public buildings, and, at last, with the progress of wealth and refinement, became a universal want of society. The haughty palace appeared in the place of the wretched hut of reeds and clay; the rough trunk was transformed into a lofty column, and the natural vault of a cavern into the splendid Pantheon. Colonades, halls, courts, and various ornaments now appeared. Stieglitz contends that the fundamental forms of the ancient Egyptian and Grecian architecture probably originated in structures of stone, and not from those of wood, as has been supposed by some. Here, as in the edifices of the Ancients. The earliest buildings of the Indians were modelled on the structure of caves. To the most ancient nations known to us, among whom architecture had made some progress, belonged the Babylonians, whose most celebrated buildings were the temple of Belus, the palace and the hanging gardens of Semiramis; —the Assyrians, whose capital, Nineveh, was rich in splendid buildings; —the Phcenicians, whose cities, Sidon, Tyre, Aradus, and Sarepta, were adorned with equal magnificence; —the Israelites, whose temple was considered as a wonder of architecture; —and the Syrians and the Philistines. No Architectural monument of these nations has, however, been transmitted to us. But we find subterraneous temples of the Hindoos, hewn out of the solid rock, upon the islands Elephants and Salsetta. Of the Persian architecture, the ruins of Persepolis still remain; of the Egyptian, one of the pyramids, tombs, temples, and obelisks; of the Etruscan, some sepulchres and portions of city walls. —The character of this elder architecture was immovable firmness, gigantic height, prodigal splendour, which excited admiration and astonishment, but comparatively little pleasure. The Greeks were the first who introduced into the art of building a noble simplicity and dignity. The Doric order of columns characterizes this first period. The greatest masters, Phidias, Ictinus, Calliocrates, and others, encouraged and supported by Pericles, emulated each other, as soon as peace at home and abroad was restored. The beautiful temple of Minerva was erected upon the Acropolis of Athens, also the Propyleum, the Odeum, and other splendid buildings. An equal taste for the arts arose in the Peloponnesus, and in Asia Minor. A high degree of simplicity was united with majestic grandeur and elegance of form. The beauties of architecture were displayed not only in temples, but also in theatres, odeums, colonnades, market-places, and gymnasium. The Ionie and Corinthian columns were added to the Doric. At the end of the Peloponnesian war, the perfection of architecture was gone. A noble simplicity had given place to excess of ornament. This was the period when art at the time of Alexander, who founded a number of new cities. But a strict regularity hitherto prevailed in the midst of this overcharged decoration. After the death of Alexander, 323 B. C., the increasing love of gaudy splendour hastened the decline of the art.
more and more. In Greece, it was afterwards but little cultivated, and, in the edifices of the Seleucidae in Asia, and of the Ptolemies in Egypt, an impure imitation of their temples. Jones and other historians have described public edifices, equal to the Grecian masterpieces, although they had early applied their industry to other objects of architecture, viz., to aqueducts and sewers. The capitol and the temple of the capitoline Jupiter were erected by Etruscan architects. But, soon after the second Punic war, 210 B.C., they became acquainted with the Greeks. Sylla was the first who introduced the Grecian architecture to Rome; and he, as also Marius and Caesar, erected large temples in this and in other cities. But under Augustus the art first rose to the perfection of which it was capable at that time. He encouraged the Greek artists, who had exchanged their country for Rome, and erected, partly from policy, many splendid works of architecture. Agrippa built temples (the Pantheon), aqueducts, and theatres. Private habitations were adorned with columns and marble. Splendid villas were built, of which the rich Romans often possessed several. The interior was adorned with works of art, obtained from Greece. The walls were covered with thin marble plates, or were painted, and divided into panes, in the middle of which were represented mythological or historical subjects. They were also surrounded with fine columns and statues. These ornaments were what we call grotesques. Almost all the successors of Augustus embellished the city more or less, erected splendid palaces and temples, and adorned, like Adrian, even the conquered countries with them. Constantine the Great transferred the imperial residence from Rome to Constantinople, so that nothing more was done for the embellishment of Rome.

But, at the time when the Romans received the art from the Greeks, it had already lost, among the latter, its perfection and purity. In Rome, it rose, indeed, in a short time, to its former height, but soon degenerated, with the continually increasing magnificence of the emperors, into extravagance of ornament. About this time, the Roman or Composite column originated, which was employed in temples and splendid buildings. In the time of Nero, whose golden palace is celebrated, the exterior and interior of the buildings were decorated. Adrian, on his return from his journey, encountered artists as much as possible, was not able to restore a noble and simple taste in architecture. Instead of imitating the beautiful models already existing, the endeavour, in his time, was to invent new styles, and to embellish the beautiful more and more. Now originate wonderful columns, and two or three ornamental columns, with a high pedestal under the columns, the numerous base reliefs on the exterior of buildings, the frettings of the columns, the reduction of the same according to a curved line, the coupled columns, the reduced pilasters behind the columns, the small columns between larger ones, the round and cut pediments, and the cornice friezes. Thus the art was practised from the time of Vespasian to the reign of the Antonines. Works were produced, in this period, which may still be considered as master pieces, but which want the great and noble style of the Greeks. In the provinces, taste became still more corrupt. Architecture declined continually after the Antonines; more ornaments were continually added, which is proved particularly by the arch of the goldsmiths, so called, in Rome. Alexander Severus, indeed, himself a connoisseur, did something for its improvement, but it rapidly fell back. After his death, the art was again totally neglected. Of this time are either overcharged with mean and trifling ornaments, as those of Palmyra, erected about 260 A.D., or they border on the rude, like those of Rome, erected under Constantine. Little was done, under the following emperors, for the embellishment of the cities, on account of the continually disturbed state of the empire. Justinian, however, built much. His principal edifice was the church of St Sophia, at Constantinople. This church and architecture were almost entirely destroyed by the Goths, Vandals, and other barbarians, in Italy, Spain, Greece, Asia, and Africa; and whatever escaped destruction remained in neglect. Theodoric, King of the Ostrogoths, a friend of the arts, endeavoured to preserve and restore the ancient buildings, and even erected several new ones, the ruins of which are still to be seen in Ravenna and Verona. We may consider this period as the era of the origin of modern art. We see a new style taking place of the ancient classical architecture, and eventually extending as far as the conquests of the Goths, through Italy, France, Spain, Portugal, a part of Germany, and even to England, whither, however, the Goths did not penetrate. Whether this modern architecture, which is called Gothic, originated from the Germans, is not decided. We find, in the buildings erected under Theodoric, nothing attempted but simplicity, strength, and the display of rational taste in their exterior (the interior is unknown to us). But the buildings erected during the Lombard dominion in Italy (from 568), and all the monastic architecture of that time, have been erroneously called Gothic. Simplicity, strength, and the display of rational taste are characteristics of Gothic; but it is a misapplication of the name of the old Gothic, from the proper Gothic, which is called the modern Gothic. The Lombards entertained no respect for antiquities, and neither spared nor preserved them. Whatever they built was tasteless and faulty. On the exterior of their churches they placed small semi-circular columns; and small pillars in a row along the cornice of the pediments; in the interior, coarse pillars united by semicircular arches; the small windows and doors were finished with semicircles; the columns, capitals and arches were often overlaid with incongruous sculpture; the roofs of the naves covered with beams and boards, which were afterwards changed into arches, and, on this account, often required arched buttresses on the outside. This Lombard style in architecture clearly proves the decline of science and art. It was employed, in the 17th century, in Pavia, the basilicas of Parma and Pistoia, the churches of the churches of St John and St Michael; at Parma, in the church of St John; at Bergamo, in the church of St Julia; in the chapel of Altenotting, in Bavaria; in the castle of Nuremberg, in the Scottish church at Ratisbon, &c. The architects driven from Constantinople speedily learned the use of the Ionic pedestals and columns, provided with capitals formed according to their own taste, among which were twisted ones. In this Lombard-Byzantine style were erected the cathedrals of Bamberg, Worms and Mentz, also the church Miniatore Monte, near Florence, and the most ancient part of the minster of Strasburg. Cupolas were afterwards added, as used in the East, and these, as well as the tasteless capitals, and the many slender pillars and minarets, of which we often see two rows, one on another, indicate the proper Byzantine or Oriental style of architecture. In this style were erected, besides the church of St Sophia in Constantinople, and others, the church of St Mark, in Venice, the Baptistery and the cathedral of Pisa, and the church of St Vitalis, in Ravenna. The Normans, who had settled in Sicily, built the cathedral of Messina upon this style. The building of the cathedral is, in this edifice, in which, by means of the changes made in different centuries, we may observe, at the same time, the rise and fall of the art. The Vandals, Alains, Suevi and Visigoths had penetrated into Spain and Portugal: the Arabs and Moors expelled them in
the 8th century, and destroyed the Kingdom of the Goths. The Mussulman conquerors had, at that time, almost exclusive possession of the arts and sciences. Saracenic architects rose in Greece, Italy, Sicily, and Spain, and tended every where. Christians, particularly Greeks, joined them, and formed together a fraternity, who kept secret the rules of their art, and whose members recognised one another by particular signs. (See Freemenas.)

At this period, three different styles of architecture prevailed—the Arabian, the Gothic, and the Romanesque. The Arabian style, the Moorish style, originated in Spain, out of the remains of Roman edifices; and the modern Gothic, which originated in the Kingdom of the Visigoths, in Spain, through the mixture of the Arabian and Moorish architecture, and flourished from the 11th until the 15th century. The two first styles differ but little from each other: the Moorish style is principally distinguished from the Arabian by arches in the form of a horse-shoe. But the Gothic, or old German, is very different. Swinburne mentions the following marks of distinction: The Gothic arches are pointed, the Arabian, on the contrary, the Gothic churches have pointed vaults, and straight towers; the Arabian minaret in globes, and have here and there minarets, covered with a ball or a cone: the Arabian walls are adorned with Mosaic and stucco, which we find in no ancient church in the Gothic style. The Gothic columns often stand united in groups, over which is placed a very low entablature, upon which arches are erected; or the arches stand immediately upon the capitals of the columns. The Arabian and Moorish columns are single, and if, by chance, they are placed close together, in order to support a very heavy part of the building, they never touch one another, but the arches are supported by a strong and thick beam below. If, in an Arabian building, four columns are united, it is by a low, square wall at the bottom, between the columns. The Gothic churches are extremely light buildings; they have large windows, often with variegated panes. In the Arabian mosques, the ceiling is mostly low; their windows are of less height, and often covered with carved; so that the light is received less through them than through the cupola and the opened doors. The entrance of a Gothic church is a deep arch, diminishing towards the interior of the building, and adorned on the side walls with statues, and other curious ornaments; but those of the mosques, and of other Arabian, and even Moorish buildings, are shallow, and made in the same manner as doors are at present. Besides, Swinburne observes, that, among the different Arabian capitals which he saw, he found none resembling, in design and arrangement, those which we find in the Gothic churches of England and France. The Moorish architecture appears in all its splendour in the ancient palace of the Mohammedan monarchs at Grenada, which is called the Alhambra, or red-house, and which resembles more a fairy palace than a work of human hands. The character of the Moorish architecture was lightness and splendour. Rich ornaments, and lightness in the single parts, render it agreeable to the eye. The modern Gothic architecture, which originated in the attempts of Byzantine artists to cover the coarseness and heaviness of the old Gothic by an appearance of lightness, excites the imagination by its richly adorned arches, its distant perspective, and its religious dimness, produced by its painted windows. It retained, from the old Gothic architecture, the high, bold arches, the firm and strong walls; but it disguised them under volutes, flowers, and other ornamental tics, which appear to be light and weak. Afterwards, the architects went still further, and pierced the large, high towers, so that the stairs appear hanging in the air; they gave to the windows an extraordinary height, and adorned the building itself with statues. This style, in which many churches, convents, and abbey were erected, was formed in Spain, and thence extended over England, where the Germans were unacquainted with architecture until the time of Charlemagne. He introduced from Italy to Germany the Byzantine style, then common. Afterwards, the Arabian architecture had some influence upon that of the western nations; for the German architects adapted the pointed arches and the buttresses, &c. This was united with the Byzantine style, to which, in general, they still adhered, and thus originated a mixed style, which maintained itself until the middle of the 15th century. Then began the modern Gothic or German style, which we may also call the romantic, since it was formed by the romantic spirit of the middle ages. Growing up in Germany, it obtained its perfection in the towers of the minster of Strasburg (see Minster), in the cathedral of Cologne, in the church of St Stephen in Vienna, the cathedral of Eriurt, the church of St Mary in North Germany, the cathedral of St Elizabeth in Marburg, &c., and extended itself from thence to France, Britain, Spain, and Italy. The German architecture shows also the influences of climate and religion, particularly in the churches. The slender columns, always united in groups, rise to a lofty height, resembling the gables of the greeks, in whose dark shade the ancient Teuton used to build his altar. In the chiaro oscuro of the dome, the soul, divested of earthly thoughts, must collect itself, and rise, like the dome, to its Maker. The decorations of the ancient Christian churches are by no means an accidental ornament. They speak a figurative, religious language; build it, the tabernacle, or ciborium, or altar over the altar, where the pyx is kept, the whole temple is presented, in miniature, to the view of the beholder. In these edifices, every one must admire the accurate proportions, the bold yet regular construction, the unwearied industry, the grandeur of the bold masses on the exterior, and the severe dignity in the interior, which excites feelings of devotion in every spectator. We must, therefore, ascribe to the German architecture more symbolic than hieroglyphic eloquence and dignity. (See Constable "On old German Architecture and its Origin," Halle, 1812; Rumohr's "Fragment of an old chief Architect," in the German Museum, 1813, March number, &c.)—The Italians disengaged themselves, by little and little, from the Byzantine taste. Even in the 11th century, Byzantine architects built the cathedral of Pisa and the church of St Mark in Venice. But, in the 12th century, a German architect, named William (Guiglielmo), and, in the 13th, Jacob, with the surname Cape, who died in 1262, and his pupil or son, Arnold, are mentioned as having built churches and convents in Florence. The modern Gothic style passed from the churches and abbey to the castles, palace, bridges, and abbeys, many of which were built in this manner; e.g., in Milan, sixteen city gates of marble, and several new palaces; in Padua, seven bridges, and three new palaces; in Genoa, two docks and a splendid aqueduct; and the town of Asti, in 1580, almost entirely. Architecture was continually improving in Italy, particularly in the 14th century. Galeazzo Visconti finished the great bridge at Pavia, and built a palace which had not then its equal. About the same time, the famous cathedral of Milan was erected. The marqueses of Este erected handsome edifices at Ferrara, and Albert the splendid edifice of the church of the Holy Spirit in Bolzano. In Florence, the town of St Petronius was begun, and, in Florence, the famous tower of the cathedral. The 15th century, in which the study of ancient architecture was revived, was
greatly distinguished. The dukes of Ferram, Borso, and Ercole of Este, were active patrons of architecture. Duke Francesco embellished Milan with the ducal palace, the castle Porta di Giove, the hospital and other edifices. Ludovico Sforza erected the buildings of his palace and the hospital of Milan. The popes adorned Rome, and Lorenzo de' Medici, Florence, with splendid buildings. The artists returned to the monuments of antiquity, and studied their beautiful forms and just proportions. The most illustrious architects of this time were Filippo Brunelleschi, de' Serlio, at Florence, the dome of the cathedral, the church S. Spirito, and the palace Pio, besides many edifices at Milan, Pisa, Pesaro, and Mantua; Battista Alberti, who wrote, at the same time, on architecture; Micheleozzi Bramante, who commenced the building of St Peter's; Michael Angelo Buonozzi, who erected its magnificent dome; and Giacondo, who built much in France, and afterwards directed, with Raphael, the building of the church of St Peter's. These were followed by others, who proceeded in their spirit—Palladio, Scamozzi, Serlio, Barozzo, known by the name of Vignola. They are the founders of the existing taste in architecture. However, they studied their art in those works of antiquity which had already deviated from the early purity and elevated grandeur, is evident in their buildings, from the many curved and twisted ornaments, the circular, irregular, and cut pediments, the coupled columns, high pedestals, and other things, which were unknown to architecture at the time of Pericles. Thus a new period in architecture had begun in Italy. Italian masters, and young artists sent to Italy, introduced the Roman taste into foreign countries, which gradually supplanted the Gothic. Since that time, architecture has experienced different destinies in different eras of our time. It has risen and declined at different periods; yet laudable attempts have been made, in recent times, to advance it to its true perfection, though we cannot affirm that they have succeeded every where. In America, the pure Grecian architecture is gradually prevailing, either because this style is founded on plainer principles than the others, or because the Grecian really deserves to be called a republican style, since it is better adapted than the Gothic to small buildings, and does not require large and splendid edifices (a great number of which can never exist in a democracy), in order to display all its beauty. (For an account of modern architecture in different countries, see the respective articles.)

Archives; a collection of written documents, containing the rights, privileges, claims, treaties, constitutions, &c., of a family, corporation, community, city, or kingdom; also, the place where such documents are kept. There are, accordingly, private and public or state archives. Archives were known among the most ancient people. The Israelites, Greeks, and Romans had them in their temples, and the Christians, at first, preserved important manuscripts with the sacred vessels and relics, till proper places were assigned to them. Those governments which transact every thing by writing have, of course, much larger archives than others; thus the archives in every branch of government in Prussia and Austria are immense. —According to Wagenheim, the archivists of the German empire contain very few documents before the time of the emperor Rudolph of Hapsburg (who was elected in 1273), or even of the subsequent century. At the end of the 15th century, and at the beginning of the 16th, under Maximilian I, the archives of the empire received a new form, and were enlarged. Yet some historians, (e. g., Schmidt, in his History of the Germans), have made the most diligent and praiseworthy use of them. The modern archives of Prussia are excellently arranged; probably none are so complete in respect to statistical matters. In Britain, great care has been taken of archives, inasmuch that continental nations often have recourse to this country for documents. In France, the archives were dispersed all over the country till the revolution, when, by law of Sept. 7, 1790, they were put in a common place of deposit, after a very large quantity of documents had been destroyed. This immense collection of public acts is now in the ancient hotel Soubise, au Marais, in Paris. The laws of Oct. 8, 1795, by which 30,000 manuscripts and management of the archives on a systematic footing. In 1814, June 6, the archives of the navy and the war departments were organized, in order to preserve the historical documents, military memoirs, plans, maps, &c.

Archives; the highest magistrates in Athens. (See Attica.) The Jews, also, had archives in their capity.

Archites of Tarentum; a famous Pythagorean, renowned as a truly wise man, a great mathematician, statesman, and general. He devoted himself, at Metapontum, to the study of the political and metaphysical philosophy. Being the contemporary of Plato (Olympiad 96; 400 B. C), he must have lived a century later than Pythagoras, and was still alive when Plato travelled to Sicily. Hence he cannot be regarded as the structure of Philolaus, who was older; and still less as the immediate scholar of Pythagoras. The invention of the analytic method in mathematics is ascribed to him, as well as the solution of many geometrical and mechanical problems. He also constructed an automaton (a flying pigeon). Perhaps he was also the inventor of the categories in philosophy. It is, however, still undecided, whether Archytas' work on the ten categories is drawn from his work or forged. Horace mentions him, in one of his poems, as having been drowned on the coast of Apulia.

Arckenholt, John, the historian, was born 1695, in Swedish Finland, and died 1777, at Stockholm. He wrote Memoires concernant Christiane, Reine de la Suède, Amsterdam, 1751—60, 4 vols. 4to.

Arcon, Jean Claude Eleonore d', inventor of the floating batteries, for the attack of Gibraltar, born 1732, at Pontarlier, was designed for the church, but his father, a lawyer, yielded to the decided inclination of his son; for science. He was received into the military school at Mezières, 1754, and, the following year, into the corps of engineers. In the seven years' war, he highly distinguished himself, particularly at the defence of Cassel, in 1761. 1774, he was employed in drawing a map of the Junr and the Mos- gyes, and, to expedite the labour, he invented a new mode of shading, much superior to the common one. He was gifted with an inventive imagination and an unwearied activity. He wrote much, and in all his writings, which are read with pleasure, in spite of their incorrect style, we find a richness of ideas, and truces of a splendid genius. In 1754, he invented the floating batteries. The jealousy and disunion of the French and Spanish generals tended to prevent the result from answering his expectation. Elliot, who directed the defence of Gibraltar, did full justice to the inventor. —At the invasion of Holland, under Dumouriez, he took several pieces of action, and became a general. He wrote his last and best work, the result of all the rest,—Considerations Militaires et Politiques sur les Fortifications, (Military and Political Considerations on Fortifications). The first consul placed him in the senate in 1799, and he died there. Some historians, (e. g., the most northern point of Germany (it Prussia Proper is not included therein); the northe-
eastern promontory of the island Rugen, in the parish Altenkirchen, upon the peninsula Wittow, consisting of chalk, flint, and petrifactions. Here was formerly situated the old Vandal castle, with the chief temple of the god Swantevit, who was highly venerated by all the Schavonians in North Germany, and whose worship king Beorhanmer I. of Denmark put an end to, by capturing the castle, in 1168. The country is delightful and fertile. The shores are prosperous and abrupt, and very picturesque. In the vicinity of the old Herthsburg, in the holy grove of Hertha, may yet be seen the deep lake which served for abatiments and distant from the north pole. Travellers frequently visit the island, which, on account of its wine-cellar, abounds with old and marvellous tales. (See Rugen.) Lately, a light house has been erected on the promontory of A. by the Prussian government.

Ascot: a large district of Hindostan. It was formerly independent, but since 1802, it has been under the British dominion. The exports consist chiefly of arack, pepper, palm-nuts, received from Ceylon, Travancore, and Prince of Wales's island.

Ascot (anciently Arcati, Regue Sora, and Soromandala): a city of Hindostan, formerly capital of the Carnatic, on a plain, 57 miles W. S. W. of Madras; lon. 79° 29' E.; lat. 12° 52' N. The fort is a mile in circumference. The city is extensive, and manufactures coarse cotton cloth. Hyder Ali gained possession of it Sept. 30, 1780, after having defeated the English, who had possessed it since 1760.

Arct (Greek arctos): an epithet given to the north pole, or the pole of the heavens. It is called the arctic pole, on account of the constellation of the Little Bear, in Greek aξιετς, the last star in the tail whereof points out the north pole. —Arctic circle is a lesser circle of the sphere, parallel to the equator, and 23° 28' distant from the north pole, from mark where its name. This and its opposite, the antarctic (q. v.), are called the two polar circles, and may be conceived to be described by the motion of the poles of the ecliptic round the poles of the equator, or of the world.

Arces; a fixed star of the first magnitude, in the constellation of Arcophtylos or Horse-head.

Asces (Greek αςας): a name given by the Greeks to two constellations, called, by the Latins, Ursa (ma- jor and minor), and by us, the Bear (great and little).

Arcuation: the method of raising, by layers, such trees as cannot be raised from seed. The process consists in dividing to the ground the branches which spring from the offsets or stools, after they are planted. Arcuation is based on this principle in vegetable life, that the plant depends chiefly upon external influences, and that a part, which now has become a branch by the influence of air, may be easily turned into a root by the influence of the earth. In fact, alcyes of trees have been made, which, after growing to a considerable size, have had the branches turned into the ground, and the roots towards the sky. The former, after a while, became roots, and the latter put forth foliage. In the animal kingdom, such great changes do not appear to take place; yet some parts may be turned into others.

Ascene, department de l': a department in the south of France, on the right bank of the Rhone. It contains 1836 square miles, and had, in 1828, a population of 329,419.

Asseux; a chain of mountains covered with woods, between the Meuse and the Moselle, in the grand-duchy of Luxembourg. In the time of the Romans, the wood of A. comprehended a large part of Gallia Belgica, and, according to Caesar, extended from the Rhine, through the country of Treves, to the territory of the Nar, and even to the Maon. More than a century, it was unexplored; but forests and brooks take their rise in it. The mines are no longer worked for iron, copper, and the precious metals.

Sheep are raised here in considerable numbers, and the country affords much game.—The name A. is derived from the Celtic ar, in, and duanna, well of God.

In a wider sense, the mountains extending from the former French Iainault to the Moselle are called A.; whence, also, a department in the north-eastern part of France, containing about 1100 square miles and 291,244 inhabitants, the chief city of which is Metezeres, has the same name.

Ardey: the chain of mountains extending along the Ruhr, in the county of Mark, from Frodenberg to Volmarstein. It consists of rough sandstone, above which are masses of coal. This mineral is very important in this manufacturing region. The ruins of a castle, where the counts of Ardey dwelt in the 7th century, are still to be seen in this mountain.

ARDrossan, a parish and village in Ayrshire, Scotland, situated on the firth of Clyde. Ardrossan is chiefly remarkable for the extensive harbour erected there under the auspices of the earl of Eglington. The object of this harbour was to open a direct communication between Paisley, Glasgow, and the west coast, instead of the present circuitous passage by the firth of Clyde. A canal was therefore to be cut from Glasgow to Ardrossan, a distance of about 3 miles, at the estimated expense of £125,000. Of this, a third has been executed, viz. from Glasgow to Johnstone, and this part, it is said, cost nearly the whole of the above sum. No further extension of the canal has been made for many years, but in 1830 a railway was opened between Johnstone and Ardrossan, chiefly for the convenience of coal for shipment.

The harbour of Ardrossan is one of the safest, most capacious, and most accessible on the west coast of Britain. It consists of a pier of 900 feet in length, constructed at an enormous expense. The village attached to it is of modern erection, and has become a favourite resort in the sea-bathing season. Population of the parish, 3494.

Are; a superficial square measure in France, substituted for the former square rod. It consists of 1070.44 English square feet. The 10th part of an are is called a deciare, and the 100th a centiare. Deciare is a surface of ten acres.

Area (from the Latin, in which it signified, first, a threshing-floor; later, a vacant place bounded on all sides, or before a public building); in geometry, the superficial contents of any figure; in geography, the superficial contents of a surface. Balbi has made an estimate of the earth at 196,020,000 British miles, of which almost three-fourths, or 147,700,000 miles, are covered by the ocean, and its branches which form the inland seas; the remaining 50,000,000 miles form the five parts of the world, with the numerous islands regarded as their geographical dependencies. The same excellent authority estimates Europe to contain an area of 3,724,000 square miles; Asia 16,156,000 square miles; Africa 11,354,000 square miles; America 14,860,000 square miles; and the Maritime World or Oceana, 4,150,000 square miles. There are, of course, considerable differences in the estimates of different geographers. The following tables of the areas of the zones, seas, and countries are taken from Mr Darby's View of the United States (Philadelphia, 1828), and will be found to differ materially from Balbi. According to Mr Darby

The torrid zone contains land in

<table>
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<th>sq. miles</th>
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<tr>
<td>Asia</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Australia</td>
<td>1,000,000</td>
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<tr>
<td>Polynesia, or Oceania</td>
<td>100,000</td>
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<tr>
<td>Africa</td>
<td>5,000,000</td>
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<tr>
<td>South and North America</td>
<td>4,500,000</td>
</tr>
<tr>
<td>Total</td>
<td>13,600,000</td>
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Land area of the southern temperate zone.

Australasia: 1,400,000
Africa: 640,000
South America: 1,520,000
Total: 3,560,000

Land area of the northern temperate zone.

Asia: 7,600,000
Europe: 3,020,000
North America, Greenland, &c.: 2,600,000
Africa: 2,360,000
Total: 17,590,000

Land area in the northern polar circle.

Asia: 500,000
Europe: 20,000
North America, Greenland, &c.: 2,600,000
Total: 3,390,000

Land area in the southern polar circle: 200,000

But it is doubtful whether there are, in reality, 200,000 square miles of land within the antarctic circle.

ARELAS, or ARELATIUM; the present Arles; in ancient geography, a town of Gallia Narbonensis, situated on the Rhone. It was a favourite place of the Romans, and hence called Galliata Roma. A. was the chief city of the kingdom of Arelat or Arles, which consisted of the duchy of Burgundy, with Provence, and existed for a short time in the 9th century. See Burgundy.

ARENBERG; a place with 490 inhabitants, in the northern part of the county of Cologne, now belonging to the Prussian grand-duchy of the Lower Rhine. The dukes of A. derive their name from this place.

ARENA. See Amphitheatre.

ARENTO, Martin Frederic. This learned man, renowned for his scientific travels through a large part of Europe, was born at Altona, 1769, and died of the palsy, in the neighbourhood of Venice, 1824. Being recommended by count de Reventlow, in 1797, he was appointed an eleve in the botanic garden at Copenhagen. But his predilection for the study of antiquities led him to the library of the university, where, in the most piercing cold, he spent whole hours in examining the collections of Arnamagnæus. He travelled, in 1798, to Finnmark, under the royal patronage. He made accurate observations in Norway and other countries, which had been visited by no stranger before him. He was to have collected living plants and seeds, but he brought back little or nothing, and was therefore discharged. He began his antiquarian collections in Norway, 1790 and 1800. He then resided again in Sweden, in Rostock, in Paris, and in Venice. A part of his papers, drawings, and treaties, all containing researches respecting northern antiquities, he deposited in the library at Copenhagen. He has also published some separate treaties in Paris, and in various cities of Sweden, Germany, and Denmark. Afterwards, he travelled through Switzerland, Spain, Italy, and Hungary. He lived on the charity of strangers, and slept often in the open air, without suffering any inconvenience. He carried all his papers with him. The persecutions which he endured at Naples, on a suspicion of Bondmarism, contributed much to hasten his death.

ARENS, or ARENSMADEN; a district of Denmark, in the duchy of Sleswick, through which runs the famous road from the Baltic to the North Sea. In 1806, chief director of the library of Munich, and, in 1807, secretary to the first class of the academy of

246 ARENAS—ARENTH.

ARENAS—ARENTH.

Ares. See Mars.

ARESKOU, or AREKSNENI; the god of war among some of the American Indians.

ARETHUSA. 1. One of the Hesperides.—2. A daughter of Neroes and Doris, first a nymph of Diana, then a famous fountain of the island Ortigia, which comprises a fourth part of the city of Syracuse. (Respecting her metamorphosis into a fountain, see Alpheus.) As Theocritus composed his idyls on her banks, she is often made the muse of pastoralists.

ARETHUSIN (Christopher), baron of; born at Ingolstadt, December 2, 1772. He early entered into the public service. In 1799 and 1800, he urged the abolition of the feudal estates, and the assembling of the diet. In the contest of the Bavarian states with the government, in 1800 and 1801, he was very active as a writer. In 1803 after the abolition of the monasteries, he was appointed commissioner, by the government, to examine their libraries; in 1804, he was made a baron of the council, and, in 1806, chief director of the library of Munich, and, in 1807, secretary to the first class of the academy of

246 ARENAS—ARENTH.
The page contains a text on the life and work of Aretino, a prominent Italian author of the 16th century. The text discusses his birth, education, literary achievements, and political activities. The page is a blend of historical and biographical information, with references to his works, patronage, and the influence of his writing on future generations.

The text is from a book or a scholarly article, as indicated by the formatting and the nature of the content. The author provides a detailed account of Aretino's life, highlighting his contributions to literature and his impact on society.

The text contains references to historical events and figures, such as Francis I, whom Aretino is said to have imprisoned. The language used is formal and academic, suitable for a scholarly context.

The page also includes a passage from one of Aretino's works, showing his use of the Italian language and his style of writing.

Overall, the page is a comprehensive look at Aretino's life and legacy, providing insight into the cultural and political climate of his time.
nation. He deserved this honour less, however, for the purity than for the boldness, skill, and originality of his style.

Aegaeum (anciently Areitzum): a city in Tuscany, seated on the declivity of a mountain, in the middle of a fruitful plain, seventeen miles from Città di Castello, and lying between it and Florence. It had gone almost entirely to decay before Cosmo de' Medici took it under his protection. A. is the birthplace of the poets, Pericrach, and Pietro Arethino. It contains now about 5,000 inhabitants.

Argal, or Argeol, of Tartar, a hard crust formed on the sides of vessels in which wine has been kept, red or white, according to the colour of the wine. On being purified, it is termed cream, or crystals of tar tar. It consists of a peculiar acid, combined with potash. White argal is preferable to red, as containing less drossy or earthy matter. The marks of good argal of either kind are, its being thick, brittle, hard, brilliant, and little earthy. That brought from Germany is the best, on account of its being taken out of those great tusks wherein the salt has time to crystalize. It is a valuable article to dyers, as it is much serving to dispose the stuffs to their colours the better. When pure, or cream of tar tar, it is extensively used in medicine.

Argali (ovis ammon): mountain, or wild sheep. This animal is regarded with propriety as the savage stock of the races of domestic sheep. The races of domestic sheep are descended; though it is difficult, from an inspection of the A., to conceive how so wild and energetic an animal could, by any management, be converted into the imbecile and helpless creatures of which our flocks are composed.—In size, the A. equals the common deer, and in form and bearing resembles the wild goat, though his huge, laterally-twisted horns give his head a very marked similarity to that of the common ram. These horns are very large, arise near the eyes, curve first backwards and then forwards, and have the points directed forwards and outwards; from their base, they are transversely waved or wrinkled for half their length, the remainder being nearly smooth. The horns of the female are more like those of the common goat, rising directly upwards, and curving gently backwards, especially towards the extremity. In summer, the A. is wholly covered with wool, and much of this wool is of a greyish-yellow, having a blackish or reddish stripe along the back, and a large spot of the same colour on the rump. The inferior parts of the body, and inside of the thighs, are of a pale reddish-white; in winter, the colour is a deeper red, with a greater whiteness about the muzzle, throat, and belly.

—The mountain sheep is found in considerable numbers on the elevated ranges of northern Asia, in the deserts or steppes of Siberia, the mountains of California, and the Rocky mountain range of America. They live in herds or families, consisting of a male with the females and young, and seek their food on the lofty elevations, covered only with lichens or small shrubs. They are shy and fearful, and, when disturbed, retreat with a swiftness and agility which renders pursuit hopeless, as they bound from rock to rock with security, and are soon lost to sight. It is by stealth upon them against the wind, or lying in ambush near where they must pass, that the hunter is enabled to make them his prey. In the spring of the year, when under the influence of sexual excitement, the males acquire a warlike disposition, which includes severe and obstinate combats for the possession of the females. The A. was first satisfactorily known as an inhabitant of America by the expedition of Lewis and Clarke, who brought the skins of a male and female from the Rocky mountains, which are still preserved in the Philadelphia museum. The A. had been previously indicated as an inhabitant of California by Vernege. The species is called big horn by the Indians and traders. The Indians, and especially the domestic sheep, cut off the horns, and apply their skins to the same purpose as those of the deer.—The domestication of the sheep is coeval with the infancy of the human family; and it is not, therefore, surprising, that the domesticated breeds should differ so materially from the wild stock. It is known what can be accomplished by cross-breeding, even during the life of a single male. When domesticated soft flesched sheep are taken to warm climates, this fleece is speedily shed, as we have repeatedly witnessed, and a coarse, reddish hair takes its place. In this condition, the resemblance of the animal to the A. becomes very striking.

Argand Lamp. See Lamp.

Argens (Jean Baptiste), marquis d'; born, 1704, at Aix. He was designed for the law, but, following his inclination, entered into the military service at the age of fifteen. His passion for Sylvia, an actress, induced him to leave the service of France also, to be with her in Spain. But he was arrested, brought back to Provence, and sent to Constantinople with the French ambassador. His residence in Turkey was marked with adventures. After his return, he entered the army again. In 1744, at the siege of Kehl, he was wounded, and afterwards, before Philippsburg, a ball from a cannon, from the fall of his horse. Disinherited by his father, he became an author, and went to Holland, that he might write with more freedom. Here he published his Lettres Juives, Lettres Chinoises, and Lettres Catholiques. Frederic II., then crown-prince, wished to become acquainted with the author, and receive a visit from him. He replied, that he should be in danger from Frederic William I., with his six feet six (this king being in the habit of compelling tall men to join his regiment of grenadiers). After the death of the king, Frederic again invited him. D'A. appeared in Potzdam, received the place of chamberlain, and that of director of the fine arts, in the academy, and became the king's daily companion, who loved him for his frankness, but ridiculed his melancholy humour. When almost sixty years old, he fell in love with the actress Courbois, and married her with the knowledge of Frederic, who, however, wholly pardoned him for this act of rashness. He died in 1771. Frederic II. caused a monument to be erected to him, in the church of the Minorites, in Aix.—His numerous writings, the fruits of an unrestrained freedom of thought, once had some reputation, but now, though instructive, are no longer esteemed, because they are deficient in purity, taste, critical discernment, and sound views.

Argent (French for silver, from the Latin argen tum); a word used in heraldry, and in several terms of art employed by the goldsmiths.

Argos (Oxford). Cont: B. MS. copy of the four Gospels, so named from its silver letters. It is preserved in the university of Upsal, and is a copy from the Gothic version of bishop Uphilus, who lived in the 4th century. It is in quarto, written on vellum, stained with a violet colour. On this ground the leaters, all uncials, or capitals, are painted in silver, except the initial letters, which are in gold. This MS. was discovered, in 1597, in the Benedectine abbey of Werden, in Westphalia, and, after several changes of owners, was sent, as a present, to Christina, queen of Sweden. Vossius, a Dutchman, now received the manuscript of this MS. from Count Magnus Gabriel de la Gardie bought it, at Vossius' death, for £30, and sent it to Upsal. Three editions of it have been given to the public; at Dort, 1665; Stockholm, 1672; the Clarendon press, 1750.—Some
ARGENTIERA — ARGONAUTS.

fragments of the Gothic version of St Paul's Epistle to the Romans were discovered by Kratotel, in 1765, in a codex recenscriptus, in the ducal library of Wolfenbuttel. It seems to have been written in the 6th century; and Angelo Mai (q. v.) lately discovered fragments of the Messo-Gothic translation of the Epistles of St Paul, made by Ulphilas; also a codex recenscriptus. These other discoveries are of interesting addition to the above-mentioned codex.

ARGENTIRAI, or KIMOLI (the ancient Cimolidae); a small island in the Archipelago, which belonged to the government of the capudan pacha. It is rocky and sterile. The inhabitants (Greeks) live in one village, and are very poor. Formerly, silver mines were worked here, whence its washing and bleaching of linen. 20 ft. 42° E.; lat. 30° 47' N.

ARGIPHONTES. See Argus.

ARGIVES. See Argolis and Argo.

ARGONAUTS. See Argol.

ARGOLIS; the eastern region of Peloponnesus; bounded N. by Achaeia and Corinth; N. E. by the Saronic gulf; W. by Arcadia; S. by Laconia, and S. W. by the Argolic gulf. The Greeks inhabiting it were divided into two classes: the ancient Argians, renowned for their arts, and their Argives, which afterwards formed free states. The chief city, Argos, has retained its name since 1800 B.C. Its inhabitants were renowned for their love of the fine arts, particularly in music and poetry. The last was written in Delphi, in 382 B.C. Famous verses were composed to the brothers Biton and Cleobis, who fell victims to their filial piety. In 1825, a high school and a monitory school were established at Argos. Near this city lies Napoli di Romania (q. v.), the ancient Numisia, with an excellent harbour, and the modern city of Naples. On the site of the present village Castri, on the Egæan sea, formerly lay the city Hermione, with a grove dedicated to the Graces; opposite is the island of Hydra (q. v.). Near the city of Epidaurus, the watering-place of ancient Greece, on the Egæan sea, Ascilion (q. v.) had his temple. At Theecene, now the village Damotia, Theseus was born.

ARGONAUTS; in fabulous history, those heroes of ancient Greece who performed a hazardous voyage to Colchis, in quest of the golden fleece. Jason, king of Iolcos, in Thessaly, enfeebled by age, had abdicated the throne in favour of his son, Aeson, and appointed his brother-in-law, Pelas, to administer the government during his son's minority. At the time fixed, Jason appeared to demand his father's kingdom. Pelas, apparently ready to resign the throne, required of him first to bring from Colchis the golden fleece of the ram, on which Phryxus and Helle (q. v., under Athanaus) had escaped the persecutions of their step-mother, Iono; for Phryxus, having sacrificed the ram, had hung up the fleece in a consecrated grove at Colchis. The ambitious youth, unconscious of the treacherous nature of the proposal, engaged to accomplish the adventure; and the most valiant heroes of Greece took part with him. Hercules, Castor and Pollux, Peleus, Admetus, Neleus, Meleager, Orpheus, Telamon, Theseus and his friend Pirithous, Hylas, and many others. They sailed with favourable winds, from the promontory of Magnesia, in a vessel called the Argo, built at the foot of mount Pelion, in Thessaly, purposely built in size and equipment. Tiphys, skilled in navigation, managed the rudder, and the sharp-sighted Lynceus explored the seas for the place of their destination. Orpheus elevated the courage of his companions, when danger threatened, by music and song. They landed first at Colchis; which was initiated into the mysteries, he made vows, with the rest of his companions, to the Samothracian deities, upon which the storm was allayed; and, to show the interposition of the gods by a miracle, two stars appeared over the heads of the Dioscuri. (See Castor.) They happily reached the harbour of Lemnos, where they remained two years. The women of Lemnos, instigated by the angry Venus, offended with their husbands, and oppressed by their Thracian conquerors, avenged themselves by the murder of their husbands, and detained among them the welcome strangers. At length they sailed to Samothrace, where the Rhodians, in the presence of all the Thracians, avenged themselves to be initiated into the mysteries there. Then they landed at Troas. Here Hylas rambled, and lost his way, and Hercules, who went in search of him, remaining too long on shore, the vessel sailed without them. Telamon, also, left them here. Hence they went to the city of Cyzicus, where the king received them hospitably. But at night, being forced back by a storm, they were taken for enemies; a contest followed, in which Jason slew the king, in consequence of which Rhea, the guardian goddess of the island, detained the Argo by magic. Having appeased the angry deity, they sailed to the east, and landed at Belbryca. Driven by a storm to the shores of Thrace, the Argonauts sailed thence to Sinomydessa, where the blind soothsayer, Phineus, was king. Phineus gave the strangers directions, and a guide to conduct them through the Cymean rocks, which, driven furiously ague, each by the wind, with man in piece vessels passing through them. Having arrived at the rocks, in compliance with the advice of Phineus, they caused a dove to fly through before them, and followed, rowing with all their strength, while Orpheus played on his lyre. The rocks stood firm, and the danger was escaped. The last part of the voyage was the island of Aretias (or Dia). Here they found the Symphalides, birds which shot their feathers like arrows, and from which the heroes could only protect themselves by a violent clashing of weapons. Having driven away these dangerous monsters, they met with the sons of Phryxus, who, having been sent by Ezetes to Ordoumenus, to take possession of their father's inheritance, had been forced hither by storms. They relieved these sufferers, and received from them much useful information. At last, the shore of Colchis appeared in view; they landed, at night, at the mouth of the Phasis. King Ezetes, previously informed of the design of the strangers, and fearing their power, did not refuse, absolutely, to deliver the golden fleece, on which his life depended, but charged Jason with three labours, by which he hoped to destroy him. Jason was to yoke the two fire-breathing bulls of Vulcan to a ploughshare of adamant, and to plough with them four acres of land consecrated to Mars, before never turned up. He was then to sow in the furrows the remaining serpents' teeth of Cadmus, in the possession of Ezetes, and to kill the armed heroes which they produced; at last, to fight with and slay the dragon that guarded the
golden fleece. All three labourers was to accomplish in a single day. To rescue the hero, J uno and Minerva, who had instructed Medea, the daughter of Aetes, in magic, infused into her an ardent love for Jason, and, in return for a promise to conduct her home as his bride, she gave him a mixture to anoint himself with, a stone to throw among the formidable herd springing from the serpent's tail. He did it, and by a drink to kill to sleep the dragon. Thus equipped, in the sight of the king and assembled people, Jason yoked the formidable bulls, and ploughed with them the fatal field, sowed the serpents' teeth, and threw among the armed horses the poison, given him by Medea, by which they turned their weapons against one another, and, in a furious conflict, all perished. Aetes, terrified, commanded him to delay the last adventure. Contriving another plan, he resolved to murder Jason and his companions, and to burn the sacred Argo. Being informed, by Medea, of the king's design, Jason, hastened by night, to the consecrated grove, lulled to sleep the dragon, by a magic potion, and took the golden fleece from the oak on which it hung; then he retired in haste, with Medea and his companions, to his ship. The next day, Jason, perceiving the来自 of the grove, and the flight of the strangers, embarked on board a vessel to pursue them. At the mouth of the Danube, they were within sight of one another. Here, also, Medea averted the threatening danger, by killing her brother, Absyrtus, and crowning on the shore his mangled limbs. This melancholy sight detained the unhappy father, who quitted the pursuit to collect the bloody limbs of his beloved son. As Phineus had advised the Argonauts to return another way, they now sailed up the Danube, carried the lightly-built Argo many miles over mountains and valleys, to the shore of the Adriatic, and being again embarked. Then the voice of an oracle sounded from the Dodonian mast of the Argo—"You shall not kiss the shores of your country, till Jason and Medea have atoned for the murder of Absyrtus, and appeased the goddesses of vengeance." Upon this, they directed their course to the port of Zela, to Circe, sister of Aetes. She, however, refused them expiation, but directed them to the promontory of Malea, where they might obtain it. On their voyage, they encountered the frightful Scylla and Charybdis, the alluring Sirens, and a fearful storm not far from the town of Thesprotia. Then, when they reached the giant Talos, who guarded the island, opposed their landing. A single vein ran from his head to his heel, and was closed below by a brass nail. Medea gave him an intoxicating potion, and opened the vein, that he might bleed to death. At last, they reached the long-wished for promontory of Malea; their crime was expiated, and, without further misfortune, the Argo arrived at the port of Iolcos.

On the isthmus of Corinth, Jason consecrated his ship to Neptune, and it afterwards shone as a constellation in the southern part of the heavens. Thus the expedition terminated gloriously. But, before the heroes parted, they agreed to aid one another in war, and resolved, at certain times, to celebrate public games in honour of Jupiter. These were the beginnings of the Olympic games. The further fortunes of Medea and Jason are mentioned under those articles. The tales describing the return of the Argonauts differ very essentially. Several poets of antiquity have celebrated this adventurous undertaking, which is placed in the middle of the 15th century B.C. We still have, under the name of Orpheus, a poem on this subject; one by Apollonius of Rhodes, and one by Valerius Flaccus.

ARGONNE: a former province of France, between the rivers Meuse, Marne and Aisne. St Menchel was the capital. —Argonne, wood of, runs through Upper Champagne and Lower Bar, and is mostly mountainous. It was so desert, that the prince of Condé, who received it, in 1557, as an appanage, and his successors, used it only as a hunting-ground, and place for felling wood, and it became a resort of the smugglers of salt. In order to expel them from the place, it was purchased the wood, in 1734, for 650,000 livres. This wood became too well known in the unhappy campaign of Prussia, in 1792.

ARGOS. See Argolia.

ARGOSIS, or ARGOS; an island on the coast of Africa, now known, and giving the name to a group of islands long. Notwithstanding its insignificant size, the possession of it was violently disputed, for eighty-seven years, between the Portuguese, Dutch, English, and French. After a variety of fortune, it has been at last totally abandoned.

ARGUMENTUM, AD HOMINEM; an argument which presses a man with consequences drawn from his own principles and conclusions, or his own conduct.

ARGUS, in fabulous history, was the son of Acestor, or Agenor, or Inachus and Ismene, and had a hundred eyes. According to some, his whole body was composed of the eyes of the Argonauts (Aegon Come), half of which were always awake, while the rest were closed in sleep. The jealous Juno made him keeper of the unhappy Io (q.v.); but Mercury lulled him to sleep with the sound of his flute, and cut off his head; hence Mercury is called Argiphantes. —Juno afterwards took his eyes to adorn the tail of the peacock.

ARGYLL, an extensive county in the south-western extremity of the Highlands of Scotland, partly composed of a number of peninsulas on the mainland, and partly of an archipelago of small islands scattered along the west coast of Scotland, and between the promontories and the headlands. The main islands are the Hebrides, and others of larger dimensions divided from it by straits and sounds. The mainland is situated between 55° 21' and 57° north latitude, and between 1° 22' and 5° 29' of longitude west from Edinburgh. The greatest length of Argyllshire is 115 miles, its breadth above 69; and from the windings of the numerous bays and creeks with which the land is everywhere indented, it is supposed to have more than 600 miles of sea-coast. The population of the county amounts to 101,425. Argyll is popularly divided into five great districts, viz. Cowal, Lorn or Argyll, the Arrochar Alps, or Kintyre, Morven, and Stunart. Of these there are various subdivisions, such as Appin, Glenorchy, Ardnacurchan, and Knapdale. A number of isles are included in the shire, viz. Tyrie, Coll, Mull, Isla, Jura, Staffa, Icolmkill, &c. the more important of which will be found noticed in their proper places. The chief towns of Argyllshire are Inverary, Campbeltown (two royal burghs), Oban, Bowmore, Lochgilphead, Tobermory, and Ballamulish. For a long time this shire scarcely formed part of the kingdom of Scotland, having become subject to the Macdonalds of the Isles, who assumed regal and independent authority, until mastered by the king Robert Bruce. On the depression of the Macdonalds, their estates and titles were bestowed on the Campbells, who have ever since retained them. The duke of Argyll, whose seat is at Inverary, is the proprietor or feuar of a large portion of the territory. He is the chief of the numerous family of Campbell. The general features of the county are varied and striking, consisting of lofty mountains, deep glens, and inlets of the sea entering far into the land. Towards the northern parts, it assumes the wild and savage grandeur so peculiarly characteristic of the Highlands, and exhibits the coast line of the island, stretching up upon mountains, in great but picturesque irregularity. The mountain of Ben Cruachan is one of the highest
in Scotland, being 3,390 feet above the level of the sea; and about Ben Lomond there are several which are little inferior to it. The hills and forests abound with fallow deer, stags, roes, and almost every sort of wild game. The coast, although rocky, being indented with navigable bays and lakes, affords safe harbours and, being connected with the Lowlands, is nearly surrounded by Loch Long and Loch Fyne, which are inlets from the sea; and there are several lakes of fresh water in the interior. All these abound with fish, the taking of which employs the greater part of the inhabitants. The summits of the hills are bare of pastureage but the sides of the mountains and borders of the lakes supply food to numerous herds of black cattle and sheep, the rearing of which, next to the fisheries, occupies the chief attention of the native population. Some of the glens exhibit great verdure and cultivation, particularly Glen-darnel, the most fertile valley in the county. Agricultural produce is principally confined to barley, oats, and potatoes. Iron, copper, and lead, are produced in various parts of the county; and the iron works in particular have proved very profitable since the opening of the Crinan canal. A great variety of beautiful marbles are found here; also fine-stone coal, and large quantities of fine blue slate. The new metal, stronitites, was discovered at Strontian in this shire, whence its appellation. The leading articles of export are sheep, cattle, horses, fish, slate, and, formerly, kelp. The chief manufactures are leather, the weaving of wool, and the smelting of iron. The roads have been greatly improved of late years, and the establishment of steam-packets between Glasgow and the various districts of the county has proved exceedingly beneficial and convenient. On this subject Cockburn, the statesman, speaks with justifiable enthusiasm. "A greater boon," he says, "than any that ever the duke of Argyle bestowed, or could bestow upon the county, has, within the last few years, been conferred by steam-boats. It is evident, from the peculiar form of Argyleshire, that it will always owe as much of the benefit of the roads from the already common communication between its near and distant parts, to improvements in water carriage, as to any extension of that by land. The difficulty, indeed, of forming roads in a district so serrated by the sea, and so blocked up by chains of hills, is almost insurmountable; hitherto there have been only two or three roads in the county, skirting along the banks of the lochs. The very barrier, however, which mainly prevented communication in the days of our fathers, has turned out to be the highway in our own. By the never-to-be-sufficiently-admired spirit of the city of Glasgow, about twenty steam-vessels are now constantly employed in conveying passengers and goods to and fro, throughout the country, and in transporting the country produce to market at that city. The effect of this grand engine, even after so brief a period, is incalculable. It happens that, notwithstanding the immense extent of the country, there is not a single dwelling-place more than ten miles from the sea, nor a gentleman's seat, (excepting those on the banks of Lochawe,) more than ten minutes walk from it. Every farmer, therefore, every gentleman, finds occasion to employ steam navigation. When this mode of conveyance was, in its infancy, it was generally supposed that the little waehal, bold shores, and scattered population of the county, kept it without the circle in which its adoption was to become beneficial. It came, however, to be attempted, and there is not now a loch, bay, or inlet, but holds a daily, or at least a weekly, service. In the Lowlands and the several districts of the county. By this means, the farmers, even upon the smallest scale, are encouraged to raise stock which they

would never otherwise think of fattening; the fattening of stock, again, causes them to improve their arable land; the extra profits enable them to buy luxuries, which, in their turn, communicate sentiments of taste, and open the mind to liberal ideas. The comparative frequency, moreover, of their visits to the Lowlands, tends to improve the character of the inhabitants, to promote the growth of modern and improved systems of agriculture. Steam-boats are, in short, at once the heralds and the causes of every kind of improvement in Argyleshire; it is no hyperbole to say, that they have in ten years raised the value of land within the county twenty per cent. Every town connected with this invention, so far as Argyleshire is concerned, bears a degree of romantic wonder strangely in contrast with its mechanical and common-place character. It accomplishes, in this district, transitions and justia-positions almost as astonishing as those of an Arabian tale. The Highlander, for instance, who spends his general life amidst the wilds of Cowal or upon the hills of Appin, can descend in the morning from his lonely home, and setting his foot about breakfast-time on board a steam-boat at some neighbouring promontory, suddenly finds himself in comparatively unbroken, with tourists from almost all parts of the earth; he sits at dinner between a Russian and an American; and, in the evening, he who slept last night amidst the blue mists of Lorn, is traversing the gas-lighted streets of Glasgow, or may, perhaps, have advanced to Edinburgh itself, the polished, the enlightened, the temple of modern intelligence. Restoring this wonder, he who has all his life trod the beaten ways of men, and never but in dreams seen that land of hill and cloud, whence of yore the blue-botted Gael went to descend, to sweep folds or change dynasties, can stand in the lig-ht of dawn amidst the reflected objects of a capital, and when the shades of night have descended, find himself in the very country of Ossian, with the black lake lying in imperceptible serenity at his feet, and over his head the grey hills that have never been touched by human foot. Steam-boats, it may be said, bring the most dissimilar ideas into conjunction, make the rude Gael shake hands with the most refined Lowlander, and cause the nineteenth and the first centuries to meet together. No such lever was ever introduced to raise and revolutionise the manners of a people, or the resources of a country, more completely than a steam-boat."

Argyll, Marquis and Dukes of. See Campbell.

Argyll Rooms; a house in Regent-street, London, a great rendezvous of fashion. In 1818, the royal harmonic institution erected the present building, the façade of which displays very little taste. The rooms, properly so called, are four—a ball-room, a drawing-room, an ante-room, and the grand concert-room. The usual price of tickets for the concerts held here is half a guinea, for which the finest performances may sometimes be heard.

Aria, in music. See Air.

Ariadne. The duchess of Minos, King of Crete, who, having fallen in love with Theseus, when he was engaged in an attempt to destroy the Minotaur, gave him, in token of her love, a clue of thread, which served to conduct him out of the labyrinth, after his defeat of the monster. Theseus, on leaving the island, took with him A., but slan-
doned her on the island of Naxos, where she was found by Bacchus, who married her, and presented her with a crown of gold manufactured by Vulcan, which was afterwards transformed into a constellation. A. had a son by Bacchus, called Eumenus, who was one of the Argonauts. With this Argonaut there were two females of the name of A. One of them was exposed to Bacchus on the island of Naxos, and became the mother of Staphylus; the other was
abandoned by Theseus on the same island, where she died. Hymen were derived two kinds of feasts, called Ariancre.

**Arianna;** a small village, six miles N. E. of Tunis, remarkable for a fine range of the Carthaginian aqueduct, 74 feet high, supported by columns 16 feet square. Upon it, great quantities of water were then conveyed to approach the site of Carthage. The stone is all cut in a diamond shape. Near this spot, several ancient *matamores,* or subterraneous magazines for corn, have been discovered within these few years, capable of containing 100 bushels, strongly arched with large square stones. The Moors have already begun to demolish them.

**Arians;** the adherents of the Alexandrian bishop Arius, who maintained, about A.D. 318, that Christ, the Son of God is the most noble of all things created out of nothing, but inferior to God, and produced by his free will. This opinion was condemned in the council of Alexandria, 320, and in that of Nice, 325, by the orthodox church, which attributed to the Son of God perfect equality of essence with the Father, and knew no way of expressing his relation to the Father, but by calling it his eternal generation. The articles of the Nicene and of the Athanasian creeds, the latter of which, though fully revised and corrected, were received from the contest against Arianus. Though his party was abolished, he found means to procure powerful adherents; and Constantine the Great, from his desire of peace, wished to bring about the restoration of Arius to the Catholic communion, when the latter died suddenly, 336. After his death, his party gained considerable accessions, and Constantine, a short time before his decease, 357, caused himself to be baptised in the Arian mode. Under Constantius, Arianism became the religion of the court, formed its own liturgy, and, after 350, when Constantius ruled alone, it prevailed also in the West, and Rome was obliged to receive the Arian bishop Felix. The divisions among the Arians themselves, in the meantime, prepared a final victory for the Catholic church, which held the former constantly under its anathema. At first, the Semi-Arians, or Half-Arians, whose leaders, Basil of Ancyra, and George of Lodicius, were powerful in Syria, approximated to the Catholic creed by maintaining a similarity of essence between the Son and the Father (homoousia, hence *Homoousians,* and by that means, gained the superiority at the imperial court, although Macedonius and the Punicus, Arians of the Holy Spirit, adhered to the Catholic party. But the victory of the orthodox was promoted by the excesses of the strict Arians, *Etius,* and Eunomius of Cappadocia, together with their numerous adherents, who, in the council at Sirmium, 357, by maintaining that the Son of God is a wholly different being from the Father (hence *Heterousians, Anomoeans,* excited even the Semi-Arians against them, and, by restoring the former mode of baptism by immersion, aroused even the opposition of the people. The emperor Julian the Apostate, who, from contempt towards Christianity, tolerated all sects, ended the contest, and suffered no religious disputes to arise. Arianism again ascended the throne in the East with Valens, 364, and, growing bold, proceeded to acts of violence against the Catholics. But Gratian maintained peace. Theodosius restored the dominion of the ancient faith, and the divisions among the Arians themselves hastened the downfall of their influence in the Western empire.

After the fall of the fifth century, Arianism was extinct in that portion of the Roman empire which remained under the rule of the emperors. Among the Goths, who had become acquainted with Christianity, about 340, by means of the Arians, it prevailed in the western part of the empire, till the victories of the orthodox Frank, Clovis, and the reformation of the church by the Visigothic king Recared, suppressed it here, also, at the end of the fifth century. About this time, it was destroyed among the Suevi in Spain, among whom it had prevailed for a century. The Burgundians, who received it in 450, had already renounced it, and were converted to the orthodox faith. It was more difficult to convert the Vandals to the Catholic faith. Ever since 430, they had been strict Arians, and propagated the doctrines of their sect in Northern Africa, and, even the severest persecutions. The victories of Belisarius, 534, first put an end to their power in Africa as to their proscription from the orthodox church. Arianism was maintained longest among the Lombards, who brought it to Italy, and adhered to it firmly to 662. Since that time, the Arians have no where constituted a distinct sect; and, though the Alligenses, in France, in the 12th and 13th centuries, were accused of similar doctrines, and the sects, which, from the 16th century till the present time, have been comprehended under the name of *Antitrinitarians,* there is, in reality, maintained the opinion that Christ is inferior to the Father, yet neither of them can be regarded as Arians.

**Aria;** the seat of Persia, and capital of a province; 210 miles N. W. La Plata; lon. 70° 11' W.; int. 18° 27' S. In this port the silver from the mines of Poitois is shipped for Europe. It is much frequented by vessels, and has a considerable trade with Lima. Near it is a mountain of rock salt, great quantities of which are dug, and sent to all parts of the coast.

Aries (Latin, a ram); one of the twelve signs of the zodiac; the vernal sign. In the ancient military art, *aries* signified, also, a battering-ram, an engine with an iron head, to batter and beat down the walls of places besieged. See *Battering-Ram.*

**Arbetta.** See Arir.

Arimaspans, or Arimana; the principle of evil in the Persian theology, which perpetually counteracts the designs of Ormuzd, or Oromazdes, who denotes the principle of good. See *Demon* and *Zoroaster.*

**Aristarch of Alexandria;** a fabulous people, placed sometimes in Scythia, sometimes on the Rhipan mountains, and used synonymously with the *Cyclopes.*

**Ariovist;** the inventor of dithyrambs, born at Methymna, in Lesbos, and flourished about B. C. 625. He lived at the court of Perierand, in Corinth, and afterwards visited Sicily and Italy. At Taranto, he won the prize in a musical contest. Having embarked with the *Holy Spirit,* according to their history, with rich treasures, to return to his friend Perierand, the avaricious sailors resolved to murder him. Apollo, however, having informed him in a dream of the impending danger, Ariovist, in a magnificent dress, with his lyre in his hand, went upon deck, and endeavoured to soften the hearts of the crew by the power of his music. The dolphins, attracted by the sound, assembled round the vessel, and listened to his sweet songs, though the avaricious seamen still continued unmoved. A, then resolved to escape the hands of the murderers by a voluntary death, and threw himself into the sea. A dolphin received him on his back, and while he mollified the stormy billows by the power of his strains, bore him safe to mount Tenarus, whence he sailed for Corinth. The sailors, having returned to Corinth, and being questioned by Perierand concerning A., replied that he was dead. Upon this, he appeared before them, and convented them of their crime, when Perierant caused them to be crucified. The lyre of A., and the dolphin which rescued him, became constellations in the heavens. Of the poems of Ariovist, we have only a hymn to Neptune, which may be found in *Brunck's Analecta.* *Arius* is also the name of a horse, famous in Fabulous and poetic history.
Ariosto, in music. See Air.

Ariosti, Attilio; a composer of eminence, born at Bologna. He is said to have given lessons to Handel in conjunction with whom, and with the celebrated Bononcini, he afterwards produced the opera of Muzio Scevola; Ariosti setting the first act, Bononcini the second, and Handel the third. He likewise composed several other operas in England about the year 1721, at which time the royal academy of music was established; and is said to have introduced into that country, for the first time, the instrument called the viol d’amour, on which he performed a new symphony at the sixth representation of Handel’s Amadis, on the 12th July, 1716, soon after his arrival. He then went abroad, but again returned in 1720, and composed several operas. He once more left England, after publishing a book of cantatas by subscription; and the place and date of his death are unknown.

Ariosto, Ludovico, one of the most celebrated poets of Italy, was born at Reggio, in Lombardy, Sept. 8, 1474, of a noble family. His father was a member of the first judicial court at Ferrara. He was the eldest of ten children. Even in his childhood, he prepared tragedies, which he acted with his brothers; among others, one founded on the story of Pyramus and Thisbe. In the school of Ferrara, he composed comedy in verse himself. His patron confided him for the profession of the law; but, after five years of fruitless application to it, the young man renounced the study, that he might devote himself to literature. He enjoyed the instructions of the learned Gregory of Spoleto. Plautus and Terence, whom he studied with this teacher, furnished thoughts for two comedies, the Cassandra and the Suppositi, which he there planned. His lyric poems, in the Italian and Latin languages, distinguished for ease and elegance of style, introduced him to the notice of the cardinal Lante, who published one of his Eclogues in 1505. Ippolito fixed him at his court, used his counsel in the most important affairs, and took him with him on a journey to Hungary. After the death of Ercole, Alfonso, his son and successor, put the same confidence in A. At this court he began and finished, amid distractions, vigorous in the new poetry. In ten or eleven years, his immortal poem, the Orlando Furioso. In 1516, the printing of it was finished. When Ariosto gave a copy to the cardinal, the latter said, “Master Louis, where did you pick up all this trumpery?” In 1517 or 1518, A. was invited to accompany the cardinal Alfonso, on his journey to Hungary. The unhealthy climate and the infirm health of the poet appeared to him no sufficient apology; and, on declining to attend him, therefore, A. lost for ever the cardinal’s favour, which gradually passed from coldness and indifference to settled hatred. A. was now received by the noble duke Alfonso, a lover of the arts, who put much confidence in him, but bestowed on him only trifling rewards, and (what seemed more like a punishment than a mark of favour), in 1521 and 1522, commissioned him to quell the disturbances that had broken out in the wild and mountainous Caragana. He successfully accomplished this difficult enterprise, and, after three years, returned to Ferrara, where he employed himself in the composition of his comedies, and in putting the last touches to his Orlando. He died June 6, 1533, at the age of 58. A. had a good figure, a gentle character, polished manners, and, in his old age, was of much use and comfort to his family. He had been rich, and he loved splendour. He was obliged to content himself, however, with a small, but convenient and pleasant house, over which he caused the following verses to be inscribed:—

Parva sed apta nitit, sed nulli chronoxis, sed non sorribet, parva mea sed tamen nec dutibus.

His Orlando Furioso, which is a continuation of Boldo’s Orlando Innamorato, and cannot be perfectly understood without it, is a perfect epic romance, full of the feeling and spirit of the age. He is the last of the great epic spirit, in which A. far excels even Tasso. The Orlando displays a splendid and inexhaustible richness of invention, an ever-changing variety of incidents connected with the talent of lively narration. The activity of a youthful fancy animates the whole work. A. exhibits, also, a wonderful skill in interweaving the episodes, which he continually interrupts, and again takes up with an agreeable, and often imperceptible art, and so intertwines them with one another, that it is difficult to give a connected history of the contents of the poem. These qualities place him among the great masters of poetry, and have gained for him, among his countrymen, the appellation of divine. Besides this great epic, we have some comedies, satires, capitoli and sonnets by A., and a collection of Latin poems, in all of which the richness of his genius shines with more or less brightness.

Ariaster, in mythology, son of Apollot and Cyrene, was brought up by the Nymphs. The introduction of the use of bees is ascribed to him (hence he is called Melissaeus), and gained for him divine honours. His love of Katydid, the young bride of Orpheus, caused her death; for, as she fled from him, along the side of a river, she was pursued by a snake. He was punished by the loss of his bees. The loss, however, was repaired by new swarms, produced, after nine days, in the bodies of some cattle which he had slain. He was the son-in-law of Cadmus, and father of Actaeon. He has been confounded with the Proconnesian Aristas, who appeared on earth from time to time, e. g., as the instructor of Homer, and, afterwards, as a scholar of Pythagoras. This is explained by the fact, that there was a scholar of Pythagoras of this name, who succeeded that philosopher, and whose whole life was afterwards involved in fable.

Aristarchus; a Greek grammarian, who criticised Homer’s poems with the greatest severity, and established a new text; for that reason, severe and just critics are often called Aristarchi. He was born in the island of Samos, and seems to have lived at Alexandria about B.C. 150. Ptolemy Philomelos, who highly esteemed him, confided to him the education of his children. After having spent his life in criticising Pindar and other poets, especially Homer, he died at Cyprus, aged 72.

Aristides, born B.C. 267, was a famous astronomer, who first asserted the revolution of the earth about the sun. His work on the magnitude and distance of the sun and moon is still extant. He is also regarded as the inventor of the sun-dial.

Aristophanes, for his strict integrity summed the Just, was the son of Lysimachus, and descended from one of the most honourable families of Athens. He was one of the ten generals of the Athenians, when they fought with the Persians at Marathon. According to the usual arrangement, the command of the army was held by each of the generals, in rotation, for one day. But Aristides, perceiving the disadvantages of such a change of commanders, prevailed on his colleagues each to give up his day to Mitrides; and to this, in a great measure, must be ascribed the victory of the Greeks. The year ensuing, he was archon, and, in this office, enjoyed so universal a popularity, that he was absolved of all his misdeeds. This ambitious man, not daring, openly, to attack his rival, contrived to spread a report, that A. was aiming at a kind of sovereignty, and, at last, succeeded in procuring his banishment by the ostracism. It is said, that a rustic citizen, who happened to stand near A. in the public assembly which decreed
his banishment, turned to him, without knowing who he was, and asked him to write the name of Aristides upon the shell with which he was going to vote, ordering him to write the name of Aristides. He answered, "No," and returned the vote; but I am told of hearing him called the Just." A wrote his name, and returned the shell in silence to the voter. He left the city, with prayers for its welfare. Three years after, when Xerxes invaded Greece with a large army, the Athenians hastened to recall a citizen to whom they looked for aid, and besought him to help every thing but the good of his country, upon receiving intelligence that the Greek fleet was surrounded, at Samnis, by the Persians, he hastened thither with all speed, to warn Themistocles of the danger which threatened him. Touched by his generosity, Themis tocles admitted him at once to his confidence, telling him that the report had been purposely spread by himself, to prevent the separation of the Grecian fleet. He also invited him to assist in the council of war, and, having determined on battle, posted him on the little island of Psyttalia, where those, whose ships were in a neighboring port, and thereby secure in the battle of Platea, A. commanded the Athenians, and had a great share in the merit of the victory. It is thought that he was again anchor the year following, and that, during this time, he procured the passage of the law by which the common people were admitted to all public offices, even that of archon. On one occasion, when Themistocles announced that he had formed a project of great importance to the state, but which he could not make known in a pub lic assembly, the people appointed A. to confer with him on the subject. The project was to set fire to the combined fleet of the Greeks, which was then lying in a neighboring port, and thereby secure to the Athenians the sovereignty of the sea. A. returned to the people, and told them that nothing could be more advantageous, but, at the same time, nothing more unjust, than the plan of Themistocles. The plan was at once rejected. To defray the expenses of the Persian war, he persuaded the Greeks to impose a tax, which should be paid into the hands of an officer appointed by the states collectively, and deposited at Delos. The implicit confidence which was felt in his integrity appeared in their entrusting him with the office of apportioning the contribution, — an office which he executed with universal appro a nation. He died at a very advanced age, and, what most strikingly evinces his integrity and disinterestedness, so poor that he was buried at the public expense. He left two daughters, who received dowries from the state, and a son, who was presented with 100 silver mines, and a tract of wood-land. — Aristides filius, a famous rhetorician, born A. D. 129, in Bithynia, after travelling for some time, settled in Smyrna. When the city was destroyed by an earthquake, A. D. 178, A., by his influence with the emperor Antoninus, had it rebuilt. The inhabitants showed their gratitude for this service by erecting a statue to him. The merit of his orations, of which forty-five are yet extant, consists only in the splen dour of the language, by which the emptiness of the matter is tolerably well concealed. — Another Ar isrides, a Thessalian painter, contemporary with Apelles, flourished B. C. 240. A famous picture of his is Spina, king of Pergamus, is said to have given to the captured town, mortally wounded, with an infant suck ing at her breast, who, she is apprehensive will suck blood instead of milk; it became the property of Alexander the Great. Several very famous pictures of his are also mentioned, for one of which Aristides, king of Bithynia, is said to have given him 500 minas. Expression seems to have been the great excellence of this ancient artist. — Aristides was also the name of a Christian philosopher in the 2d century. Aristippus; the founder of a celebrated philosophical school among the Greeks, which was called Cyrenaic. He flourished 380 B. C. Being sent by his wealthy father to Olympia, probably to take part there in the horse-races, he heard Socrates spoken of, and was so desirous to receive instruction from him, that he immediately hastened to Athens, and mingled with his disciples. He did, however, follow all the principles of this philosopher. Like him, he thought that we should refrain from speaking of things which are beyond human comprehension, and likewise paid but little attention to the physical and mathematical sciences; but his moral philosophy differed widely from that of Socrates, and was a science of refined voluptuousness. His fundamental principles were, that all human sensations may be reduced to two—pleasure and pain. Pleasure is a gentle, and pain a violent emotion. All living beings seek the former, and avoid the latter. Happiness is nothing but a perpetual union of these two contrary and separate gratifications; and as it is the object of all creation, we should abstain from no kind of pleasure. Still we should always be governed by taste and reason in our enjoyments. As Socrates disapproved of these doctrines, they were the cause of many disputes be tween him and his disciple; and it was, probably, to avoid his censures, that Aristippus spent a part of his time at Eginum, where he was when his master died. He made many journeys to Sicily, where he met with a very friendly reception from Dionysius the tyrant. The charms of the celebrated Lais allured him to Corinith, and he became very intimate with her. When he was engaged with squandering so much money upon a woman who gratuitously surrendered herself to Diogenes, he answered, "I pay her that she may grant her favours to me, not that she may refuse them to another." He said, another time, "I possess her, not she me." (See Lais.) Diogenes Laertius is not to be credited, when he says that Aristippus opened a school after he returned to Athens, as we know of no disciple instructed by him. His doctrines were taught only by his daughter, Arate, and by his grandson, Aristippus the younger. Other Cyrenians compounded them into a particular doctrine of plea sure, a doctrine too often attended with moral satisfaction. His death is unknown. His writings are lost. Wieland's historico-philosophical romance (Aristippus and some of his Contemporaries) gives us a lively and highly interesting delineation of the life and doctrines of this amiable sensual philosopher. We have many sayings of his preserved. To one who asked him what his son would be the better for being a scholar, "If for nothing else," said he, "yet for this alone, that when he comes into the theatre, one stone will not sit upon another." Being asked why philosophers frequ ented the houses of the great, while the great dis regarded those of the philosophers, he replied, "because the former know what they want, and the latter do not." When a certain person recommended his son to him, he demanded 800 drachmas; and upon the father's replying to him that he could buy a slave for that sum, "do so," said he, "and then you will be master of a couple." Being reproached, because of them, with a low debauch, he fed a lawyer to plead for him, "just so," said he, "when I have a great supper to make, I always hire a cook." Being asked what was the difference between a wise man and a fool, he replied, "send both of them together naked to those who are endowed with neither yet you will know." Aristocracy. See Government. Aristotle; a citizen of Athens, whose name is
rendered famous by a conspiracy formed, in conjunction with Harmodius and Aristocrates, against the tyrant Pisistratus. They succeeded in killing Pisistratus (614 B.C.); but, not being seconded by the people, Harmodius was despatched by the guards, and Aristocrates was put to death. On being asked by Hipias if there were any more, "There now remains," said Aristogiton, with a smile, "only thyself worthy of death." Hipias, being unprepared for the question, hastened to save himself with the best friends of the tyrant in succession, and they were immediately put to death. This story of his escape from a deep cavern, into which he had been thrown by the Spartans, by creeping through a fox-hole, is extraordinary, but not well authenticated. Notwithstanding his boldness, his extreme courage, or his wit, it could not prevent the execution of the Messenians.

ARISTOPHANES; a young, valiant hero, and leader of the Messenians against the Spartans, B. C. 682. The story of his escape from a deep cavern, into which he had been thrown by the Spartans, by creeping through a fox-hole, is extraordinary, but not well authenticated. Notwithstanding his boldness, his extreme courage, or his wit, it could not prevent the execution of the Messenians.

ARISTOPHANES, the only Greek comic poet of whom any pieces have been preserved entire, was the son of a certain Philippos, and probably by birth an Athenian. He appeared, as a poet, in the fourth year of the Peloponnesian war, B. C. 427; and, having indulged himself in some sallies on Cleon, at that time a powerful demagogue, was accursed, by the latter, of having unlawfully assumed the title of an Athenian citizen. He defended himself before the judges merely with the known verses of Homer:

**To prove a genuine birth (the prince replies),**

*On female truth assenting faith relies.*

*Tous manifest of right, I build my claim, as
Sire founded, on a fair maternal fame,*

_Ulysses' son._

_Pope's Od. i. 253-5._

and, when the same accusation was renewed against him, he succeeded in repelling it a second time. He afterwards revenged himself on Cleon, in his comedy of the Knights, in which he himself acted the part of Cleon, because no actor had the courage to do it. This little remains to us of the life of A., who was distinguished among the poets of which he is the founder, of the comedians, as Homer was by that of the poet. Of fifty-four comedies which he composed, eleven only remain; and in these, without doubt, we possess the flower of the ancient comedy, which, in his last play, the Plutus, borders on the middle; but, in order fully to enjoy them, and not to be offended by the extravagances and immorality with which they abound, we must be intimately acquainted with ancient customs and opinions. His pure and elegant Attic dialect, the skill and care displayed in the plan and execution of his pieces, and their various other excellencies, have gained for A. the fame of a master. His wit and humour are inexhaustible, and his boldness unrestrained. The Greeks were enchanted with the grace and refinement of his writings; and Plato said, the Graces would have chosen his soul for their habitation. "According to our ideas of decorum," says a late Hetherington, "we should esteem the soul of A. a fit residence for the licentious and malicious satyr, or, at least, we should call him, with Goethe, the *spoiled eikin of the Graces.*" He made use of allegory in his attacks on the politicians of the day, as well as in scourging the vices and follies of his age. In a political and moral view, he is a strong advocate for ancient discipline, manners, doctrines, and art; hence his colleagues, the *Secrets,* in the *Clouds,* and against Euripides, in the *Frogs* and other comedies. The freedom of ancient comedy allowed an unbounded degree of personal satire, and Aristophanes made so free use of it, that nothing which offered a weak side, escaped his sarcasms. He frequented with the Athenian people so little that he permitted them, under a most mischievous figure, in his old Demos. He incessantly reproached them for their fickleness, their levity, their love of flattery, their foolish credulity, and their readiness to entertain extravagant hopes. Instead of being irritated, the Athenians rewarded him with a crown from the sacred olive-tree, which was, at that time, considered an extraordinary mark of distinction. This excessive freedom characterized the ancient comedy, which was long considered as a support of democracy. After the Peloponnesian war, its licentiousness was much restrained; and, in the year 388 B. C., it was forbidden by law to name any person on the stage. At that time, A. produced, under the name of his eldest son, the *Cocles,* a play in which a young man seduces a maiden, and, after having discovered her descent, marries her. With this play the new comedy began. A., who was very old, appears to have died sometime after. The best editions of his plays are those of L. Kuster, Amsterdam, 1710, fol.; Bergler, Amsterdam, 1760, 2 vols., 4to; Brunnck, Strasburg, 1781, 4 vols., 4to and 8vo; Invernozzi, Leipizig, 1794, 2 vols., with Beck's commentaries. An English version of "the Clouds" was given by Cumber- land in the Observer; and a translation of the greater part of A., with introductions, has been published by Mr Mitchell, in 2 vols. 8vo., Lond. 1820-22.

ARISTOTLE, one of the most celebrated philosophers of Greece, and founder of the Peripatetic sect, was born at Stagira, in Macedonia, in the 1st year of the 99th Olympiad (384 B. C.). Nicomachus, his father, claimed descent from Machon, the son of Eucle- pius; Phæstis, his mother, was also of noble extrac- tion. The profession of medicine was hereditary in the family of the Asclepiadæ; and Aristotle's father, who was physician, fathered Arystoxenus, who pursued it with reputation and success. He designed his son for the same profession, and probably instructed him in the science of medicine, and the philosophy connected with it. He doubtless owed to his early edu- cation his inclination for the study of natural history, of which he so much admired; for it was said he was the first who made accurate observations. After the death of his parents, he went, at the age of eighteen, to Atarnea, and lived with one Proxenus, a friend of his family, who did much towards his further education and improvement. Here he studied medicine, and then repaired to Athens. A. re- mained, during this his first abode in Athens, about twenty years; and, not content to continue merely a hearer of Plato, whose school was then in high re- nown, he opened a school of rhetoric himself, and became the rival of Isocrates. He probably com- posed, also, some philosophical works, the fame of which reached the ears of Philip of Macedon. It is certain, at least, that this king wrote to him, soon after Alexander's birth, 356 B. C., the celebrated letter," — King Philip of Macedon to Aristotle, greet- ing. Know that a son has been born to me. I thank the gods that thou hast given him to me, as that they have permitted him to be born in the time of Aristotle. I hope that thou wilt form him to be a king worthy to succeed me, and to rule the Macedonians." Several writers affirm that A. quarreled with Plato a short time before the death of the latter, and, in consequence, set up his
school in opposition to the Platonic. It is certain that there was some dispute between the two philosophers, for Aristotle came to Athens. He constantly manifested the highest reverence for his teacher, and everywhere, in his works, speaks with great respect of him, even when he criticises him. The Athenians having declared war against Philip, soon after Plato's death, A. left Athens for Acharnae, where his friend Hermias was sovereign. Hermias soon after was betrayed into the hands of Artaxerxes, who dishonourably put him to death. A. deeply moved by the fate of his friend, sought to perpetuate his memory by an ode, which is rich in poetical beauties; and espoused his niece. It appears that A. had sent after the death of his friend to Mitylene; but, towards the year 343 B. C., he was invited by Philip to his court, to take charge of the education of Alexander, who was then thirteen years old. The particulars of his method of instruction are not known to us; but when we see the greatness of mind which Alexander displayed in the first years of his reign,—his command of his passions, till flattery had corrupted him, and his regard for the arts and sciences,—we cannot but think that his education was judiciously conducted. It may be objected, that Aristotle neglected to guard his pupil against ambition and the love of conquest; but it must be recollected that he was a Greek, and, of course, a natural enemy to the Persian kings; his hatred had been deepened by the fate of his friend Hermias; in short, the conquest of Persia had, for a long time, been the wish of all Greece. It was, therefore, natural that Aristotle should exert all his talents to form his pupil with the disposition and qualifications necessary for the accomplishment of this object. Both father and son sought to show their gratitude for the services of such a teacher. Philip rebuilt Stagira, and established a school there for Aristotle. The Stagirites, in gratitude for this service, appointed a yearly festival, called Aristotelin. A. continued at Alexander's court a year after his accession to the throne, and is said to have then repaired to Athens. Ammonius the Eclectic says that he followed his pupil in a part of his campaigns; and this seems very probable, because it is hardly possible that so many animals as the philosopher describes could have been sent to Athens, or that he could have given so accurate a description of them without having personally dissected and examined them. We may conjecture that he accompanied Alexander as far as Egypt; and returned to Athens about 331 B. C., where he composed his History of Animals. Here he opened a school of philosophy in the Lyceum, a gymnasion not far from the city. Thither he went twice a day. The forenoon was devoted to his most intimate pupils, when he explained to them the difficult parts of science. In the evening, he admitted all those who were desirous of hearing him, while he discoursed, in a familiar and intelligible way, on subjects more nearly connected with common life. Accordingly, his works also are divided into the exoteric or abstruse, and the exoteric or familiar. Alexander aided his extensive studies by sending him presents from Asia, and, as a reward for his services, gave him 800 talents. Notwithstanding this, he afterwards conceived an enmity against his tutor. At the death of that prince, 334 B. C., A. was reported to be concerned in his pretended assassination. The Athenians, now hoping to recover the command of Greece, endeavoured by every means to prevail on the king to take arms against the Macedonians, and Aristotle became an object of suspicion, on account of his connexion with Philip, Alexander, and Antipater. The demagogues, supported by his numerous enemies, took this opportunity to accuse him. To escape pro-

secution, on a charge of atheism, he left Athens with the observation (alluding to the condemnation of Socrates) that he would not even receive the guilt of a second crime against philosophy. He retired, with most of his scholars, to Chalcis, in Euboea, where he shortly after took poison, 322 B. C., on being summoned, as it is said, to appear before the court of areopagus at Athens, to answer the accusations against him. For his doctrines and sect, see Philosophy, Peripatetic,—The works of Aristotle, which were not published during his lifetime, first became known to the world when the Romans began to devote themselves to philosophy. The original manuscripts of his works, and those of Theophrastus, were brought to Rome by Apuleius, librarian of Apollonius. Andronicus of Rhodes arranged them, and furnished them with indices. Many of his important works are now lost. Those yet extant, according to the edition of Syllabus, 5 vols., 4to., Frankfurt, 1887, which is esteemed the best, are the following:—Organon; Rhetorica et Poetica; Ethica ad Nicomachum; Ethica Magna; Politiea et Economie; Animalium Historia; De Animalium Partibus; Physica Auseultationis, lib. xiii., et ait Opera; De Caelo; De Generatione et Conceptione; De Meteoris, lib. iv.; De Mundo; De Animae; Parsa Naturalis; Priora Quaestiones; Alexanderis Cacce Problemata; Aristotelis et Theophrastis Meta
dphysica. Besides the edition above-mentioned, those of Cassubon and Duval are esteemed. The latest edition is that of Bulle, not yet completed, See Philosophy. Arithmeticus (from the Greek arithmos, number) a branch of mathematics, the object of which is, to combine numbers according to certain rules, in order to obtain results which satisfy given conditions. These rules, methodically arranged, form a science, to which the name of arithmetic is given. This science is very ancient, and we find it (of course, in very different degrees of perfection) among all nations. The Greeks, it is well known, were ignorant of our system of decimal notation, the simplest and most perfect of all inventions. They marked numbers laboriously by help of the letters of their alphabet; and, though this method received successive improvements, it was, still, unnecessarily complicated, and altogether irregular in the form of its constitution. The idea of number is one of the latest and most difficult to form. Before the mind can grasp such an abstract conception, it must be familiar with that process of classification, by which an object, provided with the most minute marks, is separated from things to which it bears a resemblance, and from genera to orders. The savage is soon lost in his attempts at enumeration; and significantly expresses his inability to proceed, by folding up his expanded fingers, or pointing to the hairs of his head. The classification by pairs, which nature points out, would suggest the simplest mode of reckoning. The Dual accordingly, though retained by the Greeks, occurs in the languages of all barbarous tribes. Counting these pairs again by two's, and repeating the same procedure, we arrive, by progressive steps, at the radical terms 4, 8, 16, &c., to which the other numbers are easily reducible. Thus, 13 being composed of 8, 4, and 1, would, according to such a system of enumeration, be called quatuordecim, double pair, and one, or denominates more concisely by words of corresponding import. This plan of arrangement, termed the binarium system, is connected with certain apertures of society, to have prevailed in most countries. Vestiges of it are still found among the Chinese; and Leibnitz has extolled the system with abundant extravagance. It would, no doubt, from its naked simplicity, supersede the application of thought, and reduce all the operations which occur
ARITHMETIC

In arithmetic to the more labour of writing; but not only could thus be gained in practice, since, advancing with excessive slowness, it would soon require a multiplicity of words, and a fatiguing complication of characters. The binary scale appears best adapted to the descending progression; for the fractions produced by a continued bisection, are, from the equal competition of buyer and seller, naturally introduced into commercial transactions, and employed almost exclusively among the Eastern nations. This subdivision is likewise used with convenience in Europe, for ascertaining the smaller weights. The next step in the progress to enumeration, was probably to number the fingers of the hand. The use of this simple scale, in counting over small articles, it is customary, for the sake of expedient, to take a couple in each hand; and therefore, the thumb, or, in older language, the warp, becomes, in this way, the measure of tale. The ancient Mexicans appear to have reckoned by fours, and to have afterwards advanced, in their numeration, by combining the products of four with those of ten. Nor is it altogether improbable that Pythagoreans might have alluded to such a system of computation, in celebrating the mystical properties of his famous tetractys, or quaternion. By this means, a single symbol \( \times \) was given a peculiar standard of computation, in the fingers of the hand. All nations, accordingly, have reckoned by \( \times \); and some barbarous tribes have scarcely advanced further. Aristotle, who was aware of the principle, has noticed the existence of such a people in Africa. After the fingers of the one hand had been counted over, it was a second, and perhaps a distant step, to proceed to those of the other. The primitive words expressing numbers probably exceeded not five. To denote six, seven, eight, and nine, the North American Indians repeat the five, with the successive addition of one, two, three, and four. The same composition is apparent in the various dialects spoken by the inhabitants of the islands which are so widely scattered over the Southern Ocean. Could we safely trace the descent and affinity of the abbreviated terms denoting the numbers from five to ten, it seems highly probable that we should discover a similar process to have taken place in the formation of the most refined languages. The alphabet must in general have been framed before any regular system for notation of numerals was invented. In forming such a system, the obvious method was to imitate as nearly as possible the terms which have ascended the scale of numeration; but the simplicity and uniformity of this procedure were in the sequel frequently disturbed, by adopting such alphabetic characters as happened to resemble the compound symbols, or by employing, for the sake of abbreviation, the initial letters of words significant of the numbers themselves. The Roman numerals, having undergone little subsequent change, may be considered as the most ancient specimens of notation. To denote one, a simple vertical stroke was assumed \( | \); and the repetition of this expressed two, three, &c. Two diagonal strokes \( \backslash \) marked the next step in the scale of numeration, or ten; and that symbol was repeated to signify twenty, thirty, &c. Three strokes, or an open square \( \square \), were employed to denote a hundred, or the third stage of enumeration; and four interwoven strokes \( \mathbf{X} \), sometimes incurred \( \mathbf{I} \), or even \( \mathbf{V} \), denoted five hundred. Thus all the characters absolutely required were very limited system of notation. The necessary repetition of them, however, as often occasionally as nine times, was soon found to be tedious and perplexing. Reduced or curtailed marks were, therefore, employed to express fractional numbers. The symbol \( \frac{1}{4} \) for one, \( \frac{1}{2} \), \( \frac{1}{3} \), \&c., for two, and \( \frac{1}{5} \) for the half, \( \frac{1}{10} \), \( \frac{1}{20} \), \&c., for the tenth, &c. The invention of these, or any other symbols, or marks, to denote fractions, was a great improvement must have taken place at a very early period. Thus, five itself was denoted by the upper 

\[
\frac{1}{4} \quad \frac{1}{2} \quad \frac{1}{3} \quad \frac{1}{5} \quad \frac{1}{10} \quad \frac{1}{20} \quad \frac{1}{50} \quad \frac{1}{100} \quad \frac{1}{200} \quad \frac{1}{500} \quad \frac{1}{1000} \]

Thus, instead of four succeeding strokes \( \mathbf{I}, \mathbf{I}, \mathbf{I}, \mathbf{I} \), it seemed preferable to write \( \mathbf{I} \); for eight and nine, the symbols were \( \mathbf{I}, \mathbf{I}, \mathbf{I}, \mathbf{I}, \mathbf{I}, \mathbf{I}, \mathbf{I}, \mathbf{I}, \mathbf{I} \); and ninety was expressed by \( \mathbf{I} \mathbf{X} \). This mode of notation, however, was not without its defects; the ancient authors, and the Romans, and has evidently affected the composition of their numerical terms. Instead of octodecim and novemdecim, it is held more elegant, in the Latin language, to use undeviginti and dudaviginti. But the alphabetic characters now lent their aid to numeration. The uniform broad strokes were dismissed, and those letters which most resembled the several combinations were adopted in their place. The simple stroke \( \mathbf{I} \) for one, and the marks \( \mathbf{V}, \mathbf{X}, \mathbf{L}, \mathbf{C} \), for five, ten, and fifty, were respectively supplied by the letters J, V, X, and L. The strokes \( \mathbf{V} \), \( \mathbf{X} \), \( \mathbf{L} \), \( \mathbf{C} \), \( \mathbf{D} \), \( \mathbf{M} \), were adapted for different wants, and placed into the system, as it had originally a square shape, and happened, besides, to be the initial letter of the very word centum. The letter D was very generally assumed as a near approximation to the symbol \( \mathbf{D} \); for five hundred; and M not only represented the angular character for a thousand, but was likewise, though perhaps accidentally, the first letter of the word mille. The last improvement attempted in the Roman system of numerals, was devised for the purpose of expressing the numbers beyond a thousand. This innovation belongs evidently to an advanced period of society, and appears never to have been very generally embraced. The method of proceeding, however, was perfectly analogical. Taking the complex symbol \( \mathbf{C} \mathbf{L} \mathbf{O} \) for a thousand, the intermediate stroke was retained, while the C on each side of it was successively repeated, to mark the ascending progression by tens. Thus \( \mathbf{C} \mathbf{L} \mathbf{O} \mathbf{D} \mathbf{C} \mathbf{L} \mathbf{O} \mathbf{D} \mathbf{C} \mathbf{L} \mathbf{O} \) were made to signify, respectively, 10,000 and 100,000. The initials, again, of these compounded characters, or \( \mathbf{L} \mathbf{A} \mathbf{D} \) and \( \mathbf{x} \mathbf{x} \mathbf{x} \), were employed to denote 5,000 and 50,000. The oldest form of notation among the Greeks, and the system of numerals retained by the Romans, were shortly increased by a still further improvement. They might serve laboriously to register a number that was not very large; but they could not afford the slightest aid in performing an arithmetical computation. By what ingenuity, for instance, could even such small numbers as 48 and 34 be multiplied together, if expressed by the complicated symbols XLVIII and XXXIV, where both the units and the tens are equally involved? But the Romans were late in acquiring any taste for refinement, and remained, during the whole course of their history, profoundly ignorant of science. In the few simple calculations which they had occasion to make, the Romans were obliged to have recourse to a sort of mechanical process, employing pebbles or counters. Boys were taught that humble art at school, and carried with them, as implements of computation, a boxulus, or box filled with pebbles, and a board on which these were sanded in rows, \( \mathbf{C}, \mathbf{X}, \mathbf{V}, \mathbf{I} \) (or \( \mathbf{D}, \mathbf{C}, \mathbf{L}, \mathbf{X}, \mathbf{V}, \mathbf{I} \)). It is curious to observe, that the term calculation itself claims no higher descent than from calculus, a pebble. The labour of counting and arranging those pebbles was afterwards sensibly abridged, by drawing across the board a horizontal line, above which each single pebble was to be placed. The power and luxuriance of luxury, tali, or dice made of ivory, were used in-

\[
2,000,000 \times 3 = 6,000,000
\]
stead of pebbles, and small silver coins came to
substitute the place of counters. But the operations
with the abacus were rendered still more commodious,
by substituting, for such talia or counters, small
beads strung on parallel threads, and sometimes pegs
stuck along grooves. With such an instrument, it is
not difficult to perceive how the simpler additions and
subtractions could be performed with tolerable ease.
But to accomplish a process of multiplication
or division, even on the smallest scale, must
have been a work of tedious and most irksome labour.
Accountants by profession, among the Romans, were
styled calculatores, or ratiocinari. Various expedients
were accordingly employed for shortening such
arithmetical operations. The different positions of
the fingers were, for that purpose, used to a certain
extent. Boethius treated largely of the subject; and
even the venerable Bede has given very full rules for
what was called digital arithmetic. When calcula-
tions with counters became more involved, the
table on which they were performed, being neces-
sarily of a very considerable size, was called the
bench or bank; and hence our term for an office
where money transactions are negotiated. The court
of exchequer, introduced into England by the Nor-
manns, composed, and intended for qualifying the
secretary of the crown, had its name from sectarium, which,
in modern Latin, signifies a chess-board. The ac-
counts were cast up by the tellers, or computatores,
on a large table covered with black cloth, chessered
with white lines, on which were placed counters,
or foreign coins, to denote successively pence,
shillings, and pounds; proceeding afterwards, on the
several distinction of the cloth, by units, tens,
hundreds, &c. Sums of money were also rудely
marked on tallies, so called because they consisted of
white sticks of hazel or willow, split up and cut
square at both ends; a very fine notch on them
denoting a penny, one rather larger a shilling, and
one still larger a pound; the notch next in size rep-
resented twenty pounds, a larger one expressed a
hundred, and the largest of all a thousand. This
very strange practice has been handed down to our
own times; a striking instance of the blind obstinacy
with which ancient usages, however absurd and
ridiculous they may through time have become, are
yet retained in public offices, and especially in our
courts of law. The introduction of the Arabic digits,
which produced a total revolution in the system of
modern arithmetic, is commonly ascribed to Gerbert,
a monk of Orléans, who flourished in the second quar-
tern of the eleventh century, was elevated to the
papal chair, by the name of Sylvester II. That
ardent ecclesiast, in an age of darkness and rooted
prejudice, had yet the resolution to pass into Spain,
and study for several years the sciences there culti-
vated by the Moors. On his return to France from
this new pilgrimage, fraught with various and useful
information, he was esteemed a prodigy of learning
by the Christians of the West; nor did the malice of
his rivals fail to represent him as a magician leagued
with the infernal powers. To the decimal system of
notation with which he had become acquainted,
Gerbert applied indifferently the old name abacus, or
the Arabic term algorismus, compounded of the
definite article al and the Greek word arithmos,
and signifying, therefore, the art of numbering.
The knowledge of that art was farther extended, from the
information which he had obtained with the East, by the crus-
ders and the Italian merchants who frequented the
coasts of the Levant. Yet it must for some time have
made a very slow and obscure progress. The
characters themselves appear to have been long con-
sidered in Europe as dark and mysterious. Deriving
their whole force from the use made of the zero or

cipher, so called from the Arabic word taqfara,
denoting empty or void, this term came afterwards
to express, in general, any secret mark. While the
verb to cipher means to compute with figures, the
phrase to write in cipher still signifies the concealing
a communication under private and concerted sym-
ols. The Arabic characters occur in some arith-
metical manuscripts composed in England during the course
of the thirteenth and fourteenth century, particularly
in a work by John of Halifax, or Sacer-Boseo; but
another century elapsed before they were generally
adopted. At first, they were used only partially, and
intermixed with the Saxon, or corruped Roman, numerals;
but gradually, and seems not to have been fully settled till about
the middle of the fifteenth century, the memorable
epoch of the invention of printing. The following
chart represents the progress of European numerals.

<table>
<thead>
<tr>
<th>Oldest MS.</th>
<th>123456789</th>
<th>123456789</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caxton, 1590</td>
<td>123456789</td>
<td>123456789</td>
</tr>
<tr>
<td>Skirrow, 1582</td>
<td>123456789</td>
<td>123456789</td>
</tr>
<tr>
<td>Old English</td>
<td>123456789</td>
<td>123456789</td>
</tr>
</tbody>
</table>

But though our present numerals were certainly
derived from the Arabsians, through the medium of
the Saracen conquerors of Spain, that initiatory people
laied no claim to the merit of the original discovery.
The various tribes which wandered with their herds
over the wide plains of Arabia, had continued for ages
in a state of rude independence, till the enjoyment
of ease and plenty, under the prosperous reigne of the
calips, tempted them to cultivate letters and the
physical sciences. Having once tasted the delight
which knowledge imparts, they applied, with ardour
and unremitting diligence, to procure information
from every quarter. They seldom, however, inspired
of original efforts, but contented themselves with
commenting on the writings of their admired instruc-
tors, or with slowly augmenting the stock of facts by
their own laborious observations. They adopted
with eagerness the geometry and astronomy of the
Greeks, and joined to these refined sciences the deci-
nal system of arithmetic, borrowed most probably
from the Persians, who had long been the undisputed
masters of India. According to Alsephadi, a learned
Arabian doctor, the people of India boasted of three
discoveries,—the composition of the Gudala Wadam-
na, or Pilpay's Fables,—the game of chess,—and the
numeral characters. Maximus Planudes, a Greek
author of the fourteenth century, bears the same
testimony in his arithmetic, expressly styling it A-
upothian ikon, or Βηγιων άγων, that is, Indian
computation, or Calculation after the Indians; and
he moreover subjuncts, that the figures themselves
were Indian. The characters given by Planudes
scarcely differ at all from the Arabic, which, again,
very nearly resemble the Persia, now universally
used through the lower provinces of India. Plan-
udes, by an omicron, represents the cipher, which
is merely a null in the Persian, and a very small e
in the Arabic; and his mark for five, which the
Arabsians denoted by a large O, resembles most nearly
the Sanscrit. But the Arabsians likewise employed
occasionally, as we do, letters to signify numbers. In
the astronomical tables of Ulugh Bég, the numbers
are set down in letters; and this after the Arabian
mode of writing, or in the order from right to left. In imitation of the Greeks also, the 3 which occupied the blanks in the sexagesimal system, is there supplied by a corresponding letter. Yet the Arabs, as well as the Persians, in copying the numeral characters, inverted their usual order of writing, and proceeded from left to right, as it is universally practised wherever the Arabic notation has prevailed. These circumstances, taken into combination, sufficiently prove that the decimal arrangement had been invented by a very different people. Our modern system of arithmetie has thus its origin distinctly referred to the genial climes of the East, where the human species was early ripened into the degree of refinement. Yet it does not thence follow, that the discovery was completed at a period of very remote antiquity. The ancient Egyptians, who, perhaps from their early communication with the people of Hindostan, entertained the same veneration for certain mystical properties of numbers, were yet unequalled with the use of the numeral characters. If such an improvement in arithmetie had actually taken place when Pythagoras visited India, we can hardly suppose that the philosopher would have neglected to transport it into Greece, or imagine that any such novelty had been afterwards entirely forgotten. The Brahmins themselves were not aware of the principle which they had struck out. They stopped short in their progress, and did not, like the Greeks, attempt the descending scale of numeration. The use of decimal fractions, we are assured, is even at present unknown to the natives of India; and accordingly, wherever fractional parts are concerned, they perform their operations with far less expedition than the Europeans. The people of Upper Asia have reached the precise stage of numeration which the Romans had attained. The Chinese employ two kinds of numerals,—the one very complex, and formed by uniting their hieroglyphical characters; the other simpler, and, allowing for their mode of writing from top to bottom, very nearly resembling the Roman, both in shape and composition. They express one, by a slender horizontal line, which was repeated downwards, and variously constructed, to signify the other digits; ten, they denote by a thick vertical stroke, crossed by a horizontal line; twenty, thirty, &c. are marked by repeating and condensing these strokes, always crossed by a slender line; a hundred is represented by two vertical strokes connected by a horizontal line, and this again is connected by three horizontal lines. To signify a thousand, the symbol for ten is used, with the addition of a broad oblique stroke; and to represent 2000, 3000, &c. the same compound character is employed; only the marks for two, three, &c. are annexed. Such involved symbols are evidently altogether unfit for aiding the purposes of calculation. The Chinese have, therefore, recourse to palpable arithmetie; and their swan-pan is almost exactly the same as the Roman abacus. That instrument, universally used by all ranks throughout China, consists of a frame of wood, divided by a perpendicular bar into two compartments, which are intersected by a series of parallel wires having small balls strung on them, five balls being allotted on the left hand to each wire of the larger, and two, equal in power to ten, on the right and in the smaller compartment. The swan-pan is rather more extensive than the abacus, being composed generally of more than five wires, which mark so many places in the decimal system of arrangement. The Chinese appear also to have advanced a step beyond the Romans; for, commencing the units from any intermediate wire, they proceeded either by the ascending or descending scale of numeration. Following the same principle,

Among the many machines that have been invented for calculating numbers, none equal the one designed by Mr Babbage. That engine not only performs the operations of common arithmetie, but can also extract the roots of numbers, and approximate to the roots of equations, and even to their impossible roots. Its function, in contradistinction to that of all other contrivances for calculating, is to embody in machinery the method of differences, which has never before been done; and the effects which it is capable of producing, place it among the most astonishing efforts of mechanical genius. Great as the power of mechanism is known to be, many will scarcely admit it to be possible, that astronomical and navigation tables can be accurately computed by machinery; that the machine can itself correct the errors which may commit; and that the results, when absolutely free from error, can be printed off without the aid of human hands, or the operation of human intelligence. "All this," says Sir David Brewster, "who entertaining Letters on Natural Magic, the remarkable 'Swan Pan,' a calculating machine, of Mr Babbage's design, and that apparatus, the first of its kind, has been constructed, and exhibits workmanship of such extraordinary skill and beauty, that nothing approaching to it has hitherto been witnessed. It is the first of its kind, and the first to be constructed, and exhibits workmanship of such extraordinary skill and beauty, that nothing approaching to it has hitherto been witnessed. In the printing part, less progress has been made in the actual execution, in consequence of the difficulty of its contrivance, not for transferring the computations from the calculating part to the copper, or other plate destined to receive them, but for giving to the plate itself that number and variety of movements which the forms adopted in printed tables may call for in practice. The practical object of the calculating engine is to compute and print a great variety and extent of astronomical and navigation tables, which could not otherwise be done without enormous intellectual and manual labour, and which, even if executed by such labour, could not be calculated with the requisite accuracy. On the means of accomplishing this, Mr Babbage says, "As the possibility of performing arithmetical calculations by machinery may appear to non-mathematical readers too large a pos-

2 K. I. 2
follow any law, however complicated, may be formed, to a greater or less extent, solely by the proper arrangement of the successive addition and subtraction of numbers belonging each table, is a general principle which can be demonstrated to those only who are well acquainted with mathematics; but the mind, even of the reader who is but slightly acquainted with that science, will readily conceive that it is not impossible, by attending to the following example. Let us consider the subjoined table. This table is the beginning of one in very extensive use, which has been printed and re-printed very frequently in many countries, and is called a table of square numbers.

<table>
<thead>
<tr>
<th>Terms of the Table</th>
<th>Table of squares</th>
<th>B. First Differences</th>
<th>C. Second Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>16</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>25</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>36</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Any number in the table, column A, may be obtained by multiplying the number which expresses the distance of that term from the commencement of the table by itself; thus 25 is the fifth term from the beginning of the table, and 5 multiplied by itself, or by 5, is equal to 25. Let us now subtract each term of this table from the next succeeding term, and place the result in another column (B), which may be called first-difference column. If we again subtract each term of this first-difference from the succeeding term, we find the result is always the number 2 (column C); and that the same number will always recur in that column, which may be called the second-difference, will appear to any person who takes the trouble to carry on the table a few terms further. Now, when once this is admitted as a known fact, it is quite clear that, provided the first term (1) of the table, the first term (3) of the first-differences, and the first term (5) of the second- or constant difference, be originally given, we can continue the table to any extent, merely by simple addition: for the series of first-differences may be formed by repeatedly adding the constant difference 2 to (3) the first number in column B, and we then necessarily have the series of odd numbers, 3, 5, 7, etc.; and again, by successively adding each of these to the first number (1) of the table, we produce the square numbers." Having thus thrown some light on the theoretical part of the question, Mr. Babbage proceeds to show that the mechanical execution of such an engine as would produce this series of numbers, is not so far removed from that of ordinary machinery as might be conceived. He imagines three clocks to be placed on a table, side by side, each having only one hand, and a thousand divisions instead of twelve hours marked on the face; and every time a string is pulled, each strikes on a bell the numbers of the divisions to which the hand points. Let it be supposed that two of these clocks, for the sake of distinction called B and C, have some mechanism by which the clock C advances the hand of the clock B one division for each stroke it makes on its own bell. Having set the hand of the clock A, to the division 1, that of B to 111, and that of C to 11, pull the string of clock A, which will strike one; pull that of clock B, which will strike three, and at the same time, in consequence of the mechanism we have referred to above, will advance the hand of A three divisions. Pull the string of C, which will strike two and advance the hand of B two divisions, or to division V. Let this operation be repeated; A will then strike four; B will strike five, and in so doing will advance the hand of A five divisions; and C will again strike two, at the same time advancing the hand of B two divisions. Again pull A, and it will strike nine; B will strike seven, and C two. If now those divisions struck, or pointed at by the clock A be attended to and written down, it will be found that they produce a series of the squares of the natural numbers; and this will be the more evident, if the operation be continued further than we have carried it. Such a series could of course be extended by this mechanism only so far as the three first figures; but this may be sufficient to give some idea of the construction, and was in fact, Mr. Babbage states, the point to which the first model of his calculating machine was directed. In order to convey some idea of the power of this stupendous machine, we may mention the effects produced by a small trial engine constructed by the inventor, and by which he computed the following table from the formula \(a^2 + x + 41\). The figures as they were calculated by the machine, were not exhibited to the eye as in sliding-rules and similar instruments, but were actually presented to it on two opposite sides of the machine, the number 383, for example, appearing in figures before the person employed in copying. The following table was calculated by the engine referred to:

<table>
<thead>
<tr>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>131</td>
<td>363</td>
</tr>
<tr>
<td>43</td>
<td>151</td>
<td>421</td>
</tr>
<tr>
<td>47</td>
<td>173</td>
<td>491</td>
</tr>
<tr>
<td>53</td>
<td>197</td>
<td>583</td>
</tr>
<tr>
<td>61</td>
<td>223</td>
<td>657</td>
</tr>
<tr>
<td>71</td>
<td>251</td>
<td>797</td>
</tr>
<tr>
<td>83</td>
<td>283</td>
<td>953</td>
</tr>
<tr>
<td>97</td>
<td>313</td>
<td>1201</td>
</tr>
</tbody>
</table>

While the machine was occupied in calculating this table, a friend of the inventor undertook to write down the numbers as they appeared in the copyist's writing quickly, he rather more than kept pace with the engine at first, but as soon as five figures appeared, the machine was at least equal in speed to the writer. At another trial, thirty-two numbers of the same table were calculated in the space of two minutes and thirty seconds, and as these comprised eighty-two figures, the engine produced thirty-three figures every minute, or more than one figure in every two seconds. On a subsequent occasion, it produced forty-four figures per minute; and this rate of computation could be maintained for any length of time. See Mathematics.

Arms. See Arias.

Ark; the name applied, in our translation of the Bible, to the boat or floating edifice in which Noah resided during the flood or deluge; derived, undoubtedly, from the Latin arcus, a arch, or vessel. (See Deluge.)—In the synagogue of the Jews, the chaim, in which the tables of the law were preserved, bore three the ark of the covenant. This was a small chest or coffin, three feet nine inches in length, two feet three inches in breadth, and the same in height, in which were contained the various sacred articles mentioned in the quotations. It was made
The ark was placed in the sanctuary of the temple of Solomon: before his time, it was kept in the tabernacle, and was moved about as circumstances dictated. At the captivity, it appears to have been either lost or destroyed; for the Jews universally concur in stating that, among the things wanting in the second temple, one was the ark of the covenant. The ark was a chest of solid wood, orepresenting a part of a ship in every respect, except in having a cherub: these looked towards each other, and embraced the whole circumference of the mercy-seat with their expanded wings (Ex. xxv. 17, 22, and xxxix. 1—9); between which the Shechinah, or symbol of the divine presence manifested itself in the form of a cloud, hovering, as it were, over the mercy-seat (Lev. xvi. 2). From hence the divine oracles were given (2 Kings xix. 15; Isa. lxxx. 1). The high priest once every year, on the great day of expiation, appeared before the mercy-seat, to make atonement for the people, (Heb. ix. 7).

He was the youngest of thirteen children, received but a very indifferent education, and was bred to the trade of a barber. In the year 1760, he had established himself in Bolton-le-Moor, where he exchanged the trade of a barber for that of an itinerant hairoperating merchant; and having discovered a valuable chemical process for bleaching hair, he was, in consequence, enabled to amass a little property. It is unfortunate that very little is known of the steps by which he was led to those inventions that raised him to distinction, and have immortalized his name. His residence in a district where a considerable manufacture of linen goods, and of linen and cotton mixed, was carried on, must have given him ample opportunities of becoming acquainted with the various processes that were in use in the cotton manufacture, and of the attempts that had been made, and were then making, to improve them. His attention was thus naturally drawn to this important department; and, while he saw reason to conclude that it was likely to prove the most advantageous in which he could engage, he had sagacity and good fortune to invent and improve those extraordinary machines by which, unlike most inventors, he amassed vast wealth, at the same time that he added prodigiously to the demand for labour, and to the riches and comfort of the civilized world. The spinning-jenny, invented in 1767 by Hargraves, a carpenter at Blackburn, in Lancashire, gave the means of spinning twenty or thirty threads at once with no more labour than had previously been required to spin a single thread. The thread spun by the Jenny could not, however, be used, except as well, being destitute of the firmness or hardness required in the longitudinal threads or warp. But Mr Arkwright supplied this deficiency by the invention of the spinning-frame—that wonderful piece of machinery, which spuns a vast number of threads of any degree of fineness and hardness, leaving to man merely to feed the machine with cotton, and to join the threads when they happen to break. It is not difficult to understand the principle on which this machine is constructed, and the mode of its operation. It consists of two pairs of rollers, turned by means of a pair of cranks, which are connected with each other, and each pair is fastened or slotted longitudinally, and
ARKWRIGHT.

Having made several additional discoveries and improvements in the processes of carding, roving, and spinning, he took out a fresh patent for the whole in 1775; and thus completed a series of machinery so various and comprehensive, yet so simple, that every part should have been made to have the patent set aside, and Mr. A. deprived of the profit and honour to be derived from it. In 1781, he commenced actions against a number of persons for invading them. Only one cause was tried; that against Colonel Mordaunt, in the court of king's bench in July, 1781. Colonel Mordaunt's defence was, that Mr. Arkwright had not fully communicated his inventions in the specification as required by law, and that, therefore, the patent was invalid. Mr. Arkwright admitted that such was partly the case; but added, that the obscurity charged against the specification had been intended only to prevent foreigners from pirating his inventions. A verdict, however, was given against him. In Feb, 1785, nearly four years after the first trial, which overthrew the patent, a second action was tried in the court of Common Pleas, in which Mr. Arkwright brought his friend, Mr. A., a number of cotton carding and spinning machines from his specification; in consequence of which he obtained a verdict. This verdict producing great alarm among many who had, at a great expense, erected machines for cotton spinning, from whom an acknowledgment of so much a SPANISH was commanded, in order to settle the dispute, a process on seire factas was brought against Mr. A. in the court of king's bench, in which the whole question, not only on the point of the unintelligibility of his specification, but on the less technical and more important ground of his not being himself the inventor of the machines for which he laid obtained a patent. After a long and audily conducted trial, a verdict was given against Mr. A., and in Nov. 1785, the patent was cancelled. Notwithstanding this, none of Mr. A.'s most intimate friends, or those who were best acquainted with his character, ever had the slightest doubt with respect to the originality of his invention. ..
received the honour of knighthood. No man ever better
deserved his good fortune, or has a stronger claim on the
respect and gratitude of posterity. His inventions
have opened a new and boundless field of employ-
ment; and while they have conferred infinitely more
real benefit on his native country than she could have
done, at that time, by the combined efforts of three or
four of the greatest minds on the face of the earth,
they have been universally productive of wealth and
enjoyments. "The originality and comprehen-
siveness of Sir Richard Arkwright's mind," says Mr
Bannatyne, "was perhaps marked by nothing more
strongly than the judgment with which, although new
to the world, he anticipated the idea of the happy disco-
very gave rise to, and the systematic order and ar-
rangement which he introduced into every department
of his extensive works. His plans of management,
which must have been entirely his own, as no establish-
ment of a similar nature then existed, were universally
adopted by others; and, after long experience, they
have not yet, in any material point, been altered or
improved." Sir Richard was twice married. By his
first marriage he had a son, the present Richard Ark-
wright, Esq. of Willersley Castle, near Cromford; by
his second marriage he had a daughter, now Mrs Charles
Willersley, of Hartwell, Derbyshire. Both have
numerous descendants.

**ARMADA (Spanish); a fleet of ships of war.** This
term is applied particularly to that great naval armam-
ent, which was called the invincible armada, fitted
out, in 1588, by Philip II., against queen Elizabeth.
It consisted of 150 ships, most of which were of a re-
markable size, carrying 2650 guns, and having on
board about 20,000 soldiers, and 8000 sailors, besides
2000 volunteers of the most distinguished families.
This force was to be joined by 34,000 men, assembled
in the neighbourhood of Dunkirk. The English nav-
yards had spent one hundred and sixty thousand
pounds on the manufacture of warlike stores for this
fleet, but it was reinforced by the voluntary exertions of the
citizens, commanded by Howard, Drake, Hawkins,
and Frobisher, and manned by the most skilful seamen
in the world. The loss of their admiral, and a violent
tempest, the day after they sailed, retarded, for some
time, the operations of the Spaniards; and, on the
voyage, they were harassed by the flying attacks of the
English. They arrived on the coast of the Ne-
thelands in July, were thrown into disorder by a
stratagem of lord Howard, and, in this situation, were
attacked with such impetuousity, that it became neces-
sary to abandon the attempt of taking the town. The
Spanish admiral to make the circuit of the island,
with the wreck of this magnificent armament. In
passing the Orkneys, it was attacked by a violent
storm, and only a feeble remnant returned to Spain.
Elizabeth struck medals with the motto—Afflavit
Deus et dissipauit.

**ARMADILLO (dasypus, L.); a genus of mammiferous
quadrapeds, belonging to the order edentata, inhabi-
ting the hotter regions of the American continent.
The species comprised within this genus are provided
with a remarkable, hard shell, consisting of scales or
plates, arranged somewhat like a tesselated pave-
ment, or coat of mail, covering the head, body, and,
in some species, the tail. This shell forms a sort of
shield on the head; a second, very convex, protects
the shoulders, and a third is extended over the rump;
while the space intermediate to the two last is occu-
pied by a number of parallel plates, united by a strong,
flexible membrane, which allows of the necessary
fusions of the body. When the animal places the
head between the fore feet, and brings the tail and
posterior extremities close together, a ball is formed,
which offers a uniform, solid surface, not pervious to
the action of water, and sufficiently protected by
this small quantity of water. The inferior surface of the
body, not covered by the shell, is clothed with a coarse, scattered hair, some
of which, also, appears at different points between the plates or bands of the shell. All the armadillos have
a rather pointed snout, long ears, and stout claws; of
the latter, some species have four on the anterior feet,
others five: all, however, have five on the posterior
feet. They have no incisive or canine teeth, but seven or eight strong, compressed, conical
ones are only enamelled on the outside. They feed on
vegetables, insects, and carrion, have a simple stomach,
and no cecum.—But for their peculiar fecondity, the
armadillos would be speedily exterminated, as they
are sought with great avidity in Guiana, Paraguay, Brazil,
& c., on their flesh being esteemed as a great luxury.
To obtain these animals, is not so easy as might be supposed, since they burrow with
astonishing rapidity, so that it is almost impossible
to get at them by digging. The hunters are obliged
to smoke them out of their dens. When they appear
on the surface, they are easily captured, as they roll
themselves into a ball, and remain motionless as soon
as approached by a dog, or man. If near a precipice,
however, they sometimes elude pursuit by thus rolling
themselves up and falling from the top, which they
do without receiving any obvious injury. The Indians
make use of the shell for covering their heads, especially
of the larger species, in the fabrication of baskets, & c.—Like the all the animals belonging to this
order, the armadillos are slow motioned and harra-
less; sometimes they are troublesome in gardens,
both from the destruction of plants, and the number
and extent of the excavations which they form.
These species are distinguished from each other, principally,
by the number of bands on the trunk of the body,
between the shield on the fore shoulders and that on
the rump.—The species enumerated by Cuvier are
—*dasypus tricinctus*, L. (three banded A.), of mid-
dling size, and found in their natural country; *D. arm-
et 18 cinetos*, L. (six banded A.), having the borders
of the posterior shield serrated, and the parts not
covered by shell furnished with longer and thicker
hair than the other species; *D. 7, 8 et 9 cinetos*, L.
(nine banded A.), leaving a body fifteen inches long,
with a tail of the same length; and the *D. gigante, C.
or giant armadillo, which has twelve or thirteen in-
termediate bands, and grows to the length of three
feet, exclusive of the tail. We have good reason to
believe that this species attains to a much larger size,
or that there is another species, to which the epithet
gigante is applicable. The species are obliged to

**ARMAGH; a county of Ireland, in the province of
Ulster, bounded on the south-west of Monaghan;
the west by Tyrone; on the north by Lough Neagh;
the east by Down; and on the south-east by Louth.
The vicinity of the city is rendered beauti-
ful and picturesque by a grove of mulberry of hill
and dale; and in this quarter the soil principally consists of
a rich loam, interspersed with limestone and lime-
stone gravel. The northern part of the county bor-
dering on Lough Neagh consists principally of ex-
tensive bogs of great depth, with a remarkably black
soil. On the southern limits extends a range of dark
mountains called the Fews, very little of which has
been subjected to cultivation. The rivers of most
note in this county are, the Blackwater, which partly
separates it from Tyrone; the Upper Barn, which
rises in the county of Down, and discharges itself
into Lough Neagh; the Callan; the Cunila; the
Cusher; the Fleury; the Fanu; the Newtown Hamil-
ton; the Tallwater; the Taro, and the Tynan.
The chief lakes are Carlough and Lough Clay. There
are also several streams of a minor description, and
this abundance of water is extremely beneficial to
the various classes of agriculture. An extensive
network of roads has been formed to mills and bleaching grounds. The manufacture
of linen is carried on very extensively, and gives en-
ployment to a large proportion of the inhabitants. The chief towns are Armagh, Lurgan, Charlemount, Monaghan, Dowagh, and Downpatrick. In the vicinity of the last town is a lead mine, the only mineral production of much importance yet discovered. The city of Armagh stands on the acclivity of a lofty hill, round the base of which runs the river Callan, in its progress to the Blackwater. The summit is crowned by the cathedral, and the surrounding buildings. In the middle ages, it was an extensive and populous city, and celebrated for its learning, having at one period, according to Irish historians, 7000 students at its college. It is, at present, the seat of the consistorial court of the archbishop of Armagh, who is lord primate of all Ireland. Population of the county in 1831, 220,051; of the city, 8,493.

**Armatolic** (from the modern Greek *Ἀρματολικός*, i.e., territory of arms); a district in the mountains of Greece, assigned to a *capitani* for protection. They were the last refuge of liberty in Greece. These Armatolicare very numerous in the mountains of Macedon, Epirus, and Thessaly; and the freedom of the *Matiotes*, *Suliotes*, inhabitants of Montenegro, &c., is supported almost entirely by them. When Mohammed II. finished the conquest of Greece, he was surprised at the possession of the plains, the fertile places, and the seacoast. The united forces of the country seemed unimportant to him, as well as to his successors, whose efforts were directed, in preference, against Hungary and Poland. To these fastnesses, unconquered by the Turks, fell the independent part of the Greeks, in order to continue the war in detail, under their old leaders, called *capitani*. A capitani collected, generally, a troop of from 50 to 200 men, who remained true to him through every variety of fortune, and attacked the enemy everywhere, on the roads and in the towns. They said, "we never have made peace with Turkey." Thus involved in an endless struggle with their oppressors, their war soon degenerated into robberies. A large number of them were careful to confine their depredations to Mussulmans; but this was not the case with all, and many instances occurred, as may easily be imagined, in which Greeks were attacked when the booty expected was considerable. The pacific, unable to subdue these enterprising warriors, generally treated with them. The capitani received, on condition of remaining quiet, money or stores, and the government of the district which was defended by their arms. Such a district was then called *Armatolic*. Thus the capitani were, by recently, the capitani Odysseus, Per- rhias, Tsonko, Tassios, Pisko, &c., made themselves feared by Ali Pacha, (q. v.) as well as by the pachas sent against him, and most of them took part against the Portoo in the struggle for the liberty of Greece.

**Arkan** Suur; a name used, in Britain, to signify a vessel occasionally taken into the service of the government in time of war, and employed to guard some particular coast, or to attend on a fleet. She is therefore armed and equipped, in all respects, like a ship of war, and commanded by an officer of the navy, who has the rank of a master and commander. All ships of this sort are upon the establishment of the king’s sloops, having a lieutenant, master, purser, surgeon, &c.

**Armenia**; an Asiatic country, containing 106,000 square miles, formerly divided into Armenia Major and Armenia Minor; which, is the modern Turco- mania, and is still sometimes called Armenia, lies south of mount Caucasus, and comprehends the Turk- ish pachalics Erzerum, Kars, and Van (which extend over 33,770 square miles, and have 950,000 inhabi- tants), and also the Persian province Iran, or Erivan.

Armenia Minor, now called *Adjuran* or *Pergis*, belongs to the Turks, and is divided between the pachalis Mecues and Selim. Armenia Major is a mountainous country, which has Caucasus for its northern boundary, and, in the centre, is traversed by branches of the Taurus, to which belongs mount Armat. (q. v.) Here the two great rivers Euphrates and Tigris take their rise; likewise the Kur, and other less consider- ably rivers. These mountains and the Arabic region are also in this part of the country. The climate is rather cold than warm; the soil, in general, moderately fertile, and better fitted for grazing than for agriculture; it produces, however, the finest southern fruits. The mountains are rich in iron and copper. The salt mines of Armenia have been long celebrated from solid and immense rocks of this mineral, large pieces are cut, and carried by buffaloes, to supply not only the neighbouring provinces, but all Persia. Indeed, almost the whole country seems to be impracted with salt, as is particularly observable after rain. The inhabitants consist of genuine Armenians, of Turcomans, who pass a wandering life in the plains, and of a few Turks, Greeks, and Jews. Of the ancient history of this country but little is known. It appears to have been subjected, in turn, by the Assyrians, Medes, Persians, Greeks, and Romans, and, after the Moslem in- vader, it became part of the kingdom of Syria, and so remained till the overthrow of Antiochus the Great, when it fell into the hands of different rulers, and was divided into Armenia Major and Minor.—Arme- nia Major was exposed to many attacks. The Romans and Parthians fought a long time for the right of giving a successor to the throne, and it was governed at one period by Parthian princes, at another, by those whom the Romans favoured, until Traxon made it a Roman province. Armenia afterwards recovered its independence, and was under the rule of its own kings. Sapor, king of Persia, attempted its subjugation in vain, and it remained free until 650, when it was conquered by the Arabs. After this, it several times changed its masters, among whom were Gengis- Khan and Tamerlane. In 1532, Selim II. conquered it from the Persians, and the greater part has since remained under the Turkish dominion. Armenia Minor has also had several rulers, and was, under Mithridates was first distinguished. From him Pompey took the kingdom, and gave it to Dejotars, &c. On the decline of the Roman empire in the East, it was conquered by the Persians, and, in 920, fell into the hands of the Arabsians, since which time it has shared the same fate as Armenia Major, and was, in 1514, a Turkish province, by Selim I. Of the cities of ancient Armenia, some ruins are yet to be seen, which display a good style in architecture; e.g., the ruins of the old capital Ani, which was destroyed, in 1319, by an earthquake; and those of the ancient city Ararat, which, during 1800 years, was the residence of the kings; some families still reside here. After Armavir, Arzashata (Aratschad) on the Araxes, built in the time of the Selucidæ, became the capital, but sank into decay before the end of the 8th century. —The Armenians, a sober and temperate nation, are chiefly occupied in commerce, which, in Turkey, is almost entirely in their hands; and in all Asia, except China, merchants of their nation are to be found. Their religion has facilitated their entrance into eastern Europe; accordingly they are numerous in Russia. Jaubert says of the domestic life of the Christi- an Armenians, that their simplicity, their love of good agriculture, their industry, and the age that old age is highly honoured; and that the wife looks up to her husband, and the son to his father, as in the time of the patriarchs. The following cuts represent the ordinary costume of an Armenian man and woman.
They prefer permanent habitations, wherever the eternal soads of the pasha and Curda permit them to remain quiet. The Armenians received Christianity as early as the 4th century. During the Monophysitic disputes, being disaasified with the decisions of the council of Chalcedon, they separated from the Greek church, in 536. The popes have, at different times, when they requested protection against the Mohammedans, attempted to gain them over to the Catholic faith, but have not been able to unite them permanently and generally with the Roman church. Only in Italy, Poland, Galicia, Persia, under the archbishop of Nachitscheven (a new town on the Don, in the Russian government Ekaterinoslav, of which the inhabitants are mostly Armenians), and in Marseilles, there are United Armenians, who acknowledge the spiritual supremacy of the pope, agree in their doctrines with the Catholics, but retain their peculiar ceremonies and discipline. The case is the same with the United Armenian monasteries upon mount Lebanon in Syria. At the Persian invasion, in the beginning of the 17th century, many of them were obliged to become Mohammedans, but the farther part are yet Monophysites, and have remained faithful to their old religion and worship. The Porte has constantly protected them against the attempts of the Catholics. Their doctrine differs from the orthodox chiefly in their admitting only one nature in Christ, and believing the Holy Spirit to issue from the Father alone. In their seven sacraments, which they call mysteries, there are these peculiarities, that, in baptism, they sprinkle thrice, and dip thrice, and this is immediately followed by confirmation; that, in the Lord's supper, they mix no water with the wine, and use leavened bread, which they distribute dipped in wine; and that they allow extreme unction only to divines, immediately after their death. They adore saints and their images, but do not believe in purgatory. In fasting, they surpass the Greeks. Their feasts are fewer than those of the Greeks, but they celebrate them more devotly. They worship, in Turkey, mostly in the night time; the mass is said in the ancient Armenian, the sermon is preached in the modern. Their hierarchy differs little from that of the Greeks. The catholicos, or head of the church, has his seat, at Etchmiadzin, a monastery near Erivan, the capital of the Persian Armenians, on mount Ararat. The holy oil, which he prepares and sells to the clergy, and the frequent pilgrimages of the Armenians to Etchmiadzin, supply him with means for the support of a magnificent style of worship, and of establish-

ments for education. He maintains, in his residence, a seminary for the education of divines. The patriarchs, bishops, and archbishops of the Armenians are invested by him, and every three years confirmed in their offices, or recalled. The remainder of the clergy resemble the priests of the orthodox church in rank and duties. The monks follow the rule of St. Basil. The veritable, who live like monks, cultivate the sciences, take degrees, which may be compared with our academical honours, and are the vicars of the bishops, form a class of divines peculiar to the Armenian church. The secular priests must be married once, but are permitted to take a second wife. They retain superstition, and attachment to old forms, the Armenians resemble the Greeks, but are distinguished by better morals. In general, they surpass all the kindred Monophysitic sects in information; allow the people to read the bible; study the theological, historical, and mathematical sciences; possess a respectable national literature, and, at Etchmiadzin, have a printing office, which produces splendid copies of the bible. The Armenian church is divided by a great schism; somewhere about one half, both of clergy and laity, having attached themselves to the Roman Catholic church; the others are orthodox, and separate the adherents to the old Oriental church, and in their turn reprobate as heretics those of their brethren who persevere in the faith of their forefathers. At Constantinople, these last predominate, or did so, at least, in the year 1700, when Mechitar Pedrosoan, a Catholic Armenian, founded a new monastery in the Moslem capital, of which he was himself appointed abbot. Being persecuted by the adverse sect, he fled with his monks to the Morea, then subject to Venice, and established his monastery, to which he attached an academy, at Modon. Here both flourished, but not permanently. The Morea reverted to the Ottoman sultans, Pedrosoan and in 1717 the worthy abbot transferred his monastery and academy to Venice, where, upon the island of San Lazaro, one of the more detached of the sixty, seventy, or one hundred and thirty (geographers are not agreed as to the number) islets which constitute the substratum of the inhabited portion of Venice, it has ever since remained and prospered. In honour of its founder, it is called Mechitarist. Abbot Mechitar, during the remainder of his life, diligently and successfully exerted himself, taking advantage of a situation that enabled him to combine the knowledge of Europe with that of his native land, and to establish in the college the principal seat of Armenian erudition and education. Thither all such of his countrymen as desire a superior degree of cultivation for their offspring habitually send their sons for instruction. The best Armenian printing press extant is the Mechitarist, from which press issues a newspaper, permitted by the Turks, under certain restrictions, to circulate among their Armenian subjects; and neither the monks nor their superiors neglect any of the opportunities for improvement that they possess. Their chief literary occupations are, indeed, more useful to their less enlightened countrymen, than interesting to strangers, namely, translating into Armenian the classic works of France, Italy, England, and Germany. Besides the religious societies of the Armenians in their own country and in Turkey, where they are very numerous (their patriarch at Constantinople maintains the same relation as the Greek patriarch to the Church), there are also a few at Isphahan, Schirins, and Nirinkale; in Russia, at Petersburg, Moscovy, Astrachan, and in the Chinese governments; also, small ones at London and Amsterdam. (See Ker Porter's Travels in Georgia, Persia, Armenia ancient, Babylon, etc., in the years 1817-20 (London, 1821, 4to, with copperplates), and the travels

Armenian Literature. The Armenians, one of the most ancient nations of the civilized world, have maintained themselves as a cultivated people amidst all the revolutions both political, religious, and war which have occurred in Western Asia, from the days of Assyria, Greece, and Rome, down to the period of Mongolian, Turkish, and Persian dominion. During so many ages, they have faithfully preserved, not only their historical traditions, reaching back to the period of the ancient Hebrew history, but also their national character, in a physical and moral point of view. Their first abode, mount Ararat, is, even at the present day, the centre of their religious and political union. Commerce has scattered them, like the Israelites, among all the principal nations of Europe and Asia (except the Chines); but this dispersion and the mercantile spirit have not debased their character; on the contrary, they are distinguished by superior cultivation, manners, and honesty, from the barbarians under whose yoke they live, and even from the Greeks and Jews. The cause is to be found in the family of their religion. The cultivation of the Armenians is a proof of the salutary influence of a well-ordered Christian church on the moral and intellectual development of a nation, which has preserved its history, and, with it, its national character. They owe this in particular to the Bible, translated, with great accuracy, among the people by the clergy, in translations that are esteemed valuable in theological literature. This is done not only at Echmiadzin,—the principal monastery of the Armenians, the chief seat of their church, the abode of their patriarch (catholicos), and, at the same time, the seminary of their teachers, where many bibles are printed, and whither every pious Armenian must perform a pilgrimage at least once during his life,—but also in the other dioceses of the Armenian patriarchs, archbishops, and bishops at Sis (Ajars), in Caramania, Constantinople, Jerusalem, and other places. Some time since, a society for the distribution of Armenian bibles was formed in the Armenian church in Russia, the archbishop of which has his seat in an Armenian monastery at Astrachan. With the biblical literature of the Armenians is connected their theological, historical, and mathematical literature. It is as old as the conversion of the people to Christianity, and the synthesis of their religion on the model of the East. Hence it has recently found many assiduous students in Paris. According to their natural historians, the name Armenia is derived from Aram, the seventh king of the first dynasty, who, about the year 1800 B.C., gave a settled charter to the kingdom. The Armenians call themselves Hagi, after Haian, the father and patriarch of the people, a contemporary of Belus. With him commences the Armenian history, about 2100 B.C., and closes with Leo VII., who fled from his country, when invaded by the barbarians, and died at Paris, in 1393. The kingdom shared the fate of Asin Minor and Persia. To return to its history, the latter Armenians. This appears because, in its ancient literature, we before speak of Armenian authors and their works, we must mention one fact concerning the language, which is important, namely, that the language of literature is not that of ordinary life and business. The former is called Haidan, from Hain, the reported progenitor of the nation; the latter Armenien. Thus appears the modern distinction, the relative condition of the two languages being now what that of all the languages derived from the Latin was during the middle ages, when French, Italian, Spanish, or Portuguese were but so many vernaculars, each in its own country called emphatically the language, in which scholars never thought of writing. The most learned Armenian antiquaries do not pretend to trace their literature further back than about 150 years before the Christian era, when two Parthian brother princes, Arsaces and Vararacses, reigned over Persia and Armenia. The latter monarch, being a lover of letters, decreed that a history of his kingdom in time past, and employed Maranbas Catsina to write a history of Armenia. Maranbas obeyed, collecting his materials from old Persian documents preserved at Nineveh, and laid open to his examination by Arsaces, king of Persia, as well as from other sources. He compiled his task down to the very period at which he wrote, and the work is said to have earned for him the title of the Armenian Herodotus. He was followed by some half-dozen historians and heathen theologians, if we may so designate believing writers upon mythology, and by a multitude of others, altogether forgotten. But even of the commemorated few, and of the Armenian Herodotus himself, the names and the nature of their works is all we know, or can hope to know. Their productions have long been lost, but have not thus become quite valueless, inasmuch as they were the source of those preserved by the church. But some survived, compiled their works. The authors who lived in the fourth century of the Christian era are the first whose writings have been preserved. Christianity then prevailed in Armenia; her writers were princes and prelates; and this is esteemed what the abbe de Caumont calls the first term in what he terms rather the beginning of the golden age of literature,—a period, be it remembered, when classical literature was fast decaying. But the fifth century was the real golden age of Halian literature, which thus, for a while at least, seems to have thriven in proportion as classical splendour faded away. This century was fruitful in authors, and was further distinguished by two events important to the progress of learning. The Armenians had till then had no alphabet of their own, indifferently using Greek, Syrian, and Persian characters. Early in the fifth century, Mesrop Masdyot invented an appropriate Halian alphabet of thirty-eight letters, still called, in honour of the inventor, Mesropian, and employed as capitals, since others, of more convenient form, have supplanted them in common use. About the same time schools were, by the favour of the Armenian sovereign, instituted throughout Armenia, and the old church of Persia, whose language was Halian, was introduced, producing Halian versions of the Bible, and of the master-pieces of Greece and Rome. To these circumstances we may probably ascribe the great development of native talent that ensued. One of the most distinguished authors who now appeared was archbishop Moses Chorenus, or Chopanphi, according to the Armenian formation of a surname for the birthplace. Besides innumerable invaluable translations, he wrote a history of Armenia (relying for the early part upon Maranbas, and many others, of whom the names only have descended to modern times), a treatise upon rhetoric, and a treatise upon geography, all of which, together with some homilies, have been preserved, as well as some hymns still habitually sung in the Armenian church service. A number of his smaller works have entirely or partially perished; and of Moses Chorenus's Commentaries upon Halian Grammar only a few fragments remain. The same holds true of the productions of later and more fortunate writers. Moses' History of Armenia was printed in England, in the first half of the last century, by the sons of the celebrated W. Whiston, and most judiciously with a Latin version, as at that time no English manuscript existed in the country. In the sixteenth century Halian literature first remained stationary,
and then began to decline. With every succeeding century, to the sixteenth inclusive, the decline became more decided, more rapid, and the very genius of the language was corrupted by attempts to assimilate its grammar to the Latin. Nevertheless, we do not require to have been more than the commonest period: on the contrary, they abounded, but, in a literary sense, they were worthless, and some are even accused of writing in Armenian, not Haican. A few histories, however, national, Tartar, Arab, &c., some of them in verse, and deserving esteem for the information they contain, are carefully preserved, even of the worst times. In the seventeenth century, Armenian schools and colleges arose in the east and in the west; Armenian printing-presses were set up in various towns, and Armenian literature began to revile. Again: historians, theologians, and poets wrote in choice Haican. In the eighteenth century the revival was complete, very much owing to the zealous and judicious exertions of Mechitar Pedrosian. His academy still yields excellent scholars in their own and other languages, and Armenian literature promises fair to participate in the vigorous stimulus which, throughout Europe, literature seems to receive. The only reason for apprehending that it may not fully keep this promise, is the disadvantage of writing in a dead language, not in that of impulse and passion, that in which we think, feel, converse, and transact all the business of life. The royal library at Paris possesses the Armenian historical authors nearly complete, partly printed, partly in manuscript. From them, J. M. Chahan de Cibird, a learned Armenian employed in this library, published, in 1806, his Recueilles curieuxes sur l'Histoire ancienne de l'Asie, and compiled, with M. J. Saint-Martin, a universal history of Armenia, in 1813. He has introduced to Armenian history, geography, and literature, is that which M. J. Saint-Martin, member of the French institute, has extracted from old Armenian writings, inscriptions, and other sources—Mémoires historiques et géographiques sur l'Armenie, Paris, 1818, 2 vols. This work contains the Armenian text of the history of the reigning Orbelian family, by a prince of this family, the archbishop Stephen Orpelan, and the text of the Armenian geographers Moses of Chorene, and Vartan, with additions, translated into the French, with annotations. Among the living Armenian scholars, we may mention such distinguished ecclesiastics of the Armenian congregation of St Lazarus, in Venice, John Bapt. Acher, who has lately published Armenian translations of the 5th century, from ancient authors, e.g. the famous Grecian Philo. Also Placidus Likhas Somal, archbishop of Liunia, who produced a Sketch of the History of Armenian Literature, at Venice, in 1829.

Armfelt (Gustavus Maurice), count of; a distinguished Swede, whose public life was marked by singular changes of fortune, but belongs, in a considerable degree, to the secret history of the Swedish court, and has, therefore, not been fully revealed. Gustavus Maurice, born April 1st, 1757, the eldest son of the major general baron Armfelt, was educated in the military school at Carlsecou, and was afterwards appointed ensign in the guard at Stockholm. By his fine figure, and the claws of his conversation, he soon began to be a favorite with the court. The best rapidly promoted, and loaded with marks of distinction. In the war against Russia, 1788—1790, he showed a courage in the field as splendid as his talents in social life, on which account he continued to rise in the favour of his king. As lieutenant-general, he concluded the peace of Weraa, was honoured by the Russian empress with several orders, and received, even at the death-bed of his sovereign, the most flattering marks of royal favour. He was appointed governor of Stockholm, and connected, by means of Gustavus III., in marriage with the ancient family of the count de la Gardie. He was said, also, to have been used for other purposes during the time of regency, during the minority of Gustavus IV., though the guardianship of the young king had been assigned to the duke of Sodermanland by a previous will. Possibly, this is the source of the hatred with which A. was now persecuted. He was deprived, Sept. 7, 1792, of all his offices and dignities, and sent as ambassador to Naples. It was without foundation, that an unrequited passion of the duke of Sodermanland for a court lady, von Rudenskold, by whom A. was favoured, had exasperated his rivalry to hate. It is certain, that Armfelt and Rudenskold were made the subject of scandalous rumours; she was dishonourably reprimanded in the house of correction; and he, then in Italy, escaped the daggers of hired assassins, and a formal requisition of the Swedish government, only by flight; was declared a traitor and an outlaw, and all his fortune and honours, nay, even his nobility, were pronounced forfeit. He was confined for many years in a castle, when Gustavus IV. annulled this decree, and restored A. to his former situation. He was appointed ambassador to the court of Vienna, and, in 1807, the rank of general of infantry was conferred on him; as such, he commanded the Swedish troops in Fomernia, and, in 1808, the western army against Norway. In the autumn of this year, he was appointed president of the military institution at Stockholm, and made peer of the kingdom. In 1810, he obtained his desired discharge, and lived as a private man at Stockholm. A connexion with the inferior officers of counties Prince, A. of Sweden, prevailed upon him in new difficulties, and induced him to seek shelter with the Russian ambassador, and to go over to the Russian service. Here he was favourably received, was made count, chancellor of the university of Abo, president of the department for the affairs of Finland, and member of the Russian senate. He now enjoyed general esteem till his death, Aug. 19, 1814, at Caruskooelo. He was particularly respected by the Finlanders.

Armiger, or Essquirer; in England, a title belonging to such gentlemen as bear arms; and these are either by courtesy, as sons of noblemen, eldest sons of knights, or by creation, as the king's servants. Armiger in the dictionary was defined, as proceeding from its founder, Arminius (q. v.) In Germany and Holland, they are more generally called Remonstrants, on account of the title Remonstrantia, which they gave to a document presented to the states-general of Holland, in which they endeavoured to prove the opinions of the reformed church, in respect to predestination, erroneous. Diversity of opinion on this subject was the chief reason of their separation from the reformed church. They maintained, 1, that God had, indeed, resolved from eternity on the salvation and damnation of men, but with the condition, that all those who believed should be saved, while the unbelievers should be damned; 2, that Christ died for all men, but nobody could partake in his salvation, except he believe; 3, that nobody can have saving faith from himself, but must be born again of God, in Christ, through the Holy Ghost, in order to attain this grace of God, think, will, or do any thing good, because all our good works have their origin in God's grace; 5, that the faithful can struggle against Satan, the flesh, and the world, and conquer them, by the assistance of the Holy Ghost. This is the genuine doctrine of Arminius and his sect. From these original Remonstrants, however, are to be dis-
tinguished those who were not satisfied with these five articles, but proceeded farther in the contest with the reformed or Calvinistic church. As, even before the Arminian dispute, several writings of Socinians had circulated secretly in Holland, particularly among the refugees, who were almost all Arminians, it was natural that the later Arminians should coincide, in many points, with the Socinians. They were therefore accused of Socinianism. The states of Holland issued an ordinance, in 1614, directing the Remonstrants and Counter-remonstrants (the latter were also called Gomarists, from their leader, Francis Gomarus, professor of theology at Leyden) to live in love and charity with each other. But, as both parties doubted the obligation of such a decree in respect to spiritual affairs, the famous synod at Dort was held from Nov. 13, 1618, to May 2, 1619, in order to adjust the differences. The decision of the synod is very remarkable. It made reason the servant of the fear of God, subjecting it to the control of faith, and declared, with much piety and theological consistency, that the doctrine of predestination is very hard, but cannot be avoided; let the Holy Scriptures stand fast, and let the opinion of the opposing world perish. The Counter-remonstrants, so called, gained the ascendancy by the decree of this synod, in which they were accusers and judges. The opposite party have accused them of unjust and cruel behaviour on this occasion, and they have not yet been able to approve the accusers. Though the former were obliged to yield to the decision of the synod, they continued to print and defend their doctrines. The decree of this synod was highly prejudicial to the sect of the Arminians, and they were particularly in danger when some of their members took part in a conspiracy against prince Maurice. He was, however, soon convinced, that the sect, as such, had nothing to do with the plot, and, after his death, in 1625, they received from Henry, his brother, the liberty to erect churches and schools in all parts of Holland. In Amsterdam, they established an academy for education, which became very famous. The congregations at Rotterdam and Amsterdam were the most numerous. They did not endeavour to increase their sect. Any one who joined them was not obliged to accept their creed, but only to declare, generally, that he was a believer in Christ and in the apostolic episcopate, and to resolve to regulate his life according to Christ's commands. Their public service was almost entirely like that of the Calvinistic church, only they did not require, like this church, from the parents of a child about to be baptized, a profession of belief in their dogmas, and a promise to educate the child in the same, but demanded only a promise to educate the child in the Christian faith, without mentioning the creed of any sect. The Arminians were very numerous as long as they were persecuted, but rather decreased, when they had gained liberty and peace.

ARMINIUS (the Latin name for Hermann); the deliverer of Germany from the Roman yoke. The victories of Drusus had added to the Roman empire the German districts lying on the Rhine, the Elbe, and the Saal. No measures were neglected, by the Roman government, to keep the natives of these territories in subjection. The Scyths, whose fearless spirit was so fatal to Lollius, were transplanted, with a few of the most powerful tribes, to the banks of the Rhine, and the interior of Gaul; and attempts were made to secure the allegiance of the remaining tribes by bribes, and by a Roman education, gratuitously bestowed upon the children of the chief. A. son of a prince of the Cherusci, Signer (which, in the old German, signifies a famous conqueror), was born 18 B. C. He was educated at Rome, admitted into the rank of equites, and appointed to an honourable station in the army of Augustus. But princely favour and the charms of learning were insufficient to make the young barbarian forget his early associates. He, however, did not lose his Roman education was to teach him how to conquer his instructors. Convinced that the rude strength of his savage countrymen would be unequal to cope with the disciplined forces of the Romans in the open field, he had recourse to stratagem. Several circumstances seemed to favour his designs. Quintilius Varus, who commanded the flower of the Roman army, was appointed to maintain tranquillity and submission in the new territories on the right bank of the Rhine. Relying upon his power, he expected to be able to introduce Roman institutions, and thereby change the character of the German tribes, whom viewed liberty as the highest good. He was accompanied to his destination by a large number of merchants and lawyers, who were to bring about the intended changes. The object of this expedition was sufficiently odious in itself, and the desire of an accelerated fortune, considered in connection with the dissatisfaction of the Germans to the highest degree. A. chose this favourable moment for the execution of his designs, and succeeded in gaining over to his views the chiefs of nearly all the tribes between the Elbe and the Rhine. About the same time a rising took place among the Saxons, Germans, and on the borders of Dalmatia. Whether this rebellion was connected with the plans of A., and intended to aid in supporting the monarchy which had been founded by Marobod, between the Elbe, the Saal, and the Oder, and suppressed by the Roman governor, we shall not now stop to decide. Even if it had no connexion with the designs of A., we have reason to admire the harmony which marked the undertakings of the allies; for the treachery of Segestes, one of their number, was insufficient to break the strong bond of their union. This Segestes, prince of the Catti, informed the Roman general of their secret intentions; but Varus disregarded his admonitions. A. succeeded in removing his distrust, and turned the attention of the Romans to the disturbances on the Weser, which he had himself excited, in order to draw the Roman soldiers into the heart of Germany. Agrippa, who had been everywhere yielded the strictest obedience, and his commander, the faithful confederate of A., was every day Mulling Varus into a deeper security. Slight disturbances, which had been previously concerted, now took place in distant parts of the empire, to induce the Roman governor to divide his strength. The main body of the army consisted of three legions, a few cohorts, and the treacherous auxiliaries. The spirit of rebellion now became universal. A. and his most intimate friends, who had enjoyed the confidence of Varus, and been admitted to his secret councils, multiplied the proofs of their apparent zeal in the new governor, their success, their success, and their success in every region where they were most exposed to destruction. In the territory of the Bructeri, near the source of the Lippe, after a long and tiresome march through marshes and forests, they suddenly found themselves in a deep valley, which was discovered by their German foes, and, to add to their consternation, A., with his rear-guard, was now their enemy, and the soul of all the assaults
which were made upon them. Varus now saw destruction impending over him. The courage and discipline of the Roman soldiers had long excited admiration, but could now only defer for a time their fate. For three days their sufferings continued. A. made himself master of three Roman eagles, and put a stop to their advance in the north of Germany. Varus could not survive his disgrace; he killed himself, as so many other Romans had done, when the fortune of war was adverse. The victory of A. was stained by useless acts of violence and cruelty. The Germans cut off the hands of the slain, and took the head of their most obdurate to the national feeling, and put out the eyes of the vanquished. We must not forget, however, the strong provocation which they had received from their cruel and oppressive conquerors. It is difficult to determine the place of this celebrated engagement. The ancients called it Tentoburgiensis Salus. The opinion of Mancini is very different from that of Tacitus. The former fixes the field of battle on the borders of the principalities of Lippe and Mark, and the duchy of Westphalia; but the account of Tacitus agrees more nearly with the tradition, which says the action was fought at the source of the Enz and the Lippe, near what is now the little town of Stade in the Elbengebiet. A. had therefore the advantage of his position, and his victory was not repelled by the strength of his enemies.

The Romans undertook the conquest of the upper Elbe. They crossed the river, and captured Herford; and, finding the tribes of the Cherusci, who had deserted them, it was a signal for the recovery of their liberty. The Cherusci, therefore, called for aid. Arminius, who was their chieftain, came to their assistance. He was killed in the battle. The Cherusci were victorious. The <flavian>s were repelled. They turned their arms against one another. Marbodius, the king of the Suevi, and founder of the kingdom of the Marcomanni, was prompted by ambition to carry his conquests beyond the Saal and the Elbe. He, too, had received his education in Rome, but had returned with principles decidedly opposed to those of the hero of the Cherusci. In A. the Romans had found a bold defender of his country's freedom, and in Marbodius an enemy of his ambitious views. Notwithstanding the revolt of Inguomar, who went over to the party of Marbodius, rather than serve under his former ally, he was compelled to defend his tribe against the victors. He obtained the honour of having freed his country from a foreign yoke, and of preserving his fellow-citizens from domestic tyranny. A long and bloody battle decided the claims of the contending parties. The Germans no longer fought in disorder; for A. had accustomed them to the rigid discipline of the Romans, and all the rules of war had become familiar to the barbarians. The event was long doubtful. But the king of the Marcomanni first withdrew his troops from the field, and was thus looked upon as vanquished. A large proportion of his army abandoned him, and he was forced to term his people to the upper Elbe. The society of his dominions, and, at last, to Italy, where he lived in obscurity. Tacitus relates, that A. drew upon himself the hatred of his countrymen by aiming at the regular authority; and, in the thirty-seventh year of his age, he was assassinated by his own relations. A short time before his death, Arminianus, or Arminius, prince of the Celts, proposed to the Roman senate to dispatch him by poison; but the senate took no notice of the offer. A. was twenty six years old when he destroyed the legions of Varus; and two years before his death, he gained his victory over Marbodius. In the language of Tacitus, "A. was doubtless the deliverer of Germany. He fought against the Romans, not like other kings and generals, when they were weak, but when their empire was mighty and their renown glorious. Fortune, indeed, sometimes deserted him; but, even when conquered, his noble character and his extensive influence commanded the veneration of his conquerors. For twelve years he presided over the destiny of Germany, to the complete satisfaction of his countrymen; and, after his death, they paid him divine honours." If we dwell a moment on the results of his victory, we find that his influence on the whole character of Germany, political and literary; because it is evident, that, had the Romans remained in quiet possession of the country, they would have given a tone to all its institutions and its language, as was the case with all the other countries of Europe conquered by them. The reason, therefore, why the language of the Germans remained unmixed and uninfluenced by Latin, and why their political institutions retained so much of their ancient character, is to be found in the victory of A. To the same cause must be ascribed, however, their tardy development in several respects. It is not to be doubted, that other nations have derived great benefit from the introduction among them of the Roman civilization, as far as respects the order, tranquillity, and refinement of social life; but all advantages could not be had at once; and had not A. crushed the Germanic power in its infancy, a victory similar to the French and Spanish would be spoken there, where now a language and literature exist of a peculiar and original character. Some influence, however, the Romans did undoubtedly exercise on the dialect of Germany, and many Latin words were introduced into the Teutonic language against the inclination of the Romans. They can with difficulty be recognised.
ARMINIUS.—ARMS.

ARMINIUS, or HEMMANN, James, founder of the sect of Arminians or Remonstrants, was born at Onnevelter, in Holland, 1560. He studied at Utrecht and in the universities of Paris and Louvain. Here he acquired such a reputation, that the magistrates of Amsterdam sent him, at the public expense, to finish his studies at Geneva, where his chief preceptor in theology was Theodore Beza. Adopting, in philosophy, the new doctrines of Peter Ramus, he privately taught them; which innovation gave so much offence, that he was obliged to quit Geneva. Anxious to attend the celebrated lectures at Padua, he next visited Italy. Distinguished by his zeal for the reformed religion, and talents as a preacher, he was chosen to undertake the refutation of a work written against Bell's doctrine of predestination; but he happened to be converted by the work which he had undertaken to refute. He honestly avowed his change of opinion, and renouncing the Calvinistic doctrine concerning the decrees of God and divine grace, maintained that the merits of Christ extended to all mankind, and that there was necessary to salvation, attainable by every one. Elected professor of divinity at Leyden, he openly declared his opinions, which rapidly spread both among the clergy and laity. The adherents to the Calvinistic system, however, caused him much vexation. He was several times summoned to the Hague, in consequence of his doctrine; and his colleague, Gomarus, was among the most violent of his enemies. These contests, with the continual attacks on his reputation, at length impaired his health, and brought on a complicated disease, of which he died in 1609. Arminius was candid, amiable, sincere and possessed of great integrity. He was a friend to universal toleration, maintaining that Christians are accountable to God alone for their religious sentiments. His followers included some of the first men in Holland, as Barneveldt, Hoogerbeets, and Grotius. The Arminians still remain a distinct sect in Holland, and, from the time of Laud, have been the predominant party in the church of England. Editions of the whole writings of this divine were published in one volume, 4to., Leyden, 1629; Frankfort, 1631—1634; and often afterwards. The principal piece in this collection is entitled Dissertatio de Doctrina Christiana Religionis Capitola. See Arminians.

ARMONIA; the ancient name of the whole northern and western coast of Gaul, from the Pyrenes to the Rhine; under which name it was known even in Caesar's time. The word is said to be of Bas-Breton origin, and means a mare, or horse. Armonia; a defensive habit, employed to cover and protect the body from the attacks of an enemy. A complete suit of armour was composed of the casque or helmet, gorget, cuisses, gauntlets, tasses, brasses, cutisses, and covers for the legs, to which the spurs were attached. This furniture was denominated armes de poê, or from head to foot, and was used by the cavaliers and men-at-arms. The infantry had only part of it, viz., a pot or head piece, a cuirass, and tasses, but all light. The horses themselves had armour, wherewith to cover the head and neck. Defensive armour, is, in modern warfare, laid aside with the exception of the cuirass, which was worn by Bonaparte's Imperial Guard at Waterloo, but without much advantage. See Arms.

ARMOUR, COAT OF, signifies the escutcheon of any person or family, with its several charges, and other figures figuring, crest, supporters, motto, &c. Thus the phrase a gentleman of coat-armour means one who bears arms.

Arms. Man has not, like many animals, received from nature any member intended particularly as a weapon. He is obliged to use artificial means to increase his strength, when he attacks, as well as to screen his body, which nature has left unprotected. Arms were, therefore, an early invention; perhaps, in the first instance, to defend against the attacks of such animals. They were soon used, however, for the purpose of conflict between man and man. The first and most natural of all arms, are the club and the sling. Every one naturally uses missiles as means of offence, and the sling adds force to the cast. In the history of the arms of all nations, we find, invariably, that man, beginning with the means of injury in the close struggle, endeavours continually to invent weapons which shall take effect from greater and greater distances. In consequence of the progress made in this way, dexterity always takes, at last, the place of courage. Nature has given to man only one weapon, in a limited sense of the word,—the arm, used in boxing, and this can be made truly a weapon only by the dexterity acquired by long training. The art of boxing, moreover, is of use only against men. Within its sphere, indeed, it is very effectual. As soon as men learned the use of the metals, they worked them into pikes, spears, lances, and soon afterwards into swords and armour. Of this last, part only was at first made of metal, but the proportion went on increasing, till at last a complete suit of iron came into use. The first improvement on the sling and the bow was the introduction of gunpowder to the engines employed by the ancients, and called catapulta, balista, &c. These would produce effect at the distance of a 1000 feet. But the discovery of gunpowder changed the character of arms. Objects 6000 paces distant could now be reached, and obstacles overcome by fire, which formerly cost the labour of years. By the invention of steam guns, still more may be accomplished in future. The inventor, Mr Perkins, an American of great mechanical talent, has not, however, yet been able so far to perfect the machine, as to quell it to take the place of fire-arms. Arms may be divided into offensive and defensive; the first kind, again, into, 1, arms for cutting, e. g., the sabre; 2, for thrusting, e. g., the straight sword, the small sword, the bayonet, lance, &c.; 3, arms for throwing, e. g., the mortar, howitzer, &c.; 4, arms for shooting, e. g., pistols, carbines, rockets, cannon, &c. It is observed, that arms for thrusting are much more injurious, and therefore better, than those for cutting; but they require infinitely more skill, and cannot, therefore, be used so much in armies as they otherwise would be. Man is protected by nature much more against the downward blow, which strikes from the skull and the shoulder, than against a thrust, to which the more vulnerable parts of the belly and the breast are exposed. So great is the difference in this respect, that a downward blow with the fist hardly ever injures seriously, while the thrust of a box is highly dangerous. II. Defensive arms include all those which are properly so called, cuisses, helmets, &c., and also the parts of fortifications which are intended particularly to protect the body. The more important arms are treated of under the proper heads. Some writers make a distinction between armed men (infantry and cavalry), and manned arms (artillery). The history of war includes also that of arms. French and German military writers apply the word arms to the different species of troops, and speak of the three arms, i. e. cavalry, infantry, and artillery. Some writers use bayonet for infantry, as opposed to horse in cavalry, and say that the infantry consisted of 12,000 bayonets and 2000 horse. To render desires of becoming acquainted with the armour of the ancients, and that used in the middle ages, we recommend the splendid work, Critical Inquiry into Ancient Armour, &c., with a Glossary for the Names
of the Armes of the Middle Ages, by Sam. Rush Meyrick, 3 vols. large 4to, London, 1824; a work interesting to the student of the politics, arts, manners, and wars of the ancients and the middleages. There are, in Europe, many collections of arms used in both these periods (e.g., one of the arms of the ancients, at Naples, is about 1700). He was educated for the medical profession at the university of Edinburgh, under the elder Munro. In 1732, he took his degrees as M. D. with much reputation, the subject of his treatise being Tabes Paralitica. He had ere this period addicted himself to the composition of verses. We are informed, that, to relieve the tedious of a winter spent in "a wild romantic country,"—probably Liddesdale, the place of his birth—he wrote what he intended for an imitation of Shaksperean, but which turned out to resemble rather the poem of "Winter," then just published by Thomson. The bard of the Seasons, however, has assigned to this composition, which so strangely and so accidentally resembled his own, procured a sight of it by means of a mutual friend, and, being much pleased with it, brought it under the notice of Mr David Mallet, Mr Aaron Hill, and Mr. Young, all of whom joined with him in thinking it a work of genius. Mallet even requested the consent of the author to its publication, and undertook that duty, though he afterwards gave up the design. Armstrong was probably led by this flattering circumstance to try his fortune in London, where his countrymen Thomson and Mallet had already gained, and were publishing, successively, and with more success than had been anticipated, an essay on the art of preserving health, a dialogue between Hygeia, Mercury, and Pluto, relating to the practice of physic, as it is managed by a certain illustrious society; and an epistle from Usbeck the Persian to Joshua Ward, Esq. This essay, besides its sarcastic remarks on quacks and quackery, contains many allusions to the neglect of medical education among the practitioners and apothecaries; but the author had exhausted his wit in it, and the dialogue and epistle are consequently flat and tasteless. Mallet had taken out this professional piece, styled, "A Synopsis of the History and Cure of the Venereal Disease," foro. He probably designed the work as an introduction to practice in this branch of the medical profession; but it was unfortunately followed by his poem, entitled, "The Economy of Love," which, though said to have been designed as merely a burlesque upon certain didactic writers, was justly condemned for its want ofارداله and beauty, and its tendency to inflame the passions of youth. It appears by one of the "Casces of Literary Property," that Andrew Millar, the bookseller, paid fifty pounds for the copy-right of this poem; a sum ill-gained, for the work greatly diminished the reputation of the author. After it had passed through many editions, he published one in 1768, in which the youthful luxuriances that had given offence to better minds were carefully pruned. In 1758, Dr Armstrong made some attempts for this indiscretion, by publishing his "The Art of Preserving Health," a didactic poem in blank verse, extending through four books, each of which contains a particular branch of the subject. This very meritorious work raised his reputation to a height which his subsequent efforts scarcely sustained. "There is a classical correctness and closeness of style in this poem," says Dr Warton, "that are truly admirable, and the subject is raised and adorned by numberless poetical images." Dr Mackenzie, in his History of Health, bestowed similar praises on this poem, which was, indeed, every where read and admired. In 1740, he was appointed physician to an hospital for soldiers, and, in the course of several years, published works on the subject ofiae, Beneficence, Epistle on Taste, and his prose Sketches by Lancelot Temple, Esq. In 1760, he was appointed physician to the forces which went to Germany. This appointment was obtained for him by Wilkes, with whom he was then on friendly terms; but their friendship did not survive the interests of political warfare.

—After his return to London, he published a collection of his Miscellanies, containing the Universal Almanac, a new prose piece, and the Forced Marriage, a tragedy, which had been refused by Garrick. This collection contains nothing valuable. He afterwards visited France and Italy, and published an account of his tour under the name of Lancelot Temple. His last production was a volume of Medical Essays. He died in 1779, of an accidental hurt.

The Art of Preserving Health, is a successful attempt to incorporate science with poetry. By giving it a moral as well as a medical interest, A. raised the dignity of the poem. It is distinguished by judicious thoughts, correct expression and lucid management, rather than by originality of genius, harmony of versification, or poetic ardour of thought.

Army. In the history of armies we must distinguish between the three different periods, the Roman, the ancient armies, which arrived at their perfection under the Romans; 2, those of the middle ages, the offspring of the feudal system, ill-organized bodies, created only for a short time, and undoubtedly the worst which history makes known to us; 3, such as have existed since the invention of gunpowder and the establishment of standing armies. (See the following article.) By the invention of gunpowder, the whole character of armies has been changed, from the organization and equipment of the whole mass to the very point d'attaque of the individual. As long as personal courage, strength of arm and extensity of war, were the great charms for noble-minded characters. At this period, too, science had not become incorporated with the very life-blood of society; and the want of intellectual occupation contributed its share in making war the favourite occupation of the higher classes. They fought on horseback, every one at his own expense. None but the poorer class, the vassals, fought on foot. Under such circumstances, the art of war could never attain a high degree of perfection, nor could the organization of an army be very complete. It was not till the wars between Charles V. and Francis I. of France, that the great importance of regular infantry was seen, and the Swiss, then the best foot-soldiers in Europe, often determined the fate of the battle. By the introduction of fire-arms, particularly of artillery, courage and bodily strength lost their exclusive importance, and the advantages of regular training began to be felt. The Swiss, who were enabled to direct the movements of armies with greater exactness. Now that war was reduced to a system, it lost much of its charms in the eyes of an idle and ambitious nobility. The estimation of Infantry continually increased; volunteers became more rare. It became necessary to take mercenaries from the lowest classes of the people, and, at the same time,
the regular tactics introduced, required a more thorough training; the individual was lost more and more in the mass, and standing armies were at length established, and rose continually in estimation. Much was done to improve the new system by Henry IV. of France, as well as by the republic of the Netherlands, in their struggle for liberty against Spain. The number of troops organized in this way still remained, however, very small, compared with the others. Henry IV., prince Maurice of Nassau, and Alexander, uncle of Parma, did much for the improvement of tactics, and of the art of besieging, which made great progress in the war above-men
tioned. As those who were trained, in no way advanced the character of armies. Still more important, in these respects, was the thirty years' war in Germany. Armies, as yet, consisted, for the most part, of soldiers raised by the general, to serve only during a particular war, e. g. Wallenstein's troops; but the time of service having much increased, particularly in the wars of Gustavus Adolphus of Sweden, the character of armies and tactics was much elevated. This king established smaller divisions, introduced lighter weapons, and made many improvements in the artillery, by which quicker and more complicated movements became practicable and victories improved the advantages of the new system, which even Wallenstein acknowledged. Soon after, under Louis XIV., the whole system of war received another form by means of the minister of war le Tellier, and his son and successor Louvois, the art of tactics being particularly improved by Turenne and other contemporary great generals. Standing armies attained an extent hitherto unexampled. Instead of the 14,000 men maintained by Henry IV., Louis XIV., after the peace of Nimeguen, had on foot an army of 110,000 men. France had set the example, and all the European powers of Europe followed, with the exception of England and Holland, which, for a long time, opposed a similar augmentation, regarding standing armies as dangerous to freedom. These great masses must necessarily have exerted an important influence upon the art of war. This art was practised upon a continually increasing scale. France was, at the same time, endeavours, in every way, to secure her boundaries by the erection of new fortifications, and her military engineers were particularly eminent. In the beginning of the 18th century, a new and important epoch commenced in the military system. Not only did Russia, in the thirteen years of peace, make the standing army, well disciplined in the European manner, which afterwards, under the empress Anna, in its internal regulation, also, was made to resemble the armies of the other European states; but Prussia, too, came forward, under Frederic William I., as a respectable military power, and supported an army far exceeding a proper proportion to her population; hence she was induced to set the example of foreign levies, in which originated the inconvenience, that, in the hour of danger, a large part of the army could not be depended on, and, moreover, it was difficult to maintain discipline over this same portion, consisting of the refuse of foreign nations. The native soldiers, too, were corrupted by the contact, and it was found necessary to reduce the army to a machine, in order to make such materials serviceable. This idea was put in execution by Frederic II. The system of standing troops, so long as such as had never reached, and Prussian tactics became a pattern for all the other states of Europe. The system, however, had fatal imperfections, which would necessarily produce very injurious consequences. The great number of foreign vagrants enlisted, led to the introduction of a degrading discipline, which made the condition of the soldiers completely miserable. Every prospect of advancement and all ambition were destroyed by the exclusive promotion of officers taken from the ranks of the nobility; and even their promotion was determined by length of service (a natural consequence of the long peace, which had existed since the seven years' war). This system seemed, indeed, to have been carried to its height, when the French revolution broke out with a violence which shook Europe to its foundation. Standing armies had now become bodies having little connexion with the nations by which they were maintained. They only were armed; the nation had become more or less subdued, to receive the blows which were beaten, the nation was subdued. At the same time, the armies had been so much increased beyond all proportion to the wealth of the states, that they must necessarily remain, in a great measure, useless. They had become mere machines, without any moral inceptive. What was the necessary consequence, when, as then happened in France, a people excited to fury commenced a struggle with these antiquated and rusty engines? A new mode of carrying on war, produced by the pressure of circumstances, and by the rapid, bold, and energetic efforts of young military men, turned the multitudes of cannon forms, and carried victory in its train, until the opposing powers had learned to make it their model, and thereby restored the equilibrium. When the French ruler ultimately began to use his army more and more as a machine for the promotion of his ambitious designs, then the other European powers, taught by experience, called the nations themselves to arms, in behalf of freedom; and it was demonstrated anew, that no excellence of discipline, no mechanical perfection of an army, can enable it to withstand, for any length of time, moral energy and excitement, though connected with far inferior discipline. The armies on the continent of Europe are raised, at present, from among the citizens, who are bound to serve for some time, and are then assigned to the class reserved for any sudden emergency. The time of service is various; in France, for instance, six years; in Prussia, three, that is, in time of peace. In Britain and North America, no citizen is obliged to serve in the standing army, but only in the militia, which is destined merely for the defence of the country. (See Militia and Soldier.)—The organization of armies is nearly alike throughout the continent of Europe; and France, Prussia, Austria, and Russia have, in particular, been the perfection of all classes of troops. The military schools of these countries, for the officers of different rank, as well as for the various kinds of troops, particularly those of France and Prussia, are excellent. Among the Prussian troops, learning is so universally cultivated, that the army is considered as a great institution for the diffusion of knowledge, because every Prussian serves three years without being able to send a substitute, and in each regiment schools for the privates are kept. In respect to these military schools, as well as to internal organization, the armies of the European continent very much surpass the British, in which the practice of selling commissions, the expense of the half-pay system, the non-promotion of privates, the still continued use of tents, the degrading flogging, &c., remind one of a continental army such as it was fifty years ago. In the army of the United States, in the time of Washington, such as are not sold, and the half-pay system has not been adopted. Napoleon increased the size of armies to a degree before unprecedented. They are distinguished, according to the purposes for which they are destined, by the names of blockading armies, armies of observation, of reserve, &c.
standing infantry, called France archers, which, in conjunction with the troops just described, constituted a very respectable army. The military system thus established in France spread theuce through the other countries of Europe. (See Daniel's Histoire de la Milice Francaise, &c.) With the progress of standing armies in France, and the increase of wealth, the standing armies of other countries increased also, e.g., those of Holland, Britain, and Germany. When this increase reaches its highest point, and the decision of war, becomes almost entirely dependent on numbers, the duty of military service is extended to all the classes, and a system of conscription is introduced, adapted to the condition, population, and necessities of a state, by which all the citizens, of a certain age, capable of bearing arms, are called upon to do military duty, for a longer or shorter period. In this way, standing armies, and the military, considered as a separate profession, are, to a great degree, abolished, and all the citizens (with few exceptions) able to bear arms being disciplined for the protection of their country, and obliged to act in its defence, the numbers of troops becomes proportionate to the natural relations of states to each other, and military standing becomes more liberal and Honourable. At least, this has been the case upon the European continent. The increase of the militia renders it also more difficult to give the proportion of the military power of some states to their population, because the standing army is no longer the sole, and, with some governments, not even the chief, military power. Malte-Brun in his Geography, estimates the proportion, in the principal states of Europe, as follows; though, for the reason just given, the estimate is necessarily imperfect:

In Britain, one soldier to .............. 140
France, .................................. 110
Austria, ................................ 100
Russia, ................................ 90
Bavaria, ................................ 60
Prussia, ................................ 68
Poland, .................................. 60
Wittemberg, .............................. 59
Sweden, .................................. 58
The two Hesses, ........................... 49

The proportions in other states are much lower:

In the Two Sicilies, ......................... 180
Tuscany, ................................ 300
The Roman states, ........................ 300

Malte-Brun thinks that, on the European continent, one soldier to 100 inhabitants would be found a proportion not injurious to the resources of the states. The United States of America have now on foot not even 6442 men, to which number the army is limited by the law of 1821. The importance of militia is daily increasing. (For further information in regard to the militia, and the great changes which have taken place in standing armies during the last twenty years, see Militia and Army.)
like all male nations, every kind of artifice and perfidy towards their counties. The oppression, under which they formerly lived, filled them with the desire of liberty. For arts and trades they have no inclination. A cultivation they esteem not so honourable as an occupation as arms. Their restless spirit is adverse to the uniformity of peace; and they are not acquainted with the higher tactics; they never form a line of battle, and do not understand the advantages of strong positions. Hence they are not so efficient against European armies as might be expected from their personal courage. The native is of a middle stature; his face is oval, with high cheek bones; his neck long; his chest full and broad. His figure is erect and majestic. Differing from the grave and stolid descendant of the Turk, he is lively, active. The subjoined cuts represent the prevalent costume of the Armagnacs. They go constantly armed, and there are few who, in the prime of life, have not belonged to some of the numerous bands of robbers who infest the mountains of their native country, of Thessaly, and of Macedonia. This profession carries with it no disgrace: it is common for the A. to mention circumstances which occurred, "when he was a robber."—Albania, (q. v.) part of the Turkish province Armout Viganetti, a mountainous, maritime country, but very well adapted to the cultivation of wine, fruit, cotton, and tobacco, lying along the Adriatic and Ionian seas, is the true country of the Armagnacs. The Montenegrins (q. v.) in the hills of Montenegro, whom the Turks have not yet been able to vanquish, are distinguished among them. Among the principal towns, we may mention Jajce (q. v.) and Scutari, with 12,000 inhabitants (not to be confounded with the city of the same name in Anatolia, over against Constantinople), both residences of pachas; also Durazzo, the old Dyrrhachium.

Arnatto, or Annotta, is a red dyeing drug, generally imported in lumps, wrapped up in leaves, and produced from the pulp of the seed-vessels of a shrub (bixa orellana), which grows spontaneously in the East and West Indies. This shrub is usually about seven or eight feet high, and has heart-shaped and pointed leaves. The flowers, which have a very large, peach-coloured petals, appear in loose clusters at the ends of the branches, and produce oblong, hairy pods. The seed-vessels of

the Arnatto shrub are, in appearance, somewhat like those of the chestnut. They each contain from thirty to forty seeds, enveloped in a kind of pulp, of red colour and unpleasant smell, not very unlike the paint called red-lead, when mixed with oil. In the West Indies, the method of extracting the pulp, and preparing it for sale, is to boil this, and the seeds which are mixed with it, in clear water, until the latter are perfectly extracted. They are then taken out, and the pulp is allowed to subside to the bottom of the water; this is drawn off, and the sediment is distributed into shallow vessels, and gradually dried in the shade, until it is sufficiently hard to be worked into the various forms for sale. Arnatto, though made in the West Indies, is an object of no great commercial importance; the demand not being sufficient to give much encouragement to its culture. It is now chiefly prepared by the Spaniards in South America, and for the purpose, especially, of mixing with chocolate, to which, in their opinion, it gives a pleasing colour and great medical virtue, as well as an improved flavour. The principal consumption of Arnatto depends upon painters and dyers; and it is supposed that Scott's mankeen dye is only Arnatto dissolved in alkaline lye. This drug is sometimes used by Dutch farmers to give a rich colour to butter; and the double Gloucester, and several other kinds of cheese, are coloured with it. The poor occasionally use it instead of saffron. In countries where the Arnatto shrubs are found, the roots are employed by the inhabitants in broth, and answer all the purposes of the pulp, though, in an inferior degree. The bark is occasionally manufactured into ropes; and the Indians use pieces of the wood to procure fire by friction.

Arnaud, François-Thomas-Bacillard d'; a prolific French writer, born at Paris, 1718, where he studied with the Jesuits. In his youth, among other pieces, he wrote three tragedies, one of which, Coligny ou la St Barthélemy, was published in 1740. Voltaire conceived an affection for him, and aided him with money and advice. Frederic II. opened a correspondence with him, invited him, afterwards, to Berlin, received him kindly, called him his Ovid, and addressed a poem to him, which closed with these verses:

Déjà l'Apollon de la France
S'acheminant à sa décadence;
J'envoie d'abord à votre tour,
Elevez-vous, n'ail baisser encore;
Arnaud couchant d'un beau songe,
Promet une plus belle aurore.

France's Apollo, Voltaire, thought this comparison not very flattering to himself, and took his revenge by satirising d'Arnaud's person and verses. At the end of a year, d'Arnaud left Berlin for Dresden, where he had received an appointment, and returned thence to his native country. During the reign of terror, he was imprisoned in a dungeon, and afterwards led a life of miserable poverty. Owing to his carelessness and extravagance, neither the aid of the government nor his own pen could preserve him from want. He died at Paris, in 1795, at the age of eighty-six years. His best works are, Epreuves du Sentiment, Détassements de l'Homme sensible, Loisirs utiles, and some others. His dramatic works are not esteemed. Only the Comte de Cammingue, in 1790, had a short run on the stage. A part of his humorous poems appeared in 1731, in three volumes.

Arnaud. From this old family of Auvergne, which belongs to the nobility of la robe et de l'épée are here selected—1. Antony A. an advocate at Paris, from 1590, a zealous defender of the cause of Henri IV., distinguished for several political pamphlets, and for his powerful and successful defence
of the university of Paris against the Jesuits, in 1594. For this he drew on himself the hatred of the Jesuits, but remained, till his death, in 1618, in possession of his honours, and was esteemed the greatest lawyer of his time. His twenty children formed the rallying point of the sect of the Jansenists (see Jansenism) in France, the daughters and grand-daughters as nuns, in Port-royal, the sons as members of the learned society, who shut themselves up in this monastery, and are known under the name of Messieurs du Port Royal. A son of his eldest daughter, Isaac le Maître de Sacy, also united himself to this society, and, as translator of the Bible was engaged by the Jesuits, and an important part in the history of Jansenism. — 2. Robert Arnauld d'Andilly, oldest son of Antony, born at Port Royal, in 1588, died in 1674, made himself known as a very correct French writer, by his religious poems and tracts, and his translations of Josephus' History of the Jews, and of Davil's works. He was far surpass'd in intellect by his youngest brother. — 3. Antony Arnauld, the youngest child of the lawyer Antony Arnauld, born Feb. 6, 1612. Under the guidance of the abbot of St Cyr, John du Vergier de Hauranne, first head of the Jansenist sect, he was educated, and was received, in 1643, among the doctors of the Sorbonne. In the same year, he attacked the Jesuits in two works, De la fréquente Communion, and La Théologie Morale des Jésuites, the first of which occasioned much controversy, because it applied the principles of the Jansenists to the receiving of the sacrament. He excited similar controversies by his work, De l'Autorité de St Pierre et de St Paul résidente dans le Pape, 1645, by the opinion therein maintained, that the two apostles should be regarded as of equal rank, and as founders of the Roman Catholic church, and by the opinions he taught, which became an object of public odium, and the watch-word of an important party in the state, Arnauld engaged in all the quarrels of the French Jansenists with the Jesuits, the clergy, and the government, was their chief writer, and was considered their head. The intrigues of the court occasioned his exclusion from the Sorbonne, 1656, and the persecutions which compelled him to conceal himself. In his retirement, he wrote a system of logic on the principles of Descartes, and a Grammaire raisonnée, which were, for a long time, esteemed as school-books. After the death of the Jesuits, having composed his famous treatise, on the Jansenists, 1668, he appeared in public, and enjoyed the homage which even the court did not refuse to his merits and talents. To satisfy his love of controversy, he attacked the Calvinists in many controversial tracts, and, with his friend Nicole, composed the great work, La Perpétuité de la Voie de l'Église Cathol., touchant l'Enchaüsûrîste, in opposition to them. For this, a cardinal's hat was destined for him at Rome, but, as he scorned it, and as the court had become unfavourable to him, it was not conferred. On account of the new persecutions of the court, or rather of the Jesuits, he fled, in 1672, to the Netherlands, employed himself, in his exile, in controversial writings against the Calvinists and the Jesuits, and died, in want, at a village near Liège, Aug. 9, 1694. He was a man of a vigorous and consistent mind, full of solid knowledge and great acuteness of perception, wise enough to discern bitterness; undaunted in danger, and of irreproachable morals. He is acknowledged to have done much for the improvement of morality in the Catholic church; yet would his genius have been far more useful to the church and to literature, had not his spirit been employed in the discussion of controversies, which rendered his literary activity, for the most part, fruitless to posterity. Arnauld. See Arnaunta. Arnol. John; a Lutheran minister, distinguished for piety. He is the author of a work, which has been translated into almost every language of Europe, and has been extensively read in Germany for 200 years. Its title is, True Christianity (Wahres Christenthum). Mr Boehm printed an English translation of this treatise, which went through two editions, dated in 1712 and 1720, both in 3 vols. Svo. A. was born, in 1555, at Ballenstedt, in Anhalt, and died, in 1621, at Celle, after he had been a minister in different places, and suffered from the Calvinists, and even from the Jesuits, and was, after his death, he preached from the text, Psalm cxviii, "They who sow in tears shall reap in joy," and, on arriving at his house, spoke of his discourse as a funeral sermon. His work above-mentioned has been reprinted since his death, in 1777, by Feddersen, and in 1816, by Sintenis. Aune, Thomas Augustin, one of the best English composers, was born at London, in 1704, the son of a respectable upholsterer, and received the first part of his education at Eton. He was intended for the study of the law, but a strong inclination led him to devote himself to music, and having been brought up in old spinet into the garret of his father's house, in order to pursue his favourite occupation. For a long time, he was obliged to keep it secret, but his father was finally induced to yield to his wishes, after he had made great progress in the art. Discovering that his sister had a fine voice and a great fondness for music, he prevailed on her to choose the profession of a singer. He composed a part for her in his first opera, Rosamond, after the text of Addison, which was performed, in 1733, at Lincoln's-Inn fields, and was received with great applause. Then he followed Fulvia, to which he added some comic songs, and the Tragedy of Tragedies. His style in the Comus, 1738, is still more original and cultivated. The public was delighted with his lively, cheerful, and natural melodies, and with the truth and simplicity of his expression. In 1740, he married Cecilia Young, an excellent singer, educated in the Italian school. They went, in 1742, to Ireland, where they were well received. After two years, he was engaged as a composer, and his wife as a singer, at the Drury Lane theatre, in London. He composed several songs in 1745, for the Vauxhall concerts. After the death of his wife, having composed several operas, and secret operas, Tom Thumb, or the Tragedy of Tragedies, which was very popular. His talents, however, were better adapted to the simple, lively, and soft, than to the grave and elevated. He composed, also, several of the songs in Shakspeare's dramas, and various pieces of instrumental music. He died in 1778. His sister was afterwards a distinguished singer under the name of Mrs Gibbes: his brother, also, went on the stage. His son, Michael, was a musician, and composed several favourite pieces, but did not attain great eminence. Arnou (anciently Arnus); one of the largest and finest rivers of Italy, which divides Tuscany into two parts, and washes Florence and Pisa. The A. rises in the Apennines, on the east of Florence, near a village called Sti Marcella della Grecia, about nine miles from the city of Remagna, fifteen miles W. of the sources of the Tiber; it then turns southwest towards Arezzo, where it is increased by the lakes of the Chiana; after which it runs westward, dividing Florence into two parts, and, at length, washing Pisa, falls, four miles below the city, into the Tyrrhenian sea. A. has been sung by many poets, on account of the beautiful banks between which it meanders, and the citta
with which they are adorned. From any hill in the neighbourhood of Florence, or at the confluence of the Chiana, the view into the valley of the Arno is charming. In ancient times, the Etruscans erected here extensive works of hydraulic architecture, long before any other Italian nation had arrived at such a degree of civilization. Niebuhr, in his Roman Historia, mentions Tuscania and Etruscanus, says as follows:— "The greatest part of Tuscany is mountainous. The rich valley, through which the Arno flows, was, in ancient times, covered by a lake and marshes. From Segna to Fiesole, and toward Prato, was one lake: the Confallens closed up the valley: a passage was opened by a rock, through which the river flows towards Pisa. The water covered this space at the time of the erection of the walls of Fiesole, as is shown by many openings which were designed for draining it off. It covered the site of modern Florence, whose origin it is, therefore, absurd to refer to the Etruscan times. A section was also cut at Lucina (the cut), to drain the rich fields of the upper valley of the Arno; or it may be that the rivers, which now form this part of the Arno, formerly fell into the Cluni, and the object was, to diminish the width of the channel of the Cluni through which Hannibal marched are, at present, dry on the right bank of the Lower Arno." In the time of Napoleon, the Arno, gave its name to an extensive and populous department in the grand empire; Florence being the capital. The population amounted to about 600,000.

Anaximenes, the, called also the African, was, about A. D. 300, teacher of rhetoric, at Sicca Venetia, in Numidia, and, in 303, became a Christian. While yet a catechumen, he wrote seven books of Disputationes adversus Gentes, in which he refuted the most notorious statements of the Christian religion, with spirit and learning. This work betrays a defective knowledge of Christianity, but is rich in materials for the understanding of Greek and Roman mythology. Hence it is one of the writings of the Latin fathers, which, like the works of his disciple Lactantius, are particularly valued by philologists. Orelli has published the last and best edition (Leipzic, 1819). From the younger A., a Gallic divine, in the last half of the 5th century, we have only an insignificant commentary on the Psalms, which betrays the principles of the Semi-Pelagians.

A. U. of Brescia, one of the disciples of Abelard, returned, full of new ideas on religion and the church, in 1136, to his native city. His bold and lofty spirit, his knowledge of Christian antiquities, and his vehement eloquence in his public harangues, gave authority to his reproaches against the abuses of the church. Thus he instigated the clergy; and, in France, where he was obliged to flee in 1139, he also found numerous adherents; for the immorality and arrogance of the clergy had everywhere excited discontent. The fierce flame which he had kindled could not be extinguished by the excommunication pronounced against him and his adherents (Arnoldists) by Innocent II. A. preached his doctrine in safety at Zurich, in Switzerland, until 1144, when he appeared at Rome, and, by the powers of his eloquence, occasioned a violent excitement among the people against the clergy. The furious multitude, whom he himself could no longer restrain, revered him as their father, and even the senate protected him, till Adrian IV., in 1155, laid an interdict upon the city. This disgrace, never before experienced, subdued the Romans. They sued for mercy, and A. obliged them. He was taken in Campania, and burned at Rome, as a rebel! his ashes were thrown into the Tiber, and his party was suppressed. But the spirit of his doctrine descended upon the sects which arose during the same and the following centuries.

Arnold, Benedict, one of the most distinguished generals in the American army during the earlier part of the contest of the colonies with Great Britain, and subsequently infamous as a traitor to his country, was born in Connecticut, of obscure parentage, and received an education in the principles of civilization. The narrative of this man's life, as given in the American Encyclopedia, we find so novel and interesting, that we refrain from abridging it, although it greatly exceeds the bounds to which our biographical notices are usually limited. —The occupation of Pisa. In the reign of Henry VI., about 1290-1298, an army was collected for the purpose of reducing Pisa, and it was assembled at Leghorn. The Prince of Anjou (Charles of Anjou) was appointed to take command of it, and he was borne down by the force and numbers of the Pisans, and was compelled to retire back into Tuscany. This army was divided into two parts, a large and a small. The large army was drawn up in the nook of the Medici, and was commanded by the Duke of Calabria; the small army was commanded by the Prince of Anjou. The latter had the advantage of a stronger position. He had therefore surprised and captured the Pisans many times. In this way he received the rank of a field marshal and an audience which immediately preceded the capitulation. The first to throw himself into the intrenchments of the enemy, he was
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animating his men by his example, when a ball shattered the leg already wounded at the siege of Quebec. As he was borne from the ranks to his tent, he still issued orders for the continuance of the assault. The boldness of Arnold was so great, that he was accused of a disposition to entangle himself rashly in the difficulties into which he had entered, that his rapid discernment supplied him, in the midst of danger, with the surest expedients, and that success always justified his daring. The admiration of his fellow-citizens kept pace with his services. His love of glory was accompanied with an equally steady regard to his own safety; but, in so great a man, every unscrupulous about the mode of obtaining the means of gratifying it. His ill-gotten wealth he squandered in frivolous expenses, or mere ostentation.

Montreal, the second city of Canada, was, under his command, a scene of injustice and rapacity, and the Canadians soon abandoned the design of joining the confederation. The attempt on Canada was abandoned, and, the wounds of Arnold being not yet healed, he could be invested only with some stationary command. Washington, though he detected his vices, did not wish to lose his talents idle. The English had done him and them very little injury; he desired Arnold to take possession of that city with some troops of the Pennsylvania line,—a delicate charge for a man so prone to extend his powers, and define them according to his interests. It was not long before he displayed in this city a magnificence as foreign to the habits of the country, as it was unseemly in the midst of the calamities of war. He even lodged in his house the French envoy and all his suite on their arrival. From this time, too, he began to profess an extraordinary attachment to the French, and great zeal for an alliance with them. The particular circumstances, to which his extravagance had plunged him, he resorted to the same oppression and extortion which had rendered his authority odious to the Canadians. Under pretence of the wants of the army, he forbade the shopkeepers to sell or buy; he then put their goods at the disposal of his agents, and caused them afterwards to be resold with a profit. He prostituted his authority to enrich his accomplices, and squabbled with them about the division of the prey. The citizens applied for redress to the courts of justice. But, with his military authority as his shield, he set at defiance the laws, and, however, a representation of the grievances which the state was suffering, was made to congress by the president of the executive council of Pennsylvania, a man of firm and upright character, who had endeavoured in vain to repress the overweening and predatory spirit of Arnold, and a committee was appointed to inquire into the subject. Arnold replied to the charges with arrogance. Some members of congress were of opinion that he should be suspended from his military functions until the investigation of his public conduct was brought to an issue; but the accusation had been an act of charity, and he had influence enough to cause this proposition to be set aside. Congress at length resolved to lay the complaints against him before the commander-in-chief. As soon as Arnold saw that the resolutions of congress would be of this tenor, he resigned the command which he held in Philadelphia. He was tried before a court martial, and condemned, January 29, 1779, to be reprimanded by the commander-in-chief. Congress ratified the sentence and Washington, having caused the culprit to appear before him, performed the task with the considerate delicacy with which the thought due to so distinguished an officer. Arnold, on the trial, had been an arraigned, and henceforth, nourished an implacable hatred towards the cause which he had so brilliantly defended. The embarrassment of his affairs was at this time such, that private aid would not suffice to extricate him. He had, some time before, formed a partnership with some owners of privateers, who paid his share of the expenses of equipment, and expected to be compensated, for their advantages, as the diversities of business, but the chances were adverse, and, instead of profits to be divided, there were losses to be borne. Arnold, now without credit or authority, was no longer regarded by the owners as anything more than an ordinary partner. They exacted his proportion of the loss, and refused to proceed on any vessel, or to serve them more urgent in their suit. In this extremity, he tried a last resource.—Congress, at the commencement of the revolution, committed an error which proved of great detriment to the finances. It intrusted some officers with agencies which had no immediate connection with the business of command or military service. Arnold, the least proper for such trusts, was charged with considerable ones, and had large claims for monies and stores furnished in the expedition to Canada. The commissioners, to whom they were referred for settlement, reduced his claims to a very small figure. He now found a disposition to congress, who pronounced that the commissioners had shown more lenity than rigour in the liquidation of his accounts.—Disappointed in all his expectations, Arnold at last determined to betray his country, and to make his treason in a high degree useful to Britain, that it might procure him a full pardon for his share in the revolt of the colonies. He wished to be regarded as a subject returned to his allegiance, and worthy of the honourable rewards due to faithful and virtuous citizens. As a first step, the British commandere were to be made acquainted, with his disposition, but in such a manner as to leave a retreat open, in case the offers, which might be made to him, should not prove satisfactory. Particular circumstances facilitated the communications between them. As soon as the British commander was apprized of the disposition of Arnold, he despatched emissaries charged with such offers as were the most likely to determine a man whose hesitation was only about the means and conditions. Some of Arnold's proceedings, about this period, warrant the supposition, that he at first meant to trample with his brother officers, who relinquished this design on more important considerations. He took advantage of the real intentions should be divined by the subaltern British agents; but there was, at New York, a man whom he thought he could trust without risk. This was Charles Beverley Robinson, an American by birth, and a colonel in the British army, whose property lay within the U. States. His mansion, situated on the Hudson, was included in the American lines, and three miles lower than the forts upon the opposite bank. The commanding officers of West point, having found it deserted, had made it their quarters. 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Arnold altered his manner and language. He affected to have forgotten the affront of the repudiation, and pretended to feel a more lively attachment than ever to his patronage. — Thus did the commander-in-chief, which the Hudson Flows was the principal theatre of the war. A station in this quarter would, he thought, best answer his purpose. He was well acquainted with the localities. He examined, with minute attention, in what spot, by what operations, he could usefully second the exertions of the British army, and which was the most important position to betray into their hands. New York, was, at this time, in the hands of the British, who had assembled there the greatest part of their troops. The fortress of West point, a military station of very great importance, is distant twenty leagues from this city. Arnold aimed at the chief command of this post, with a view of betraying it into the hands of the British, with the garrison, the soldiers, and immense stores which were deposited there; for fort Clinton contained, besides the ammunition necessary for its own defence, the stock of powder of the whole army.— This station was in the hands of a French general, whose name was de Vaudreuil, an officer of tried courage, but of limited capacity, who could be employed elsewhere without inconvenience to the service. The wounds of Arnold did not as yet allow him to mount on horseback; they did not disqualify him, however, for command of a corps of cavalry, which he had engaged to secure the patronage of some of the leading men of the state of New York, and Washington was prevailed upon to consign West point to him. Being a traitor to his own country, he was apprehensive lest those to whom he was about to sell himself might prove treacherous to him. He felt anxious to receive the price of his ignominious bargain at the moment of its ratification; but he could extort nothing more than a promise of 30,000 pounds sterling, and the assurance that he should be maintained in the British army, in the rank of brigadier-general, which he already held. About a month previous (July 10, 1780), the first division of the French army arrived at Newport, in the state of Rhode Island. The situation of the English became every day more and more critical. Sir Henry Clinton had relinquished his projected expedition. He urged Arnold to fulfill his engagement, and to assume the station of a general for a very good reason. He was master of the forts and garrisons on the southern shore, and thereby was, in fact, numerous obstacles in the way, and of these the presence of the commander-in-chief was the most serious. Arnold knew his vigilance and activity. He insisted, therefore, with Clinton, on the necessity of deliberation, adding however, that all should be in readiness to improve the first favourable opportunity. A young officer of foreign extraction served in the British army. He was endowed with all the qualities which render a man useful to his country and dear to society. This was John André, adjutant-general of the British army. General Sir Henry Clinton had taken him as his aide-de-camp, and did not disdain him as a counsellor. To him Clinton committed the business of negotiating with Arnold. A correspondence ensued between Arnold and André, under the supposititious names of Gustaveus and Anderson. Mercantile relations were feigned, to disguise the real object, and an American, whose dwelling stood between the lines that separated the two armies, served as a common messenger. At this period, the rumour began to spread of a second division of the French army having sailed, and that Washington only awaited its arrival to begin the siege of New York. The marshal de Crècy, who they administered the department of the marine with so much reputation, had, in fact, advised the French envoy of the approaching departure of a second expedition. Clinton caused Arnold to be told that it was time to act; that a day must be fixed for the surrender of the forts; and that, if time were given to the allies to come to a decision, it might prove the ruin of his power. Arnold himself to fulfill his engagements. He asked, also, plans of the forts, and the instructions necessary for the safe guidance of the British troops when they were sent to take possession of West point. Arnold replied to these new importunities in the language of reason. — Arnold, however, goes away on the 17th of this month. He will be absent five or six days. Let us avail ourselves of this interval to arrange our business. Come immediately, and meet me at the lines, and we will settle definitely the risks and profits of the co-partnership. All will be ready; but this interview is indispensable, and must precede the sailing of our ship." It was thus that Arnold apprized Clinton of the approaching departure of the commander-in-chief. Washington had, in fact, given a rendezvous to count de Rochambeau, general of the French land-forces, and to the chevalier de Ternay, commander of the squadron. They were to meet at Hartford, in Connecticut, to confer about the operations of this and the ensuing campaigns. But Arnold was not correctly advised as to the period of Washington's departure, and the mistake led to important consequences. He had, in other letters, solicited an interview with André, and with this view had arranged the means of the prosecution of the enterprise. Hitherto, every thing had succeeded beyond his hopes. There had been a total absence of those mysterious rumours, and vague surmises, which accompany and seem to portend, a great conspiracy. Never had so momentous a plot been more feebly brought so near to its execution. This profound secrecy was owing to the precaution of Arnold, in not having unobliged himself to any of his own countrymen, and in admitting only André and Robinson as correspondents. He took credit for this policy, and his urgency for an interview with André arose chiefly from his resolution to confide to the hands of this officer alone, the maps and particular information which Clinton demanded. —The 17th of September, the day specified for the departure of Washington, passed, and he was still at West point. Arnold advertised Clinton of the delay, and explained his mistake by mentioning an interview, which had taken place, but the truth was not known. The 17th fell on a Sunday,—a day which the Americans consecrated entirely to the duties of religion, and on which most of them abstained even from journeys, which, elsewhere, would be thought indispensable. Clinton admitted this explanation the more readily as he knew that Washington respected the days of others, and was himself very religious. To obviate untoward accidents, it was agreed that André should leave New York only on the 19th of September, and reach the American forts about the 20th. He accordingly embarked in the night on board the Vulture, a sloop of war. Clinton sent with him Beverley Robin- son, the colonel through whom Arnold had made his first overture. He expected that the prudence of this officer would moderate the ardour of André. Moreover, Arnold occupied Robinson's house, and the private affairs, which he, as a refugee, had to adjust with congress, furnished a plausible pretence for his approaching the American lines and posts. September 20, they arrived almost opposite to fort Montgomery, situated on the same side as West point, five miles lower down. They cast anchor in sight of the nearest American redoubts, but beyond the reach of some small cannon, the only artillery of those redoubts. The Vulture got aground at low water. The movement on board, and some signals which she made, alarmed the vigilance of colonel Livingston,
who commanded at Verplanck's point. He ascertained, on reconnoitring, that the sloop might be sunk by one or two pieces of heavy cannon; and as those of the forts which he commanded were of too small a calibre, he requested larger from Arnold. The genius of the place sought out a course. Livingstone. But tacit obedience is the life of discipline, and he acquiesced in some idle excuse. Two days elapsed after the Sunday, and still Washington had, apparently, made no preparations for departure. Arnold was himself uneasy at this disappointment; but the apprehension of exciting suspicion by too frequent communications prevented him from making it known to Clinton. The British general was informed of it through another channel. He knew the unprincipled character of Arnold, and could comprehend the probability of a snare masked by a counterfeited scheme of treason. He was the more disquieted as André and Robinson, were already far on their way; and there was equal inconvenience in leaving them ignorant, or advising them of their danger. If Arnold were sincere in his defection, Andre's return to New York would disconcert all his measures, and expose him to immediate dangers. Thus the British, all the risks were for Andre and Robinson. They had not, as yet, been able to communicate with the shore, but, persuaded that Washington must have set out for Hartford, they put in execution a stratagem, arranged beforehand with Arnold, to facilitate the rendezvous. Robinson wrote to the American general Putnam, as if to transact with him business relating to his property, and proposed an interview. In this letter was enclosed another to general Arnold, wherein Robinson solicited a conference with him, in case Putnam should be absent. The packet, being directed to the same address, was very soon opened by him; but if, per chance, it fell into other hands, the whole could be read without exciting suspicion of a plot. This letter was despatched to the shore by a flag of truce as soon as the sloop had cast anchor. It happened to be on the very day fixed by Washing- ton for his departure. He had never meant to set out earlier, and had neither sanctioned nor contradicted the various rumours current on the subject. He left his quarters in the morning, and, on reaching the bank, found Arnold there with his barge, ready to transport him to the other side. It, crossing, Washington gave him a slip of paper, directed that it be placed in the sloop in a flag of truce, and took a spy-glass to observe her motions more narrowly. Some moments after, he gave to an officer near him, in a low voice, according to his usual manner, an order probably of no consequence, which Arnold was unable to overhear. —Arnold was guilty, and whatever he could not immediately penetrate, alarmed his fears. He supposed that the general could not remain ignorant of the circumstance of the flag of truce, and, doubtful even whether he might not be already acquainted with it, he thought it well to show him the two letters which he had received, asking him, at the same time, what he should be directed to do. Washington, in the presence of several persons, dis- sued him from seeing Robinson, and directed him to give for answer to this officer, that his private business appertained exclusively to the jurisdiction of the civil authority. They touched the shore just as this conversation ceased. The commander-in-chief, whose presence kept Arnold in, the greatest perplexity, landed, and pursued his journey to Hartford. Thus was the main obstacle removed, and the plot could proceed. The opinion uttered by Washington, in such positive terms, concerning the conference with John Andre, and the pictures painted by several parties there- sent,—became, however, a law for Arnold, with respect to his ostensible conduct. It was, in this way, the first obstacle that thwarted the measures concerted between him and Andre. They could not meet publicly under the auspices of a flag of truce, and, though Andre had used this means of a flag of truce, they were obliged to arrange a secret interview. On the morning after the departure of Washington, he called Joshua Smith, well known to be devoted to the British, although he resided within the American posts. He made him the bearer of two passports to be carried on board the Vulture,—one for Andre, under the fictitious name of Anderson; the other for Charles Beverley Robinson. He gave no other direction than that of returning to New York without having executed his mission, or of exposing the main enterprise to miscarriage, by a caution which his rivals would inoffinably stigmatize as cowardice. He put on a gray surtout, to hide his uniform, and accompanied Smith on shore. Arnold had written to receive him at the water's edge. They discoursed there for some time; but, as they were liable to be surprised, Arnold led him towards the house of Smith, when he immediately laid before him plans of the forts, a memoir, composed (for a better use) by the chief engineer, Duportail, on the means of attacking and defending forts, and minute instructions with respect to the measures to be taken by the British for the occupation of them, when he (Arnold) should have done his part in opening the way. They presumed that Washington had already reached Hartford, and they were right; for he was there, at the same hour, in consultation with the French commanders—Arnold and Andre, calculating anxiously the probable length of Washington's absence, supposed that he would return in three or four days, that is, on the 25th or 26th of Sept., and one or other of these days was fixed for the execution of the plot. It was settled that the fleet should gain the Vulture, the Pensacola, the West Point, the fleet of New York; that the British troops, which were already embarked, under pretence of a distant expedition, should be held ready to ascend the river, and sail at the first signal; that, to facilitate the reduction of West point, Arnold should march out of the forts all the troops destined for the defence, and entangle them in gorges and ravines, where he would pretend to await the British assailants, while these were to debark on another side, and enter by passes left unguarded; and, at all events, the garrisons and troops were to be so distributed, that, if they did not surrender at the first attack, they might be immediately cut in pieces. He informed Andre, that the chain which was stretched across the river from West point to Constitution island, forming, when perfect, an effectual bar to the passage of the river, was now no longer an impediment. He had detached a link, ostensibly to have it mended; the smiths would not return it for some days; and the two ends of the chain were held together by a fastening too weak to bear even a slight concussion. The British would know at what moment they were to advance, by the kindling of fires, in the night, under the directions of Arnold, who would give the alarm by a shot fired from their ships, to be followed by a similar dis- charge from the shore, which would proclaim that they had perceived the signals. Other tokens agreed upon
were to furnish, successively, information of the several distances of the British forces in their approach. When they had arrived within three miles of the fortress, two English officers, in American uniform, were to ride full gallop to Arnold’s quarters, to learn how matters stood, and to hasten with the intelligence which was necessarily important. There only was Arnold to put in motion that portion of the garrison which remained in the works, and station it at posts which would not be attacked. They agreed upon the countersign to be given on the 24th and 25th. Arnold delivered to the Englishman draughts of the works and tables of the posts, and a map of the country near, with the instructions which he had received from his redoubt to a point of land from which the shot could reach the vessel. She was aground, and had already sustained some damage from the small piece of the American officer, when she began to float again at the rising of the tide. Robinson took advantage of the circumstance to weigh anchor, and remove some miles lower down, beyond the reach of a similar attack. This change of station attracted the notice of the master and rowers of the boat in which André expected to regain the sloop, They were Americans. The movements which they had witnessed for the two last days were unusual; and, although men of their description, accustomed to ferry all persons indifferently from one side of the river to the other, did not affect to be of any party, they were unwilling to commit themselves. When André proposed to them to convey him to the sloop, they told him that it was too far, and peremptorily refused to go. He went back immediately to Arnold, and urged him to exert his authority in so serious a predicament. But the latter, perplexed at his unlooked for appearance, and already harassed with various disappointments, durst not attempt to compel the officer. Under the circumstances, he must submit to return by land; to lay aside his uniform altogether, and assume another dress. André changed his cost for one which Smith provided. Arnold now wished to withdraw the papers with which he had intrusted to him; he thought it hazardous by land. But André was very desirous of showing to Clinton with what punctuality he had executed his mission. These papers were a trophy of which he would not, therefore, allow himself to be dispossessed. He observed to Arnold, that danger of any kind could now no longer be in question, except so far as to show that they both despised it; and added, that he would keep the papers, which brought him into greater peril than Arnold, and, to allay his fears, would secret them in his boots. Arnold submitted, and, leaving André in Smith’s house, returned to his quarters, from which he had been absent since the day before. The patrol, spread through the whole neighbourhood, made it when they returned, for André to begin his journey before twilight. He was accompanied by Smith: each had a passport from Arnold, to go to the line of White plains, or lower, if the bearer thought proper; he being on public business.”

They were accosted, at a crossroad, by an American officer of militia, who told them they had come too late for them to reach, that evening, any other quarters. In order not to awaken his suspicions, they resolved to pass the night there. The next day, 23d, they crossed the Hudson to King’s ferry, pushing forward when they were not observed, and slackening their pace to conceal their eagerness, wherever they were likely to be seen. By means of their passports, they were unmolested; but a courier found upon the ferry was put to a severe cross-examination. They arrived, uninterrupted, a little beyond Pine’s bridge, a village situated on the Croton: they had not, however, crossed the lines, although they could discern the ground occupied by the English videttes. Smith, looking all around, and perceiving no one, said to which surgeon he was going, who was with him. They were not in uniform, and André, pre-occupied by the idea that he was no longer on enemy’s ground, thought that they must be of his own party. It did not, therefore, occur to him to show them his passports, which was sufficient to deceive Americans, and could not alter his destination, if those who arrested him were of the English side. Instead of answering their question, he asked them, in his turn, where they belonged to. They replied, “To below,”—words referring to the course of the river, and implying that they were of the English party. “I know you so well,” said André, confirmed in his mistake by this stratagem. “I am,” continued he, in a tone of command, “an English officer on urgent business, and I do not wish to be longer detained.” “You belong to our enemies,” was the rejoinder, “and we arrest you.” André, struck with astonishment at this unexpected language, presented his passport; but this paper, after the confession he had just made, only served to render his case more suspicious. He offered them gold, his horse, and promised them large rewards, and permanent provision from the English government, if they would let him escape. These young men, however, insisted that the Irishman, in his duty, replied, that they wanted nothing. They drew off his boots and detected the fatal papers. They no longer hesitated to carry him before colonel Jameson, who commanded the out-posts. When questioned by that officer, he still called himself Anderson, the name mentioned in his passport, and evinced no discomposure; he had recovered all his presence of mind, and, forgetful of his own danger, thought only of Arnold’s, and of the means of extricating him. To apprise him of it safely, he begged Jameson to inform the commanding officer of West point that Anderson, the bearer of his passport, was detained. Jameson thought it more simple to order him to be conducted to Arnold. He was already on the way, and the thread of the conspiracy was about to be resumed in the interview of the accomplices, when the American colonel, recollecting the paper, ordered the paper to be altered in the handwriting of Arnold himself, and adding to the several extraordinary features of this affair, and with the draughts and
other papers taken from the prisoner. But the command-
iner-in-chief, who set out on the same day, the
23d of September, to return to his army, had pursued
a different route from that by which he went to
Hartford, and the messenger was compelled to re-
trace his steps without having seen him. This de-
lay proved the salvation of Arnold.—Jameson was a
gallant soldier, but a man of an irresolute temper,
and no great sagacity; moreover, treachery on the
part of Arnold appeared impossible to one of an
ingenious and honourable character. He began to
view his first suspicions as an outrage to an officer
distinguished, as Arnold was, by so many noble ex-
emplifications, within the four days of the failure of
him with the performance of his own duty, he wrote
him, that Anderson, the bearer of his passport, had
been arrested on the 23d.—Arnold did not receive
this intimation until the morning of the 25th. It
was on a Monday; and the same day, or the one
following, had been selected for the consummation
of the plot. Until that moment, he had believed
success inevitable. The exhalation which this be-
lief produced was even remarked, and he ascribed it
to his expectation of the speedy arrival of his gene-
ral, "for whom he had pleasant news." He was
busy making the necessary appropriate arrangements for the re-
dered its course; and after this interval; he
received the letter of Jameson. Those who were
present on the occasion recollected, afterwards, that
he could not, at first, conceal his dismay and extreme
agitation; but that, recovering himself quickly, he,
said, in a loud voice, that he would write an answer;
and, dismissing all about him, withdrew, to reflect on
the course which it was best to adopt. The entrance
of two American officers, however, interrupted his
muscings. They were sent by the commander-in-
chief, and informed Arnold, that he had arrived that
morning at Fishkill, a few leagues from West point;
that he was to have set out a few hours after them,
and could not be far distant.—Thus did the most
alarming circumstances rapidly succeed each other.
The traitor had no resource but a precipitate flight.
 Suppressing his emotion, he told the two officers that
he wished to go and meet the general alone, and
begged them not to follow him. He then entered
the apartment of his wife, explaining,—"All is dis-
covered!—André is a prisoner:—The commander-in-
chief will know every thing:—The discharge of can-
on which you hear, is a salute, and announces that
he is not far off.—Burn all my papers:—I fly to
New York, and am prepared to conduct the infant
child, whom she carried in her arms, and, solely intent on his escape, left her, without waiting for her
reply, mounted the horse of one of the two officers,
rushed towards the Hudson, which was not far
from his house. He had taken the precaution to have always ready a large well-manured, he threw
himself headlong into it, and caused the boatman to
make for the British sloop, with all possible de-
spatch. The barge, bearing a flag of truce, was still
visible from the heights when Washington arrived.
The two officers related to him what they had wit-
nessed. Arnold had absconded. His wife, in the
agonies of despair, seemed to fear for her infant, and
maintained an obstinate silence. No one knew how
to explain these extraordinary incidents. The com-
mander-in-chief repaired, with due delay, to the fort
of West point, where, however, he could learn nothing of the arrest, and concerned himself but little about
Arnold the day before, redoubled his suspicions: he
returned to the quarters of the general, and at this
instant Jameson’s messenger presented himself, and
delivered the packet with which he was charged.
Washington seemed, for a few minutes, as it were
overwhelmed by the discovery of a crime which
ruined the fame of an American general, and wound
ed the honour of the American army. Those who
were near him anxiously interrogated his looks in
silence, which he broke by saying,—"I thought that
an officer of courage and ability, who had often shed
his blood for his country, was entitled to confidence,
and I gave him mine. I am convinced now, and for
the rest of my life, that we should never trust those
who are wanting in probity, whatever abilities they
can possess. Arnold has betrayed us."—Meanwhile,
the precautions required by the occasion were every
where taken. General Heath, a faithful and vigilant
officer, was substituted for Arnold at West point; the
commander-in-chief, and other posts were placed so
as to be on their guard. Greene, who had been invested
with the command of the army during the absence
of Washington, recalled within the forts the garrisons
which the traitor had dispersed, and marched a
strong division near to the lines. Hamilton lost not
an instant in repairing to King’s ferry, the last
American post on the side of New York. He had
the mortification to learn, that a very short time be-
fore his arrival, Arnold’s barge had glided by with
the swiftness of an arrow, and was then getting along
side the Vulture, some miles lower down, opposite
Teller’s point. An exchange of signals at the head of
the great basin of the Hudson, which is called Tap-
pan bay. Livingston had remarked the barge that
carried the fugitive, and, his suspicions being roused by
the strange movements of the two or three days previous, would have stopped it, had not the sailors
of his spy-boats been ashore when it passed. Mes-
sengers were sent to all the states of the Union,
and to the French general, to inform them of this event.
The express which bore the news to congress travel-
led with such rapidity, that he reached Philadelphia
on the same day that the discovery was made in the
camp. The magistrates were immediately directed
to enter the house of Arnold, and to seize and ex-
amine his papers. They found nothing there relating
to the conspiracy; but he had left memoranda which
furnished ample proof that he was guilty of the ex-
tortions and peculations of which he had been accused
two years before. Jameson caused his unknown
prisoner to be strictly guarded. The latter at first
suppressed his true name, from consideration for Ar-
old; but, the day after his capture, supposing that
the American general had time to make his escape,
he said to Jameson,—"My name is not Anderson;
I am major André. The death of André (q. v.),
though inglorious, was not less honorable than the
life of Arnold. Upon his establishment in the
army of Great Britain, he found it necessary to make
some exertions to secure the attachment of his new
friends. With the hope of alluring many of the
discontented to his standard, he published an address
to the inhabitants of America, in which he endeav-
oured to justify his conduct. He had encountered
the dangers of the field, he said, from apprehension
that the rights of his country were in danger. He
had acquiesced in the declaration of independence,
though he thought it precipitate. But the rejection
of the overtures made by Great Britain, in 1778, and
the French alliance, had opened his eyes to the am-
bitious views of those who would sacrifice the hap-
iness of their country to their own aggrandizement,
and had made him a confirmed loyalist. He artfully
mingled assertions, that the principal members of
the congress had been hostile to his abode in
America. This was followed, in about a fortnight, by a
proclamation, addressed "to the officers and soldiers of
the continental army, who have the real interest of
their country at heart, and who are determined to be
no longer the tools and dupes of congress and of
France." To induce the American officers and sol-

diers to desert the cause which they had embraced. He represented that the corps of cavalry and infantry, which he was authorized to raise, would be upon the same footing with the other troops in the British service; that he should with pleasure advance those whom he should recommend; and that the private men, who joined him, should receive a bounty of three guineas each, besides payment at the full value for horses, arms, and accoutrements. His object was the peace, liberty, and safety of America. These proclamations did not produce the effect designed; and all that could be done, in contradistinction of the war, Arnold remains the solitary instance of an American officer who abandoned the side first embraced in the contest, and turned his sword upon his former companions in arms. He was soon despatched, by Sir Henry Clinton, to make a diversion in Virginia. With about 1700 men, he arrived in the Chesapeake in January, 1781, and, being supported by such a naval force as was suited to the nature of the service, he committed extensive ravages on the rivers, and along the unprotected coasts. It is said, that, while on this expedition, Arnold inquired of an American captain, whom he had taken prisoner, what the Americans would do with him, if he should fall into their hands. The officer replied, that they would cut off his lame leg, and bury it with the honours of war, and hang the remainder of his body in gibbets.—After his recall from Virginia, he conducted an expedition against New London in his native state of Connecticut. He took fort Trumbull, Sept. 30, with inconsiderable loss. On the other side of the harbour, lieutenant-colonel Eyre, who commanded another detachment, made an assault on fort Griswold, and, with the greatest difficulty, entered the works. An officer of the conquering troops asked who commanded, "I did," answered colonel Eyre, "but you do now," and presented him his sword, which was immediately plunged into his own bosom. A merciless slaughter now commenced of the brave garrison, who had ceased to resist, and the greater part were either killed or wounded. After burning the town, and the stores which were in it, Arnold returned to New York in eight days.—He survived the war but to drag on, in perpetually banishment from his native country, a dishonourable life amid a nation that imputed to him the loss of one of the brightest ornaments of its army—the lamented Andre. He transmitted to posterity a name of painful celebrity. He obtained only a part of the degrading stipend of an abdite treason. His complaints soon caused it to be known, that all the promises by which he had been inveigled were not fulfilled. But baffled treason appears always to be overpaid, and the felon is the only one who thinks that he experiences injustice. He enjoyed, however, the rank of brigadier-general; but the officers of the British army manifested a strong repugnance to serve with him. He possessed their esteem while he fought against them; they loaded him with contempt when treason brought him over to their side. He resided principally in England after the conclusion of the war, was in Nova Scotia, and afterwards in the West Indies, where he was taken prisoner by the French, from whom he escaped, and, returning to England, died in Gloucester place, London, June 14, 1801.

Arnold, Christopher; a peasant of Sommerfeld, near Gotha, in the east of Germany. He was born in that village in 1646, and accomplished so much by his own exertions, that he corresponded with the most celebrated literati of his age, whose original letters are preserved at Leipsic, in the library of the council, where may also be seen A.'s picture. He erected an observatory at his dwelling-house, which preserved the memory of this remarkable man till 1794, when it was pulled down, on account of its decay. Unwarranted in his observations, he discovered many phenomena sooner than other astronomers; as, for instance, the two comets of 1683 and 1686, to which he directed the attention of the astronomers of Leipsic. He published the result of his observations of the transit of Mercury, in 1690. The magistracy of Leipsic made him, on this occasion, a present of money, and remitted his taxes for life. A.'s observations were so accurate, that they were received by a learned periodical journal that appeared at that time. He himself published "Signs of divine grace exhibited in a solar Miracle," in 1692, 4to., with plates. He died in 1695. In the churchyard at Sommerfeld is the monument of this astronomical peasant, by whose name the celebrated astronomer Schroter distinguished three valleys in the moon.

Arnold, John; a miller, known by law-suit in which he was engaged during the reign of Frederic II. (the Great), king of Prussia. The king believed that the miller had suffered great injustice by a decision in favour of his territorial lord, and deposed the judge, in consequence of which, the king took upon their refusal to change the judgment. He then undertook the office of judge himself, and reversed the sentence. By this act, one of the best monarchs was made to resemble one of the worst, Ferdinand VII., who reversed, in a similar way, the judgment in the case of Arguelles. The case became notorious throughout Europe, and added to the fame of the judge as a general that of a lover of justice. It afterwards, however, became evident that the monarch had been seduced into injustice by his zeal for equity; and those of the judges who had been imprisoned were set at liberty. This case affords an instance of the influence which the cause of justice is exposed under an arbitrary government, even when the sovereign is well disposed. The memoirs of Nettelbeck, captain of a Prussian vessel, exhibit a proof of the general admiration excited by this act of supposed justice. Nettelbeck came to Lisbon, and, when the people learned that he was a Prussian, a crowd assembled, and accompanied him, for a long time, with loud shouts. The same man was afterwards captured by the Algerines; but, when the day learned that he was a subject of the great king, he set him immediately at liberty, to show his respect for Frederick. John correlations of instruments, the son of the above-mentioned miller, was born in 1739 or 1740, and received his musical education in the chapel royal, in London. In his 23rd year, he was the author of a dramatic composition, and was afterwards appointed a composer at the Covent-garden theatre. Here he set to music the Maid of the Mill. He distinguished himself still more by his oratorios of the Cure of Souls (poetry by Brown) and Abimelech. To these succeeded the oratorios of the Prodigal Son and the Resurrection, of which the former, in particular, is highly distinguished. He composed, also, many vocal and instrumental pieces for the garden concerts. He was made doctor of music at Oxford, and, in 1763, organist of the royal chapel. He prepared an edition of all the works of Handel, in 30 vols., folio. In 1789, he was made director of the academy of ancient music four years afterwards, organist at Westminster abbey, and, in 1796, conductor of the annual performances in the theatre to which the benefit of the sons of clergymen. In 1798, he composed his oratorio of Elijah, or the Shunamite Woman, in which Madame Mara sang. He died in 1802, and was buried on the northern side of the choir of Westminster abbey. Various as were his compositions, his inventive talent was but limited.
Arnot, Hugo, a Scottish historical and antiquarian writer, was born at Leith, in 1749. His name originally was Pollock, which he changed in early life for Arnot, on falling heir, through his mother, to the estate of Balcorne in Fife. As "Hugo Arnot of Balcorne," he is referred to by some of the members of the Faculty of Advocates, December, 5, 1772, when just about to complete his twentieth year. A settled asthma, the result of a severe cold which he caught in his fifteenth year, and which was always aggravated by exertion of any kind, became a serious obstruction to his progress at the bar, and perhaps caused him to turn his attention to literature. In 1779, appeared his "History of Edinburgh," 1 vol., 4to, a work of much research, and greatly superior in a literary point of view to the generality of local works. The style of the historical part is elegant and epigrammatic, with a vein of caustic highly characteristic of the author. He afterwards published several pamphlets and essays of a temporary or local nature. In 1785, appeared his "Collection of Celebrated Criminal Trials in Scotland, with Historical and Critical Remarks," 2 vol., 8vo. This work is perhaps even greater research than his history of Edinburgh, and is written in the same acutely metaphysical and epigrammatic style. Mr. A. only survived the publication of this work about a twelvemonth, dying in 1786, aged 57. The asthma made rapid advances on him, and long before it extinguished his life, another straw alighted on a shadow. Harry Erskine, meeting him one day eating a dried haddock or spelling, is said to have accosted him thus: "Mr. Arnot, I am glad to see you looking like your meat." Arnot himself was a wit and humourist. On one occasion, while labouring under asthma, he was annoyed by the bowling of a man selling sand on the street: "The rascal," said the unfortunate invalid, "he spends as much breath in a minute, as would serve me for a month!" In his professional character, Mr. A. was animlated by a chivalrous sentiment of honour worthy of all admiration. He was said to be a casuist, that he would never undertake a case, unless he were perfectly satisfied as to its justice and legality. He had often occasion to refuse employment which fell beneath his own standard of honesty, though it might have been profitable, and attended by not the slightest degree of difficulty. He was once thought by the judge before him, of the merits of which he had a very bad opinion, he said to the intended litigant, in a serious manner, "Pray, what do you suppose me to be?" "Why," answered the client, "I understand you to be a lawyer." "I thought, Sir," said Arnot sternly, "you took me for a sconce shut." The litigant, though he perhaps thought that the major included the minor proposition, withdrew abashed.

Arnot, Sophie; a Parisian actress, famed in the annals of gallantry and wit, was born at Paris, in 1740. Her father kept a Hôtel garni, and gave her a good education. Nature endowed this favourite of the Parisian public with sprightly wit, a tender heart, a charming voice, and the most beautiful eyes. Chance brought her upon the stage, where she delighted the public from 1757 to 1778. The princess of Modena happened to be in retirement at the Palais de Grâce. It was the custom, at that time, for ladies of rank to confess, in Passion week, the sins committed during Lent. The princess was struck with a very fine voice, that sung at the evening mass. The songstress was Sophie Arnot. The superintendent of the choirs was informed by the princess of the discovery which she had made, and, against her mother's will, Sophie was obliged to join the choir, where madame de Pompadour heard her sing, and exclaimed sentimentally, "Such talents are enough to make a princess." This paved the way for Sophie to the Parisian opera, where she soon became queen, and shone particularly as Théâtre in Castor and Pollux, as Euphile in Dardanus, as Iphi genia in Iphigenia in Aulis. By her beauty, her exquisite performance, and her vivacity, she enchanted every member of the house. Not only the rank and all the literati sought her society: among the latter were: d'Alembert, Diderot, Helvétius, Mably, Duclos, and Rousseau. She was compared to Ninon de l'Enclos and Aspasia; she was sung by Dorat, Bernard, Rhulieres, Marmontel, and Favart. Her wit was so successful, that the time, that these moods were collected. It was sometimes severe, when she wished to make her superiority felt, and yet she had no enemies. She died in 1802, in the very chamber in which the admiral Colligy was murdered; and in the same year with her, the actresses Chailly and Dumezine. In the beginning of the revolution, she bought the parsonage-house at Luzarches, and transformed it into a country house, with this inscription over the door—He misua est. Her third son, Constant Dioviel de Brancas, colonel of cuirassiers, was killed at the battle of Wagram.

Arno, Joaquino d'; an eminent painter, born 1560, at Rome. The precocity of his talent for painting caused him to be employed, at a very early age, in ornamenting the Vatican, as assistant to the artists engaged in that design; when, luckily attracting the attention of pope Gregory XIII., that pontiff took him under his protection, and gave him every opportunity to improve himself. In France, to which he went with cardinal Aldobrandini, he was knighted. His death took place at Rome, 1640.

Arracan; a maritime province in the British Birmese territories, which, with its dependencies, Ru barance, Chittagong, and 21° N. lat. On the N. it is separated from the Chittagong district by the river Nauf; on the E. it has the Armane mountains; on the S. Bassin of Pegu; and on the W. the bay of Bengal. Its extreme length may be estimated at 250 miles, and its average breadth at 50. Between the mountains and the sea this province is covered with thick woody jungles; rain is frequent. When conquered by the British, in 1825, not more than 400 square miles of the whole surface were supposed to be under cultivation; and the total population was estimated at 15,000 souls, of whom six-tenths were Mugs, three-tenths Mahomedans, and one-tenth Birmese. The prospect annual revenue for five years was estimated at 220,000 rupees. A native history of Arracan begins in A.D. 701, and continues through a series of 120 native princes, down to modern times. According to this document, its sovereign formerly occupied a much more important station in the politics of India than they have recently done: for, according to these annals, the dominions of Arracan at one period extended over Ava, part of China, and a portion of Bengal. Certainly, at present, nothing remains to indicate such a station of power and dignity, for its condition, when acquired by the British, was to the last degree savage and barbarous. It does not appear, however, until the Birmese invasion, it had ever been so completely subdued as to acknowledge
permanent vassalage to a foreign power, although the Moguls and Pegners had at different times car-
ried their arms into the heart of the country. During
the reign of Aurungzebe, the unfortunate Sultan
Shuja, his brother and rival, was basely murdered by
the Arracan Raja. The Portuguese, sometimes as
allies, at others as open enemies, gained an esta-
blishment, which only decayed with the general ruin
of their interests in Asia. In 1783 (corresponding
with the Mugh year 1145), the province was con-
quered, after a feeble resistance, by the Birmanes,
and was followed by the surrender of Cheduba, Ran-
ree, Sundaiw, and the Broken Isles. The Mughis
subsequently made many efforts to rescue their
country, more especially in 1811, under a rebel chief
named Kingberring; but were unable to withstand
the bravery, discipline, and cruelty of the Birmanes;
who even managed to extort a surplus revenue, of
which about 18,000 rupees were annually remitted to
Avn, for the support of the white elephant and his
establishment. Arracan proved the grave of general
Morrison's army in 1823, and has continued equally
destructive, even to the native regiments stationed
on the sea-coast and among the islands. Its popu-
lation is scanty and uncivilized; it possesses no arti-
cle of export but salt; yields little revenue; requires
a burdensome civil and military establishment; and,
in a merely pecuniary point of view, is a most un-
profitable acquisition. — The chief diet of the people
of Arracan is rice, with fish or vegetables; those who
can afford it eat poultry. Little flesh is eaten, and
milk is never used. An article, however, in univer-
sal demand, and which is necessarily manufactured
only near the coast, is putrescent shrimps and whil-
tings, after being dried in the sun, which are pounded
in a mortar with crabs, and seasoned with salt. Toddy
is drunk by the people of Arracan, both male and
female; but the Birmanes, although addicted to the
use of spirituous liquors, prefer opium either to chew
or smoke, and its use is common to both sexes, and
to every class of people. The following cut repre-
sents the prevailing costumes of Arracan mount-
naineers:

ARRACK—ARRAN.

ARRACK. See Arrack.

ARRAGON, the realm of, constituted, formerly, the
second chief division of Spain, and was composed of
the kingdoms of Aragon, Valencia, and Mallorcas,
and the principality of Catalonia. Down to the time
of the marriage of King Ferdinand the Catholic with
Isabella, heiress of Castile, A. formed a kingdom
separate from Castile, and comprised not only the
countries above named, but also Sicily and Sar-
dinia. After the death of Ferdinand, in 1516, it was
united for ever with Castile; but the Arragonian
provinces retained their privileges, liberties, and laws,
which, although swept away entirely, a Spanish
war of succession, because they had attached them-

selvés firmly to Austria; and the Bourbons, on as-
cending the throne, could not forgive the fidelity
of the subjects of an enemy. The present province of
A. still preserves the title of a kingdom. It is bounded
north by the Pyrenees, N. W. by Navarre, W. by
Castile, S. by Valencia, and E. by Catalonia. It
contains seventy towns, only eight of which are con-
siderable, viz. Saragossa, Alarazin, Balbastro, Cala-
taud, Darocca, Jaca, Taragona, and Teruel. Pop.,
in 1800, 638,630; square miles, 15,503. A part of
the country is mountainous, and the soil generally
productive, but, in some parts, stony or sandy. The
characteristics of the inhabitants are industry, acti-
vity, national pride, and courage.

ARRAGIN, ARRAGIGN. To arraign, is to call
the prisoner to the bar of the court, to answer the
charges preferred against him in the indictment.
It is from the Latin ad rationem ponere; in French, ad
reson, or a rem. (See Blackstone's Com. v. 4, p.
322 and note.)

ARRAN (the ancient Brandinod), an island on the
W. coast of Scotland, in the firth of Clyde and shire
of Dufe, about twenty-four miles in length and ten
in breadth, divided into two parishes, Kilbride
and Kilmorey, and, with the exception of two or three
farms, is the property of the duke of Hamilton. The
island is indented with several fine harbours, the
principal of which on the west side are Blackwater-
foot and Loch Ranza, and on the east Broudie and
Lamlash, each of which is the resort of numerous
vessels for shelter in stormy weather; the latter
describes a beautiful semicircle, defended by two
islets, and would contain 500 sail at once. At the
northern extremity of the island is a noted sea-mark,
termed the Cock of Arran, and to the southward of
Lamlash, a light-house on the isle of Plana. The
coast is bold and rugged, the surface hilly, and in-
tersected by good roads, and the soil hard and pebbly,
though it produces oats, barley, and potatoes in
abundance. Marl, lime-stone, iron-stone, free-stone,
marble, slates, and bluid coal are here in profusion.
On the summit of Goatfield, a mountain 2894 feet
above the level of the sea, are found peculiar di-
ams called Arran stones, with some fine specimens
of jasper, agate, carnigourm, and Scottish topaz.
The white fish and herring fisheries here are flourish-
ing, and employ many hundreds of hands. Excellent
salmon and trout abound in the lakes and in the
rivers flowing therefrom. The hills afford shelter
for wild deer, and pasture for black cattle, of which
1000 head are annually transported to the shire of
Ayr. Considerable quantities of kelp used to be
manufactured here. The Gaelic was the only lan-
guage spoken till lately, but the English is now pretty
generally used, twelve schools having been estab-
lished on the island for teaching it. Invalids resort
hither for the benefit of its salubrious air and the ex-
cellence of the whey from goat's milk. Bishovick
castle stands upon an eminence overlooking Brou-
dwick bay, amidst fine plantations. It was anciently
an important fortress, but is now somewhat modernized
and occupied by the agent of the duke of Hamilton.
Some places retain the name of Fingal, of whom and
Ossian tradition still speaks, and it is said that the
latter died here. It also afforded refuge to Robert
Bruce and his faithful followers during his fortune.
Several cairns and Druidical temples lie scattered
over the island. Population of the island in 1831, 6127.
ARRAN ISLANDS—ARREOYS.

ARRAN ISLANDS, or SOUTH ARRAN ISLANDS; three islands near the western coast of Ireland, in the Atlantic, at the mouth of Galway bay. The largest, Arranmore, comprises 4,607 acres; the next, Inismain, 1,303; and the least, Innis Lehr, 908. The three islands continue in a more primitive state than North Wales, or any other part of Britain. At Arranmore, which contains a population of between 2 and 3,000, are remains of Druidism, open temples, altars, stone pillars, sacred mounts and raths, miraculous fountains and sacred groves. The religion is entirely Roman Catholic, and the language Celtic (of which the Irish is but a dialect). The surface of Arranmore is much separated from above the sea, and is undulating and fertile. Agriculture and fishing are the chief employments. Good oaks are raised, sheep fed, and the most esteemed calves are reared here. The varieties of fish are very great; and the board for the fisheries have erected a pier 450 feet in length, on the island, where 100 vessels of forty tons burden may ride safely. There are forty-one open boats and seventeen row-boats, belonging to the port. Costume here also is original; the boats called poptopites, made of untanned leather, are probably the most curious. The principal curiosities are the puffin-holes, some curious arches, and many factories of tapestry, batiste, laces, &c. A. is the seat of a bishop. The fortifications consist of an irregular wall, guarded by ten partly detached bastions, several ravelins and lunettes, two hornworks, and a citadel, which forms a regular pentagon with case- mates, bomb-proof. These fortifications were improved or laid out by Vauban. Here he first employed his tenailleurs. The cité, or old town, is separated from the ville, or new town, by a wall and ditch. In 1640, the French, under the marshals Chaume, Chatillon, and Melleraye conquered A. In 1664, the Spaniards, under Condé, attempted to regain it from them; but Turenne attacked the Spanish lines, took them by storm, and rescued the fortress.

ARREOYS; the name given to a class of individuals in Otaheite and the neighbouring islands, who destroy their own offspring at the moment of their birth. The society of Arreos was a horrid one. There were thousands of both sexes. It is chiefly composed of persons distinguished by value and merit, and hence one or more individuals of each family of the chiefs are of the number. It has been remarked, that all the men profess themselves warriors, and are in general stout and well made; that the greatest trust and confidence are reposed in them; and it rather appears that the women consist of the higher ranks only. There are different gradations in this community, which are to be recognised from the mode of tattooing the members. The more inferior, or the lower ranked, the higher is their rank in society. By the fundamental laws of the society, the offspring must be destroyed, yet it is not known with certainty by whom or in what particular manner; the murder is always perpetrated in secret, probably by strangulation; all the attendants upon the birth are prevented from seeing it. If any witness it, they would be adjudged guilty of participation, and put to death. Sometimes the mother, animated by natural affection, tries to preserve her infant, and resists the persuasions of her husband and his brother Arreos, who wish to consign it to destruction. It has been affirmed, but perhaps without sufficient foundation, that a promiscuous intercourse of the sexes prevails in their society; however, they are permitted great latitude in their amours, except in times of danger, as almost all are fighting men. Sufficient has already been said from too cursory a glance to be admitted into this mysterious community. Any one may withdraw at pleasure from the so-
ciety; and an example is given of a chief who had killed his first-born child, and preserved the second, having withdrawn in the interval. A woman who ceases to be an Arroyo incurs a reproachful name, signifying "bearer of children." Thus, while in most other countries the name of parent confers honour and respect, among the Arreoyos of Ota-
he. it is used as a term of contempt and reproach. "There are two causes," says Mr Forster, "which fa-
our the existence of the Arreoyos; first, the necessity for entertaining a body of warriors to defend their fellow citizens from the invasion and depredations of enemies; secondly, it was necessary, by such an as-
sertion of force to prevent the too rapid increase of the number of their chiefs. Perhaps," he remarks, "some intelligent Otaheitian lawyer might foresee that the common people would at length groan under the yoke of such petty tyrants, whose number was ever multiplying." The ordinary practice of infanti-
cide is ascribed by Mr Wilson, who visited the South
Seas in 1801, merely to the love of pleasure and avar-
ance, which latter passion had gained great ascendency since the intercourse of the islanders with Europeans: "being well aware," says he, "that the beauty of females rearing families experiences an earlier decay, it is anxiously preserved for their visitation, by destruc-
tion of their offspring, or even by procuring abortion." Perhaps the murderous practices of the Arreoyos in the South Sea Islands may have originated in some religious principle. At the same time, it appears that, in the ordinary destruction of infants by the islanders of the South Pacific Ocean, there is nothing of a sacrificial nature; for though they do not sup-
pose that their displeasure is thereby incurred, they do not pretend that the practice is acceptable to any of their divinities. Mr Malthis, we may add, ascribes the origin of the Arroyo institutions to a superabundance of population, and the necessity of adopting some forcible expedients to bring it within the limits of subsistence; but if this view were cor-
rect, the crime of infanticide would not be confined, as it is in the present case, to the higher classes. See Forster's Voyage, vol. ii.; Cooke's First and Second Voyages; Bligh's Voyage; Missionary Voyage; Hamilton's Account of the Loss of the Pandora.

ARREST (from the French arrêter, to stop) is the apprehending or restraining one's person, which, in civil cases, can take place legally only by process in execution of the command of some court or officers of justice; but, in criminal cases, any man may arrest without warrant or precept. Some persons are privileged from arrest—ambassadors and their dom-
estic servants, officers of courts of justice, witness-
es, and all other persons necessarily attending any court of record upon business, members of the legis-
lateur, and, in England, peers and bishops likewise.

ARRIBADES, or ARRIBAS; son of Philip of Mace-
don and the dancer Phila, consequently a half-
brother of Alexander, whom he also nominally suc-
cceeded in the government. When he was deprived of his reason by poison administered by Olympias, Perdiccas, and after him, Antipater, governed in his place. After a nominal reign of six and a half years, he was put to death, with his wife, Eurydice, by Olympias.

ARIA; the heroic wife of Cecina Petus, who, being suspected of a conspiracy against the emperor- Caesar, committed suicide by drinking poison. Perceiving her husband again in the sun, is found to be an extremely pure starch, which, when reduced to powder, is the arroo root of commerce. There is no

ARLASS; a kind of starch manufactured from the roots of a plant, the maranta arundinacea, a ra-
vive native of tropical America, and cultivated in gar-

ARRABO. See Aroba.

ARROW. See Archery.

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forms of bowel complaints. Owing to the great de-
mand for it, it has been much adulterated, and care
is required in the selection of it. The purest is the
Jamaica or Bermuda arrowroot. A very cheap and
tolerable substitute for this article may be found in
the starch mixtures of maize or corn starch (see Potau),
which cannot be too highly recommended.

ARROWSMITH, Anron; hydrographer to the king of
Great Britain, and distinguished as a constructor of
maps and charts. His works are frequently adver
ted to as standards for comparison and reference. Besides
his great number of maps and charts, he published a
New General Atlas, 4to, 1817, to which is prefixed a
Edinburgh Gazetteer. He was also author of a pam-
phlet, entitled "A Companion to a Map of the World" 30
Mr. A. died in London, where he had long lived much
respected, in 1825, aged 73.

Arsamas; a circle of the Russian government of
Nishegorod, between long. 43° 21' and 44° 10' E., and
lat. 54° 37' and 56° 28' N. It is watered by the
rivers Tescha and Scholka, which flow to the Volga.
It is an undulating country; much of it is covered with
wood, and some part of it with swamps; but it pro-
duces fixed carbonated alkali-sulphate, and is the
use of the inhabitants, who amount to 120,000, of
whom 4351 are slaves belonging to the crown, and
23,643 belonging to other nobles. The chief employment
is wood cutting, potash burning, and spinning linen yarn.

Arsamid (Turk. origin); a Russian measure of
length. Three arsamis make seven English feet; 1500
arshaus, one verst. Every arshin is divided into
four parts, called quarters or spans, and every quarter
into four vershits, = 315,4 Paris lines.—It is also a
Chinese measure. One Chinese arshin = 392 Paris lines.

Arsenal, a royal or public magazine, or place ap-
pointed for the making and keeping of arms neces-
sary either for defence or assault. Some derive this
from arse, a fortress; others from arx, denoting a
machine; others again from ars and senator, be-
cause this was the defence of the senate; but the more
probable opinion derives it from the Arabic dharsa, which
signifies arsenal. The arsenal of Venice is the
place where the galleys are built and laid up. The
arsenal of Paris is that where the cannon or great guns
are cast.

Arsenic is a metal of very common occurrence,
being found in combination with nearly all of the
metals in their native ores. It is of a bluish-white
colour, readily becoming tarnished on exposure to
air, first changing to yellow, and finally to black. In
hardness, it equals copper, is extremely brittle, and
is the most volatile of all metals, beginning to sub-
lime before it melts. Its specific gravity is 5.76. It
burns with a blue flame and a white smoke, emitting
a strong smell of garlic. It commonly bears the
name of black arsenic, and is prepared from the white
arsenic of commerce, by heating this substance with
carbonaceous matter, and allowing the volatile ar-
senic to condense in an adjoining vessel. Arsenical
pyrites, a very abundant natural substance, is also
advantageously used in the preparation of arsenic, in
which case iron filings and lime are added, to engage
the sulphur, and prevent its sublimation along with
the arsenic. Native arsenic has been found in the
veins of primitive rocks in several countries, but in
small quantities, and generally alloyed by the pres-
ence of iron, silver, or gold. This metal is used in
metallic combinations when a white colour is desired.
With oxygen, arsenic forms two compounds, both of
which, from their property of combining with alkaline
salts, are called alkalis; and arsenious oxide, the most
important of the two, is the white ar-
senic of the shops. It is usually seen in white, gray,
translucent masses, to which form it is reduced by
fusion from a powdery state. It is one of the most
virulent poisons known, not only when taken into
the stomach, but when applied to a wound, or even
when its vapour is inspired. It is found native in
small quantities, but is obtained for use from the
roasting of its ores, particularly those of colbit.

Arsenous acid is condensed in long, horizontal chimneys, leading from
the furnaces where these operations are conducted, and
usually requires a second sublimation, with the
addition of a little potash, to deprive it of any sulphur.
It may contain its metallic portion, and has been
confined to Bohemia and Hungary. Persons brought
up from their youth in the works live not longer than
to the age of 30 or 35 years. Knowing the deleteri-
ous nature of their occupation, they are so careless,
that we have seen them cleaning their plates, &c., in
wells, over which a skuld was painted, to warn every
body that the water contained arsenic. Besides its
use in medicine, and as a mshane, it is much em-
ployed as a cheap and powerful flux for glass; but,
when too much is added, it is apt to render the glass
opaque, and unfit for domestic use. Arsenite
of potash, mixed with sulphate of copper, affords
an apple green precipitate, called Scheele's green, which,
when dried and levigated, forms a beautiful pigment.

With sulphur, arsenic forms likewise two definite
compounds—the realgar and orpiment. The former
is the smallest proportion of sulphur, and is red;
the latter is yellow. They are both found
native in many countries, but their supply in commerce
depends upon their artificial manufacture. This is
done by distilling a mixture of arsenical pyrites and
iron pyrites, or of white arsenic and rough brimstone.
Realgar or orpiment is obtained as the proportion of
sulphur employed is greater or less. These
compounds afford valuable pigments to the painter.

Arsenic. See Arsenia.

Arsinthus; the name of several females of antiquity.
1. The sister and wife of Ptolemy Philadelphus,
worshipped, after his death, by the basler of
the Ammonis.
2. A daughter of Ptolemy Lagus, who
married Lysimachus, king of Macedonia. After her
husband's death, Cerenus, her own brother, married
her, and ascended the throne of Macedonia. He
pre-

iously murdered Lysimachus and Philip, the sons of
Ptolemy Philadelphus, in their mother's arms. A. was,
some time after, banished into Samothrace.
3. A younger daughter of Ptolemy Auletes, sister to Cleo-
patra. Antony despatched her to gain the good
graces of her sister.—4. The wife of a king of Cyrene,
who committed adultery with her son-in-law.—5. A
dughter of Lysimachus.

Arsinoe; the ancient name of several places in
Egypt and other countries.—1. A town of Egypt not
far from the modern Suez.—2. A town of Egypt, W.
of the Nile, above Memphis, and N. of Ptolemais. It
was called the city of the crocodiles, because the
animal was worshipped there, and reared by the inhabitants
of the neighboring lakes. It is now called Faiyum.
3. A port of the Red sea, near its entrance, some-
times called Berenice.—4. On the Red sea, farther
N.—5. In Africa, in the Cyrenaica, between Leptis
In Cilicia.—9. Etolia, near Canopus.—10. A name
of the city of Ephesus.—11. In Cyprus, between old
and new Paphos.—12. On the northern coast of Cyprus,

near the promontory of Acamas.—13. On the eastern
coast of the same island, near Salamin.—14. An
inland town, also, of Cyprus.

Arsan. See Asar.
ARTHRITIS.

If a man sets fire to his own house, the act is punishable by fine, imprisonment, or setting in the pillory. In the United States of America, there is some difference in the degree of punishment provided by the laws of the different states. In Massachusetts, setting fire to a dwelling house is punishable with death; in the day time, with hard labour for life. For burning buildings, not dwelling houses, the punishment, though severe, is milder. In New Hampshire, the law is very similar. In New York, setting fire to an uninhabited dwelling house is punishable with death; to an uninhabited building, with imprisonment. In Kentucky, arson is punishable with imprisonment in the penitentiary. In all the States, it is treated, of course, as an offence of the blackest character.

Art. (See Arts.)—Art, schools of. See Painting, Sculpture, &c.

Art, of Larta; a gulf, a river, and town of European Turkey, in Albania. The town is situated on the river of the same name, about 20 miles N. E. of Preveza, and about 360 W. N. W. of Constantinople. The number of inhabitants amounted to 6000, before the war of 1724. In 1822, a battle was fought between the Greeks and Turks, in which the former abandoned the Philhelens, who, almost without exception, were killed.

Artaxerxes; the name of several Persian Kings—
1. Artaxerxes, surnamed Longimanus, on account of his daughter, a second son of Xerxes, escaped from Artabanus and the other conspirators, who had murdered his father, and elder brother Darius, and, 464 B. C., ascended the throne. He subjected the rebellious Egyptians, terminated the war with Athens, by granting freedom to the Greek cities of Asia, governed his subjects in peace, and died B. C. 482. He was favourable to the Jews, and is thought to be the Ahahuaner of Scripture.—2. Artaxerxes, surnamed Menecon, from his strong memory, followed his father Darius II., in the year 405 B. C. After having vanquished his brother Cyrus (q. v.), he made war on the Spartans, who had assisted his enemy, and forced them to abandon the Greek cities and islands of Asia to the Persians. He favoured the Athenians, and endeavoured to foment dissensions among the Greeks. He was killed, in 361, by his son Ochus, who succeeded him under the name of—3. Artaxerxes Ochus. Artaxerxes was succeeded by the Pharnacides and Egyp- tians, and displayed great cruelty in both countries (in Egypt, he had Apis slaughtered, and served up at his table), he was poisoned by his general Bagoas, who threw his body to the cats, and had sabre-handles made of his bones.

Artex, Peter; an eminent naturalist, was born in Sweden, in the year 1703, in the province of Angermania. Although his parents were poor, yet it appears they found means to give him a liberal education, and with this view sent him to the college of Hurnessad. Intending to embrace the ecclesiastical profession, he went in 1724 to Upsal; but he turned his attention to medicine from the strongest bent of his mind for the study of natural history, in which science he made rapid progress, and soon rose to considerable eminence, particularly in the department of ichthyology. Confining his botanical studies to the umbelliferous plants, he suggested a new mode of classification. But Artedi was much better acquainted with chemistry than botany. His attention, however, was chiefly directed to ichthyology, the classification of which he greatly reformed, and new-modelled upon philosophical principles. This arrangement and the high reputation as a naturalist at the time; and afterwards became popular over Europe. In 1728 his celebrated countryman Linnaeus arrived in Upsal, having been appointed to deliver lectures on botany in that place; and so high stood the character of Artedi as a philosopher, that a lasting friendship was formed between these two great men. In 1732 both left Upsal; Artedi for England, in pursuit of his favourite study, and Linnaeus for Lapland, to examine man’s Thesaurus, which chiefly related to fishes. Artedi formed the resolution, as soon as that work was finished, to return to his native country, and publish the fruits of his own labours; but as he was returning home from Selå's house on the evening of the 27th September, 1732, the night being dark, lie fell into the causal and was unfortunately drowned. According to agreement, his manuscripts came into the hands of Linnaeus, and his Bibliotheca Ichthyologica, and Philosophia Ichthyologica, together with a life of the author, were published at Leyden, in the year 1738. In another he called the Daddian, from the birth- place of his mother, a small city of Lydia, was a Greek writer at Ephesus, in the 2d century after Christ. He occupied himself, principally, with the interpretation of dreams. We still have two of his writings on this subject, which are particularly de- serving of notice, on account of the information they contain relative to ancient rites and customs. The latest critical edition is that of Reiff, Leipzig, 1805. There was another Arctimodo- neus, who lived about a century before the Christian era, and wrote a geographical work, of which a few fragments only remain.

Artemisia. See Dana.

Artemisia; queen of Caria, sister and wife of Mæusolus, whose death she lamented in the most tender manner, and to whom she erected, in her capital, Halicarnassus, a monument, which was reck- oned among the seven wonders of the world. The principal architects of Greece laboured on it. Bryaxis, Scopas, Leocares and Timotheus, made the decorations on the four sides of the edifice; Pythes, the chariot drawn by four horses, which adorned the conical top. Vitruvius thought that Praxiteles was at the charge of the figures; Diodorus thought the artists finished it without any compensation, that they might not be deprived of the honour of their labour. It was an oblong square, 411 feet in compass, and 130 feet high. The principal side was adorned with thirty-six columns, and twenty-four steps led to the entrance. A. died, soon after her husband, in the monument which she had erected to him, 351 B. C. Another A., queen of Halicarnassus, accompanied Xerxes on his expedition against Greece, and distin- guished herself, in the battle of Salamis (480 B. C.), by her determined boldness.

Artemis, in ancient geography; a promontory of Euboea, on the northern side of the island, which is famous for the great naval victory, gained in its neighbourhood, by the Grecians, over Xerxes.

Artemon; a heretical teacher, of the 3d century, who denied the divinity of Christ, and declared him to be a mere man, of rare virtue. He lived in the diocese of Rome, his adherents, the Artemonites, seem to have spread, also, to Syria. In the latter half of the 3d century, they were confounded with other opponents to the doctrine of the Trinity. (See Antitrinitarians.) Samuel Crell appeared, in 1726, under the name Artemonius, as an antagonist of the same tenets.

Artery. See Blood-vessel.

Arthritis (from Arthritis; a joint); any distemper
that affects the joints, but the gout particularly. (See Gout.—Arthritis planitacea, arthritis vaga, the wandering gout.)

Arthur, or Artus; prince of the Silures, in the 6th century; an ancient British hero, whose story has been the subject of many romances. He was son of Geoffrey of Monmouth, who probably followed the chronicle Brut d'Angleterre, the fruit of an adulterous connexion between the princess Igrern, of Cornwall, and Uther, the pendentor or chief commander of the Britons. He was born about 501. In 516, he succeeded his father in the office of general, and, with his subjects rebellious, set out to subdue the Saxons, Scots, and Picts, which have made him so celebrated. He married the celebrated Guenever, or Ginevra, belonging to the family of the dukes of Cornwall; established the famous order of the round table; and reigned, surrounded by a splendid court, twelve years, in peace. After this, as the poets relate, he conquered Denmark, Norway, and France, slew the giants of Spain, and went to Rome. From thence he is said to have fastened home, on account of the faithlessness of his wife, and Modred, his nephew, who carried on an adulterous intercourse, and made his subjects rebellious; to have subdued the rebels, but to have died, in consequence of his wounds, in 542, on the island of Avalon, where it is pretended that his grave was found, in the reign of Henry II. Hume thinks that the story of Arthur has some foundation in fact.

Arthur's Seat; a high hill in the neighbourhood of Edinburgh, said to have been so denominated from a tradition that king Arthur surveyed the country from its summit, and defeated the Saxons in its neighbourhood. It is a rugged, steep, and in some places precipitous rock, exhibiting on the south side a range of perpendicular basaltic columnar, and on the north, a few perpendicular, and a few, small, horizontal, and a few, large, hexagonal forms, from fifty to sixty feet in height, and five in diameter. It affords spars, zeolites, hemerites, jaspers, and a few agates, with abundance of granite. The highest point is nearly 700 feet from the base. From hence may be seen the German ocean, the course of the Firth, the distant Grampians, a large portion of the most populous and best cultivated part of Scotland, including the picturesque city of Edinburgh and its castle. The view is a most beautiful one. On the north side are the ruins of a chapel and hermitage, dedicated to St. Anthony, and a fine spring called St. Anthony's Well. The artichoke (Cynara scolymus) is a well-known plant, which is cultivated in Europe chiefly for culinary purposes. This plant was cultivated in England as early as the year 1580. The parts that are eaten are the receptacle of the flower, which is called the bottom, and a fibrous substance on the scales of the calyx. The choke consists of the unopened florets and the bristles that separate them from each other. These stand upon the receptacle, and must be cleared away before the bottom can be eaten. Its name undoubtedly arose from a notion, that any one, un luckily enough to get it into his throat, must certainly be choked. —In England, artichokes are generally boiled plain, and eaten with melted butter and pepper, and are considered both wholesome and nutritious. The bottoms are sometimes stewed, boiled in milk, or added to ragouts, French pies, and other highly-seasoned dishes. For winter use, they are sometimes boiled in large kettles, packed in paper bags, in a dry place. On the continent, artichokes are frequently eaten raw with salt and pepper. —By the country people of France, the flowers of the artichokes are sometimes used to con- 20100late milk, for the purpose of making cheese. The leaves and stalks contain a bitter juice which, mixed with an equal portion of white wine, has been suc- cessfully employed in the cure of dropsy, when other remedies have failed. The juice, prepared with bismuth, imparts a permanent gold colour to wool. —The Jerusalem artichoke is a somewhat potato-shaped root, produced by a species of sunflower (Helianthus tuberosus) which grows wild in several parts of South America. The flower stalks, which are frequently eight or nine feet high, and yellow flowers, much smaller than those of the common species. So extremely productive are these valuable roots, that between seventy and eighty tons weight of them are said to be raised annually in one season on a space of a square mile of ground. They succeed in almost every soil; and, when once planted, will continue to flourish in the same place, without requiring much manure, or much attention to their culture. The season in which they are dug up for use, is from about the middle of September till November, when they are in the greatest perfection. After that, they may be preserved in sand, or under cover, for the winter. The roots are generally eaten plainly boiled, but they are sometimes served at table with fricassée-sauce, and in other ways. Their flavour is so nearly like that of the common artichoke, that it is difficult to distinguish one from another. We are informed that Jerusalem artichokes are a valuable food for hogs and store pigs; and that, if washed, cut, and ground in a mill similar to an apple-mill, they may also be given to horses.

Article, in grammar; an adjective used before nouns to limit or define their application. See Grammar.

Article of Faith is a point of Christian doctrine established by the church. The thirty-nine articles of the church of England were founded, for the most part, upon a body of articles compiled and published in the reign of Edward VI. They were first read in the convocation, and confirmed by royal authority in 1563. They were ratified anew in 1571, and again by Charles I. To these the law requires the subscription of all persons ordained to be deacons or priests (13 Eliz. cap. 12); of all clergymen, inducted to any ecclesiastical living (by the same statute), and of licensed lecturers and curates (13 Eliz. cap. 12 and 13, and 14 Ch. II., cap. 4); of the heads of colleges, of chancellors, officials, and commissaries, and of schoolmasters. By statute Wm. III., cap. 10, dissenting teachers are to subscribe to all except the 34th, 35th, and 36th, and part of the 20th; and, in the case of them who are exempted from the last, 27th. By the 19th Geo. III., cap. 44, however, dissenting preachers need only profess, in writing, to be Christians and Protestants, and that they believe the Scriptures to be the revealed will of God; and schoolmasters need neither sign the articles nor such professions.

Artillery signifies all sorts of great guns or cannon, mortars, howitzers, petards, &c., together with all the apparatus and stores thereto belonging, which are taken into the field, and used for besieging and defending fortified places. It signifies also the science of artillery or gunnery (q. v.), which, originally, was not separated from military engineering. The class of arms called artillery has always been the subject of scientific calculation, more than any other species, as the Italian word 'arte, in its name, seems to indicate. The same name is also given to the troops by whom these arms are employed, the being, in fact, subsidiary to the instruments. The other portions of an army are armed men, while the artillery consists of manned arms. The history, &c., of artillery in the different countries, will be given under the head of Gunnery.—Artillery, park of, is the place appointed by the general of an army to encamp the train of artillery, with the apparatus,
ammunition, &c., as well as the battalion appointed for its service and defence. Strict order and a convenient arrangement for breaking up, &c., are very important in enunciating a park of artillery. — Field artillery is distinguished from artillery for defence or besieging the forts. It consists of light pieces, with accommodations for the artillers, so that the whole can move quickly in battle. In some armies, the mounted artillery, also, is called flying artillery. See also, Ammunition, Cannon, &c.

Artotis; a former province of France, anciently one of the seventeen provinces of the Netherlands. It was bounded on the S. and W. by Picardy, on the E. by Hainault, and on the N. by Flanders. A. always was accounted very productive. It was seventy-five miles in length, and thirty-six in breadth. It is now included in the departments of Pas de Calais, Somme, and Nord.

Artotris (from aorite, bread, and typos, cheese); a sect, in the 21 century, in Galatia, which used bread and cheese in the eucharist, because, they said, the first men offered not only the fruits of the earth, but of their flocks too. They admitted females to the eucharist, and taught that the same ceremonies were to be performed by men and women.

Arts (from the Latin artes); in the most general sense of the word, any acquired skill. As the fine arts, in early times, were not distinctly separated from the merely useful arts, nor even from the sciences, and as there is, in fact, much difficulty in drawing the line, in many cases, one word is used, in most languages, for both, and an epithet is necessary to distinguish them; in some languages, however, e.g. the German, they are distinguished by two very different words. The ancients divided the arts into liberal arts (artes liberalis, ingenae, bona), and servile arts (artes serviles). The former were comprehended the mechanical arts, because they were practised only by slaves. The former ones were such as were thought becoming to free men. The name servile arts was lost as soon as freemen began to practise them, but the name liberal arts was retained. The following seven were usually called by this name: grammar, dialectics, rhetoric, music, arithmetic, geometry, and astronomy, according to the well-known verse:

Grum. loquitur, Dia. verba docet, Rhec. verba ministrat, Mus. canit, Ar. numerat, Ge. ponderat, Ar. colit astra.

This awkward and illogical division continues in many Catholic schools, where the different classes are arranged according to it. In modern times, we divide arts into fine and useful or mechanical arts, comprising under the former all those, the direct object of which is not utility, as poetry, music, architecture, painting, sculpture, &c. If we speak of the fine arts simply not in contradistinction to the useful arts, we generally intend only architecture, painting, sculpture, and engraving, with their subdivisions. (For the history and description of each of the fine arts, see the respective articles.)—The mechanical arts, as we have said, were practised, among the ancients, by slaves or by women, many things of the first necessity being, of course, manufactured in the house. Refinement, however, in the course of time, made more skill necessary, in some branches of manufacture, than is generally to be expected from women or slaves. — Field artillery consists of light pieces, up to the 10th century, besides the slaves or bondmen, free persons practising the useful arts. From that time, however, it seems that mechanical arts were carried on only by freemen, or nuns and monks, who are named the mechanical artists. These artists, when the cities grew up, and their number and population rapidly increased, one of the immense changes which history shows to have sprung from them, was the elevation of the mechanical arts. It was now esteemed honourable to be a skilful mechanic. In many instances, too, they became blended with the fine arts, and the names of several workmen have been handed down to us, with a reputation akin to that of artists; e.g. Venenuto Cellini, Peter Fischer. See Corporation.

Arundel, a borough, market-town, and parish in the county of Sussex, England, situated on the declivity of a hill, on the north bank of the river Arun, over which there is a bridge. It consists of two principal streets, one of which runs north and south, and the other westward from their point of union. Many of the houses rebuilt by the duke of Norfolk are in the castellated style. The first mention of Arundel and its celebrated castle occurs in the will of King Alfred, by whom it was bequeathed to his nephew Athelred. It was subsequently held by various members of the blood-royal, and other potent barons, until it passed into the possession of the Fitzalans, earls of Arundel, from whom it was conveyed by marriage into that of the Howards, dukes of Norfolk, with whom the paramount influence still remains. The castle, which was first of the bishops, and afterwards of the earl of Norfolk, was granted by queen Elizabeth. Here was formerly a harbour capable of containing vessels of 100 tons burden, but it has been much damaged by the sea. Great quantities of timber, for ship-building, are, however, still shipped from this place, which has but little other trade, but is much benefited in summer by the visitors who resort to it for sea-bathing. The celebrated castle stands on a knoll, partly formed by nature, and partly by art, on the north-east side of the town. The present magnificent structure may be deemed almost a complete renovation of the earlier buildings, and be in no better than a heap of ruins when the late duke of Norfolk determined to make it his principal baronial residence. The primitive castle was deemed impregnable in the feudal times, and in consequence is greatly celebrated in the civil broils by which they are so much distinguished. In the reign of Henry VI., on being restored to the Fitzalan family, an act of parliament was passed to annex to the possession of this castle and honour the dignity of earl, without further creation. The free-stone employed in the present building is of a heavy brown cast, to make the walls appear thicker, and the joints better than the old building, and nothing has been neglected to render it one of the most magnificent and interesting noble residences in Great Britain. The population of the borough and parish of A. is 2893.

Arundelian Marbles; a series of ancient sculptured marbles, discovered by William Petry, who explored the ruins of Greece, at the expense of and for Thomas Howard, earl of Arundel, who lived in the time of James and Charles I., and devoted a large portion of his fortune to the collection of monuments illustrative of the arts, and of the history of Greece. These marbles, bought by one of their purchasers, arrived in England, in the year 1727, with many statues, busts, sarcophagi, &c. John Selden published some of the inscriptions, which he thought most interesting, under the title of Marmora Arundeliana, 4to, London, 1628. It is supposed that not more than half of the original number escaped destruction in the civil wars: they were then in the garden of the earl, in the Strand, in London. Henry Howard, duke of Norfolk, grandson of the collector, presented the remainder to the university of Oxford, where they still remain. The whole collection is divided, as before, into two, by Hubert Poideaux, in 1676; by Michael Malmaire, in 1732; by Dr Chandler, very splendidly, in 1763. These inscriptions are records of treaties, public contracts,
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thanks of the state to patriotic individuals, &c., and of many a servile nature. The most curious and interesting is one usually known by the name of the Persian Chronicle, from having been kept in the island of Paros. It is a chronological account of the principal events in Greece, and particularly in Athenian history, during a period of 1518 years, from the reign of Pisistratus in B.C. 578, to the archbishopric of Diocletianus, B. C. 261. The authenticity of this chronicle has been called in question, but has been vindicated by many of the most learned men.

ARUNS, Tarquinius, the son of Tarquin II., the last king of Rome, who, meeting Brutus in the first battle for the possession of the royal family, they mutually killed each other.

ARUSIN CAMPUS (Arusian fields); plains in Lucania, famous for the last battle between the Romans and Pyrrhus (q. v.).

ARUSPECS, or HARSPECS; Roman priests and prophets, who foretold events from observing the entrails of sacrificial animals. They observed, too, all the circumstances which accompanied or happened during the sacrifice; e.g. the flame, the mode in which the animal behaved, the smoke. Their origin is to be sought for in Etruria. They were introduced into Rome by Romulus, who enjoyed their authority while the time of the emperor Constantine, 337 A.D., who prohibited all soothsaying on pain of death. Their number, at this time, was seventy; their chief priest was called summus aruspex, or magister publicus.

As. The Romans used this word in three different ways, viz. to denote, 1. any unit, considered as divisible; 2. the unit of weight, or the pound (libra); 3. their most ancient coin. In the first use of the word, the pound, foot, jugerum sextaries, were called as, when contradistinguished from their divisions or fractions. In fact, the word was applied to any integer; e. g. inheritances, interest, houses, funds, &c. Therefore ex asse herex signifies to inherit the whole. Different names were given to different numbers of asses: dupondius (two ponda) = two asses, sextarius (sesqui tertius, viz. the third half) = two and a half asses, tressex = three asses, quattuor asses, quintus = four asses, etc.; = 100 asses. The as, whatever unit it represented, was divided into twelve parts, or onces (unciae), and the different fractions of the as received different names, as follows:

As., 12 onces. Quinquex, 5 onces.
Deux, 11 " Triones, 4 "
Dextans, 10 " Quadrans, or "
Dobrans, 9 " tercianus, 3 "
Res, or des, 8 " Sextans, 2 "
Sempex, 7 " Uncia, 1 ounce.
Semia, 6 "
Sesuncia was ½ ounce.

1 uncia contained 3 seminicia,
3 duelle, 4 sidile,
6 sextules, 24 scrupula (scriptula, or scrupula),
48 obols, 144 siliques.

Scholars are not agreed on the weight of a Roman pound, but it is not far from 327-3677 grains, French measure. Budæus has written nine books De Asse et ejus Partibus (Of the As and its Parts). In the most ancient times of Rome, the copper coin, which was called as, actually weighed an as, or a pound, but, in different periods of the republic and the succeeding empire, this coin was of very different values.

ASAFETIDA is a resinous gum, procured from the root of a large umbelliferous plant (ferratula asafoetida), which grows in the mountains of some parts of Persia. The leaves of this plant are nearly two feet long, double-winged, and have the leaves alternate. The flowers are small and the sepals, flat, and marked with three longitudinal lines. No one, who has ever smelt the peculiarly powerful and garlic-like odour of asafetida, can well forget it. If exposed to the air, but particularly when heated, it will pervade every apartment of a house. Notwithstanding its very strong smell, it is sometimes used by our own cooks, but in very small quantities, in place of garlic. In many parts of Arabia and Persia, asafetida is much esteemed as a remedy for various internal diseases, and even as an external application to wounds. With us, it is considered a powerful medicine in several disorders. It has been applied, with success, in the cure of hooping cough and worms; and in flatulent colics, it has, in many cases, afforded great relief. It is imported in masses of various sizes and forms, and of yellow, brown, or bluish colour, sometimes interspersed with roundish, white pieces. The plant, from the root of which asafetida is produced, grows in the mountains which surround the small town of Disguum, and, at this place, it is collected, the whole place smells of it. The upper part of the roots, which are sometimes as thick as a man's leg, rises somewhat above the surface of the ground. When cut, the asafetida exudes in form of a white thick juice, like cream; which, from exposure to the air, becomes at last of a dark brown colour. It is very apt to run to putrefaction, and hence those who collect it carefully defend it from the sun. The fresh juice has an excessively strong smell; a single dram of it smells more than a hundred pounds of the dry asafetida brought to us. The harvest commences when the leaves begin to decay; and the whole gathering is performed, by the inhabitants of the place, in four different journeys to the mountains. The demand for the article in foreign countries, being first ascertained to be sufficient to repay the trouble of collecting it, the persons employed proceed to the mountains from time to time of five or six. It is stated that a single ship is exclusively devoted to transporting the bulk of this commodity to the ports in the Persian gulf; and that, when smaller parcels are carried, it is usual to tie them to the top of the mast. ASAPH, St.; a native of North Wales, lived under Caretissus, king of the Britons, about the time of the junction of the Romans in this part of the world. It is stated that a single ship is exclusively devoted to transporting the bulk of this commodity to the ports in the Persian gulf; and that, when smaller parcels are carried, it is usual to tie them to the top of the mast. ASAPH, St.; a native of North Wales, lived under Caretissus, king of the Britons, about the time of the junction of the Romans in this part of the world. ASAPH, St., or LLAN ELWY; a city and parish of Wales, partly in Denbighshire and partly in Flintshire. The city is seated on the declivity of a — — eminence, between the rivers Clwyd and Elwy, which renders the first appearance striking, although consisting of little more than a single street. The see is supposed to have originated in St. Keltigern, bishop of Glasgow, an exile from Scotland, who, returning to his own country, was succeeded by St. Asaph, from whom both the diocese and town took its name. From the death of the latter in 506, little is known of the succession of bishops, until the thirteenth century; but, even subsequently, in the wars of Owen Glendower, the town and cathedral were nearly destroyed by the ravages of warfare. The church stands in the lower part of the town, and serves for the use of the parishioners, the cathedral not being used for parochial purposes. The latter was built about the close of the fifteenth century; it consists of a choir, a nave, two aisles, and a transept. Several eminent men 2 o.—p. 2
have been bishops of St Asaph, including Drs Isaac Barrow, William Beveridge, and Samuel Horsley. The population of the town and parish is 3,144.

Asarum; the root or dried leaves of the asarabaceae. The powder of the leaves is the basis of most cephal- inders, and they are held to have a curative effect by keeping, or by exposure to heat. Asarabaceae grows in several parts of England, particularly Lancashire and Westmoreland.

Ascension; a considerable kingdom in the interior of Africa, between Fazam and Castrum. The salt is said to have been brought by Hormannus, to mark next to that of Hormuz, among the sovereigns of interior Africa. The inhabitants of A. are Turriacs, of the tribe of Kulluvi.

Asbestos; a mineral substance, presenting much diversity in its structure and colour. It occurs in long, parallel, extremely slender and flexible fibres (amicrobius); in finely interwoven and closely-matted filaments, forming flat pieces (mountain leather); in fibres interlaced so as to form numerous cells resembling cork (mountain cork); in hard, brittle, slightly-curved fibres (mountain wood); and in compactly-fibrous masses, harder and heavier than the other varieties of asbestos. Its best common colours are grey, yellow, green, and blue, intermingled with white. It is found in all countries more or less abundantly, and exists, forming veins, in serpentine, mien slate, and primitive lime-stone rocks. Aminthus, the most delicate variety, comes most plentifully from Savoy and Corsica. Its fibrous texture, and the little alteration it undergoes in strong heats, caused it to be used by the eastern nations as an article for the fabrication of cloth, which, when soiled, was puri- fied by throwing it into the fire, from whence it always came out clean and perfectly white; hence it obtained the name of amures, or untouched. By the Romans, this cloth was purchased at an exorbitant price, for the purpose of wrapping up the bodies of the dead, previously to their being laid upon the funeral pile. The preparation of this cloth is effected by soaking the amanthis in warm water, rubbing it with the fingers, soaking the filaments in oil, when they are mingled with a little cotton, and spun upon the ordinary spindle. When woven into cloth, the fabric is heated red hot, and the oil and cotton consumed, leaving only a tissue of pure amanthis. Paper may also be formed from this substance, in the way in which cotton paper is made, excepting that size is requisite. A book has even been printed on such paper. (See Bibliomania.) Lamp-wicks have also been constructed from amanthis, but they require to be cleaned occasionally from the lamp-black, which accumulates upon them, and prevents the due supply of oil. In Corsica, it is advantageously used in the manufacture of pottery, being reduced to fine fil-aments, and knotted up with the clay; the effect of which is to render the vessels less liable to break, from sudden alternations of heat and cold, than common pottery.

Ascates; a town of Palestine, on the sea coast, 14 miles north of Gaza, and 30 south-west of Jeru- salem. It was one of the sixties of Egypt, and was noted during the crusades. It consists of long streets, and innumerable red granite pillars mostly fallen.

Ascetics; son of Aeneas and Creusa, accompanied his father in his flight from the burning of Troy, and went with him to Italy. He was afterwards called Iulus. He behaved with great valour in the war between his father and the Latins. He succeeded Aeneas in the government of Latium, and built Alba, to which 1200 years after, the septum of Latium, and the sepulchre of the first Aeneas, was added. The descendants of A. reigned in Alba for above 400 years, making 14 Kings, till the age of Numitor. A. reigned 38 years, and was succeeded by Sylvius Posthumus, son of Aeneas by Lavinia. Iulus, the son of A., disputed the crown with Sylvi- us; but the Latins gave it to the latter, as he was descended from the family of Latins, and Iulus was invested with the office of high priest, which remain- ed a long while in his family.

Ascetis, law, are opposed to descendants in succession; i.e., when a father succeeds his son, or an uncle his nephew, &c., the inheritance is said to ascend, or to go to descendants. See Descant.

Ascending, in astronomy, is said of such stars as are rigorously above the horizon in any parallel of the equator; and thus, likewise, ascending altitude—the latitude of a planet when going towards the north pole.—Ascending node is that point of a planet's orbit, wherein it passes the ecliptic to proceed north- ward. This is otherwise called the northern node.

Ascension; an uninhabited island, consisting of naked rocks; a shattered volcano, of about 60 miles in circumference, in the Atlantic ocean; lon. 13° 58' 45" W.; lat. 7° 56' S. It has an excellent harbour, frequented by the East Indiamen and whale-fishers. Fish, sea-fowl, and turtles abound, but there is an inconvenient scarcity of fresh water, insuf- ficient to support some goats, is confined to an emi- nence in the south-east. In a crevice of the rock there is the sea post-office, as it is called—a place where bottles, closely sealed, are left with letters for passing vessels. This island formerly belonged to the Portuguese, and discovered. It was settled in 1501; but, in 1816, some English families from St Helena settled here, on account of the inconvenience which they experienced from the residence of Napoleon. Ascension was then taken possession of by the British government, as a military station, and 60 transport ships were stationed there. By the sale of tins from the cape of Good Hope. A road was laid out, and a fort was built. In 1821, the government re- solved to continue the occupation of this post.

Ascension, in astronomy. We understand by the right ascension of a star, that degree of the equator, reckoned from the beginning of Aries, which comes to the meridian with the star. By the right ascen- sion and declination, the situation of stars in the heavens is determined, as that of places on the earth by longitude and latitude. By oblique ascension, we understand that degree of the equator, counted as before on the eastern side, that more especially corre- sponds to the rising of the sun.

Ascension Day; the day on which the ascension of the Saviour is commemorated, often called Holy Thursday. It is a movable feast, always falling on the Thursday but one before Whitsunday. (For the Ascension of the Virgin, a feast of the Roman Catho- lic church, see Assumption.) Much has been written on the ascension of Christ, in Germany, by Protestant Biblical critics, of whom we will only mention Semm- ler and Paulus.

Ascetics; a name given, in ancient times, to those Christians who devoted themselves to severe exer- cises, and considered the seeking of religious com- fort, the second fruit of their exertions.

Ascetic, of the Greek word asketion (exercise), used by the ancient Greeks to signify the spare diet of the athlete, who, to prepare himself for his combats, made himself unequal to his surroundings. (For the character of the Christian ascetics, and the religious views by which they were guided, see Gnostics. Saints, Monks.)
ASCHAFFENBURG — ASH.

ASCHAFFENBURG (the ancient Aschabarum, laid out by the Romans); a town in the Bavarian district of the Upper Franconia, 18 m. S. of Munich, on the inhabitants, on the Main and Aschaff. It formerly belonged, with its territory, to the electorate of Mentz. The scenery is so beautiful, and the castle so fine, that Gustavus Adolphus of Sweden, when he took possession of it, in his expedition to the Rhine, wished to transfer it, with its ruins, to Lake Maggiore, in Sweden. After the dissolution of the electorate of Mentz, in 1811, A became the summer residence of the prince primate, afterwards grand duke of Frankfort.

ASCIAH, Roger; a learned Englishman of the 17th century, was born, in 1616, of a respectable family in Yorkshire. He was educated at Cambridge, 1630, and was chosen fellow in 1634, and tutor in 1637. In this period of religious and literary revolution, A. joined himself with those who were extending the bounds of knowledge. He became a Protestant, and applied himself to the study of Greek, which began, about that time, to be taught in England. There was yet no established lecturer of Greek: the university, therefore, appointed him to read in the open schools. He was not less eminent as a writer of Latin than as a teacher of Greek. He wrote all the public letters of the university, was afterwards Latin secretary, until also to Mary. Cardinal Pole, who was particularly eminent for his skill in Latin, employed him to translate, for the pope, his speech in the English parliament. In 1544, he wrote his "Toxophilus, or Schola of Shooting," in praise of his favourite amusement and exercise—archery. This book he presented to the king, who rewarded him with a pension of 10 pounds. In 1548, the princess Elizabeth invited him to direct her studies; but, after instructing her two years, he left her without her consent, and, soon after, went to Germany as secretary to Sir R. Morsine. In this journey, he wrote his Report of the Affairs in Germany. Upon the death of Edward, he was recalled, but preserved the office of Latin secretary to Mary, although a Protestant, through the interest of Gardiner. Upon the accession of his pupil, he was continued in his former employment, and was daily admitted to the presence of the queen, to assist her studies, or partake of her diversions, but received no very substantial marks of her bounty. In 1663, he was invited by Sir E. Sackville to write the School-master, a treatise on education, which, though completed, he did not publish. To this work, conceived with vigour and executed with accuracy, he principally owes his modern reputation. His line was, in his own age, mellifluous and elegant, and is now valuable as a specimen of genuine English. He was never robust, and his death, which happened in 1668, was occasioned by his too close application to the composition of a poem, which he intended to present to the queen on the anniversary of her accession. His works were collected and published by Bennet, in one vol. 4to, 1679, enriched with a life by Dr. Johnson.

ASCEMPIADIAN VERSE, consists of two or three cadence-masses, and is accordingly distinguished into greater and less. It always begins with a spondee, and ends with an iambus:

\[
\begin{align*}
&\text{Less:} \\
&| \quad \bullet \bullet \bullet | \quad \bullet \bullet \bullet | \quad \bullet \\
&\text{Greater:} \\
&| \quad \bullet \bullet \bullet | \quad \bullet \bullet \bullet | \quad \bullet \bullet \bullet |
\end{align*}
\]

Their character is, uniting grace with vigour. In Horae, there are five different metres formed of Asclepiadian verses. He uses either the greater or the less alone, or alternately with the Glycemic verse; or employs three less Asclepiadie verses, followed by a Glycemic, or two less Asclepiadie, by a Pherec- tian and a Glycemic verse.

ASCLAPIADEAN REDEMPTIONS of the god of medicine, Asclepius, by his sons Podaliarius and Machaon, spread, together with the worship of the god, through Greece and Asia Minor. They formed an order of priests, which preserved the results of the medical experience acquired in the temples as a medicial secret, and were thus, at the same time, physicians, prophets, and priests. They lived in the temple of the god, and, by exciting the imaginations of the sick, prepared them to receive healing dreams and divine apparitions; observed carefully the course of the disease; applied, as it is believed, besides the conjunctive of the constitution of the body, magnetic remedies, and noted down the results of their practice. They were, accordingly, not only the first physicians known to us, but, in fact, the founders of scientific medicine, which proceeded from their society. The constitution of this medical family order was, without doubt, derived from Egypt, whence also the coluber Asclepius, Linna., which was used as a healing and prophetic serpent, was brought by the Phenicians to Epidaurus, the chief seat of the god. Round this serpent-god an order of priests was gathered, and thence spread his worship. (In later times, 290 a. C., a statue of Asclepius was sent to the island of Tiber, near Rome.) No one could be initiated into the secrets of their knowledge without a solemn oath. At first, this order of priests was confined to the family of the Asclepiades, who kept their family register with great care. Aristides celebrated them by his eulogiums at Smyrna. Hippocrates of Cos, the founder of scientific physic, derived his origin from it, and the oath administered to the disciples of the order (juxvarandum Hippocrates) is preserved in his writings. An Asclepiades from Prussia, in Bithynia, 20 years B. C., is mentioned as the first practical physician at Rome, and as the founder of the medical school. In the course of time, strangers, also, as Galen reports, were initiated into these mysteries and this order. We find the name of A. also in the literature of the Greeks. See Dissertations on the Fragments of Asclepiades of Ephesus, in the Acta Philosophorum Monensium, edited by Thiersch, 1st vol., 4th No., p. 490.

ASELLI, or ASELLIUS, Caspar; an Italian anatomist of the 17th century. He was born at Cremona, studied medicine, and became professor of anatomy in the university of Pavia, where he highly distinguished himself. As the first to discover the process of absorption of vessels, the office of which is to absorb the chyle formed in the intestines, and thus contribute to the support of animal life. A. first observed these vessels in dissecting a living dog. His investigations were published after his death at Milan, 1627.

ASEN. See Mythology, northern.

ASENL John, an English barrister, and singular writer, was born about the middle of the seventeenth century. In 1698, he published a work entitled, "Several Arguments proved, in order to create another species of money than Silver and Gold," and an Essay on a Registry for Titles of Land. These productions were followed in 1700 by a fanciful and enthusiastic work, entitled "An Argument proving that, according to the Covenant of Eternal Life, Man may be translated from hence without passing through Death, although the Human Nature of Christ himself cannot be transmuted thus, without a Body-based Death." For this work, which was declared blasphemous, he was expelled the House of Commons, of which he was a member. He died in 1738, at a very advanced age.

Asn. The common ash (fraxinus excelsior) is a well-known tree. It is a native of Europe and the
ASH-WEDNESDAY—ASHES.

north of Asia, and grows in a light, springy (but not marshy) soil, especially if muri or calcareous. When planted in bogs, it contributes much to drain them. It will grow in almost any situation, even in hard clay and dry gravel; though poor, dry, sandy ground is fatal to it. Its smooth, stately stem rises to a great height, with spreading; or, rather, drooping branches, with winged leaves, the leaves in four or five pairs, with an odd one serrated, and without foot-stalks, and the flowers without petals.—Of late years, this valuable tree has been much planted in several parts of England. The timber, which has the rare advantage of being nearly as good when young as when old, is very much in demand and may generally be esteemed next in value to oak. It is much used by coach-makers, wheelwrights and cartwrights; and is made into ploughs, axle-trees, fel lows of wheels, harrows, ladders, and other implements of husbandry. It is likewise used by ship-builders for various purposes, and by coopers for the hoops of tubs and barrels. Where, by frequent cutting, the wood has become knotty, irregular and veined, it is in much request for cabinet-work, by mechanics in Europe. As fuel, this tree burns better, whilst wet and green, than any other wood. The finest ash-tree, perhaps, in Britain, is in the churchyard, Dunbartonshire. Its trunk is about nine feet high, and where smallest upwards of eighteen feet in circumference. Of the three principal arms into which it branches, the largest is eleven, and the smallest near ten feet in circumference. The branches spread in every direction with uncommon regularity, covering an area of nearly 100 feet in diameter, and the general aspect is singularly venerable and majestic. There are no data from which its age can be conjectured. Nearly a hundred years ago, it was noticed by Marsham of Stratton near Norwich, a celebrated planter, as one of the first ashes he had seen; and a tendency to decay in some of the boughs seems to indicate that it has stood for several centuries.

ASH-WEDNESDAY; the first day of Lent, a fast forty days long, which the Catholic church orders to be kept before the feast of Easter. It derives its name from the ancient and still existing custom of putting ashes upon the head, as a symbol of humble repentance for sin. It was formerly, and, to a certain extent, is still the custom in Catholic countries, to confess on Ash-Wednesday, to cleanse one's self during Lent, and to partake of the Lord's supper at Easter. In England, however, it is highly improper, wholesome for all the people, after giving themselves up to every species of gaiety during the carnival, till twelve o'clock on Tuesday, go, on Ash-Wednesday morning into church, where the officiating priest puts ashes on their heads, with the words, "Dust thou art; and unto dust thou shalt return." To throw ashes on the head, as an expression of humiliation and repentance, was an old custom of the Jews.

ASHANTEE; a warlike nation of negroes, on and near the Gold Coast of Guinea, in the vicinity of the British settlement, Cape Coast castle, at Sierra Leone, with which we have become acquainted by Bowdich's Mission to Ashantee (London, 1810), and Jos. Dupuis' Journal of a Residence in Ashantee (London, 1824), as well as by their bloody war with the British, in 1824, in which the governor of the above-mentioned British colony, general M'Carty, lost his life. The kingdom of the Ashantees was founded, about 100 years ago, by an ancient king of the land, with a kind of feudal constitution. It extends from 6° to 9° N. lat., and from 0° to 4° E. lon. to the river Volta. The residence of the king is Coomassie. The law permits him to have 3333 wives, a mystical number, on whom he has the care of the nation rests. His servants, above 100 in number, are slaughtered on his tomb, that he may arrive in the infernal regions with a suite becoming his rank. Several negro states, under their own princes, are dependent on him. Ashantee itself (14,000 square miles, with 1,000,000 inhabitants) forms a part of Wagurama, which contains two other states, Dalomy, and the powerful Benin, which latter can lead 260,000 men to war. The fertile Benin is more advanced in civilization than Ashante. The latter, however, display much taste and elegance in their architecture; they also dye, with skill, and manufacture cloths of exquisite fineness and brilliancy of colour.

ASHBOURNE; a market town and parish in Derbyshire. The town is situated on the eastern side of the Dove, over which is a stone bridge. It is divided into two parts by a rivulet, called the Henmore, the most southern of which division is termed Compton, the ancient Campidene. It has a considerable trade in cheese and malt, and many horses and cattle are sold at its fairs. Much lace is made here, and the iron and cotton factories in the neighbourhood employ a great many persons. Population of town and parish, 4,884.

ASHBURTON; a market town and parish in Devonshire. The town is situated in a valley, surrounded by hills, where the River Dart, which consists principally of one long street, through which is the high road from London to Plymouth. There are several productive tin and copper-mines in the vicinity, and an extensive manufactory of serge in the town; and the Tuesday market is held chiefly for wool and yarn. Population of town and parish, 4,615.

ASHBY-DELA-ZOUCH; a market town and parish in Leicestershire, situated in a fertile valley on the borders of Derbyshire, through which runs the small river Giwiskaw. It takes its distinctive appellation from the ancient family of the Zouches, who came into possession of the manor of Henry III. It subsequently devolved to the crown, which granted it to the noble family of Hastings, in right of whom the marquis of that title possesses it at present. The town consists of one principal street, from which branch several smaller ones. The manufactures established here are chiefly those of cotton and woolen stockings, and hats. There is likewise a good trade in malt; and the fairs are celebrated for the sale of fine horses and cattle. The ruins of Ashby castle, of great note in former times, and which received Mary queen of Scots as a prisoner, and her son James, the third Earl of Lennox, when he was left there by his father Hastings so lastly executed by Richard III.; and dismantled during the civil wars in the reign of Charles I. Population of parish, 4,727.

ASHES; the fixed residuum, of a whitish or whitish-grey colour, which remains after the entire combustion of organic bodies, and is no longer able to support combustion. The constituent parts of ashes are different, according to the different bodies from which they originate. The ashes of vegetables consist chiefly of earthy and saline ingredients, the latter of which may be separated by washing, and are called vegetable alkalis. (See ALKALI.) The more compact, the texture of the wood is, the more alkali it affords. Some herbs, however, yield more than trees, and the branching fern the most. The more the plants have been dried, the less they produce. The vegetable alkali is always combined with carbonic acid. The order of precedence by which the ashes are produced, and the more continued and powerful the calculation of the alkali, the more caustic will it be. It can only be entirely purified from foreign substances by crystallization. (See Potaash.) Of quite a different quality are animal ashes, particularly those obtained from bones. After calcination, it retain its
original texture, and contains, besides lime, a peculiar acid, called phosphoric acid. — The use of vegetable substance, or manure, is well known to farmers, and many farmers, bleachers, and other tradesmen use them in an immense quantity. They are, also, an excellent manure.

Ashford: a market town and parish in Kent, pleasantly situated on a gentle eminence, near the confluence of two branches of the river Stour, one of which is a bridge, and contains many handsome houses. The inhabitants of this town and its vicinity are much engaged in the rearing and fattening of cattle, for the sale of which its markets and fairs are much celebrated. Population of parish, 2,809.

Astronomies: the creed of the human race, of nations, religions, and states, of languages, arts, and sciences; rich in natural gifts and historical remembrances; the theatre of human activity in ancient times, and still exhibiting, in many places, the characteristic traits which distinguished it many centuries since. It forms the eastern and northern part of the old world, and is separated from Australia by the Indian and the Pacific oceans, including the gulfs of Bengal, Siam, and Tonquin; from America, on the N.E., by Cook's or Behring's straits, and on the E. by the great Eastern or Pacific ocean, including the gulf of Coral, the seas of Japan, Tongou (Vicinity of Vancouver); from Abyssinia by the Indian ocean (with which is connected the Persian gulf); and by the Arabian gulf, or Red sea, with the straits of Babemandel; from Europe by the sea of Azof, with the straits of Caffa, by the Black sea with the Bosphorus, by the sea of Marmora and the Dardanelles, and by the Grecian archipelago. On the other land, it is united with Africa by the desert isthmus of Suez, and with Europe by the waters of the Volga (which rises near the Baltic, and falls, with the Urals, into the Caspian sea); also by the rocky girdle, as the Tartars call it, of the Urals and the Wcherotian mountains, which rise 77 N. lat. in Nova Zembla, separate the plain of the Volga from the higher table-lands of Siberia, and are connected with Upper Asia by a branch of the Little Altai, abounding in ores. A line drawn from East Cape at Behring's straits to the entrance of the Arabian gulf, would embrace the greatest extent of this continent, and would measure above 7,500 British miles; while a line drawn from Cape Severo-vestochaln in Siberia, under the parallel of 76° 10' to Cape Romania, the southern extremity of Malacca, in 1° 18' N. lat., would measure 5,160 British miles. Hassel has calculated, indeed, 10,035-295 British square miles, and Graberg, without the islands of the Indian ocean, at 16,263,100 square miles; but these measurements are mere approximations. Asia is four times larger than Europe. It is divided into, 1. Southern Asia, comprehending Natalia, Armenia, Curdistan, Syria, Arabian Peninsula, Hindostan, Persian India, Siam, Malacca, Annam, Tonquin, Cochín China, Laos, Cambodia, China, Japan; 2. Middle or Upper Asia, containing Caucasus, Tartary, Buchara, Mongolia, Tungouza; 3. Northern or Russian Asia, from 44° N. lat., containing Kazan, Astrachan, Orenburg, Kaban, Kalkand, Georgia, Inibret, Siberia, with the Alpine regions of Daours and Kamschatka. The centre of this continent, probably the oldest ridge of land on the earth, is called Upper Asia. Here the Bogdo (the majestic summit of the Altai) forms the central point of all the mountains of Asia. Upper Asia comprises, perhaps, the lowest elevated plain of the earth, with the desert of Khoi, or Sham, on the northern frontiers of China, 400 leagues long, and 100 leagues broad; barren, dry, and waste; visited alternately by scorching winds and chilling storms, even in summer, and affording

Knott, Lanes, with the populous landless of Boston, Charlestown, Dukinfield, Fairfeld, Hay, Hurl, Lancaster, Medford, Medfield, Needham, and Smallshaw. The town, which is built on the north bank of the river Tame, consists of several narrow streets. It has been much enlarged of late years by the extension of the cotton and woollen factories, which branches of manufacture, but more especially the latter, are carried on deftly on a large and very extensive scale. There are also several colliers in the vicinity, which employ a great many persons; and together with the port from Ashton Moor, on the west of the town, render fuel very plentiful. Population of parish, 39,597.

Asia; the creed of the human race, of nations, religions, and states, of languages, arts, and sciences; rich in natural gifts and historical remembrances; the theatre of human activity in ancient times, and still exhibiting, in many places, the characteristic traits which distinguished it many centuries since. It forms the eastern and northern part of the old world, and is separated from Australia by the Indian and the Pacific oceans, including the gulfs of Bengal, Siam, and Tonquin; from America, on the N.E., by Cook's or Behring's straits, and on the E. by the great Eastern or Pacific ocean, including the gulf of Coral, the seas of Japan, Tongou (Vicinity of Vancouver); from Abyssinia by the Indian ocean (with which is connected the Persian gulf); and by the Arabian gulf, or Red sea, with the straits of Babemandel; from Europe by the sea of Azof, with the straits of Caffa, by the Black sea with the Bosphorus, by the sea of Marmora and the Dardanelles, and by the Grecian archipelago. On the other land, it is united with Africa by the desert isthmus of Suez, and with Europe by the waters of the Volga (which rises near the Baltic, and falls, with the Urals, into the Caspian sea); also by the rocky girdle, as the Tartars call it, of the Urals and the Wcherotian mountains, which rise 77 N. lat. in Nova Zembla, separate the plain of the Volga from the higher table-lands of Siberia, and are connected with Upper Asia by a branch of the Little Altai, abounding in ores. A line drawn from East Cape at Behring's straits to the entrance of the Arabian gulf, would embrace the greatest extent of this continent, and would measure above 7,500 British miles; while a line drawn from Cape Severo-vestochaln in Siberia, under the parallel of 76° 10' to Cape Romania, the southern extremity of Malacca, in 1° 18' N. lat., would measure 5,160 British miles. Hassel has calculated, indeed, 10,035-295 British square miles, and Graberg, without the islands of the Indian ocean, at 16,263,100 square miles; but these measurements are mere approximations. Asia is four times larger than Europe. It is divided into, 1. Southern Asia, comprehending Natalia, Armenia, Curdistan, Syria, Arabian Peninsula, Hindostan, Persian India, Siam, Malacca, Annam, Tonquin, Cochín China, Laos, Cambodia, China, Japan; 2. Middle or Upper Asia, containing Caucasus, Tartary, Buchara, Mongolia, Tungouza; 3. Northern or Russian Asia, from 44° N. lat., containing Kazan, Astrachan, Orenburg, Kaban, Kalkand, Georgia, Inibret, Siberia, with the Alpine regions of Daours and Kamschatka. The centre of this continent, probably the oldest ridge of land on the earth, is called Upper Asia. Here the Bogdo (the majestic summit of the Altai) forms the central point of all the mountains of Asia. Upper Asia comprises, perhaps, the lowest elevated plain of the earth, with the desert of Khoi, or Sham, on the northern frontiers of China, 400 leagues long, and 100 leagues broad; barren, dry, and waste; visited alternately by scorching winds and chilling storms, even in summer, and affording
besides its deserts, only rivers and lakes; as the Caspian, the lakes Amul and Biakul, and several situated among the mountains. From the northern and southern declivities of this region, the first tribes of men set out in all directions, following the course of the rivers in four chief lines of descent, north, east, south, and west. At least, the radical words in the Indian, Median, Persian, Scythian, Greek, and Teutonic original languages, between which there are striking affinities, all point to the west of Upper Asia or Iran. Those heights in the Himalaya chain (q.v.), under the 35th degree of N. lat., which are said to attain an elevation of 27,677 English feet, could not be traversed unless they were extended from the south, where they were broken by cape Comorin and Cape Romania, flowed round the Chinese sea to the north, where the East cape on the east, Tchukotskoi-ross on the north-east, and the icy cape in the Arctic ocean, became the extreme points of the continent. The islands in the east (Japan, the Kurile, and Aleutian isles, those of Formosa, Hainan, and Leuco-Cecro) and in the southwest (Socotra, Ormus, &c.), in particular the groups of islands on both sides of the equator (see Indies, East, and the peninsula Kamschatka and Corea, India on its side and beyond the Ganges river &c.), may exhibit bears visible marks of the destruction of the primitive continent by fire and water; hence the numerous extincting or still active volcanoes, in the interior, on the coasts, and particularly on the islands. The interior opens an immense field of speculation. A traveler like Humboldt. The sources of all the large rivers of Asia, which must be sought for in the mountains of Upper Asia, have not been accurately examined since the time of Marco Polo. As little known are the southern declivities of the Mussert, Mustag (or Immus), and of the Indian Alps, which extend over 820,000 square miles, and contain the kingdoms of Thibet, Bootan, Nepaul, Assam, &c., with the snowy summits of the Hindoo Koosh (Parvamisus), Belurtag, Kentaise, and the Himalaya. It is the same with the northern elevation of the Alai, which, in the north-east, joins the mountains Chingal (the holy land of Genghis Khan and of the Manchou tribes, extending to Corea and Japan). From the southern Alpine girdle descends the holy rivers of the Hindoo—the Bramapootra, the Ganges, and Indus; in the east, the less known rivers of Innowady, Meiam, Lukian, and Mecon (or Caspian), which extend to the Euphrates river and the Cagris (q.v.), which all take their course towards the south, and run into the great gulf of the Indian ocean. From the northern ridge, the Oby, Yenisei, Lena, and many others flow into the Arctic ocean; on the eastern coast, the great rivers Amour, Hoang-ho, and Yang-tse-Kiang descend into the bays of the Pacific ocean; farther west, the Gihon, or Amu (the ancient Oxus), and the Sir-Daria, or Jihon (Jazartes of the ancients), flow into lake Aral. Almost as little known are the western ranges of mountains, the Caucasus, Tauris, and in Armenia the Ararat, near which the Euphrates and Tigris become much increased, and where, in ancient times, the Roman victories found a limit. We have lately become better acquainted with the mountain passes, through which the first inhabitants of Europe may have wandered from the deserts of the Tauris, from the bosom of which the Cuban flows into the Black sea, and the Aras (Areces), with the Kur, into the Caspian.—Nature has spread over Asia all the treasures of the earth, most abundantly in India; her boundaries are distributed, by imperceptible gradations, through all its four chief zones, a desert zone, whose genial warmth converts the juice of plants to spices, balsam, sugar, and coffee. with which Asia has enriched the West Indies, the palms (sago, cacao, date, and umbelliferae) reach a height of 200 feet, and the white elephant attains a size surpassing that of all other quadrupeds. From hence the silk-worm was brought to Europe. This region conceals in its bosom the most beautiful diamonds, the finest gold, the best tin, &c., whilst the waves flow over the purest pearls and corals. The temperate zones given to Europe the melon, the vine, the orange, and many of its most agreeable garden-fruits, as well as the most productive farinaceous grasses, and the most charming flowers; and unites, in its productions, symmetry with richness, particularly in the western countries. The mountains, with their frequent alpine terrains, and here lie the enchanting Cashmere and the Garden of Damascus; here blossoms the rose of Jericho (ana- statica), near the cedars of Lebanon. The eastern countries, in the same latitude, possess the tea-shrub and the genuine rhubarb. The camel, the Angora goat, the Thibetian sheep, the pheasant, and the horse are natives of this zone. In the north blossoms the Alpine flora of Duarwa, and from the icy soil grows the dwarf-like Siberian cedar, till, at 70\, the vegetation mostly ceases. Here lives the smallest of quadrupeds—the shrew-mouse of the Yenisey. Savages, nomads, or tribes, eremites, and those pure and genuine farmers, which still remain. The mineral kingdom furnishes rich ores, rare precious stones, and remarkable fossil remains, e.g. those of the mammoth, in high northern latitudes. (See Organic Remains.)—The inhabitants, amounting to 300,000,000, according to some, to 500,000,000, are divided into three great branches: the Caspian, in Western Asia, exhibits the finest features of our race in the Circassian form: the Mongolian race is spread through Eastern Asia; the Malay in Southern Asia and the islands. The north is inhabited by the Samoiedes, Tartars, and others. Twenty-four tribes, of different language and origin, may be distinguished, some of which are the relics of scattered tribes of Nomades: Kainckchales, Osticns, Samoiedes, Korkas, Kurilans, Aleutians, Coreans, Mongols, and Kalmucks, Manchoues (Tungus, Deurians, and Mandchou Proper), Finns, Circassians, Georgians, Greeks, Syrians, and Armenians, Tartars and Turks, Persians and Afghans, Thibetans, Hinduos, Siame, Malayas, Annamites (or Cochín China and Tonquin), Bermese, Chinese, and Japanese, besides the indigenous inhabitants of the East India islands, Jews, and Europeans. The Parsee is the most effeminate of the Asiatic nations, from the savage state of the wandering hordes to the most effeminate luxury; but liberty, founded on law and the moral and intellectual education of man, is wanting. Priests and conquerors have long decided the political character of the great nations of the continent, and the frequent revolutions and changes of dynasties, ever maintaining the principles of blind obedience. Asia has been subjected, at different times, to the Assyrians, Medes, Chaldeans, Persians, Greeks, Syrians, Parthians, Arabs, Mongols, Tartars, Seljouks, Turks, Afghans, &c.; Ancient and the intellect is least progressive in this continent. Woman yet remains de-
grated to a slave of man. The prevailing government is despotism, the offspring of Asia. Hence the condition of a Spartan and an Athenian is kept up in all the public relations, and that apathy of the people, in regard to fate, connected with duty, and produced partly by opinion, partly by superstitious fear, which is almost a universal characteristic of the Asiatics, notwithstanding the violence of their passions. There are, however, some tribes with a republican form of government; and relics of the patriarchal authority of the heads of families still are found. Near the colonies of the Europeans in Southern and Northern Asia, the civilization of the Christian world has been introduced. Christianity, though despised and murdered by the Moors, the Turks, and the Persians (see Maronites, Monophysites, and Sects), has gained many adherents, throughout all Asia, by means of translations of the Bible, distributed by Britain and Russia. In Bengal and St. Petersburg, the translation of the Bible into the languages of Southern Asia has been prosecuted with a benevolent zeal. In Petersberg, similar efforts have been made for the benefit of the Mongolian Tartars. Even in China, Christians are found again, but none in Japan since 1637. The aeronaut and astrology, poetry, morals, theology, laws, and the rude empirical medicine of the Asiatics, are introduced into the Roman province with a deeply rooted superstition, which leads even to child murder and self-sacrifice in the flames. The Mohammedan religion, the central point for instruction in which is in Samarcand, prevails in Western Asia. (See Fihabah.) Over all Central and the eastern part of Northern Asia, prevails the religion of the Lama. The religion of Brama, the head quarters of which is Benares, is confined chiefly to Hindostan, and Shaminism to the tribes in Northern Asia and to the Russian archipelago. The ancient doctrine of Zoroaster is confined to single families in India and Persia; whilst the Mosaic has numerous adherents through all Asia, except the Russian part. Physical and mechanical cultivation is carried to a higher degree of perfection than intellectual and moral; e.g., by the Indian jugglers and Chinese mechanics. Remarkable skill has been acquired by certain classes of Hindoos in the weaving of silk and cotton. The shawls of Cashmere, the leather of Persia and Syria (morocco, cordovan, shagreen), the porcelain of China and Japan, the steel of Turkish Asia, the lacquered wares of China and Japan, &c. are well known. The internal commerce is still carried on by camels and horses. The caravans from Abarkuh and Meshed, when merchandise was transported from India, through Bactria, to Colchis, as at present to Makarien, Moscow, and Constantinople. The foreign commerce of China and the East Indies is wholly in the hands of the Europeans.—British, Dutch, and Russians—and of the North Americans. The religious, civil, and social condition of the Asiatics proves, that, where the free development of the higher powers of man is subject to the restraints of castes, and to the tyranny of priests and despots, and where the adherents to established forms has become a matter of faith, law, and habit,—the character of society must degenerate, and the energies of man become palsied. Hence the Asiatic, notwithstanding the richness of his imagination, never attained the conception of ideal beauty, like the free Greek; and, for the same reason, the European, whose mental imagination has been entirely emancipated from the fetters of society, possesses that power of exercise over the West, and has obtained dominion over the coasts and territories of his old lord and master, Greece led the way, and, after having transformed the obscure symbols of the East to shapes of ideal beauty, shook off the spiritual fetters of priests and oracles, and, at the same time, the temporal yoke which the Persian Darius had prepared for Athens (494) and of the Spartans (228). At last the triumphs of Cimom (in 449 B. C.) first enabled Europe to prescribe laws to the East. Grecian civilization then spread over the whole of Western Asia, to India, and even the military despotism which succeeded has not been able to extinguish the light entirely. In later times, the Romans and Persians fought for the possession of the Ephrathites, and the Persians, under the Sassandies, attempted to tear the dominion of the world from the hands of Rome. Since that period, Asia has four times taken up arms against Europe. The nations of Upper Asia, driven from the frontiers of China by Tartar invaders, have attempted (see Avari, Bulgarians, and Magyars, successively issued from the Caspian gates, and from the wildernesses of Ural, to subdue Europe; besides those later horses, which were mingled and confounded with each other in Southern Russia and on the Danube. But the rude power of Attila and of the grandsons of Arpit was broken in conflict with the Germans. Next, the Arians attacked Constantinople, Italy, and France, but their fanatical impetuosity was checked by Charles Martel, in 732, and the chivalrous valour of the Gothic Christians rescued the peninsula within the Pyrenees, and then turned their arms to the East, to recover the holy sepulchre from the sultan of the Seljooks, and Christian Europe became better acquainted with Asia; but the sword alone cannot conquer a continent. (See Crusades.) Upper Asia sent again, under the Mongol Temmucchin (see Gerghis-Khan), his mounted hordes over the world. Again the Germans stayed the destroying flood near Liegnitz. (See Wahibadd.) Finally, the Tartars and Ottoman Turks invaded Europe. In 1453, they took the Bosphorus and Greece from the feeble hands of the Eastern Romans. In succeeding times, Europe has been defended against Asia, on this side, by Germany. The intellectual progress of the European, since that period, has raised him above the most ancient nations of the East—Persians, Arabs, Indian, and Chinese. Gunpowder, the mariner's compass, and the art of printing (which the last-mentioned nation possessed, but could not apply to much use), have become powerful in his hands. Hence Russia has gained the Wolga, explored Siberia, kept watch over the seat of the ancient and modern Scythians, the mountains of the Altai, and finally conquered the tribes of the Caucasus; whilst (since 1783) disputes with China (discovery of the East Indies, in 1498) the Portuguese, Dutch, and French, and particularly the British, by their universal commerce, have made the rich countries of Southern Asia acquainted with European laws, and Europe with the condition and luxury of those countries. Persia is already entangled in the European international policy, which is principally owing to the efforts of Sir Harford Jones, Sir Gore Ouseley, Mr James Morier, and the Russian general Yermathoff. The diplomacy of the court of China, now more than ten centuries old, still resists European encroachments. Japan, alone, yet denies all approach to Europeans; and her jealousy is as effective as the polar ice, which blocks up the passages of the Frozen seas. But the inquisitive spirit of European navigators has gradually penetrated the most secluded regions, from the time of Marco Polo, the Venetian (1270), to the time of the Portuguese, English, and Dutch, who will soon join hands, or perhaps swords, in the heart of Asia. (For further information, see Malte-Brun's Geography; Bell's Geography; Murray's work On the Progress of Discovery in Asia; Ritter's Geography, published in 1824, at Berlin; also, Leake's Journal of a Tour in Asia Minor; also, the
articles on the different countries of Asia, and those on Niebuhr andBurckhardt.

Asia Minor; the most western portion of the great continent of Asia, bounded by the black sea on the north, by the river Euphrates on the east, and on the west by the Mediterra¬

ean Sea, and by the straits of the Hellespont and Bosphorus. It is about 1000 miles in length from east to west, and between 400 to 500 in breadth from north to south. The whole country is under the Turkish government, and is divided into several provinces, of which Natalia and Caraman are the most important. See Natalia.

Asiatic Societies and Museums; learned bodies instituted for the purpose of collecting valuable information of every kind, respecting the different countries of Asia. The three great central points where this knowledge is accumulated are, London, Paris, and Petersburg. The royal Asiatic society of Great Britain and Ireland contains 300 members. It was established by Mr Colebrooke, and opened March 19, 1823. Its transactions are published in London. Similar societies have been formed in Asia itself, at Calcutta, and in China. Since the foundation of the Asiatic society in Calcutta, by Sir William Jones, in 1784, the study of Asiatic literature has made great advances. The secret of the Sanscrit literature has been obtained from the Brahms, and its connexion with the Greek put beyond all doubt. Many words have been printed which greatly facilitate the study of the Arabian and Persian languages and literature. Asiatic philology has made great progress. Even Chinese literature has come forth from its recesses.—The société Asiétique, at Paris, was founded, in 1822, by a number of learned men. It opened its sittings April 21, 1823, having already commenced, in July, 1822, the publication of the Journal asiétique, ou Recueil de Mémoires, d’Extraitset de Notices relatifs à l’Histoire, à la Philosophie, aux Sciences, à la Littérature et aux Langues des Peuples Orientaux. The 2d vol. appeared in 1823. The museum connected with it was established in 1825. The principal members, who are, at the same time, editors of the journal, are Chézy, Coquebert, de Montbret, Degérande, Fauriel, Grangeret, de Lagrange, Hase, Klaproth, Abel Remusat, Saint Martin, Silvestre de Sacy. In the Asiatic society at London, and London, professorship of the Oriental languages are wanting, which are connected with the society at Petersburg. London is particularly deficient in this respect, the professors being confined to Oxford and Cambridge. In Paris, lectures are given on the Ambian, Persian, Turkish, Sanscrit, Chinese, and Tartar languages, in the collège royal, and in the royal library.

Aslan, or Aslan; in commerce, a name given to the Dutch dollar, in most parts of the Levant. Sometimes the word is written asstonen. It is of Turkish origin, signifying a lion, the figure stamped on these dollars. It is silver, but much alloyed, and is current for 115 to 120 aspers. See Asper.

Asmannshausen, wine of. The plant which yields this wine grows on the Rhine, below Rudesheim, a village on the banks of that river, on a soil formed of blue slate. The red kind, the production of a small, red, Burgundy vine, is the more valuable. Its color is peculiar. In some places, an awne (a seventh of an English tun) of the best of costs from 120 to 160 florins. It retains its value only three or four years. After this time, it grows worse every year, and precipitates the whole of its red coloring matter. They elaborate it in order to make the wine preferable to the sort to the best Burgundy. It is distinguished by colour and taste from all the other Rhenish wines. We know of instances in which it has borne transportation across the Atlantic.

Asmodai; according to Hebrew mythology, an evil spirit which slew seven husbands of Sara, daughter of Raguel, at Hages. By the direction of the angel Raphael, the young Tobiah drove him away, with the smell of a fish’s liver burned on the coals, which so repelled the angel, that he bound him. Asmodai signifies a desolator, a destroying angel; it is also written Abaddon.

Asores; the name of several rivers in Greece. The most celebrated of this name are those in Achaea and Epidamnus. See Aegae.

Asp, Asp; a species of viper found in Egypt, resembling the cobra du capello, or spectacle serpent of the East Indies, except that the neck of the asp is not so capable of expansion, and its colour is greenish, mottled with brown. The asp is the cobra hafe, L. hippeus hafe, Geoff. This venomous serpent is found in the vicinity of the Nile, and has been celebrated for ages, on account of the quick and easy death resulting from its bite. When approached or disturbed, this viper, like the cobra du capello, elevates its head and body to a considerable degree, extends the skin of its neck, and makes a loud hissing sound to attack the aggressor. This peculiarity gave origin to the ancient Egyptian superstition, that the asps were guardians of the spots they inhabited, and led to the adoption of the figure of this reptile as an emblem, on the coins of Egypt. The Egyptians supposed it to be a snake carved on each side of the globe, one of these serpents, in the attitude above described. The same device is also found among the paintings on the coffins of mummies, which also contain representations of the asp in various relations to other hieroglyphics. The circumstance originating the preceding notion has led to the employment of the asp as a dancing serpent by the African jugglers, either for exhibition as a source of profit, or to impose upon vulgar credulity. The asp for this purpose are carefully deprived of their fangs, which enables their owners to handle them with impunity. When they are to be exhibited, the top of their cage, commonly a wicker-basket, is taken off, and, at the same moment, a flute or pipe is played. The asp immediately assumes the erect position, and the balancing motions, made during its protracted efforts to maintain this attitude, which are in the most extraordinary case, present a most curious circumstance is stated, on good authority, relative to the asp, which is, that the jugglers know how to throw it into a sort of catalepsie, in which condition the muscles are rigidly contracted, and the whole animal becomes stiff and motionless. This is done by compressing the cervical spine between the finger and thumb. The trick is called changing the serpent into a rod or stick. In the relation given by Moses of the miracles performed before Pharaoh, to induce him to allow the departure of the Israelites, we read, that Aaron cast down his rod before Pharaoh and his servants, and it became a serpent. Then Pharaoh called also the wise men and the sorcerers: now the magicians of Egypt, they also did in like manner with their enchantments: for they cast down every man his rod, and they became serpents: but Aaron’s rod swallowed up their rods." Exod. vi. 10, 11, 12. It is possible, that, to keep up their credit with Pharaoh, by appearing to possess equal power with Aaron, the Egyptian jugglers held asps in their hands, in the cataleptic condition above described, as rods, which only required to be thrown down for the same active operation. The superiority of the real miracle of Aaron’s transformed rod over this pretended one of the jugglers, is shown by the swallowing up of the other serpents. The asp has also acquired a great degree of notoriety in consequence
of the use made of it by Cleopatra, the queen of Egypt, equally famous for the brilliancy of her charms and the licentiousness of her life. In his Life of Mark Antony, Plutarch makes the following statement, which shows to what an extent a vicious course of living had corrupted a noble and talented woman.: Antony and Cleopatra had before established a society, called the insatiable lovers, of which they were members; but they now instituted another, by no means inferior in splendour or luxury, called the companions in death. Their friends were admitted into this, and the time passed in mutual treats and diversions. Cleopatra, at the same time, was making a collection of poisons, which are usually being desirous to know which was least painful in the operation, she tried them on the capital convicts. Such poisons as were quick in their operations, she found to be attended with violent pain and convulsions; such as were milder were slow in their effects. She therefore applied herself to the examination of venomous creatures, and caused different kinds of them to be applied to different persons, under her own inspection. These experiments she repeated daily, and at length she found that the bite of the asp was the most eligible kind of death; for it broke the heart before death, and the heart, in the case where the poison was covered with a gentle sweat, and the senses sunk easily into stupification. Those who were thus affected showed the same unresisting at being disturbed or awaked, that people do in the profoundest natural sleep.

Langhorn's Plutarch.—It is not surprising that Cleopatra finally resorted to the asp to destroy her own life. This is stated very doubtfully by Plutarch, and is, by Brown, ranked among his popular errors; yet, as the Egyptian queen is known to have committed suicide, we cannot doubt, after what we have cited from Plutarch, that she resorted to the mode of dying which her own experiments had proved most easy. As two small punctures were found on her arm, quite adequate to produce the result, if made by an asp, we conclude, with Shakspere, that it is—most probable

That so she died; for her physician tells me
She hath pursued conclusions infinite
Of easy ways to die. Antony and Cleopatra.

—a dreadful as the poison of the asp, and, indeed, of most of the vipers, is, it may be rendered entirely harmless by immediately applying forcible pressure on the side of the wound nearest the heart. In this way the cupping-glass, ligature, &c, produce their beneficial effects, and not by the removal of the poison. For a most satisfactory establishment of this highly important fact, the scientific world is indebted to Caspar W. Pennock, M. D. of Philadelphia, whose experiments are published in the 1st vol. of the American Journal of the Medical Sciences, where he has shown that simple pressure, however applied, sufficient to close the vessels on the side of the wound next the heart, prevents any poison, even that of the rattle-snake, from producing injurious consequences.

Asparagus. Asparagus officinalis is a well known plant, the young shoots of which are a favourite culinary vegetable. Few circumstances in the phenomena of vegetation are more remarkable than the gradual development of size, and improvement of quality, which have taken place in the cultivation of asparagus. It grows wild on the pebbly beach near Weymouth (England), and in the island of Anglesea; but its stem, in these situations, is not usually thicker than a goose-quill, and its whole height does not exceed a few inches; whereas, in gardens, its stem is sometimes nearly three quarters of an inch thick, and its height, when at maturity, is four or five feet. Asparagus is one of the greatest delicacies which our kitchen gardens afford, and it is particularly valuable from the early season at which it is produced. It is usually raised from seed, in beds formed for the purpose; and the plants should remain three years in the ground before they are cut; after which, for several years, they will continue to afford a regular annual supply. During the winter, they are secured from the effects of frost by the beds being covered some inches thick with straw or litter. In the cutting of asparagus, the knife is passed three or four inches beneath the ground. The plants are cut by sloping the blade upward, and the wounds in the bed are made with a view to prevent the cut ends of the stalks that had not previously been exposed to the air. The smallest plants are suffered to grow, for the purpose of producing berries to restock the beds, and keep them continually in a state of supply.

Aspasia, was born at Milethus, in Ionia. Her father's name was Axiochus. She seems to have followed the example of Thargelia, another beautiful woman of Ionia, who united a love for politics and learning with all the graces of her sex. All foreign women, in Athens, were deprived of the benefits of the laws: their children were looked upon as illegitimate, or, if legitimate, the state was not to attend their lawful marriage. To this circumstance, it is in a great measure owing, that A. has been classed among courtesans. She devoted her attention to politics and eloquence. Plato mentions an elegant speech, which she delivered in praise of the Athenians who fell at Leceum; and she is asserted to have instructed Pericles in eloquence. Her house was the general resort of the most virtuous, learned, and distinguished men in Greece, and Socrates often favoured her with his company; he was even accursed of a sensual passion for her. She inspired the strongest admiration and enduring affection, the heart of the noble Pericles, who understood the grand secret of being, at the same time, the citizen and the ruler of a republic. The people used to call Pericles Olympian Jupiter, and his companion Aspasia Juno. The orator divorced his former wife to marry A. Plutarch relates, that he constantly evinced the liveliest attachment for her—a feeling which could never have been inspired by a low and corrupt courtesan. She is accused of having been the cause of two wars—one between the Athenians and Samians, on account of her native Milethus; the other between the Athenians and Persians. On the latter occasion, Plutarch acquits her of this charge, and Thucydides does not mention her name, though he relates the minutest circumstances which gave birth to the Peloponnesian war. The accusation alluded to is mentioned only by Aristophanes, whose historical correctness cannot be trusted. When the Athenians were dissatisfied with Pericles, instead of attacking him, they persecuted the objects of his particular favour, and accused A., among others, of contempt of the gods. Pericles burst into tears, in the midst of the avocation, while advocating her cause, and disarmed the severity of the eloquent. After his death, A., who had been the friend of Socrates, the companion of Pericles, and the object of Alcibiades' devoted adoration, is said to have attached herself to an obscure individual, of the name of Lyseicus, whom she soon made, however, an influential citizen in Athens. It may be supposed, with justice, that her power was carried over the whole nation; for he who sat at the helm of government were formed in her society. Her name was so celebrated, that the younger Cyrus named his favourite, Milti, after her; for Aspasia signified the lovliest of women, as Alexander the bravest of heroes.

Asp, in astronomy and astrology, denotes the
situation of the planets and stars with respect to each other. There are five different aspects:—1, sextile aspect, when the planets or stars are 60° distant, and numbered 60°; 2, the quartile or quadrature, when they are 90° distant, marked Q; 3, when 120° distant, marked D; 4, opposition, when 180° distant, marked O; and, 5, conjunction, when both are in the same degree, marked C. Kepler added eight more.

It is to be observed, that these aspects, being first introduced by astrologers, were distinguished into benign, malignant, and indifferent; thus, Kepler's definition of aspect, in consequence, is, "Aspect is the angle formed by the rays of two stars meeting on the earth, whereby their good or bad influence is measured."

ASPEN. The aspen or trembling poplar (populus tremula), is a tree which grows in moist woods, has nearly circular leaves, toothed and angular at the edges, smooth on both sides, and attached to footstalks so long and slender as to be shaken by the slightest wind. There is scarcely any situation in which the aspen will not flourish; but it succeeds best where the soil is moist and gravelly. Its wood is light, porous, soft, and of a white colour, and, though inferior in excellence to that of the white poplar, is applicable to many useful purposes. It is used, particularly for field-gates, the frames of pack-saddles, wooden clogs, and, in short, to all branches of the carpentry. It is improper for bedsteads, as it is liable to be infested by bugs. In some countries, the bark of the young trees is made into torches.

ASPEN, ASPER, or ASBERTUS; the smallest silver coin of Turkey. The common asper, since 1764, has amounted to the 35th part of a drachm of fine silver. Three make a para, 120a piaster or dollar. The great or heavy aspers, in which the court-officers receive their payment, are of double the value and weight of the common asper.

ASPEN and ESSELINGEN; two villages lying east of Vienna, and on the opposite bank. They are celebrated for the battle fought, May 21st and 22d, 1809, between the archduke Charles and the emperor Napoleon. After the fall of the capital, the Austrian general resolved to suffer a part of the enemy's forces to pass the Danube, and then to surround them with troops of his own, which were driven into the river. Every thing seemed to favour this plan; but it was frustrated by the energy of the French general, and the extraordinary valor of his troops. The archduke had stationed himself behind Gerasdorf, between Bisamberg and Russbach, from which he commenced, with his army in five column, consisting of 75,000 men, with 258 pieces of cannon, May 21 at noon, just as Napoleon, with about half his forces, had left the island of Lobau, in the Danube. By a dexterous evolution of his troops, he immediately formed a semi-circle, in which the French army was, in a manner, enclosed. In the narrow plain between Aspern and Esslingen (they are about two miles distant from one another), a bloody engagement now commenced. Every thing depended on the possession of these two villages: Aspern was, at first, taken by the Austrians, again lost and retaken, till they, at length, remained masters of it: from Esslingen they were continually repulsed. Napoleon repeatedly attempted to force the centre of the Austrians, but was frustrated by the firmness of their infantry. At last, the darkness of the night put a temporary stop to the contest. The bridge, connecting the right bank of the Danube to the left, which was the depot of the troops already destroyed, so that the French reinforcements came up slowly, being compelled to sail over in small parties, and the whole corps of Davout, on the right bank, were idle spectators of the battle. Notwithstanding these disadvantages, the battle was renewed on the 22d; the French army being now increased so as, at least, to equal the Austrians in number. The engagement was of the same exterminating character, and occasioned the same loss on both sides. The Austrians were sacrificed in vain attempts to capture the villages. Aspern continued to be the strong-hold of the Austrians, and Esslingen of the French. When the army of Napoleon gave up all hopes of gaining the victory by forcing the centre of the Austrians, Esslingen served to secure their retreat to the island of Lobau, which was disturbed only by the cannon of the archduke. It has been said, that the archduke did not make a proper use of his advantage; but this assertion will be shown to be erroneous, if we consider the position of the French on the island, the courage of his adversary, and the want of materials for rebuilding bridges. The loss of the Austrians, in killed, wounded, &c., was estimated at less than a third of the whole army; that of the French at half. The latter lost on this occasion, marshal Lannes, (q.v.) The feelings of the combatants were too violent to allow of many prisoners being made.

ASPHALTITES; a lake of Judaea. See Dead Sea.

ASPIRATION. See Bitumen.

ASPHYXIA (from a priv. part., and ψυξ, the pulse); the state of a living man, in whom no pulsation can be perceived. It begins with an immovity of the lungs, which, in consequence of great pressure, the person appears dead, without breath, pulsation, or feeling. It may be occasioned by different causes, either such as interrupt the mechanical motion of breathing, or such as disturb the action of the lungs themselves. The former may be caused by an external pressure on the breast, if air enters the thorax through wounds, or by an accumulation of blood in the lungs, so that they cannot contract themselves the latter stage takes place if no air at all enters the lungs, as is the case with suffocated, drowned, or hanged persons, or if the air breathed in cannot support life. For the treatment of persons suffering from asphyxia, see Death, apparent.

ASPINWALL, William, M. D., an American physician, was born in Brookline, Massachusetts, 1743. He was descended from ancestors who came from England, about the year 1650, with the 4000 emigrants. He was educated at Harvard university, in 1764. Immediately afterwards, he began the study of medicine, and completed his course at the hospital of Philadelphia, in the university of which city he received his medical degree about the year 1768. He then returned to his native village, and commenced the practice of his profession. See Cooke's History, who settled in the place. When the revolutionary war broke out, he applied for a commission in the army; but his friend and relation, doctor, afterwards major-general Warren, persuaded him to enter the service in a medical capacity. In consequence, Dr. A. was appointed surgeon in general Heath's brigade, and, soon after, through the influence of general War- ren, deputy director of the hospital on Jamaica plain, a few miles from Boston. He fought, in person, as a volunteer, in the battle of Lexington, and bore from the field the corpse of Isaac Gardner, whose eldest daughter he afterwards married. After the death of Dr. Zabdiel Bolyoxton, the first inoculator of small-pox in America, Dr. A. undertook the prosecution of that system, and erected hospitals for the purpose in Brookline. He perhaps inoculated more persons, and acquired greater skill and celebrity in treating the disease of which he never died in the United States. Besides his practice in this disorder when it was generally prevailing, he was permitted, after 1788, to keep an hospital open at all times, to which great numbers resorted. When vaccine inoculation was first introduced, he was aware that, if
it had the virtues ascribed to it, its pecuniary prospects would be essentially affected. But he deemed it his duty to give it a fair trial; and, finding it succeed, he promptly acknowledged its virtuous, saying to Dr. A., "You have fully and comparativelyounded, almost ever seen in the new world, "This new inoculation of yours is no sham. As a man of humanity, I rejoice in it; although it will take from me a handsome annual income." As a physician, Dr. A. obtained great distinction. In his practice, which was very extensive, he devoted himself to cure ills lasting arduous and tedious, for the space of 45 years, during the greater part of which time he rode on horseback, often upwards of 40 miles a day, and seldom retired to rest until after midnight. For some years before his death, he was afflicted with blindness, occasioned by a cataract in the eye, which had been brought on by reading and writing late at night. He bore this misfortune with resignation and tranquillity, and preserved, to the last, his curiosity about daily occurrences and public events. He died, April 16, 1823, of natural decay, having nearly completed his 50th year, with the calmness and composure of a Christian, whose duty was performed, and whose heart was now free to pay the last tribute to the Maker of all. - ASRAW, or SPHINTES ASPRA, in grammar; an accent peculiar to the Greek language, marked thus (’) and importing that the letter over which it is placed ought to be strongly aspired, that is, pronounced as if an h were prefixed.

An account of the Arabian mythology: the angel which watches the souls of the dying. Ass (equus assinus, L.). This well-known and valuable species of horse is a descendant of the onager, or wild ass, inhabiting the mountainous deserts of Tartary, &c., and celebrated, in sacred and profane history, for the fiery activity of its disposition and the swiftness of its course. But, in the state of degeneracy induced by rearing a succession of generations under the most deplasing influences of slavery, the severest labour, combined with exposure to all the rigours of climate, and miserable fare, the ass has long since become proverbial for stolid indifference to suffering, while the insensibility induced by protracted ill usage has fixed upon the race the character of obstinacy and stupidity. - The ass is truly smaller in size and stature, and wanting in that arduous and impetuousness which distinguish the horse, yet there are circumstances in which these differences give the ass a higher value. In India, for example, it is admirably adapted to the rugged, rocky, and hilly regions, where the horse is more difficult to feed, as well as less able to travel to advantage. In the choice of water he is, however, very nice; drinking only of that which is perfectly clear, and at brooks with which he is acquainted. In high and dry situations, over the most precipitous roads, the ass moves with ease and security, under a load which would render it almost impossible for a horse to advance with safety. In various parts of South America, asses are exceedingly serviceable in carrying ores, &c., down steep mountains; and in the West India islands, they are of great value in carrying the sugar cane to the mills, from situations barely accessible to man, on account of the acclivity of the ground. - Washington was the first who introduced this useful animal into the United States; and his laudable example has since been imitated by a small number of agriculturists. Nevertheless, either from prejudice or neglect, the benefits derivable from a more general employment of this animal for draught and burden have not been attained. The best breed of asses is that originally derived from the Ass of India, wild asses of Asia; perhaps the best breed now in Europe is the Spanish, which was obtained through Arabia and Egypt, and long received the most careful attention in Spain. During the existence of the Spanish dominion in the southern portion of the American continent, this breed was generally introduced, and may be thence obtained at this time. In considerable perfection, and is already stated, are better adapted to the work. - The male ass is in common practice to propagate his species at two years of age; the female still earlier; and both sexes manifest a sexual ardour which is really surprising, and sometimes destructive. - It therefore becomes necessary to geld the males not intended to continue the race, and the operation is performed in the same way as on horses. The regular season for the females is about the month of June, though many observe no regular period; in the latter case, however, they are less productive. The ass carries her young eleven months, and foals at the commencement of the 12th. The mare is again in condition to receive in May or June. After foaling, and may thus be almost constantly kept breeding, until too far advanced in life. It happens exceedingly seldom that more than one foal is brought forth at once: the mare exhibits great attachment to this while it is suckling: it becomes necessary to wean it at six months old, at the latest. The teeth of the young ass follow the same order of appearance and renewal as those of the horse. The most general colour of the ass is a mouse-coloured gray, with a black or blackish stripe, extending along the spine to the tail, and crossed by a similar stripe over the fore-shoulders. Varieties of colour are observed in different breeds, though by no means to the same extent as among horses. In some places, dappled and pied asses are not uncommon, and pure white ones are also found. In proportion as the colour of the ass verges toward reddish-brown or bay, it is considered as an indication of bad disposition and inferior quality. As we cannot, for want of space, enter upon a more detailed history of this species, we may sum up the circumstances which entitle the ass to a greater degree of attention than it has hitherto received, by observing that it is gentle, strong, hardy, patient of toil, requiring but a small quantity of coarse food, sure-footed, and well adapted to the service of the country, and the attachment to its owner. It is especially suited to the cultivation of light and dry soils, in hilly or mountainous districts, or in hot and dry climates, where the breed arrives at the highest perfection. The ass is in general much healthier than the horse, and not so subject to maladies. He requires less sleep than the horse, and never lies down except when extremely tired. He is seldom troubled with vermin, probably from the hardness of his skin. The skin is at once hard and elastic, and is used as parchment, and for other purposes, such as to cover drums, &c. It is of asses' skin that the orientals make slippers. Those disagreeable noise called braying, the voice of this species, is owing to the peculiar construction of the larynx. - In the geldings, this ceases to be an inconvenience, as they attempt to bray but seldom, and always in a low key. Nothing is more certain than that, as this species has exceedingly deteriorated under a long continued ill usage, it might be improved to an equal degree by the same attention which is bestowed on the breeding of other domestic animals. - The life of the ass does not exceed thirty years. - Asses' milk, long celebrated for its savoury qualities, is, in general, of more delicious taste than that of any other animal. It is very similar in taste, and throws up an equally fluid cream, which is not convertible
ASSAM — ASSELYN.

ASSAM, or ASSAM; a country between Bengal and Thibet, 700 miles in length, by about 70 in breadth. It is intersected by the Brumapatna, and several other rivers; is very fertile; and, in the beds of the rivers, a considerable quantity of gold is found. It also yields ivory, lac, pepper, silk, cotton, &c. The inhabitants of the district are principally merchants, who are permitted to settle in this country without the previous permission of the East India Company — a favour which was granted to it by the rajah, after having been reinstated in his government by its assistance in 1793.

Assam (Nicholas), chevalier d', was born at Vigan. He was commander of a French regiment at Auvergne, and by his patriotic death, made himself worthy of the admiration of posterity. On the night of the 15th of October, 1760, he commanded an outpost at Klosterkamp, in the neighbourhood of Gueldes, and, at break of day, went out to examine the posts. On this expedition, he fell in with a division of the enemy's troops, who were on the point of assaulting the French army. He was seized, and threatened with immediate death if he uttered a cry to alarm his regiment. The safety of the French forces was at stake. Without a moment's hesitation, he summoned all his strength, and exclaimed, "Onward, Auvergne! here is the enemy!" The threat was immediately executed, but the patriot had gained his object; the attack was unsuccessful. Assas was never married; but a pension of 1000 livres was decreed to him, and a pension of 300 livres a year was granted to his widow during the revolution, but has since been renewed.

ASSAULT. See Incubation.

ASSAULT (law) (assaultes, from the Fr. assaillir); an attempt or offer, with force and violence, to do a corporal hurt to another; as by striking at him, with or without a weapon. Assault does not always necessarily imply a hitting or blow; because, in trespass for assault and battery, a man may be found guilty of the assault, and acquitted of the battery. But every battery includes an assault. If a person in anger lift up or stretch forth his arm, and offer to strike another, he is in law assault, unless any weapon or instrument was intended; if a weapon was intended, it is an assault in law; and if a man threaten to beat another person, or lie in wait to do it, if the other is hindered in his business, and receive loss thereby, an action lies for the injury. — Any injury, however small, actually done to the person of a man, in an angry or revengeful, or rude or insolent manner, as by spiting in his face, or any way touching him in anger, or violently jesting him, is a battery in the eye of the law. To lay hands gently upon another, not in anger, is no foundation of an action of trespass and assault; the defendant may justify so doing, if it were necessary for communicating the wound of his wife, father, mother, or master, or for the maintenance of justice. — If any officer, having a warrant against one who will not suffer himself to be arrested, beat or wound him in the attempt to take him, he may justify it: so if a parent, in a reasonable manner, chastise his child, or a master his servant, being actually in his service at that time, or a schoolmaster his scholar, for a pander, or a falter his prisoner, or a school child his wife (for reasons of a proper cause); or if one confine a friend who is mad, and bind and beat him, &c., in such a manner as is proper in his circumstances; or if a man force a sword from one who offers to kill another, or beat one who makes an assault, or beat him before the judge, without a weapon, it is not battery, but assault, child, or master; or if a man fight with or beat one who attempts to kill any stranger, if the beating was actually necessary to obtain the good end proposed; in all these cases, it seems, the party may justify the assault and battery.

ASSAY (verbal). See Siege.

ASSAY-BALENCE; a very delicate balance, employed in determining with great precision the weight of minute bodies. It is used for assaying metals. See Balance.

ASSAY (metal). See Siege.

ASSAYING; a species of chemical analysis, to ascertain the quantity of gold or silver in a metal. The process is called "assaying." The gold or silver is detached from the metal by a method suitable for the determination of the quantity of any metal whatsoever, in composition with any other metal or mineral. The assaying of gold or silver is divided into two operations; by one of which they are separated from the imperfect metals, or those easily oxidized; by the second they are separated from the metals which possess the power of oxidation by simple exposure to the air, and which are, therefore, called the perfect metals. This second process generally consists in separating gold and silver from each other, as the third perfect metal, platinum, is but seldom found united to them. The method of separating gold or silver from the other metals is founded on the facility of a metal with which the latter imbibes oxygen, and the process is calculated to accelerate this operation; hence the name of lead, or litharge, is generally considered as the most powerful purifier of the perfect metals, from the ease with which it parts with its oxygen to the imperfect metals united with them; but, of late, oxide of manganese has been found superior to it, in several instances, for this purpose. In the chemical analysis of metals, the oxide of lead is generally preferred for the above purpose; but, in the assaying of the precious metals, the method of separating gold or silver from the other metals is founded on the facility of the metal with which the oxygen, or lead, is always used, probably from the facilities which it is supposed to afford for determining the weight of different ingredients by calculation. The lead in the process first becomes oxidated, then yields some of its oxygen to the other imperfect metals, and afterwards becomes vitrified, in conjunction with the other oxides so formed, and carries them off with it, leaving the perfect metals pure. The above operation is called the cupellation, and is performed on a flat, round cake of bone-ashes, compressed within an iron ring, which is named a cupel: this is placed in a vessel called a retort, into which a current of vitrified air is blown, so as to cause the fusion of the gold, so that its mouth may come in contact with the door, at the side of which it is luted, to separate it from the peal: there are small slits made in the sides of the muffle, to afford a passage for the air.

ASSES, John; a Dutch painter of the 17th century. He was a pupil of Isaiah Vandervelde, and afterwards went to Rome. Settling at Amsterdam, in 1645, he obtained great reputation by the productions of his pencil, which consist principally of historical paintings, battle-pieces, and landscapes with ruins, and are all in a manner peculiar in manner, and correct style of colouring. A set of his landscapes (twenty-four in number) has been engraven by Perelle. He died in 1630, aged about 40.
ASSMANNI — ASSEMBLY.

ASSMANNI, Simon; one of the most learned Maronites of modern times, born Feb. 20, 1762, at Taif; died April 8, 1821. He began the study of theology at the age of nineteen, and for the period of three years his family enjoyed the right of citizenship and patriarchal honours. In 1785, he was appointed professor at Padua, where he died, April 8, 1821. He began the series of his works with Museo Cefeo Naniano (Venice, 1788, 2 vols. folio), an explanation of the Coptic Arabian antiquities in the palace of Nani at Venice. His Explanation of Arabian Monuments in Sicily, is highly esteemed, and equally so his Description of a Globus Cœlestis, with Arabian letters, which was in the museum of the cardinal Borgia. Assmanni was a very laborious student till his death.

In the reign of the parishes, the kirk-sessions were the supreme ecclesiastical court in Scotland. In order properly to understand the constitution of this court, it will be necessary to take a view of the government of the Scottish kirk.—By the "Act for securing the Protestant Religion and Presbyterian Church Government," which is incorporated with the Treaty of Union between England and Scotland, and declared to be a fundamental article and condition thereof, it is "provided and declared, that the true Protestant religion, contained in the Confession of Faith, with the form and purity of worship then in use within the church of Scotland, and its Presbyterian government shall be the only government of the church within the kingdom of Scotland." Under this constitution, every parish has a Kirk-session, consisting of the parish minister or ministers and of so many elders, selected from the most respectable inhabitants of the parish, who are solemnly ordained to their office in presence of the congregation, according to established laws. The number of elders is not limited. It cannot be less than two to constitute a Kirk-session, in the smallest parishes; and should, in general, be proportioned to the extent and population of each parish. When vacancies occur in the eldership, they are supplied by other respectable individuals, elected by the minister and elders who survive. If, when a vacancy occurs, the Kirk-session does not then consist of three to make a quorum, the Presbytery of the district has the power to appoint two or more of their own number, to be associated with the minister or ministers of the parish in filling up the vacancy, or to publish a summons for a Kirk-session to its legal functions. To the Kirk-session is entrusted the ordinary management of the parochial poor, the application of the weekly collections, made at the church for their benefit, and of any voluntary donations which they receive in aid of the weekly collections. When these funds are not sufficient to provide for the poor, a joint meeting of the heritors and Kirk-session is empowered, and required, by act of parliament, to assess the parish, in order to make up the deficiency; the one-half of the assessment being raised from the landlords, and the other from the tenants. It should be mentioned, at the same time, that the Kirk-session is entitled to retain in their own hands the one-half of the collections made at the church, to defray the expense of the clerks and officers of the inferior ecclesiastical courts, and to meet the demands for occasional charities, included in the ordinary management of the poor. It is not immaterial to mention these particulars, either as they bring to view a considerable department of parochial labour, or as they contain the substance of the Scottish laws relating to the poor.

And it deserves to be added, that, though the latest of those laws is as old as the time of William and Mary, there was scarcely any regular assessment made by prescription, for the poor, in the reign of Charles II.; and it was not until about the year 1750, that it was settled by law, that every incumbent of the cure of souls in any parish of Scotland, before the year 1755. As long as there was no secession of presbyterians from the established church, the weekly collections under the management of the Kirk-sessions, were in general found sufficient for the maintenance of the poor. In some parishes of peculiar hardship or scarcity, such as the four last years of the seventeenth century, or the year 1740, voluntary assistance was no doubt given, and in some instances temporary assessments were resorted to, to enable the Kirk-sessions to meet such unusual emergencies. But on all ordinary occasions, the Kirk-sessions of the Kirk of Scotland were considered as sufficient; and continued to be so, at least as late as 1755. Besides the case of the poor, the Kirk-session has a general inspection of the morals of the parishioners, and a right to administer the discipline of the church, according to established laws.

To the effect of ecclesiastical censures, it has the power to institute processes, to cite parties and witnesses, to examine witnesses on oath, and to pronounce sentences, and inflict censures, according to the evidence adduced. But both its citations and its sentences depend on ecclesiastical authority alone, and can be overturned or rendered ineffectual by the civil power. The proceedings of a Kirk-session are matter of record; and the record is regularly kept, so as to be preserved or extracted for the benefit of the parties, or for the information or the inspection of the courts of review. Every proceeding or sentence of a Kirk-session is subject to the review of the Presbytery of the district; and can be brought there, either by a reference made by the Kirk-session itself, by a complaint at the instance of any member of the court who may be dissatisfied, or by an appeal from the parties who may think themselves aggrieved. If any striking irregularity, or any real injury can be substantiated, the control of the presbytery is always sufficient to correct or redress it. But the usual management of the Kirk-sessions is favourable to all the best interests of the parishioners; and comparatively few instances occur in which it becomes a just subject of either complaint or remonstrance. The Presbytery is the court immediately above the Kirk-session. A Kirk-session consists of the ministers of so many contiguous parishes, who are members of the presbytery of the district, who, by the present usage, is elected at the end of every six months. The Presbytery, besides being a court of discipline, has the power to annul the sentences of Kirk-sessions, when regularly brought before it, or to direct or advise them with regard to any part of their proceedings, has a radical jurisdiction of its own, both ecclesiastical and civil. It has the immediate superintendence of the private conduct, as well as of the professional labour, of the clergy of the district, who are not amenable to the Kirk-sessions. It has the power to admonish, to censure, and even to deprive them, according to the established laws, and upon evidence regularly taken. The induction of presentees to benefices belongs exclusively to presbyteries. All presentations to benefices must be directed to the presbyteries, in whom the original right is vested, to take trial of the qualifications of presentees, to give them induction if they are found qualified; and, if they want the necessary qualifications, to reject them. Besides this security against the intrusion of incompetent ministers, many duties can be presented to a benefice till he has, in the first instance, been licensed to preach by a presbytery, after due trial of his qualifications. At the same time, the trial prescribed for a licence does not supersede the second trial of qualifications required when
the same individual is presented to a benefice. The trial and induction of schoolmasters is, in like manner, entrusted to the presbyteries; and there are many other subjects which fall under their cognizance, which it is not necessary to specify particularly. In general, their jurisdiction extends to every thing in which the edification of the morals of the people, the conduct of their parochial instructors, and the discipline of the church, is concerned. The sentences and proceedings of the presbytery, which, like the Kirk-session, is always a court of record, are subject to the review of the immediate superior court, the synod, before which they can be brought (as those of the Kirk-session) if a presbyterian complaint, or appeal; and there they may be affirmed, reversed, or altered. The presbytery has besides a civil jurisdiction, in questions which relate to ecclesiastical benefices, to the designation or exchange of parochial glebes, to the building or repairing of churches or manses, (parsonage houses,) and in a few other cases. But in all such civil questions, an appeal is competent from their decisions, in the form of a suspension or abdication, not to the superior ecclesiastical courts, but to the court of session. The forms of proceeding in the presbytery are prescribed by statute, and not by any precedent. The Synod of the Kirk is the court of review immediately above the presbytery, and consists of all the ministers and elders who stand on the roll, as constituent members, of so many contiguous presbyteries, which are placed under its provincial jurisdiction. Its meeting are generally held twice, though in some remote districts only once, in every year. Every ecclesiastical question, which has been under the consideration of a presbytery, within the provincial district, may be competently brought under the review of the synod, in the manner already explained, with regard to the review of the sentences of kirk-sessions by the presbyteries. The synod has, besides, an original jurisdiction, as well on subjects of general interest, as with regard to the conduct of its own members, and can both give authoritative directions to the presbyteries, and originate propositions to the general assembly, on any subject which seems to require its influence or authority. On the other hand, every judgment of a synod, as an inferior court, may be brought under the review of the general assembly by reference, complaint, or appeal. But in every question, not carried to the courts of review, the judgment of the presbytery or synod (if they have not gone beyond their jurisdiction) is fully and finally confirmed by the sentences of the supreme court.—The General Assembly is the supreme ecclesiastical court. It consists of delegates from every presbytery, university, and royal burgh, in Scotland. It has the countenance of a representative of the king, styled the Lord High Commissioner, who is always a nobleman; and holding its meeting annually, and (according to the present practice) in the month of May, it usually continues to sit for twelve days. In its judicial capacity, as a court of review, and as the court of last resort, the general assembly has a right to determine finally every question brought from the inferior courts, by reference, complaint, or appeal. And it possesses, besides, such a general superintendence of the discipline of the church, of the management of the inferior courts, of the conduct of the clergy, and of the morals of the people, that it has authority to go beyond the record in any particular case; to redress a wrong which, according to law, has been done, or to have the church discipline, which has either been neglected by the inferior courts, or which the circumstances of the case appear to require. But to do this regularly, the parties interested must be legally cited, if they were not before at the bar. In these general views of its judicature capacity, the authority vested in the general assembly, is of equal importance to the prosperity of the kingdom, to the permanency of interest of religion, and to the usefulness and respectability of the clergy. The legislative authority of the general assembly has as extensive effects as its judicial functions. It has the power of enacting statutes, with regard to every subject of ecclesiastical discipline; which are equally binding, as permanent laws, on the assembly itself, on the inferior courts, and on the individual members of the church. But the power of legislation is not committed to the general assembly, without limitation. By an act of assembly numbered 1, in 1722, in this respect, it has been transmitted to the several presbyteries, and had received their sanction, and which, from its substance and design, has obtained the name of the Barrier Act. Every proposition for a new law, must first be considered in the form of an overture, either originating in the assembly itself, or suggested to the assembly by the inferior judicatures. Though it should be approved of by the assembly, it cannot be enacted into a statute, till it has been first transmitted to the several presbyteries of the church, for their consideration, and has received the sanction of, at least, a majority of the members. When such statutes are enacted by the assembly, after receiving this sanction, are the established and permanent statutes of the church, by which every thing belonging to the ecclesiastical state, or to the church courts, is authoritatively regulated. See Scotland, Church of.

Assizes, the Royal, is the expression given by the king in parliament to a bill which has passed both houses; after which it becomes a law. The royal assent may be given in two ways:—1. In person; when the king comes to the house of peers, and, the commons being sent for, and standing at the bar, the titles of all the bills that have passed both houses are read, and the king's answer is declared by the clerk of the parliament in Norman-French, with several singular ceremonies. If the king consents to a public bill, the clerk usually declares Le roi le veut (The king wills it); if to a private bill, S'est fait comme il est désiré (Be it as desired). If the king refuses his assent, it is, in the gentle phrase, Le roi s'assëra (The king will consider it). When a money-bill, or bill of supply, is passed, it is carried up and presented to the king by the speaker of the house of commons, and the royal assent is thus expressed—Le roi remet ce livre à sa force (The king returns this book to its force). The king thanks his loyal subjects, accepts their benevolence, and wills it also). 2. By the statute 33 Hen. VIII., ch. 21, the king may give his assent by letters patent, under his great seal, signed with his hand, and notified in his absence to both houses, assembled together in the upper house.—When the president of the United States approves a bill passed in both houses, he writes under it Approved, with his name. See Sanction.

Assizes, John, or Assizerius Menevenis, that is, Asser of St David's; a learned British ecclesiastical, distinguished as the instructor, companion, and biographer of Alfred the Great. He was appointed abbot by Alfred of two or three different monasteries, and at last promoted to the episcopal see of Sherburn, where he died in the year 910. He wrote the life of Alfred, which was first published at the end of Parker's edition of Waltham's Chronicle, in 1574, and afterward printed by Camden's Historical Collection, at Frankfort. A separate edition was published at Oxford in 1722.

Assizes, in Scottish law; a person who sits along with the judges in the inferior courts in Scotland, and with his professional knowledge assists in the
decisive pronouncement. Assessors are generally selected from the Faculty of Advocates.

**Assets (Fr. assises, i.e. saties).** Goods enough to discharge the burden which is cast upon the executor or heir, by satisfying the debts and legacies of the testator or ancestor, which are real or personal. Where land is held in fee simple, the lands which come to his heirs are assets real; and when he dies possessed of any personal estate, the goods which come to the executors are assets personal.

**Assentro** (Spanish, assent) treaty; the permission of the Spanish government to a foreign nation to import negro slaves from Africa into the Spanish colonies in America, for a limited time, on payment of certain duties. Philip IV. and Charles II. concluded a treaty of this sort with the people of England and Holland. The English were the sole possessors of this assiento till 1701. They lost it when Philip V. of Anjou ascended the throne of Spain; but, in 1702, the French Guinean company, which afterwards assumed the title of the assiento company, became possessed of this privilege for ten years, within which period they were permitted to import nearly 4500 slaves, of both sexes, into the mainland and islands of Spanish America. In 1713, the celebrated assiento treaty with Britain, for thirty years, was concluded at Utrecht; (Great Britain afterwards gave up the trade to the South Sea company). By this contract, the English, among other privileges, obtained the right of sending a permission or assiento ship, so called, of 500 tons, every year, with all sorts of merchandise, to the Spanish colonies. This led to frequent abuses and contraband trade; acts of violence followed; and, in 1739, a war broke out between the two powers. At Aix-la-Chapelle, in 1748, four years more were granted to the British; but in the treaty of Madrid, two years later, 100,000 pounds sterling were promised for the relinquishment of the two remaining years; and the contract was annulled.

**Assignat;** the name of the national paper currency in the time of the French Revolution. Four hundred millions of this paper money were first struck off by the constituent assembly, with the approbation of the king, April 19, 1790, to be redeemed with the proceeds of the sale of the confiscated goods of the church. August 27th, the same year, under the same form, by the decree of the Convention, the issue of 3000 millions of new assignats, which caused a dispute in the assembly. Vergase and Dupont particularly distinguished themselves as the opponents of Mirabeau. They saw that the plan was an invention of Clavière (of whose work the speech of Mirabeau was only an extract), to enrich himself and his adherents; that it would tend to put the rich usurers in possession of the wealth of the nation, which would be insufficient to redeem the assignats, particularly if they were increased. Among other arguments, Mirabeau maintained the expediency of the measure he proposed, on the ground that the holders of assignats would necessarily support the new constitution, which was the only guarantee for the redemption of the assignats. His exertions were seconded by Pethion, and 800 millions more were issued. They were increased, by degrades, to 40,000 millions, and the currency, after a while, became of no value. A further account of this paper money is given in the article Mandate.

**Assignation;** a Russian paper money, used since 1769. Its loss of value, since 1787, has diminished the number of rubles. By a decree of 1769, 50,000 rubles are understood assignment-ruble. There are assignations of 5, 10, 25, 50, and 100 rubles. In 1809, four rubles-assignation were paid for one ruble silver money. The value fluctuated till 1818, when the silver ruble was fixed at 375 kopecks; in 1829, it stood at 372 kopecks.

**Assize;** a person appointed by another to transact some business, or to exercise some particular privilege or power. The term is most commonly applied to the creditor who breaks not appointed to manage for the rest of the creditors, and who has the bankrupt's estate assigned over to him.

**Assiniboins;** a large river of North America, in the United States and the British territories. It flows into the south end of lake Winnipeg. It is formed by two rivers, which unite about fifty miles from the lake. The eastern branch, called Red river, rises near the head waters of the Mississippi. The western branch, the Assiniboine proper, rises about lon. 104° W., lat. 52° N. Both are navigable for canoes to their source. The country between these rivers, and to the south, is a continued plain, with little wood; the soil, sand, and gravel producing a short grass. The north-west company have several trading establishments on the A.

**Assiniboine;** an Indian tribe, in the western part of N. America, on the Assiniboine river near the Rocky mountains. Their number is said to be 4000.

**Assint;** an extensive parish in Sutherlandshire, Scotland, situated on the Minus Channel in the North Sea, having two or three good harbours, and including a number of islands. The coast presents a succession of high and broken precipices, while the surface, equally romantic, exhibits a wild confusion of lofty mountains, masses of barren rock, heaths, moors, lakes, and rivers, with here and there a cairn or Druidical temple to complete the scene. Here are quarries of beautiful white marble and limestone, which, with rearing cattle and fishing afforded employment to the inhabitants, who are all connected by alliances-borne to the pride of Fingal and his heroes are still chaunted here in the Gaelic tongue, to the airs of which children are early taught to dance. This district was formerly a forest of the ancient Thanes of Sutherland. Population, 5161.

**Assisi;** a small town in the papal dominions, 20 miles from Spoleto, on a hill, in one of the most charming parts of Italy. It is the see of a bishop. It is famous as the birth-place of St Francis d'Assisi, and for the splendid church built over the chapel where St Francis received his first impulse to devotion. This church is one of his works; and the architecture of the middle ages in the Gothic style.

**Assizes;** 1, the name given in France and in Lower or Norman Italy, to assemblies which were common in the middle ages, and to the courts for the administration of justice to vassals and freemen. After Godfrey of Boulogne had taken Jerusalem, in 1099, he adopted, for his two courts of justice, a code of laws drawn from the ordinances established in these assemblies: hence this remarkable collection was styled *Assises de Jerusalem* (French edition by La Tournaissière, Bourges, 1590, folio). See Bernard's *Hist. des Droits Francais*, 1523. The assizes, or masures, which signify a jury of fifteen sworn men, picked out by the court from a greater number, not exceeding forty-five, who have been summoned by the sheriff for that purpose; a list of whom is given to the defendants, when a copy of the libel is served upon him.—III. In England, the term is used to signify the sessions of the courts, held annually, in every county, by the judges. In disputes concerning property, Henry II. gave the contending parties the right of deciding their difference by a trial before the grand court of assizes, or by combat. The grand jury of the court consisted of all the knights in the county; the inferior court of assizes, which decided questions relating to possession, of twelve freemen. From these the jury took its rise. Twelve judges, who are members of
the three highest courts in England,—the King's bench, the court of common pleas, and the court of ex-
chequer,—thrice in every year, perform a circuit into
and through the counties of the kingdom. Each county is
divided, to hold these assizes, with the exception of the
four northern counties, where they are held only
twice a year, and London and Middlesex, where they
are held eight times. (Bl. Comm. iv. 269.) Eight
other judges, appointed for the purpose, who are cal-
ced Welsh judges, do the same duty in the Wales. At
these assizes, all the justices of the peace of the county
are bound to attend, or else are liable to a fine ; and
also all the persons who have been summoned as
grand jurymen or petit jurymen by the sheriff. Upon
these occasions, the court is opened with considerable
pomp. The judges are conducted to their seats at the
tolling of a public bell, and divine service is per-
formed in their presence. The presiding judge directs
the court to be opened, and, when the grand jury is
duly impanneled and sworn, which is generally com-
pised of the most respectable men of the county, he
makes a public declaration of the names of the
members of his court, and the crimes which are to come
before them for consideration. At these assizes,
the judges sit under five separate commissions, some of
which relate to civil and some to criminal cases
or business. The first is the commission of assise,
franchise, trial by jury and other modern forms of
action. 2. The commission of nisi prius as it
is called, which empower them to try all questions
or issues of fact, issuing out of the courts in Westmin-
ster hall and which must be tried by a jury from that
county wherein the cause of action arises. These
issues are, strictly, triable in the courts at Westminster,
by a jury returned there from the county. But there
is a proviso, nisi prius, "unless, before" the term assigned
for trial at Westminster, the judges of assise
come (as they were sure to do) into the county in
question, and then the commission authorizes such trial
to be held by the judges of assise. (Bl. Comm. iv. 270.)
These commissions are of a civil nature; but the
judges of assise have also, by virtue of several statutes,
a criminal jurisdiction in certain special cases. 3.
The commission of eyer and terminer, to hear and
determine all treasons, felonies, and misdemeanours
committed within the county. By virtue of this com-
cmission, they can proceed only upon an indictment
found at the same assizes by the grand jury. 4. On
this account, they have another commission, of general
failing delivery, which empowers them to try and deliver
every prisoner, who shall be in jail when the judges
arrive at the circuit town, whenever or before whom-
soever indicted, or for whatever crime committed.
(Bl. Comm. iv. 270.) 5. The commission of the peace,
by which they are empowered to do all things neces-
sary or proper, according to the English laws, to
preserve public tranquillity, to suppress crimes, and
to arrest offenders. (Bl. Comm. l. 350, 351.) In this
manner, and by these means, the jails are, in general,
cleared, and offenders tried and convicted, or acquit-
ated, at least every half year. In America, there are
no courts, or sessions of courts, which are technically
called assizes. The judges, however, perform the
same duties, and are capable of exercising the
same circuits and jurisdictions, as the English judges, and,
genearly, in the same manner, that is to say, according
to the course of the common law. The Ameri-
can judges have not, like the English, any special
commission. Their commission is single, and ap-
points them to the office. But the general and pub-
lic laws mark out and define their duties and author-
ities, whether general or special, and these duties
and authorities are not, like those of the English
judges, subject to any change by the legislative authority. In general,
however, the duties and authorities of the judges
of the higher courts are very similar to those of the
judges in England. The manner of proceeding, ex-
cept that it is more simple and unostentatious, resem-
bles very much that of the English courts. Matters
of fact, in criminal cases, are tried by a jury, upon
an indictment found by a grand jury. And in civil cases,
also, matters of fact, in common law suits, are tried
in the same manner. The sessions of the courts are
usually called terms, and, generally speaking, the
causes are tried before the courts of the county in
which they are commenced, without having been
sent there by a record from a court sitting in another
county. Since 1808, there have been assize courts
in the judicial system in France. With the English
institutions, however, they have scarcely any thing in
common. Presiding judges, appointed for the
administration of penal laws belongs to the worst part of the ancient
constitution. It united the two opposite evils of tor-
ture, which is often applied only to make the punish-
ment of death more severe, and of capital punish-
ment, inflicted upon suspicion. The higher and lower
courts were continued, and at certain periods, courts
of every other country by a spirit of dark and thoughtless
 cruelty, of which the 18th century presents a series of
the most shocking instances. One of the first labours
of the constitutional government, in the revolution,
was a reform of this part of the constitution. The
British institutions, particularly that of trial by jury,
were taken for precedents. The administration of
justice, in civil cases, was committed to circuit courts
and courts of appeal (on the abolition of the ancient
institutions); and, for the disposal of criminal cases,
a law was enacted, Feb. 25, 1791, establishing, in
evry department, a criminal court, which consisted
of a president and three other judges. No one of
these officers was appointed by the executive govern-
ment, but an attorney of the crown was attached to
every court. The president and the public prosecu-
tor were chosen by the electors of the department,
and the other judges by the government. In the
succession, the duties of judges. This system re-
mained substantially the same till the introduction
of the consul government: the right of appointing
these officers was then transferred to the first consul.
By the constitution of the criminal courts, adopted in 1808,
the courts of "Indictable Crime", or assizes, and all
criminal courts were again abolished, and the adminis-
tration of the penal laws was committed to the courts of
appeal, who are to decide upon the propriety of
having a trial in any given case. The public hearing
and decision are referred to a special court (cours
d'arras), and a jury. This latter tribunal is to con-
sist of a judge of the high court, the presi-
dent, and the four senior members of the district or
county court (a court of original jurisdiction), in
whom precise the cause originated. Inferior viola-
tions of the police regulations are tried before the
mayors (maires) and the justices of the peace, and
these involving some penal law, before the district
courts. The process, in the French assizes, is as fol-
lovs:—Every French tribunal of original jurisdiction has a juge d'instruction, so called. It is his business to
examine into the circumstances of every crime at
which an accusation has been made against the person,
(called an avocat de la Couronne, the police officers, or prisi-
on. He traces out the act and the perpetra-
for amid every winding, summons witnesses, examine
s documents, brings forward and records the testimony.
Finally, he refers the case, verbally, to the tribunal

which has original cognizance of it, in private session (en chambre de conseil). If facts and circumstances satisfy this tribunal that the accused is innocent, or, from the nature of the case, that proof of guilt is not to be expected, he is acquitted. If the offence alleg-
ed against him is found to be not a crime, but an infraction of the laws called crimes, but of an inferior kind, delicts, which are de-
ferred to refractions d‘un ordre inférieur punis seulement de peines correctionnelles ou de police, it is referred to the tribunal correctionnelles; if it be a mere infringement of the rules established for the sake of good order, Constantinople, it falls within the au-
diction of the common police authorities. If the previous examination raises a probability of the guilt of the accused, the whole case is referred, in the case of a crime, technically so called, with an explanatory report, to the high court (cour royale). This body delibera-
tes on the subject (en chambre de conseil), and hears the arguments of the attorney-general, and, if the act alleged is found to be a crime, and capable of being proved, a formal accusation is drawn up, and the culprit subjected to a special trial, to fix the de

gree of his guilt (arrêt des renoeux aux assises). The courts for criminal cases, in each department, at least once every three months, and dispose of all cases which have accumulated during the vacation. The institution of a jury rests upon the liberal principle, that no indi-
vidual or class of citizens can lawfully have power over the life and death of a citizen, so important ought rather to be committed to a num-
ber of well-qualified men, chosen from the midst of the nation, who shall return, at the close of the ses-
sion, to the same rank which they held before. Four days, at least, before the opening of the assizes, the préfet communicates to the president of the assises a list of sixty persons in the department, who are eligible to the office of jurymen. Every juryman is required to be at least thirty years of age, and enjoy all the rights and privileges of a citizen; it is also required that he should be a member of the college électoral, or one of the 300 inhabitants in the county who pay the highest taxes; a doctor, licentiate, or corresponding member of some literary society, re-
cognized by the government; a notary or a licensed banker, an exchange broker, a merchant or trader of the first or second class, an officer of the civil service, with an income of, at least, 4000 francs per annum; or he must have a special qualification. Ministers of government, prefects, sub-prefects, judges, state-
attorneys, and clergymen, and every one who has before been engaged officially or privately in the criminal cause, are wholly excluded from this num-
ber. The president of the assises, before mentioned, by virtue of his pouvoir discorionnaire (discretionary power), selects twenty-four persons from this list of sixty. He obtains likewise, a list of all eligible per-
sons in the place where the assises hold their session, that, in case the thirty-six remaining jurors thus selected might be prevented from attending, so many may be added, that, at least, thirty may be present at the sessions. The state’s attorney then appears before the assises as an accuser in behalf of the public, and the accused, with his advocate: the accused is previously furnished, in writing, with his accusation, the day of trial, a copy of the documents to be used, and the names of the witnesses and jury. Both the attorney-general and the accused have a right to reject some of the jury, and twelve are chosen by lot out of those that remain. After they are chosen, they take their seats upon the tribunal, which, in the trial of criminal cases, is presided over by a president, to whom their proceedings may be subject to public scruti-
tiny. The president now administers the oath to the twelve jurymen: then the accusation and the accompa-
nying documents, including the observations col-
lected on the spot where the offence was committed, are read. The attorney for the government sets forth the essential points in the accusation, which are in-
vestigated with reference to the attendant circum-
stances, and the corpus delicti. The evidence on both sides is then heard; and jurymen are requested to deliberate on the case. At the conclusion of the trial, but the question of guilt or innocence is deter-
mined by the oral testimony given in at the time. Moreover, the rest of the judges present, the jury, the state’s attorney, the accused and his advocate, also the party who complains of the injury, have full liberty to express their opinions on the question, or to retire to deliberate. When the examination is concluded, the state’s at-
orney, the complainant and the advocate, and, if he wishes it, the accused, speak, in succession, upon the question at issue, usually twice each. The witnesses are often questioned anew in regard to any doubtful ex-
pressions, and, if every thing necessary for the sentence is accomplished during the session, the president, at the same session, declares the process finished. The presiding officer then briefly sums up the evidence on both sides, and gives the jurymen a written copy of the points to be decided. Upon this, they retire in order, and, after their return, do publicly the result of their deliberations. If only seven out of the twelve jurymen bring the accused in guilty, the judges take up the question, and, if the majority of the judges coincide with the minority accused is found guilty, the whole of the judges are called, in favour of his acquittal, and the whole or more than seven of the jury are in favour of his condemnation, the case is deferred till the next session, at which it is finally decided. If the majority of the jury are for the acquittal of the accused, the pro-
president orders him to be set at liberty, unless some other accusation demands his further detention. If the accused is brought in guilty, a new question arises, relating to the punishment proper to be in-
flicted, or the satisfaction to be made to the party injured. Upon this the judges agree among them-

the, and then assign a sum of money to be paid. Against this sentence no appeal can be made, except to the court of cassation. (q. v.) This court receives the petition of the appellant as well founded, if a want of substantial validity, or an error in form, is pointed out, or if the sentence has manifestly been passed in violation of some existing law; and they refer the cause, for decision, to another court of assises.

ASSONANCE, in rhetoric and poetry; a term used when the words of a phrase or verse have the same sound or termination, and yet make no proper rhyme. This is usually a fault in English: the Romans sometimes used it with elegance. The Latins call this similiter deinens; the Greeks, iunviron.

ASSONANT RHYMES is a term particularly applied to a kind of verses, common among the Spaniards, where the vowels only are required to rhyme; as, ligera, cubierta; terra, mesa; may answer each other in a kind of assonant rhyme.

ASSUMPTIUM, in English law, is an action to recover a compensation in damages for the non-performance of a parole promise; that is, a promise, whether verbal or written, not contained in a deed under seal. For breal of a promise of the latter kind, assumptum will not lie; but the proper remedy is by action of covenant or debt. The word assumptum (Latin) means he under-
took, and has been taken as the name of this action, from its occurrence in declarations; i.e., formal state-
ments of the plaintiff’s case of action, which they wrote in Latin. The common law adopts the maxim, that a mere made agreement and undertaking, without any quid pro quo, will not constitute a binding contes. This maxim is commonly said to have been borrowed from the civil law, where we find it laid down that
ASSUMPTION—ASTHMA.

ex nudo posto non order actio: but this seems rather to have referred to agreements, without certain formality. (See Foss, "De Partibus Ejusdem," p. 326.)

What our law requires, in order to sustain a promise, is termed a consideration; and it must be either a benefit to the party promising, or to some third person, in whom he takes an interest; or detriment sustained by the party to whom the promise is made, at the request of the party making it. The degree of benefit or detriment, or its relative proportion to the thing promised, is immaterial. A promise in remuneration of an act which the party is bound to perform, as a promise to a sailor of extra pay for extra work, or to a laborer of extra money, is void. The law regards such exaction as the sailor's previous duty; the consideration, therefore, for the promise, fails. Assumpsits are of two kinds, express and implied; the former are where the contracts are actually made, in word or writing; the latter are such as the law implies from the justice of the case; as for instance, if I employ an artist to do any work for me, the obvious justice of my paying him a reasonable sum for that work, when done, raises an implication in the understanding of the law, of a promise on my part to pay him.


Assyrians is the festival by which the Roman and Greek Catholic churches celebrate the miraculous ascent of the Virgin, on the 15th of August. One of Raphael's earlier pictures represents the empty coffin in which, according to the Catholic tradition, flowers were found after Mary had ascended to heaven. The picture is now in the Vatican.

Assurance. See Insurance.

Assurance, in theology, is the firm persuasion of possessing a personal or actual interest in the divine favour. Some theologians maintain that assurance is included in the very essence of faith, so that a man cannot have faith without assurance; and this doctrine has occasioned, especially of late years, considerable disputation in the church of Scotland. The reader will find the subject treated in Saurin's sermons, vol. iii., sermon 10th, English ed.; Case's sermons, sermon 13th; Lambert's sermon on John xix. 35; Harvey's "Theron and Aspasio," dialogue 17; Hove's Works, vol. i., pp. 342-48; Brooks, Burgess, Roberts, Baxter, Polhill, and Davy on Assurance; Wardlaw's Essays on Assurance and Pardon; Modern Panicism Unveiled, &c., &c.

Asia, is the first large province of Asia, formerly of great celebrity. Its limits were different at different times. A., originally, was bounded on the N. by mount Niphates and Armenia the Greater; on the W. by Mesopotamia; on the S. by Susiana; and on the E. by Media. Ashur is said to have founded it. Its most famous monarchs are Nimus (q. v.) and his widow and successor, Semiramis. Nimus subdued the Babylonian, the Median, and several other kingdoms, and united them to his own. In the time of Sardanapalus (about 900 years before the Christian era, or, according to Volney, 747), Arbaces, governor of Media, made himself master of the kingdom of A. Herodotus, whose correctness has been proved by Volney, fixes the duration of the Assyrian empire in Upper Asia at 280 years. It was then divided into three kingdoms—the Median, Assyrian, and Babylonian—by the partition of which was before included in the Assyrian. Some rise, however, to a resemblance of its former splendour, while Media and Babylon again yielded to its superiority. Salammusar was then the sovereign of the empire, and Nineveh the capital. About 700 B. C., Media again left its yoke, and the allies were formed, as a series of nations, that, in the time of Nebuchadnezzar, governed Babylon, they marched against Nineveh, and

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destroyed it; B. C. 606. A. now became a province of Media; and Babylon of Nebuchadnezzar a made a powerful kingdom, B. C. 600. About 550 years before the Christian era, the three kingdoms were united by the victorious Cyrus (q. v.) of Persia.

Assyria, a Syrian goddess, probably corresponding to the Semele of the Greeks and the Ashtaroth of the Hebrews. According to Icacin, she had a very ancient temple in Phenicia. Some also believe her to be the same with Hera (the Juno of the Romans), and others with Aphrodite.

Astell, Mary, an English authoress, was born at Newcastle, in 1717, and at the age of 20 she removed to London, where she spent the remainder of her life, and died in 1731. Her first work was entitled, "A Serious Proposal to the Ladies," 1697, 12mo, the object of which was to recommend the erection of a seminary for female education. She afterwards published several controversial pieces. Her most finished performance was entitled "The Christian Religion," 1705, 8vo. She was a strenuous advocate of high church principles, to which circumstance, more than to her talents, she owed the celebrity she at one time enjoyed.

Asterisk (a small star); a sign to refer to notes. The ancient critics made use of this sign, or of a cross (obelus), to point out an incorrect passage in the text of an author. Others used the same mark as a sign of the correctness of a passage.

Asthma (asthmo, Latin; from asthmoid, to breathe with difficulty); difficulty of respiration, returning at intervals, with a sense of stricture across the breast and in the lungs, a wheezing, hard cough, at first, but more free towards the close of each paroxysm, with a discharge of mucus, followed by a remission. Asthma rarely appears before the age of puberty, and seems to attack men more frequently than women, particularly those of a full habit, in whom it never fails, by frequent repetition, to occasion some degree of emaciation. In some instances, it arises from a hereditary tendency; and it seems to depend upon a particular constitution of the lungs. Dyspepsia always prevails, and appears to be a very prominent feature in the predisposition. On the evening preceding an attack of asthma, the spirits are often much affected, and the person experiences a sense of fullness about the stomach, with latitude, drowsiness, and a pain in the head. On the approach of the succeeding evening, he perceives a sense of tightness and stricture across the breast, and a sense of strangeness in the lungs, impeding respiration. The difficulty of breathing continuing to increase for some length of time, both inspiration and expiration are performed slowly, and with a wheezing noise; the speech becomes difficult and uneasy; a propensity to coughing succeeds, and the patient can no longer remain in a horizontal position, being, as it were, threatened with immediate suffocation. After some time, the symptoms combine into a single paroxysm, which approaches the approach of morning, and then a remission commonly takes place; the breathing becomes less laborious and more full, and the person speaks and coughs with greater ease. If the cough is attended with an expectoration of phlegm, the wheezing ceases, after a time, and soon falls asleep. When he awakes in the morning, he still feels some degree of tightness across his breast, al-
though his breathing is probably more free and easy, and the least motion renders this more difficult and uneasy; neither can he continue in bed, unless his head and shoulders are raised to considerable height.

Towards evening, he again becomes drowsy, is much troubled by cyanosis in the face, and perceives a return of the difficulty of breathing, which continues to increase gradually, till it becomes as violent as on the night before. After some nights passed in this way, the fits at length moderate, and suffer more considerável remissions, particularly when they are attended by a copious expectation in the mornings; and this continues from time to time throughout the day; and, the disease going off at last, the patient enjoys his usual rest by night, without further disturbance.

The exciting causes are various:—accumulation of blood or viscid mucus in the lungs, noxious vapours, a cold and foggy atmosphere, or a close, hot air, the expulsion of eruptions, or other metastatic diseases, flatulence, accumulated feces, violent passions, organic diseases in the thoracic viscera, &c. Sometimes the fits return at pretty regular periods; and it is generally difficult to obviate future attacks, when it has once occurred: but it often continues to recur for years, and at other periods, without any inducing dropsy in the chest, consumption, &c.

The treatment must vary according to the form of the disease. By far the most important part of the treatment consists in the obviating or removing the several exciting causes, whether operating on the lungs immediately, or through the medium of the prime vices, &c. Individual experience can alone ascertain what state of the atmosphere, as to temperature, dryness, purity, &c., is most beneficial to asthmatics, though a good deal depends on habit in this respect; but a due regulation of this, as well as of the diet, and other parts of regimen, will usually afford a permanent relief than any medicines we can employ.

Astley, John; a native of Wem in Shropshire, who adopted the profession of a portrait painter, and was a pupil of Hudson, the master of Sir Joshua Reynolds. He is known by his marriage with lady Daniel, a lady of large fortune, whose portrait he had painted. He died in 1757.

Astley, Philip; the founder of the royal amphitheatre near Westminster bridge, London, and the author of some literary productions. He was born at Newcastle-under-Line, in 1742, served in the English navy, and, for several years, on the return, began to exhibit equestrian performances. In 1780, he erected a building which he called the amphitheatre riding-house; and for which he subsequently procured a license. He erected afterwards several amphitheatres in England and Paris, and wrote a treatise on horsemanship, also two works of a military character. He died at Paris, Oct. 20, 1814, aged 72.

Astachan, or Astrakhan, a vicereality of the Russian empire, extending from 49° to 52° N. lat., and containing 293,000 square miles, with 2,600,000 inhabitants. It is divided into three governments—Astrakhan (78,600 square miles; 223,000 inhabitants), Saratov, and Orenburg. It is bounded on the N. by the country of the Bulgars and Bashkiers; on the S. by the Caspian sea; on the W. by the Wolga, which separates it from the Nogai Tartars and the Caspian sea; on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on the E. by a long chain of mountains, which divides it from Tartary. The summer is long, and very hot; the winter lasts three months, and is very severe. The rich and fertile soil is not cultivated by the Tartars. On the W. and S. side are large heaths, which afford fine salt in abundance. The capital, Astrakhan, E. 46° 21' 15" N. lat. 15° 19' 12" is on

Astronomy (from αστηρ, a star, and γνωσις, I know); the science which teaches the constellations, ranks, &c. of the stars. See Astronomy.

Astrolabe (philosophical, αστρολαβον; from αστηρ, a star, and λαβων, I take); an instrument for measuring the angles, minutes, and sometimes even the seconds, of angles. It generally consists of a horizontal circular plate of metal, having those divisions on its extreme circumference. The utmost accuracy may be obtained in the measurement of angles, by means of a peculiar contrivance (vernier), which consists of an arc, on which the smallest divisions of the circle are subdivided as minutely as is requisite in the observations, and as the skill of the maker can graduate it. This arc is moveable, so that it can be fitted to the divisions of the circle. Fixed to this circle are two indexes, provided with a scale of degrees; the other the other turns round the centre of the instrument. By taking sight from the vertex of the angle, at two fixed points in the direction of its sides, the arc, which measures the angle, is intersected on the circle of the instrument. In modern astronomy, this instrument is no longer used, except for applications of geometry. The first application of the astrolabe to navigation was made by the physicians Roderic and Joseph, and Martin Behaim of Nuremberg, when John II., king of Portugal, desired them to invent a method of preserving a certain course at sea. They taught how to discover the situation of a vessel at sea without the use of the magnetic needle.

Astrology; an art which pretends to forecast future events, especially the fate of men, from the position of the stars. It is among the oldest superstitions in the world, and one of the most great admired by humanity. It owes its origin to the influence of the heavenly bodies, particularly the sun and moon, on the seasons, the weather, and the fertility of the earth. This led to the idea that these luminaries were created only for the use of the planet we inhabit, and that, as they have an influence on the earth, and a connexion with the destiny of individuals and of nations, the
Egyptians have a tradition that Belus founded a colony from Egypt on the banks of the Euphrates, in Asia; and this colony was furnished with priests, according to the custom of the heathens, and those who were free from public taxes, and were called, by the Babylonians, Chaldees. Hence it may be conjectured, that astrology was invented by the Egyptians; among whom the inhabitants of Thebes particularly claimed the honour of the invention. Most of the ancient writers are agreed, that astrology was communicated by the Chaldees to other nations. From this circumstance, astrologers used to be called Chaldees by the ancient writers; sometimes Genethliacs (see Genethliacum); and, in later times, Chaldeus has been synonymous with astrologer. (See Horoscope.)

The generality of this art may be inferred from the fact, that most astrological observations are founded on the position of the stars in reference to the horizon, which was the first circle recognised in the heavens; also from its being mentioned in the Mosaic history. As astrology, in later times, fell into disrepute on account of the credulity and fraud of its practitioners, these assumed the name of mathematicians, by which they were generally known at the time of the Roman emperors. They caused so much trouble, that Tiberius at length banished them from Rome. The law relating to this banishment of astrologers is noticed in a geometry and the mathematical, i.e. astrological, art.—However objectionable astrology may be in itself, it has been of essential use to astronomy. It has excited more interest in, and led to more careful observations of the heavenly bodies. During the middle ages, theology and astrology were, cultivated in connexion by the Arabs, and their works on the subject are still extant. Pico of Miranda, who manfully combated the errors of astrology towards the close of the 15th century, found but little attention paid to his labours. Even in the 16th and 17th centuries, astrology could boast of literary men, such as Cardano, and even Kepler, among its adherents. The Copernican system, the correctness of which experience has been continually confirming, has shaken the foundations of the ancient science; but the fabric is not wholly overthrown. A full account of astrological terminology is given in Lalande's Astronomy, vol. i. (2nd edition), sect. 497.

Astronomy (from astro, a heavenly body, and nomos, law) is the science of the heavenly bodies and their motions. It is founded on observation, but received its last calculations on the interval from the imperfect system of the Chaldean shepherd and the Phoenician mariner to the Celestial Mechanics of a Laplace! How many centuries of observations were necessary to render the motion of the earth suspected! How slow the progress to the laws of planetary motion, and from those laws to a universal principle of gravitation! Founded on geometrical considerations, this great principle explains all the celestial phenomena in their minutest details: there is not a single seeming irregularity which does not necessarily result from it. Outrunning the cautious advances of observation, it descends from causes to phenomena, and renders astronomy a great mechanical problem, of which the only data necessary are the motions, figures, and magnitudes of the heavenly bodies. That part of the science which relates to their motions, magnitudes, and periods of revolution, is called ephemerides; that which sets down and demonstrates the laws by which those causes operate, is called physical astronomy. From a simple view of the heavens, we see stars, with which the ethereal vault is sprinkled, appear regularly in a certain point, to rise with a uniform motion to a certain elevation, and then descend, and disappear in the opposite quarter of the heavens. This motion is common to all the stars, and is performed in equal times, though they appear, according to the custom of the astronomers, to move with different velocities, and in different directions, at what seems to be very different magnitudes. At a certain point, this motion appears to cease: this point is called the pole, which signifies a pivot, on which the heavens appear to turn. The celestial vault being conceived as forming a sphere, there are two of these points: that which is visible in our hemisphere is called the celestial pole; and that which is visible in the opposite hemisphere is the south celestial pole. The circle which bounds our view on all sides is called the horizon, or boundary: its plane passes through the centre of the earth, and is also called the celestial or rational horizon, to distinguish it from the sensible horizon, which limits the view of objects on the surface of the earth. A circle perpendicular to the horizon, passing through the poles, is called the meridian. It divides the celestial hemisphere into two equal parts, so that the heavenly bodies, at the moment they arrive at this circle, are at the middle of their apparent course: the passage of the sun over this circle determines the instant of noon. The period occupied by the stars in passing from this circle through the celestial sphere, and returning to the same point, is called a sidereal day, and is a little less than the time between the rising and setting of the poles, the arcs described by the stars gradually increase, and at an equal distance between them, we find the largest, which, dividing the celestial sphere into two equal parts, is called the celestial equator. A line drawn from the centre of the globe, through the place of the observer, perpendicular to the north celestial pole, and passing through him, is called the zenith: the same line produced in the opposite direction determines a point in the opposite part of the heavens, which is called the nadir. We have thus far spoken of the ascending and descending of the heavenly bodies in the heavenly vault. But does all this train of worlds actually move round the earth daily? Or can it be proved that our senses deceive us, and that this apparent motion is an illusion? The true cause of these appearances is the motion of the earth round its axis; from W. to E., in the space of nearly twenty-four hours. A moment's reflection will convince us that the horizon of the observer, as it turns along with him during the rotation of the earth, must advance towards the stars successively, so as to give them the appearance of gradually approaching the horizon; as it is necessary for the observer to maintain his relative position to a person on board. As the meridian turns at the same time, it must arrive successively at the same stars, which will then appear to have ascended to the middle part of the course they describe above the horizon. As soon as the sun touches the western verge of the horizon, it appears to set, and ceases to be visible until the motion of the earth again brings it back on the eastern boundary of the same circle. But has the earth no other motion? Every one must have observed that the sun, besides its apparent diurnal motion, which it has in common with all the stars, appears in the course of a year to change its place in a twofold manner. First, it appears to rise and sink alternately towards one or other of the poles; and, secondly, if we observe its place among the stars, it appears either that the sun recedes daily towards the east, but that the stars approach towards the west; for the stars, which we see at one time set immediately after the sun, rise, on the following evening, lost in his rays: some days after, they reappear in the east, and their rising precedes daily more and more that of the sun. At last, after a year, or about 365 days, the sun and stars are again
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seen in the same relative position. The complexity of these motions is increased by the confusion presented to the observer of the relative positions of the planets: sometimes they seem to be hurried along with great rapidity; at other times they appear stationary, and, at others, still retrograde. All this seeming chaos of motions is reduced to order by a knowledge of the fact, that, while the earth turns on its axis, it advances in the same time, in an absolute space, from west to east, and performs an entire revolution round the sun in the course of a year, in a plane inclined to the equator. The circle which the centre of the earth describes in this revolution, and which is the apparent path of the sun, is called the ecliptic. A line joining the centres of the earth remaining always parallel to itself, the opposite poles will be directed towards the sun once in each revolution. When a pole is directed towards the sun, it receives more light and heat, and for a longer period, than at any other portion of the revolution. It is then the summer solstice, in that hemisphere; the days are longest, the nights shortest, and the heat greatest. Six months, or, rather, half a year from that period, every thing is reversed; the same pole is turned from the sun; the light and heat is received in small quantities, and for a short period. At this time, the earth is in the position of the autumnal equinox; it is then the winter solstice. At two other points of the orbit, equidistant from each other and from the solstices, the poles are equally inclined to the sun; they receive an equal supply of light and heat, and during equal periods; the days and nights are equal all over the globe. Time in this, the equinoxes, is the cold or intense: it is the winter solstice. The diurnal rotation of the earth on its own axis produces, therefore, the alternation of day and night. The annual revolution round the sun, and the obliquity of the ecliptic to the equator, cause the changes of the seasons. The daily rotation of the earth produces, also, the phenomena of tides in the ocean and the atmosphere. (See Tides.)—Let us now take a more general view of the celestial phenomena. The discovery of peculiar qualities common to a number of heavenly bodies, has led to the formation of classes (see Pmc, Sol. System, Comets, Fixed Stars); or convenience of description has clustered them into groups with fanciful names (see Constellations); or their peculiar influence on human affairs has given a name to individuals (see Sun, Moon, Earth, &c.). At first view, the stars in general do not appear to have any relation to each other; and, if they have particular motions, a long series of observations is necessary to render them sensible. But, by continuing to compare the heavens at different epochs, we perceive that some of them are distinguished by relative motions, and by the nature of the light which they transmit to us. These we call planets, that is, wandering stars, in distinction from those, which, maintaining always the same relative positions, are called fixed stars. The planets transmit to us a soft, mild, steady light, never exhibiting any change of colour. They are opaque bodies, and their light is only a reflection of that which they receive from the sun, around which they revolve in regular but unequal periods, turning at the same time on their axes. Their number now known is eleven. We mention them in the order of their distances from the sun—Mercury, Venus, Earth, Mars, Venus, Jup., Ceres, Pallas, Juno, Saturn, and Uranus according to Herschel. Five of these are visible to the naked eye, and were known to the ancients; five have been discovered in modern times by the aid of the telescope. Some of these bodies have smaller ones in their orbit, which revolve around them at the same time that they accompany their primary. The orbits of revolution round the sun, and turn on their own axes. The former are called primary, to distin-
guish them from these attendants, which are called the secondary planets, or satellites. The latter are sometimes seen to appear stationary, like bodies of a comets. The earth is accompanied by one, which is called the moon. Jupiter by four, Saturn by seven, with his remarkable ring, and Herschel by six. The interposition of one of the planets between the sun and an observer stationed on another planet, produces an eclipse. (q. v.) From time to time, small specks appear in the heavens, of a feeble lustre, moving slowly in the midst of the other stars. Gradually, as they approach nearer, their velocity increases; their light is more brilliant; and, after passing into the immediate vicinity of the earth, they will be observed, and distinguished in the distance. These are called comets (which signifies hairy bodies) from the peculiar luminous train by which they are attended, and which the ancients called hair, and the moderns, tail. These bodies, long the objects of terror to man, as the harbinger of pestilence and war, are now known to be subject to the common laws of nature, and to revolve round the sun in regular periods. The sun, the 11 primary and 18 secondary planets, and the comets, constitute the solar system. Far beyond these limits, at an immense distance, lie the fixed stars, infinite in number, of a brilliant lustre, and constantly changing in position. Their distance and the brilliancy of their light, with the fact that their magnitudes remain always the same, render it probable that they are luminous bodies, like so many suns. They have been formed into many groups of arbitrary extent, under the names of groups, constellations, &c., which are called constellations of stars. Of these the ancients knew 48; the moderns have increased the number to more than 100. It should be understood, that the stars, thus grouped together under one name, have no connexion with each other, but are so arranged for convenience of description. The astronomer, in orde to estimate better the apparent motion of the sun, referred it to those constellations through which it appeared to pass, and which are in number. They are, in Latin, Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricornus, Aquarius, and Pisces. To these, or bands, which contained them, is called the zodiac, (q. v.) and each constellation is called a sign of the zodiac. In consequence of a motion of the earth's axis, the constellations no longer correspond to the same points of the orbit; but as we confine the name signs to the divisions of the circumference of the circle, which measures the whole revolution of the earth, and as these divisions do not change, the vernal equinox always corresponds to the first point of the sign Aries, the summer solstice to the first point of the sign Cancer, the autumnal equinox to that of Libra, and the winter solstice to that of Capricornus; although the constellations, which bear these names, have ceased to be connected with these seasons. (See Procession of the Equinoxes.) To penetrate yet farther into the heavens, it is necessary to aid the imperfection of vision by the telescope, which discovers to us millions of stars in the infinity of space. In a clear night, turn your eyes to the irregular zone of whitish light: it is the milky way (q. v.): you will find it to consist of an infinite number of stars, whose inconceivable distance renders their light too feeble to make a distinct impression on the naked eye. Continue your examination, and you will observe luminous spots of an undefined shape: these are nebulae, some of which a further observation will show you to be assemblages of stars, like the milky way, while others will appear to consist of an unknown mass of whitish light. You will find, also, some stars to be variable, undergoing a perceptible change: if, for instance, the so-called peer single to the naked eye, will be found to be double, triple, &c., and to revolve round a common
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centre of gravity by twos, threes, &c. Compare your observations with those of your predecessors, and you will find that new stars have appeared at different times, and afterwards disappeared, and that others have undergone a change in the intensity of their light. Of the actual magnitude and distance of the stars we know nothing. The diameter of the earth's orbit is 200,000,000 miles; yet we can detect no difference in their apparent places, viewed from the opposite points of this diameter: a change of place amounting only to a second would be detected by the accuracy of modern observations; geometrical considerations, therefore, prove that the nearest star cannot be less than twenty billions of miles distant from us. After considering the apparent motions of the heavenly bodies, and the real motions which give rise to these appearances, physical astronomy rises to the explanation of the cause, and the investigation of the laws, of the celestial phenomena. Applying the laws of motion to the heavenly bodies, it discovers a force operating throughout, which is called attraction, the amount of which is directly as the quantity of matter, and inversely as the squares of the distances. By the application of this general principle, it descends to those more refined inequalities, which, owing to their minuteness, or the length of their periods, would escape or mislead the observer unassisted by theory. (For a view of the planetary system, the comparative magnitudes, distances, &c., of the planets, see the plate accompanying this work, entitled The Planetary System.)

ASTRONOMY, HISTORY OF. The history of this science begins with the most remote antiquity. The starry heavens must have been one of the first and most striking objects which attracted the attention of man, and his immediate wants compelled him to attend to the revolution of the seasons, the changes of the moon, &c. The most ancient astronomical observations known to us are Chinese. Such a one, mentioned by Montucla (see p. 455 of his work, vol. i., quoted below), viz., a conjunction of Saturn, Jupiter, Mars, Mercury, and the moon, occurs about 2500 years before our era. The Chaldeans also boast of some very ancient astronomical observations, but Ptolemy (q. v.) only mentions two lunar eclipses observed by them, about 700 B.C. Still less importance does he ascribe to the astronomical knowledge of the Egyptians, although the placing of their pyramids in a position exactly facing the four cardinal points of the compass, the zodiacs discovered in Egypt (see Zodiac), and other circumstances, are by no means calculated to give us such a disadvantageous idea of it. The theory of Baillie, a later historian of astronomy, respecting a nation settled in Middle Asia, and possessed of profound astronomical knowledge, seems as unfounded as our acquaintance with Indian astronomy is slight. The science made greater progress in Greece, and the Greek philosopher Thales (q. v.), born 640 B.C., calculated a solar eclipse. Pythagoras, also, seems to have been possessed of astronomical knowledge. After him, the Athenian Meton (183 B.C.) introduced the famous lunar cycle of nineteen years, at the end of which time the new moon appears on the same day of the year as at the beginning of it, since nineteen solar years constitute very nearly 235 lunations—a discovery which was then regarded as so important, that the calculation was engraved in letters of gold, whence the number, which marks the year of the cycle, is still called golden. Great progress was made in astronomy under the Ptolemies, and we find Timocharis and Aristotle employed, about 300 years B.C., in making useful planetary observations. But they were far surpassed, in philosophical spirit, by Aristarchus (q. v.) of Samos, born 267 years B.C., who, accord-

Thus the moon (\(\mathbb{1}\)) occupies the place nearest to the earth, and the six other planets in their order; namely, Mercury (\(\mathbb{2}\)); Venus (\(\mathbb{3}\)); the Sun (\(\mathbb{4}\)); Mars (\(\mathbb{5}\)); Jupiter (\(\mathbb{6}\)); Saturn (\(\mathbb{7}\)). These are succeeded by the sphere of the fixed stars, otherwise called the firmament, or the eighth sphere, and two other spheres called crystalline, all which were put in motion by the outermost sphere, called the Primum Mobile, or prime mover. Whether what is called the Egyptian System, be of greater antiquity than Ptolemy's, may not be easily determined; but it will be seen from the following cut, that it more resembles the Tychoïdian than the Ptolemaic system.
Among the Romans, astronomy was not much esteemed; and the astronomer discovered its origin with them; though it must be observed, that expressions occur in Seneca's Questions Nat., vii, 13, respecting comets, which are worthy of a riper age; and the service likewise deserves mention, which Julius Caesar rendered, by his correction of the calendar and of the lengths of which may be found in the article Calendar. But, with the irruption of the barbarians on one side, and the destruction of the Alexandrian library on the other, such a total stagnation occurred in the case of astronomy, as in that of the sciences in general, that we find no traces of astronomical study, and observation, till the middle of the 14th century, among the Arabs, whose translation of Ptolemy's works has already been mentioned. Of their astronomers, the caliph Almonmon, and the princes Albutegani and Thebili, deserve to be named. Among the Moors who invaded Spain, there were Arabic scholars, who transplanted the science to that country. With the Mohammedan faith, Arabic learning was likewise introduced into Persia, the reigning prince of which, Ulug-Beigh, in the beginning of the 15th century, collected, at his capital, Samarqand, an assemblage of the most famous living astronomers, and observers. But we must not overrate the merits of the Arabic astronomers, since they confined themselves entirely to the system of Ptolemy, and confounded the science with the dreams of astrology; though, on the other hand, the benefits which they have rendered by valuable observations of the fixed stars (many of which, it is well known, still bear Arabic names), of eclipses, of the obliquity of the ecliptic, (q. v.) &c., and by the preservation of ancient mathematical works, which have come to us in their translations, are not to be forgotten. Among the Christian nations during this time, a deep ignorance generally prevailed, but the cultivation of the astronomical sciences was not entirely neglected. Thus the emperor Frederic II., who died in 1250, caused the Almagest (the Greek original being no longer extant) to be translated from the Arabic into Latin; and King Alphomo of Castile, about the same time, invited to his court several astronomers, and commissioned them to prepare a set of new astronomical tables, which, under the name of Alphonsine tables, have acquired much celebrity, but, in the 17th century, differed a whole degree from the true situation of the celestial bodies. We pass over several less famous names, in order to introduce those of the German astronomer and mathematician, George of Peurbach or Purbach, born in the Austrian dominions, in 1423, who published various valuable astronomical tables, such as the table of sines, from 10 to 10°, and a still more famous scholar, John Muller, born at Konigsberg, in Prussia, and thence called Regiomontanus, from whom we possess the first good and complete Ephemerides. After him, a brighter light was shed over astronomy by Nicholas Copernicus (q. v.), born in 1473, who gave the science an entirely different aspect, exploded the Ptolemaic hypothesis, and, in its stead, substituted the Copernican system of the world, which, with a few modifications, is still prevalent, and universally acknowledged to be correct. He it was that gave the sun its place in the centre of the planetary system; or, as is magnificently expressed in his epitaph, "commanded the sun to stand still;"—who first conceived the bold idea, that the earth is a planet, like Mercury, Venus, and the rest, and moves, in common with them, in a circle around the sun; and who maintained that these circles (or, in conformity with subsequent corrections, these orbits, differing but little from circles) were sufficient to explain the most complicated motions of the other planets, and even their apparent cessations of motion and retrogradations, which hitherto baffled all conjecture. (For a view of the Copernican System, see the Plate entitled The Planetary System.) How much freedom of spirit was required thus to rise superior to the prejudices of centuries, we are almost incompetent to judge, now that the truth of the system is settled; but his great countryman, Kepler, has depicted the spirit of the man, by a few energetic strokes, calling him "virum maximo ingenio et quid in hoc exercit magui momenti est, animo libero." His system did not, however, meet, immediately, with a general reception; and, while Rhetius and others were its advocates, some distinguished astronomers made objections to it, among which the imperceptibleness of any annual parallax of the fixed stars, which it seemed must necessarily result from the motion of the earth, was the one of most weight. The most distinguished of these opponents of the great Copernicus was Tycho Brahe (q. v.), born in Denmark, in 1546. He maintained that the earth is immovable, in the centre of the universe; that the whole heavens turned around it in twenty-four hours; that the moon, and also the sun, by virtue of their own motions, describe circles around the earth, while Mercury, and the other planets describe epicycles around the sun. (See Epicycle.) This system, called after him the Tychoan System, may be represented thus:

The principal authority that Tycho adduced in support of his opinion was, the literal sense of various passages of the Bible, where a total absence of motion is ascribed to the earth; but, although he did much injury to science by supporting this erroneous opinion, we are under infinite obligation to him for the great exactness of his observations, which opened to his pupil and assistant, Kepler (q. v.) of Wurtzburg (born 1571, died 1631), the way to the more accurate discovery of the form of the celestial orbs, and the true theory of the planets; for only eight minutes' difference between the position of the planet Mars, as calculated on the hypothesis of the circle, and its actual position, as observed by Tycho, gave this sagacious astronomer occasion, as he expresses himself, in p. 114 of his Astronomia,* ad

* The title of this immortal work, containing the code of theoretical astronomy, is, Astronomia nova, Nova stella mundi aetate, nitens in aqua, praeterfossam, ad medium, in eam quae sunt, octes romanae, decem astronomiae, etc. Commentum in de Mediterr. Stella Martis, ex Observationibus Tycho Brahe, Jutin et...
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ASTURIA.—ASYLUM.

(try and astronomy) 3d ed., Berlin, 1803, 2 vols.: together with a work, we may mention Bürge's Manual of Astronomy, Berlin, 1794, 5 vols. This requires, however, more extensive knowledge. Excellent, though very condensed, is Bohmenberger's Astronomy, Tubingen, 1811. Plajza's Italian Manual of Astronomy is a good work. Among the English treatises are Woodhouse's Elementary Treatise on Astronomy, 1823, and Ferguson's Lectures on Astronomy, a popular work; also Vince's Complete System of Astronomy, 3 vols. 4to, with additions, 1814. To astronomers, practical and theoretical, Bessel's Observations at the Observatory of Königsberg, which he has preserved in folio since 1813, are indispensable. Notices of astronomical tables may be found in the larger astronomical treatises mentioned. With respect to astronomical periodicals, Zach's Monatliche Correspondenz zur Beförderung der Erd- und Himmels-Kunde, with which is connected Lindenau's and Bohmenberger's Astronom. Zeitschr., is continued under the title Correspondence Astronomique, Géographique, &c. du baron de Zach. Schumacher has also published, in Copenhagen, since 1822, Astronomische Nachrichten. The latest observations may be also found in the Paris Connaissance des Temps, and in the Berlin Astronomisches Jahrbuch, which has been the residence of more than fifteen years. The history of astronomy may be found at large in Montucla's already mentioned Histoire des Mathématiciens. 4 vols. 4to; in Dablanc's Histoire de l'Astronomie Ancienne, celle du Moyen Age et Moderne, Paris, 1817, 5 vols. 4to; and in Bailly's Histoire de l'Architecture, of which the first volume appeared in 1771, containing the history of ancient astronomy, and the 3 other volumes, 1779 and 1782, containing the history of modern astronomy, followed, in 1787, by his Traité de l'Astronomie Indienne, which work, however, does not seem to have been remarked, much because, with precaution, on account of the author to adopt theories on insufficient grounds.

ASTURIAN, or the Asturias; a Spanish principality, of about 3670 square miles, with 365,000 inhabitants. It is bounded by Bisca in the east, Galicia on the west, Castile and Old Leon on the south, and Asturias and the north. To this inconsiderable portion of the north of Spain the Moor never penetrated with success. There the Goths retreated; in the 5th century, before the sword of the Saracen. Each Asturian, therefore, thinks himself a free hidalgio. The inhabitants are upon many, chess-huts, fruits, hazel-nuts, game, fish, barley, and herbs, of wheat or similar grain. The pasture and cattle are excellent. Oil and salt are wanting entirely. The Asturian is less industrious than the Galician, and less sociable than the Biscayan. The mountains are not capable of supporting all the inhabitants, and therefore the free Asturians go into the service of other Spaniards, who are, in his eyes, much less noble than himself, and becomes a coachman or footman.—A. formerly enjoyed many privileges, not belonging to the Castilian provinces, in respect to its interior administration, and to its maritime navigation. The hereditary prince of Spain has borne, since 1386, the title of prince of A., or de las Asturias, according to the obsolete division into A. de Oviedo and A. de Santillana, the two chief cities of this country.

ASTYAGAR; son of Cyaar, the last king of the Medes. Herodotus relates, that from the womb of his daughter Mandane, married to Cambyses, king of Persia, there sprung up a vipers. The spread over all Asia, and soon became so great, that he resolved to kill the infant as soon as it was born. The child was Cyrus. Harpagus, being commissioned to destroy it, preserved its life. Astyages, learning long after what Harpagus had done, caused him to eat his own son. Harpagus, in revenge, called in Cyrus, who debarred his grandfather after his victory at Pasargards, in which the Persians defeated the Medes, and put an end to their monarchy. See Cyrus.

ASCENSION, or NEBUSTA SEÑORA DE LA ASCENSION (in English, Assumption); the chief town of Paraguay, being eighteen miles from the first mouth of the Pilcomayo, built in 1538, and, in 1547, erected into a bishopric. The streets are ill-made and crooked. The population consisted, formerly, of about 2000 Spanish colonists, and several thousand mestizos and Indians. The climate is temperate, and the adjacent country rich and fertile; throughout the year, many of the trees are either in foliage or loaded with fruits. The trading boats from Buenos Ayres to A., take two or three months to ascend the Plata, owing to the force of the descending current. A. has become more known, of late, as the capital of the archbishop of the Occidente, and the residence of the bishop of France. (See Fran
cie and Paraguay.) The latest information which we have of that part of the world is to be found in the Historischer Versuch über die Revolution von Paraguay, &c. von J. R. Rengger und M. Long

ASYLUM; a place to which persons flee for protection. Among the ancients, temples, statues of the gods, and altars afforded such a refuge, and it was deemed an act of impiety to drive forth inability or refuge who had fled to them for protection. The abuses of these institutions sometimes led men to forget their sacred character, as the Lacedemonians did in the case of Pausanias, whom they starved in the temple of Minerva. People who had fled to asylum were often starved to death by those in power, or the places of the trees, and sacred asylum, however, were not asylums, but only those particularly consecrated for this purpose. The emperor Tiberius abolished them all, except the temples of Juno and Asculapius. These institutions passed over to the Christian world. Under Constantine the Great, all Christian churches were asylums for those who were pursued by the officers of justice or the violence of their enemies. The younger Theodosius extended the privilege, in 431, to all courts, gardens, walks, and houses belonging to the church. The Franks confirmed the privilege, and, in 681, the synod of Toledo extended the limits of asylums to thirty paces from every church. This ecclesiastical privilege has since prevailed in all Catholic countries. It remained inviolate, at least in Italy, while the papal government retained its independence. It was maintained by some of the sovereigns of France against the wild spirit of the middle ages, and was not without good consequences at a time when force often prevailed over justice. It also changed civil punishments into ecclesiastical, limited the power of sovereigns, and extended the influence of the church. For this reason, and because it was better administered, asylums have been abolished in most modern countries. It is generally known, and as generally disregarded, that the late pope Leo X., on his accession to the apostolical see, re-established the asylums, which had been abolished by his predecessor, Pius VII.; the chief cause of which has been to afford the robbers in the papal dominions.
a better opportunity to escape the pursuit of the Aus-
trian troops.—In Britain and the United States, this
name has been given to many charitable institutions
for the relief of orphans, blind, or dumb and deaf
persons, &c. In no countries are institutions of this
kind unknown.
ASYMPTOTE: commonly, a straight line, which ap-
proaches a curve line, so that the distance between
them is constantly diminishing, although they can
never meet, even if indefinitely continued. Hence
Leibnitz called infinite spirals the asymptotes of the
curves they may also be called.
ASSNDRON: the omission of the small connecting
particles of speech, in order to render the expression
more lively and impressive. This is particularly the
case when a series of actions, quickly following each
other, is to be represented; e. g., in Virgil;
Per te cito flammas, date veas, impellite renos.

ATABALPA, or ATABALPA: the last of the incas.
He succeeded his father, in 1529, on the throne of
Quito, whilst his brother Huascar obtained the king-
dom of Peru. They soon made war against each other,
when the latter was defeated, and his kingdom
fell into the hands of A. The Spaniards, taking ad-
vantage of these internal disturbances, with Pizarro
at their head, invaded Peru, where they were enter-
tained with no little hospitality by the King and the
people. In reward of this kindness, they
held A. in captivity, and requested him to acknow-
ledge the king of Spain as his master, and embrace
the Christian religion. Upon his asking their au-
thority for this request, the friar Valverde gave him the
breviary as authority. A. put it to his ear, and said,
"It is a beautiful book," and then threw it away.
This was made a pretext for a massacre of the people and
the imprisonment of the king. He offered a large
sum of gold as a ransom: this the Spaniards took,
but still kept him prisoner. At last, he was burnt,
in 1533. See Pizarro.

ATALANTA. There were two persons of this name
in the ancient mythology. One of them was a native
of Arcadia, the daughter of Iasus and Clymene, cele-
brated for her skill in archery. She slew, with her
arrows, the Centaurs Rhoeus and Hylenus, who were
about to offer violence to her; sailed to Colchis with the
Juno-vessel, and was afterwards present at the
clash of the Calydonian boar, which she first wound-
ed; hence Meleager awarded to her the prize. (See
Calydon and Meleager.)—The other was a daughter of
King, son of Scyros, renowned for her beau-
ty, and swiftness in running. Conscious of her ex-
quise beauty and her great fleetness, she imposed
upon her lovers the severest conditions. She required
each to run a race with her. Her admirer was to
run before, unarmed, while she followed him with a
dart. If she could not overtake him, she was his own:
but if he was conquered, he was doomed to death,
and his head set up at the goal. Many had fallen victims in the attempt, when Hippomenes,
the son of Megaserus, by the aid of Venus, overcame
her. The goddess gave him three golden apples,
which he threw behind him, one after another, as he ran.
A. started to pick them up, and Hippomenes
reached the goal before her. Her former crowning
now gave place to such ungovernable passion, that
she even profaned the temple of Ceres, which stood
near the place of the race. The angry goddess
charged both the parties into lions, and compelled them
to fight till one of them, in order to draw her chariot.

ATABAM. See Hetman.

ATE: among the Greeks, the goddess of hate, in-
justice, and crime. Homer says of her—

Jove's daughter, Ate, most pernicious power
By whom all suffer, challenges from all

Reference and fear. Delicate are her feet,
Which scorn the ground; and over human heads
She glides, injurious the race of men.

Of two who strive, at least entangling one.


Just before the birth of Hercules, she excited Jupiter
to a strain of boasting, and thus afforded Jove an
opportunity to overreach him by leading Eurystheus
first into the world. The indignant monarch of
the gods seized her by her hair, precipitated her to
the earth, and swore that she should never return to
Olympus. Fable implies, that she has ever since
paved the earth with incredible velocity, and spread
despair and misery everywhere. Heracles calls her
a daughter of Eris.

ATTELANAE FABULAE (called, also, Oscen plays):
a kind of light interlude between the tragedy and
comedy, which, in ancient Rome, was not performed
by the regular company of actors, but by free-born
young Romans. This kind of play is said to have
originated from the ancient Aelian, a city of the
Oscans, between Capua and Naples, and is, at
the same time, the beginning and all that remains of
a national Italian comedy, consisting of farces
seasoned by satiric.

A TEMPO (Italian, in time), in music; of similar
signification with a battuta, and, like that expression,
seldom used but when the time has been interrupted.

A Tempo, in any kind of fencing or fighting, means
a blow or thrust at the same time with the antago-
nist's blow or thrust. It is, of course, necessary that
two assailants should be made in such a way as to
afford, at the same time, a guard against the other's
thrust, or to prevent its full effect. This kind of
blows takes place particularly in fighting with the
broad-sword, when the antagonist leaves himself
wide open.

ATIHAM; daughter of Omri, king of Israel, and
wife of Joram, king of Judah; a woman of abandon-
ning character, and fond of power, who, after the death
of her son Ahaziah, opened her way to the throne
by the murder of forty-two princes of the royal
blood. She reigned six years; in the seventh, the high-priest,
Jehoiada, placed Joash, the young son of Ahaziah,
on the throne of his father. This prince had been
preserved and brought up secretly in the temple by
Jehosheba, the sister of Joram and wife of Jehoiada.

Atalanta, attracted by the noise of the people, who
were crowding to the coronation of Joash, entered
with them into the temple, where the ceremony
was going on. At the sight of the new king, surrounded
by priests, Levites, great officers of the kingdom,
and the joyful people, she was beside herself; she
tore her hair, and cried out, Treason! Jehoiada or-
dered her to be immediately led from the temple
by the officers, and commanded that all who should offer
to defend her should be slain; but she was put to
death, at the gate of her palace, without opposition.
This happened about 877 B. C. The altars of Baal,
which she had erected, were thrown down, and the
wealth, the true God restored. (See Second Book of
Kings, viii. 11.) Racine has written a tragedy on
this story.

ATHAMAS, in fabulous history; the son of Echus
and Enareta, and governor of a part of Bocotla.
He was the husband of Nephele. Their children were
Helius and Nepheus. Being afterwards separated from
Nephele, he had by Ino, his second wife,
Learchus, Melicertus, and Euryclea. Ino, deter-
mencing to get rid of the children of Nephele,
caused a failure of the crops, and bribed the mes-
engers, whom A. had sent to the oracle to in-
quire of the misfortune, to bring for an answer,
that the children of Nephele must be sacri-
ficed. Juno had instigated this to measure in
order to destroy her, having hated because she had
been the nurse of Bacchus. But the plan failed. Nephele preserved her children by means of the god's golden disc, and fled to Phryxus, king of Boeotia, where she died. The treachery of Ino, who would have inevitably felt the vengeance of A., had not the grateful Bacchus conveyed away his nurse. A., supposing that she was put to death, married Themisto, the daughter of Hyapas, king of the Lapithae. But Ino returned, gained his love once more, and excited the jealousy of Themisto to such a pitch, that she determined to murder Ino's children. With this view, she ordered their beds to be covered with black; but Ino, suspicious of some evil design, changed the clothes, and the unconscious Themisto murdered her own children, not knowing whether her own or Ino's were dead. Ovid relates, that A., having lost his reason through the anger of Juno, and taking Ino and her children for a lioness and her whelps, seized Learchus, and dashed him against a stone; that he then pursued Ino, who, with Melicertus in her arms, plunged into the sea. Sinned with blood, A. now abandoned Bacchus, and fled to Pthiotis, where he built Alos, and again united himself with Themisto; but, according to Pausanias, he first went to Andreas, who gave him the country around the mountain Laphyostium, which afterwards came to the children of Paris.

ATHANASIUS, Saint; bishop of Alexandria; a renowned father of the church, born in that city, about 296. He had a Christian education, and came into the family of Alexander, afterwards archbishop of Alexandria, whose private secretary he became. He then went from the world, led an ascetic life with that renowned anchorite, but at length returned to Alexandria, where he became a deacon. Alexander took him to the council at Nice, where he gained the highest esteem of the fathers, by the talents which he displayed in the Arian controversy. He had a great share in the decrees passed here, and thereby drew on himself the hatred of the Arians. After six months, he was appointed the successor of Alexander. The complaints and accusations of his enemies at length induced the emperor Constantine to summon him, in 334, before the councils of Tyre and Jerusalem. A. brought to light the iniquitous arts which had been practised against him, and threw his judges, who were likewise his enemies, into such confusion, that the imperial deputies could with difficulty rescue him from their anger. They could do nothing, however, further than suspend him from his office. He still continued in the discharge of his duties, as head of the church, and was deposed by the emperor Constantine, banished to Treves. The death of Constantine put an end to this banishment at the end of a year and some months. Constantius, emperor of the East, recalled the holy patriarch. His return to Alexandria resembled a triumph. The Arians made new complaints against him, and he was condemned by ninety Arian bishops, assembled at Antioch. On the contrary, 100 orthodox bishops, assembled at Alexandria, declared him innocent; and pope Julius confirmed this sentence, in council held in 338. More than 300 bishops assembled at Sardis, from the East and West. In consequence of this, he returned a second time to his diocese. But when Constantius, emperor of the West, died, and Constantius became master of the whole empire, the Arians ventured to rise up against A. They convened him in the council of Antioch, on the 11th of March, 341, and as the worthy patriarch refused to listen to anything but an express command of the emperor, when he was one day preparing to celebrate a festival in the church, 5000 soldiers suddenly rushed in to make him prisoner. But the surrounding priests and monks placed him in security. A., displaced for a third time, fled into the deserts of Egypt; and, pursued him even here, and set a price on his head. To relieve the hermits, who dwelt in these solitary places, and to check the perversity of the emperor's servants, suffering on his account, he went into those parts of the desert which were entirely uninhabited. He was followed by a faithful servant, who, at the risk of his life, supplied him with the means of subsistence. In this undisturbed spot, A. composed many writings, full of eloquence, to strengthen the faith of the believers, or expose the falsehood of his enemies. When Julian the Apostle ascended the throne, he allowed the orthodox bishops to return to their churches. A. therefore returned, after an absence of six years. The mildness which he exercised towards his enemies, and the zeal which he displayed in supporting the honesty and virtue of the Alexandrians, allowed him to return. From this period, he remained undisturbed in his office till he died, 373.—Of the forty-six years of his official life, he spent twenty in banishment, and the greater part of the remainder in defending the Nicene creed. A. is one of the greatest men of whom the church can boast. His deep mind, his noble heart, his invincible courage, his living faith, his undisturbed benevolence, sincere humility, lofty eloquence, and strictly virtuous life, gained the honour and love of all. His writings are on polemical, historical, and moral subjects. The polemical treatise chiding of the mysterious doctrines of the Trinity, the incarnation of Christ, and the divinity of the Holy Spirit. The historical ones are of the greatest importance for the history of the church. In all his writings, the style is distinguished, considering the age in which they were produced, for clearness and moderation. His Apology, addressed to the emperor Constantine, is a masterpiece. The best edition is that of Montfaucon, 3 vols. fol., Paris, 1698. As a supplement to this may be added the 2d vol. of the Library of the Church Fathers, by the same editor (1708).

ATHENS (Greek, a priv. and Æth, a God); the doctrine which teaches the non-existence of God, and is opposed to theism, or deism. As a disposition or a manner of thinking in regard to religion, it is the opposite of faith and belief. Athem is always found to prevail most in the most depraved times; e. g., among the Greeks after Pericles, among the Romans after Augustus, among the French before the revolution, in the time of the systême de la nature, &c. As men live at all times conceived very different ideas of the Supreme Being, it is evident that a great variety must have existed in the definitions of atheism; thus we find that most of the most remarkable men have been called atheists, because their idea of the Divine Being did not agree with that of the multitude; e. g., Spinoza, a pattern of virtue. And even in the present age, persons are not wanting who stamp every one with the name of atheist, who does not conceive God as separated from his creation, like
ATHENS—ATHENS

The philosopher from his work, and governing it as an artist directs a machine. Others have asked whether there ever existed a real autochthon, because such a one could not derive from another. "And the good soul of the bard, the noble and the base; and it is indeed doubtful whether one could be found, though some persons may pretend to this entire disbelief.

**Athelstan**, King of England, succeeded his father, Edward the Elder, in 925. Though of illegitimate birth, his great merit caused him to be preferred to the lawful children of Edward. He was victorious in his wars with the Danes of Northumberland, and the Scots, by whom they were assisted. After a signal overthrow of his enemies at Brunshury, he went in peace and with great ability. In his reign a law was passed conferring the rank of thane on every merciant who had made three sea voyages on his own account.

**Athelstanford**; a parish and village in Haddingtonshire, Scotland, intersected by the Cogul burn, having the river Peller on the north, and Logdown on the south. The parish also includes the villages of Drem and Gilmerston. The soil is light and gravelly, but well cultivated and fruitful. The inhabitants are chiefly employed in agriculture; and at the new and flourishing village of Gilmerston there is a woollen manufacture of variegated cloth bearing the same name. Gilmerston, in a ruinous state, was once a magnificent residence, and commands a noble prospect over East Lothian. Here, the author of "Douglas," and Blair, author of "The Grave," were ministers, and the latter a native of this parish. Here are vestiges of an extensive Danish rampart, and the ruins of a chapel built by the Knights Templars, and dedicated to St John. Population in 1831, 931.

**Athens.** See Minerva.

**Athens (Museum).** 1. The name of several places in Greece, and also one in Italy. 2. The celebrated school which Adrian established on the Capitoline mount. Many learned men received ample salaries for giving instruction in this institution, and that they might be enabled to study at leisure. Here, also, learned men assembled to exchange ideas on their writings. In fact, it was what is now called the academic. 3. A gymnasion, at Athens, dedicated to Minerva, and destined for assemblies of poets and orators. Instruction was also given there to the youth, and, in later times, the name was applied to all places of education for the young. 4. In modern times, the name has been given to an institution established in Europe, which are connected with the sciences, as the Athenaeum of Paris. Public libraries frequently for the purpose of reading are also frequently called Athenaeums.

**Atheneus;** a Greek rhetorician and grammarian, who lived at Naukratis, in Egypt, at the end of the second and beginning of the third century after Christ. He has left an encyclopaedic work, in the form of conversation, called the Feast of the Sophists, which is a rich, but ill-arranged treasure of historical, antiquarian, philosophical, grammatical, &c., knowledge. The principal edition is by Schweighaeuer, Strasburg, 1801-7, in 14 volumes.

**Atticagoras;** a platonic philosopher of Athens, a convert to Christianity, who wrote a Greek Apology for the Christians, addressed to the emperor Marcus Aurelius, in 177, one of the earliest that appeared. This *legato* or *deprecatio pro Christ.* defends the Christians against the most extravagant aspersions which were directed against them by the heathens (of atheism, of incest, and of murder), with a philosophical spirit, and a lively and forcible style. Linder published, in 1774, the latest edition of this Apology; also a treatise on the resurrection of the dead, an able philosophical work on the possibility and fitness of a resurrection.

**Athens;** called by the Turks *Athlissia,* and also *Setines*; the celebrated city, whence the light of intellectual cultivation has spread for thousands of years to the remotest parts of the earth. It was once the splendid city of Attica, and of the now modern democ- 120 cracy, was founded by Cecrops, 1550 years before Christ, and in the most ancient times, was called *Cecropolis,* which name, in after times, was retained merely by the Acropolis. Under the government of *Erechtheus,* it lost its old name, and received that of *Athens,* probably from Minerva, who was called by the Greeks *Athena.* The old city was built on the summit of some rocks, which lie in the midst of a wide and pleasant plain, which became filled with buildings as the inhabitants increased; and this made the distinction between Acropolis, and Catapolis, or the upper and lower city. The citadel, or Acropolis, was 60 stadia in circumference, and included many extensive buildings. A. lies on the Saronic gulf, opposite the eastern coast of the Peloponnesus. It is built on a peninsula formed by the junction of the Cephalus and Ilassus. From the sea, its real power lay, it was distant about five leagues. It was connected, by walls of great strength and extent, with three harbours—the Piraeus, Munychia, and Phalerum. The first was considered the most convenient, and was one of the emporiums of Greek commerce. The second was the site of magnificent buildings, whose splendour vie with those of the city. The walls of rough stone, which connected the harbours with the city, were so broad, that carrugges could go on their top. The Acropolis contained the most splendid works of art of which A. could boast. Its chief ornament was the Parthe- non, or temple of Minerva. This magnificent building, which, even in ruins, has been the wonder of the world, was 217 feet long, 98 broad, and 65 high. Destroyed by the Persians, it was rebuilt in a noble manner by Pericles, 444 years B.C. Here stood the statue of Minerva by Phidias, a masterpiece of art, formed of ivory, forty-six feet high, and richly deco- rated with gold, whose weight was estimated at from forty to forty-four talents (2000 to 2200 pounds), which, if we reckon, according to Bartlelmy, the silver talent at 5700 livres, and the ratio of gold to silver at 1 to 4, would amount to 2,964,000, or 3,260,400 livres (£213,500, or £158,850 sterling). The Propyleum, built of white marble, formed the entrance to the Parthenon. This building lay on the north side of the Acropolis, close to the Erechtheum, also of white marble, consisting of two colonnades, one dedicated to the Parthenon, and the other to Neptune; besides another remark- able building, called the *Pandroseum.* In the circle of Minerva's temple stood the olive-tree, sacred to that goddess. On the front part of the Acropolis, and on each end, two theatres are visible, the one of Bacchus, the other, the Odeum; the former for dramatic exhibitions, the latter for musical competitions, also built with extraordinary splendour. The treasury is also in the back part of the temple of Minerva. In the lower city were many fine speci- mens of architecture, viz. the Poikile, or the gallery of historical paintings; besides the temple of the Winds, built by Andronicus Cyrehestes, and the monuments of celebrated men. But the greatest pieces of architecture were without the city—the temples of Theseus and Jupiter Olympus, one of which stood on the north, the other, on the south side of the city. The latter was the temple of *Doric* architecture, and resembled the Parthenon. On the metopes of this temple the famous deeds of old heroes and kings were excellently represented. The temple of Jupiter Olympus was of Ionic architecture, and far surpassed all the other buildings of Athens in splendour and
beauty. Incalculable sums were spent on it. It was from time to time enlarged, and rendered more beautiful. The outside of this temple was adorned by nearly 120 fluted columns, sixty feet high, and six feet in diameter. The inside was more than half a league in circumference. Here stood the renowned statue of the god made by Phidias, of gold and ivory. The Phidias, (who designed all the gods) must not be forgotten. Of this the Pantheon at Rome is an exact copy. Besides these wonderful works of art, Athens contains many other places which must always be interesting, from the recollections connected with them. The old philosophers were not accustomed, as is well known, to shut up their scholars in lecture-rooms, but mingled with them on the freest and pleasantest terms, and, for this purpose, sought out spots which were still and retired. Such a spot was the renowned academy where Plato taught, lying about six stadia north of the city, forming a part of a place called Cereonius. This spot, originally marshy, had been made a very pleasant place, by planting rows of trees, and turning through it streams of fresh water. Such a place was the Lyceum, where Aristotle taught, and which, through him, became the seat of the Peripatetic school. It lay on the bank of the Ilissus, and was separated from the city by a beautiful and delightful gymnastic exercises. Not far from thence was the less renowned Cynosarges, where Antisthenes, the founder of the Cynic school, taught. The sects of Zeno and Epicurus held their meetings in the city. Zeno chose the well-known Poikile, and Epicurus established himself in a garden within the walls, for he loved both society and rural quiet. Not only literary, but political assemblies gave a particular interest to different places in Athens. Here was the court of areopagus, where that illustrious body gave the side. Of the peripateum, or senate-house; the Pryx, where the free people of Athens deliberated. After twenty-three centuries of war and devastation, of changes from civilized to savage masters, have passed over this great city, its ruins still excite astonishment. No inconsiderable part of the Acropolis was lately removed. The Turks have surround- ed it with a broad, irregular wall. In this wall one may perceive the remains of the old wall, together with fragments of ancient pillars, which have been taken from the ruins of the old to construct new edifices. The right wing of the Propylæum, built by Themistocles at the expense of 20,000 talents, and which formed the ancient entrance, was destroyed by the Turks. The roof of this building stood as late as 1656, when it was destroyed by the explosion of some powder kept there. In a part of the present wall, there are fragments of excellent designs in basso relievo, repre- senting the contest of the Athenians with the Amazons. On the opposite wing of the Propylæum are six whole columns, with gate-ways between them. These pillars, half covered on the front side by the wall built by the Turks, are of marble, white as snow, and of the finest workmanship. They consist of three or four stone steps, fifty feet high, and are so fashioned that, though they have been exposed to the weather for 2000 years, yet no separation has been observed. From the Propylæum we step into the Parthenon. On the eastern front of this building, also, there are eight columns, standing, and several columnades on the sides. In the contest of Neptune and Minerva for Athens, there is nothing remaining but the head of a sea-horse, and the figures of two women without heads; but in all we must admire the highest degree of truth and beauty. The battle between the Centaurs and La- cers is one of the most interesting of these spots, of which it was adorned, that of Adrian alone remains.

The inside of this temple is now changed into a mosque. In the whole of this mutilated building, we find an indescribable majesty and sublimity. There are also astonishing remains to be seen of the Erechtheum (the temple of Neptune Ere- theus), especially the beautiful female figures called Caryatides, and which form two arch-ways. Of both theatres there is only so much of the outer walls remaining, that one can estimate their former condition and enormous size. The areas has sunk down, and is now planted with corn. In the lower city itself, there are no vestiges to be found of equal beauty and extent. Near a church, sacred to Santa Maria Maggiore, stand three very beautiful Corinthian columns, which support an architrave. They have been supposed to be the remains of a temple of Ju- piter Olympus, but the opinion is not well grounded: probably, they are the remains of the old Poikile. The temple of the Winds, built by Andronicus Cyn- rhistes, is not entire. Its form is an octagon: on each side it is covered with reliefs, which represent one of the principal winds: the work is excellent. The preservation of this edifice is owing to its being occupied by the dervises as a mosque. Of the monu- ments of distinguished men, with which a whole street was filled, only the fine one of Lycurgus re- mains. It is a fine example of a pedestal surrounded by a columnade, and is surmounted by a dome of Corin- thian architecture. This has been supposed to be the spot which Demosthenes used for his study, but the supposition is not well supported. What lord Elgin has done for the preservation of the remains of old Grecian architecture may be seen by reference to the articles on Elgin, and Elgin's Marble Monu- ments. Some prostrate walls are the only remains of the splendid gymnasmium built by Ptolemy. Outside of the city, our wonder is excited by the lofty ruins of the temple of the Olympian Jupiter. Of 120 pillars, 10 remain; but none of the statues are in existence. The pedestals and inscriptions are scattered here and there, and partly buried in the earth. The main body of the temple of Theseus has remained almost entire, but much of it, as it now stands, is of modern origin. The figures on the side, which have been de- stroyed, but those which adorn the frieze within are well preserved. They represent the actions of the heroes of antiquity. The battle between Theseus and the Centaur is likewise depicted. On the hill where the famous court of areopagus held its sittings, you find steps hewn in the rock, places for the judges to sit, and a great stone Set on the top of an altar, by the in- cus and the accused. The hill is now a Turkish burial-ground, and is covered with monuments. The Pryx, the place of assembly for the people, not far from the Areopagus, is very near in its primitive state. One may see the place from which the ora- tors spoke hewn in the rock, the seats of the scribes, and, at both ends, the places of those officers whose duty it was to preserve silence, and to make known the event of public deliberations. The niches are still to be seen, where those who had any favour to wait, and of the officers of the academy. In the seats for the beholder. The long walls are totally destroyed, though the foundations are yet to be found on the plain. The Piræus has scarcely any signs of its great antiquity left. The few ruined pillars, scattered here and there; the
same is the case with the Phalanxum and Mumylin. Some little commerce is carried on here, and a custom-house stands on the place.—Modern Athens, in Livadia, lately contained 1300 houses, and 12,000 inhabitants, 2000 of whom were Turks. The Greeks here fled before the Turks under govern-ment than elsewhere. They also retained some remains of their ancient customs, and annually chose four archons. The Greek archbishop residing here had a considerable income. In 1822, the Acropolis, after a long siege, fell into the hands of the free Greeks. In 1828, a rebellion under the advice of the patriot professor George Gennadios, was in a flourishing condition. The most thorough investigation of the places among the ruins of Athens worthy of attention, is contained in Leake's Topography of Athens, with some Remarks on its Antiquities, London, 1831, with an atlas in folio. (See Stuart and Revett's splendid work, the Antiquities of Athens, which the architect Eberhard copied, and had printed on zinc plates, and published, Darmstadt, 1824, folio.) Leake makes it appear probable, that, in the times of Pausanias, many monuments were extant which have perished since the period of the Peloponnesian war; because so transitory a possession as Xerxes laid of the city, scarcely gave him time to finish the destruction of the walls and principal public edifices. In the restoration of the city to its former state, the mistakes looked more to the useful, Cimon to magnificence of design; and Pheidias to surpass them both in his buildings. The great supply of money which he had from the tribute of the other states, belonged to no succeeding ruler. A. at length saw much of her ancient splendour restored; but, unhappily, Athens was not an island, and, after the sources of power, which the Turks to under fruitful and extensive country of Macedonia, were developed by an able and enlightened prince, the opposing interests of many free states could not long withstand the disciplined army of a warlike people; led by an active, able, and indefatigable monarch. When Sylia destroyed the works of the Pirmean, the power of A. by sea was at an end, and with that fell the whole city. Flattered by the triumvirate, favoured by Adrian's love of the arts, A. was at no time so splendid as under the Antonines, when the magnificent works of from 1000 to 2000 years stood in view, and the edifices of Pericles were in equal preservation with the new buildings. Plutarch himself wonders how the structures of Ictinus, of Menesicles and Phidias, which were built with such surprising rapidity, could retain such a perpetual freshness. The most correct criticism on the accounts of Greece by Pausanias and Strabo is in Leake. Probably Pausanias saw Greece yet unplundered. The Romans, from reverence toward a religion approaching so nearly to their own, and wishing to conciliate a people more cultivated than themselves, were ashamed to rob temples where the masterpieces of art were kept as sacred, and were satisfied with a tribute of money in Philopator, although in Sicily they did not abstain from the plunder of the temples, on account of the prevalence of Carthaginian and Phoenician influence in that island. Pictures, even in the time of Pausanias, may have been left in their places. The wholesale robberies of collectors, the removal of great quantities of the works of art to Constantinople, when the creation of new specimens was no longer possible, Christian zeal, and the attacks of barbarians, destroyed, after a time, in A., what the emperors had spared. We have reason to think that the collection of Minerva Pronechus was standing in the time of Alaric. About 420 A. D., paganism was totally annihilated at A., and, when Justinian closed even the schools of the philosophers, the recollection of the mythology was lost. The Parthenon was turned into a church of the Virgin Mary, and St George stepped into the place of Theseus. The manufacture of silk, which had hitherto remained, was destroyed by the transportation of a colony of weavers, by Roger of Sicily, and those weavers were not fewer than 1000 inhabitants. To complete its degradation, the city of Minerva obtained the privilege (an enviable one in the East) of being governed by a black eunuch, as an appen- dage to the harem. The Parthenon became a mosque, and, at the west end of the Acropolis, those altars which had been under suspicion of the discovery of artillery then made necessary. In 1687, at the siege of A. by the Venetians under Morosini, it appears that the temple of Victory was destroyed, the beautiful remnants of which are to be seen in the British museum. September 28, of this year, a bomb fired the powder-magazine kept by the Turks in Parthenon, and, with this building, destroyed the ever memorable remains of the genius of Phidias. Probably, the Venetians knew not what they destroyed; they could not have intended that their artillery should accomplish such devastation. The city of Athens, then, was a place of the Peloponnesian war. They wished to send the chariot of Victory, which stood on the west pediment of the Parthenon, to Venice, as a trophy of their conquest, but, in removing it, fell and was dashed to pieces. April, 1688, A. was again surrendered to the Turks, in spite of the remonstrances of the Venetians, who, from so much respect for the old place, feared the revenge of their returning masters. Learned travellers have, since that time, often visited A.; and we may thank their relation and drawings for the knowledge which we have of many of the monuments of the place. How little the modern freedom of the Athenians have acted in the importance of these buildings, is proved by Crusius's Turco-Grecia. From them originated the names of the temple of the unknown God, lantern of Demosthenes, &c. It is doing injustice to the Turks to attribute to them the destruction of these remains of antiquity. From these ruins the Greeks have supplied themselves with all their materials for building for hundreds of years. The ruins are in the neighbourhood of inhabited places, and, in the seaport towns, are particularly exposed, because ease of trans- portation is combined with the daily want of these remains. At the mean time, the most accessible part of A. has rich treasures to reward well-directed researches; and each fragment, which comes to light in A., proves the all-pervading art and taste of this people. It is fortunate that many of the remains of Grecian art have been covered by barbarous structures, until a brighter day should dawn on Greece. ARETISS; a post-town of Georgia, United States, in Clarke co., on the Oconee; 92 W. N.W. Augusta, 197 N.W. Savannah. It has a very elevated, pleasant and healthy situation. It contained in 1827, upwards of seventy dwelling-houses, and nearly 1000 inhabitants. Franklin college, which, together with the incorporated academies of the state, is styled the uni- versity of Georgia, was incorporated and established at this place in 1784, but did not go into operation until 1803. The buildings consist of two large brick buildings for the accommodation of students, a chapel, a stew- ard's hall, a brick building for the chemical and the philosophical apparatus, and the library, which contains about 2000 volumes, and a building for a grammar-school, which is connected with the college. The government and instruction of the college are under professors and two tutors. The number of students, in 1827, was 100. AREWS; a small post-town of Ohio, United States, and capital of a county of the same name. It is situated on an elevated peninsula, formed by a
large beal of the Hockhocking, which meanders about the town. The situation is pleasant and healthy, and commands an extensive prospect. An institution is established here, styled the Ohio University, which is endowed with 46,000 acres of land, yielding about $2300 dollars annually. A college edifice of brick, large and elegant, was erected in 1810. Athletes; combatants who took part in the public games of Greece; also, young men who went through the gymnastic exercises to harden themselves, and to become fit to bear arms. In a narrower sense, the athletes were those who made the athletic or gymnastic exercises their principal business, particularly wrestlers and boxers. The two following cuts represent these in the act of conflict. The figures are taken from ancient sculptures.

The business of Athlete was to contend at the public festivals; and they regulated their habits of life with reference to this purpose. They were well fed, and were obliged to abstain from intercourse with the other sex. Before they were permitted to exhibit themselves at the public games, inquiries were made respecting the birth, rank, and conduct of each. A herald called out the name of the athlete, and demanded of all whether they had any objection against him. After this examination, and after the athlete had taken an oath that he had complied with all the conditions required, and that he would strictly obey the laws of the contest, permission was given him to contend. The antagonists were designated by lot. Not only the applause of the people, but also crowns ar-l statues, were conferred upon the victor. He was led in triumph; his name was written in the public records; an Olympic was named after him, and poets sang his praises. He also received peculiar privileges, had a yearly pension, and the foremost seat at the sacred games. Particular honours were conferred on him by his native city, for all his fellow citizens partook of his glory. See Games.

Athole, or Athole; a mountainous and romantic district, situated in the north of Perthshire, Scotland. It is 45 miles in length, and 30 in breadth, and comprehends a great portion of the ancient Caledonian forest. In the eighth century it constituted with Stornmont the possession of a Pict. There are several lakes and richly cultivated valleys, and in the extensive forest of Athol game of various kinds are abundant. There are no towns, but many villages lie interspersed throughout the country. Athol gives the title of duke to the ancient house of Murray. His grace possesses the greater part of the district, and occasionally resides at Athol house, a castle seated on an eminence, at the foot of which runs the turbulent stream Garry. It is of great antiquity, and was formerly an important fortress, noted for having caused the battle of Killiecrankie in 1689, and standing several weeks' siege against the partisans of the Pretender in 1746, prior to the battle of Culloden. Athole signifies pleasant land, and Blair of Athole, which is the name of its principal valley, signifies the field or vale of Athole. Athole Brose is the name of a beverage used by the people of this country, compounded of honey and whiskey amalgamated into a syrup. In addition to its other recommendations, this popular compound is considered to be very effective in overcoming colds, especially when taken over-night.

Athos, now Agion Oros, or Monte Santo; a high mountain or the extremity of a long chain of mountains in the province of Salonica, in European Turkey, which runs through a peninsula seven miles long, and three miles broad into the Archipelago. Xerxes caused a canal, half a league wide, to be dug through the neck of land which connects the peninsula with the continent, for the purpose of conducting his fleet to Thessaly. The mountain is about 5900 feet above the level of the sea, and is inhabited by Greeks. On the sides are about twenty monasteries, and a multitude of hermitages, which contain more than 6000 monks, mostly Russian, of the order of St. Basil. These live here in a perfect separation from the world, and under such strict regulations, that they do not tolerate any female being, not even of the class of domestic animals, among them. They are also extremely industrious: they carve statues of the saints, Agni Dei and Paternosters, which they send to the market-town of Kareis, on the mountain, where weekly markets are held, and to the rest of Europe, especially to Russia. They also collect alms, to pay their heavy taxes to the pacha and the Porte. They have many schools. The holy mountain is considered one of the most important seminaries for instruction among the Greeks, and the libraries of the monasteries are rich in literitory treasures, particularly in manuscripts, partly procured from Constantinople, before its conquest by the Turks, partly presented to them from the same place, and partly written by the laborious monks. Many books have been brought thence to the great collections at Paris, Vienna, &c. Their monasteries and churches are the only ones in the Ottoman empire which have bells.

Athwart (par le travers, Fr., from a and twent, Dan., transverse), when used in navigation, implies across the line of the course.

ATHWART-HAWSIE; the situation of a ship when she is driven by the wind, tide, or other accident, across the forepart of another. This phrase is equally ap-
plied when the ships bear against each other, or when they are at a small distance; the transverse position of the former to the latter being principally understood. — *Alhvar the fore-foot denotes the flight of the upper one of a pair, and the course of another, to intercept the latter, and oblige her to shorten sail, that the former may come near enough to examine her.*

**Atlantic Ocean**; the mass of water between the western coast of Europe and Africa, and the eastern coast of America, the only complete maritime aquatic communication between the polar extremities of the earth, if we do not give to both its extremities the name of the *Frozen ocean*. The name is derived from *Atlas*. (q. v.) *The Atlantic, in its narrowest part, between Europe and Greenland, is upwards of 1000 miles wide, and opening thence to the S.W. with the general range of the bounding continents, spreads, under the northern tropic, to a breadth of 60 degrees of longitude, or 4170 miles, without estimating the gulf of Mexico. Beyond the torrid zone, the A. affects to the N. W. and S. E., again complying with the bearing of the adjacent continents, whilst it corresponds with great exactness to each other. The A. and its gulfs occupy about the seventh part of the superficies of the globe, curving round the western, southern, and northern part of the eastern continent, from 70° N. lat. to 35° S. lat., or through 107 degrees of latitude. The immense strait, on the west, by the most lengthened land-line, extending north and south, that can be drawn on the earth. "When we cast an eye over the Atlantic," says Humboldt, in his Personal Narrative, "or that deep valley which divides the western coasts of Europe and Africa, from the eastern coast of the new continent, we distinguish a contrary direction in the motion of the waters. Between the tropics, especially from the coast of Senegal to the Caribbean sea, the general current, which was earliest known to mariners, flows constantly from east to west. This is called the equinoctial current. Its mean rapidity, corresponding to different latitudes, is the same in the Atlantic and Southern oceans, and may be estimated at 9 or 10 miles in 24 hours; consequently from 59 to 65 hundredths of a foot every second of time." This great ocean is, in compounding the observations which I had occasion to make in the two hemispheres, with those which are laid down in the Voyages of Cook, in Perousne, d'Entresteaux, Vancouver, Macaray, Krusenstern, and Marchand, I found that the swiftness of the general current of the tropics is 15 miles in 24 hours, or from one third of a foot to one and two-tenths per second.*

The western equinoctial current is felt, though feebly, as high as 28° N. lat., and about as far south, though it must be in excess along the equator. The eastern salient point of South America being in upwards of 6° S. lat., the great mass of ocean food is unequally divided. South from cape St Roque, the current is turned down the coast of South America, and between 30° and 40° S. lat. reacts towards Africa. North from cape St Roque, the coast of South America bends to a general course of N. 58° W., and with the Caribbean sea and the Gulf of Mexico, maintains that direction to the mouth of the Rio Grande de Norte, 2500 miles. Along this coast, the equinoctial current is infected northward, and augmented by constant accumulations from the east; the whole body pouring through the various inlets between the Windward islands of the West Indies, into the Caribbean sea, and thence, between Cuba and Yucatan, into the Gulf of Mexico. In the latter reservoir, it has reached its utmost elevation, and again rushes out into the A. through the Cuba and Bahama or Florida channel, and, sweeping along the coast of the United States and Nova Scotia, to about 50° N. lat., meets the Arctic currents from Davis's straits, and from the Northern Atlantic Ocean, is turned towards Europe and the north-west of Africa, and is finally marked by the great oceanic current, the course of another, to intercept the latter, and oblige her to shorten sail, that the former may come near enough to examine her. *The Atlantic Ocean: a work, in Latin and Swedish, by O. Rudbeck, in which the author, with skill and learning, labours to prove a ludicrous hypothesis, that the *Atlantis* of the ancients was Sweden, and that the Romans, Greeks, English, Danes, and Germans, originated from Sweden. The work is a typographic rarity. The first volume appeared in 1675-7, at Upsa., and several editions have been printed since. The fourth edition is of 1699, and bears a high price. Written copies of it are in several European libraries.*

**Atlanticides**; pillars, in the form of a man, used in building, to support a projection or a cornice. See *Carpetides*.
ATLANTIS — ATOMS.

ATLANTIS; among the ancients, the name of an island in the Atlantic, of which vague accounts had been received from ships which had ventured into the ocean. Their uncertainty of its situation were very great, and, as they placed it between the coasts of Africa and America, they afterwards no island was found, it was supposed that it had sunk. But some persons imagine that Phoeni- cian or Carthaginian merchant-ships (as we know happened to a Portuguese ship in the time of Colum- bus), being driven out of course by storms and currents, were forced over to the Atlantic coasts from which they afterwards fortunately returned to their country; and that, therefore, the island of A. mentioned by Plato, as well as the great nameless island spoken of by Diodorus, Pliny, and Arniobius, was nothing more than what is now called America.

—The most distinct account of the island of A. is in Pliny's Naturalis. See Atlantica.

ATLAS; a chain of mountains which extends over a large part of Northern Africa. The Greater A. runs through the kingdom of Morocco, as far south as Sitifis, and more than 11,000 feet high. The Lesser A. extends from the coast, near the mouth of the Nile, to the northern coast. —The mythology of the Greeks assigned this mountain to a Titan, son of Japetus and Clymene. Jupiter, the conqueror of the Titans, condemned him to bear the vault of heaven; which fable arose from his lofty stature. He was endowed with wisdom, and was called the wisest of all mortals, an insurmountable knowledge, particularly of astronomy. By Pleione, the daughter of Oceanus, he had seven daughters, who, under the name of Pleiades (called, likewise, after their father, Atlanides), shone in the heavens. According to some, he was also the father of the Hyades. —Atlas, anatomy, is the name of the fourth vertebra of the neck, which supports the head. —At- las, in commerce; a silk cloth manufactured in the East Indies. The manufacture is admirable and, as yet, imitable by Europeans; yet it has not that lustre, which the French know how to give to their silk stuffs. —Atlas, a name given to collections of maps and charts; so called from the giant who supported heaven. This name was first used to signify a geographical system, by Gerard Mercator, in the 16th century.

ATMOSPHERE; commonly, the air in which we appear to swim but, in the widest sense, it is that mass of thin, elastic fluid, with which any body is completely surrounded. Hence we speak of an atmosphere of the sun, of the moon, of the planets, of electric and magnetic bodies, &c., the existence of which may not be fully proved, but is more or less probable. It is certain that our earth has an atmos- phere, by which, according to the preceding defini- tion, we understand the surrounding body of air and vapour. By means of its weight, the air is insepara- bly connected with the earth, and presses on it ac- cording to the laws of heavy, elastic fluids. Its whole pressure is equal to its weight, and, like that of all other heavy, elastic fluids, is exerted equally on all sides. If, now, by any circumstance, a stronger pressure is exerted on one side, certain phenomena are observed, which continue till the equilibrium is restored. Thus, for instance, water ascends, in the bore of a pump, about its general level, as soon as a vacuum is made between it and the piston, which is drawn up. The cause of this is the disturbance of the equilibrium, since the air without the bore presses on the water without, while no air is present within. By means of this pressure, if the bore is long enough, the water will rise to the height of about thirty-two inches and a half feet. This is the weight with which the atmosphere presses on the earth, and which is equal to the pressure of an ocean thirty-two and a half feet deep, spread over the whole earth. Hence it fol-

lows, that, at twenty-eight inches barometrical height, the atmosphere presses with a weight of 32,440 pounds on the human body, estimated at fifteen square inches. The earth does not perceive this pressure, because the air entirely surrounds it, which is, besides, within him. On account of its elasticity, it presses in every direction, even from within the man outwards, and consequently counterbalances the air spread over the body. That the atmosphere has not of uniform density, we be inferred from this; the lower strata of the air have to support the weight of the upper ones, on which account they must become more compressed and denser. According to the law of Mariotte, the density of the atmosphere diminish in geometrical, while the height increases in arithmetical progression. This law may not hold at the extreme limits of the atmosphere, because the air at that height, free from all pressure, must be completely in its natural state. The height of the atmosphere has been estimated, by natural philosophers, at from thirty to forty miles—partly from the pressure which it exerts, partly from the twilight; since it is to be supposed that, the air, as far as it reflects light or receives illumination, belongs to our planet. Delambre, however (Astronomie, vol. ii., p. 337), considers this height to be almost forty-six miles, which, remarkably enough, Kepler has men- tioned in the Cap. Astr., p. 75. According to Wallis, and other, the limits of the atmosphere, the height cannot be less than forty, or more than fifty miles. (See Phil. Trans.) —In respect to its form, the atmosphere may be con- sidered as a spheroid, elevated at the equator, on ac- count of the diurnal motion of the earth, and also on account of the great refraction of the air by the sun's rays, which there exert a powerful influ- ence. The constituent parts of the earth's atmos- phere are nitrogen and oxygen, which are found everywhere, and at all times, nearly in the propor- tion of 79 to 21. Besides these, there is a small por- tion of carbonic acid, a variable portion of aqueous vapour, and a very small, indefinite quantity of hydro- gen. (See Gas.) It also contains, in the form of vapour, a multitude of adventitious substances, in those injurious mixtures known under the name noxia, of which the nature can hardly be investigated. As to the manner in which these different elements are united, various hypotheses have been formed, of which that of Dalton, which denies a chemical mix- ture, is one of the most celebrated, but also the most opposed. See De Luc's Recherches sur les Modifi- cations de l'Atmosphère, 2 vols. 4to, Geneva, 1778 (in German, Leipzig, 1776—78), and the section d'Atmo- sphère, in Biot's Traité d'Astronomie Physique, 2d ed., Paris, 1810, 3 vols. On the atmosphere of the sun, moon, and the other planets, see the respective articles. See, also, Air.

ATOMS; according to the hypothesis of some philosophers, the primary parts of elementary matter not any further divisible. Moschus of Sidon, who is said to have lived before the Trojan war, taught, as we are told, that the original matter is composed of small, indivisible bodies. Lucrecius 450 B. C.) established a system respecting the origin of the world, resting on the mixture of atoms, in which chance governed, in opposition to the immortal system of the Eleatics, who contended, that whatever existed was only one being, and that all apparent changes in the universe are mere illusions of sense. Democritus and Epicurus extended this system; the latter, particularly, in his Elements, in which he asserted, that the atom, or rather, the acutus, and, among the moderns, Gassendi, have illustrated the doctrine of Epicurus. Descartes form- ed from this his system of the vortices. Newton and Boerhave supposed that the original matter consists
of hard, ponderable, imperceptible, inactive, and immutable particles, from the variety in the composition of which, the variety of bodies originates. A system founded on the theory of atoms is called atomic, e.g., that of Le Sage; sometimes it is also called corpuscular philosophy, and is opposed to the dynamical or molecular theory. In Germany, the theory of atoms finds very few adherents: it is generally thought, in that country, a gross conception of the universe, and a very unsatisfactory one, as it only removes the question respecting the nature of matter one step further. In France and Britain, the number of believers in it is greater.

Atomic Theory, in chemistry. Two opposite opinions have long existed concerning the ultimate elements of matter. It is supposed, according to one party, that every particle of matter, however small, may be divided into smaller portions, provided our instruments and organs were adapted to the operation. Their opponents contend, on the other hand, that matter is composed of certain atoms, which are of such a nature as not to admit of further division. These opposite opinions have, from time to time, been keenly contested, and with variable success, according to the acuteness or ingenuity of their respective champions. It was at last proved that the positive data existed capable of deciding the question; and its interest, therefore, gradually declined. The progress of modern chemistry has revived the general attention to this controversy, by affording a far stronger argument in favour of the atomic constitution of bodies than was ever advanced before, and which seems almost irresistible. We have only, in fact, to assume, with Mr Dalton, that all bodies are composed of ultimate atoms, the weight of which is different in different kinds of matter, and we explain at once various laws of chemical union. According to this view, every compound is formed by a combination of the atoms of its constituents. An atom of A may combine with 1, 2, 3, or more atoms of B—an arrangement on which depends the law of multiples. If water, for example, is composed of an atom of hydrogen and an atom of oxygen, it follows that every compound of hydrogen with an additional quantity of oxygen, must consist in 2, 3, or more atoms of oxygen; some multiple, in a word, by a whole number of the quantity of oxygen contained in water. It is equally clear, from this view of the composition of water, that the weight of an atom of oxygen is eight times heavier than an atom of hydrogen. The relative weight of those atoms of other bodies may be determined in a similar manner. Thus an atom of carbon is six times, an atom of sulphur sixteen times, and an atom of chlorine thirty-six times, heavier than an atom of hydrogen; and this explains why they unite with one another in the proportions expressed by those numbers. What are called the proportional numbers are, in fact, nothing else but the relative weights of atoms. No one can suppose that the laws of chemical union are the effect of chance: there must be some cause for them in the nature of the ultimate particles of matter. This cause, as we have just seen, is completely supplied by the supposed atomic constitution of bodies, which accounts for the phenomena in the most beautiful and consistent manner. So perfect, indeed, is the explanation, that the existence of these laws might have been predicted by the aid of the atomic hypothesis long before they were discovered by analysis. But these are not the only arguments which we at present possess in favour of the existence of ultimate indivisible particles of matter. Doctor Wollaston, in his paper on the Finite Extent of the Atmosphere (Philosophical Transactions, 1822), has defended this side of the question on a new and independent principle; and the proof he has given of the atomic constitution of bodies appears decisive. Some chemists, even without expressly adopting the atomic theory itself, have followed Mr Dalton in the use of the terms atom and atomic weight, in preference to proportion, combining proportion, equivalent, and others of a like kind. All these terms were given in the sense of relative proportion; and, in using the word atom, instead of the others, it should be held in mind that it merely denotes the proportions in which bodies unite; that it is the expression of a fact which will remain the same, whether the atomic hypothesis which suggested the term is true or false. There is one circumstance which, at first view, seems hostile to the supposed atomic constitution of matter. According to the law of multiples (see Chemical Equivalents), oxygen in the three oxides of lead is in the ratio of 1: 14: 2; so that, if we regard the protoxide as composed of one combining proportion of lead to one proportion of oxygen, the second will contain one proportion and a half, or, according to the atomic theory, one atom and a half of oxygen. Now, though the half of a combining proportion may be admitted, the existence of half an indivisible particle of matter is inconceivable; and this circumstance would be fatal to the atomic theory, were there not some satisfactory mode of accounting for it. Several explanations might be brought forward. One of them, which has found its advocates, rests on the supposition that what is called the protoxide, is, in reality, composed of one atom of lead to two atoms of oxygen; and that the real protoxide has not yet been discovered. Another mode of accounting for the anomaly is, by regarding the present deutoxide as composed of the protoxide and peroxide combined with each other. A third method is, by doubling both elements of the anomalous compound, by which the exact ratio is preserved, and the idea of the fraction of an atom is avoided. Thus the protoxide and peroxide of iron are composed, the first, of one proportion, or 28 of metal + 8 of oxygen; and the second, of 28 of metal + an atom and a half, or 12 of oxygen; or, what amounts to the same thing, of 56, or two atoms of iron, to 24, or three atoms of oxygen. The atoms, however, in practice, of the same compound, the same proportions are not inconsistent with the atomic constitution of bodies: they show that the difficulty is explicable, and probably will, in the progress of discovery, be entirely removed. In the meantime, however, it would be inconvenient to allow any such speculation to influence the use of the terms as they are in practice; and, therefore, it is best at once to admit the occurrence of half proportions; and, if any one prefer the term atom to equivalent or proportion, he must submit to the somewhat jarring expression of half an atom. Mr Dalton supposes that the atoms of bodies are spherical, and has invented certain symbols to represent the mode in which he conceives they may combine together. (See his New System of Chemical Philosophy.)—There are several questions relative to the nature of atoms, most of which will, perhaps, never be decided. Of this nature are the questions which relate to the actual form, size, and weight of atoms, and to the circumstances in which they mutually differ. All that we know with any certainty is, that their weights do differ, and by exact analysis the ratios between them may be determined. The numbers which indicate the combining proportions of bodies, are, in fact, the relative weights of their component parts.
side of the island, called Wyuna. It is supposed to contain 12,000 inhabitants. The natives make canoes of fine workmanship. Some of them, from the frequent attacks of aurisits, a colony of them settled in Britain. Caesar mentions them as one of the nations con- federated against him, and as having engaged to furnish 15,000 troops to the allied army. The Atre- dates, or Atrebatii, in Britain, resided next to the Bilorei, in a part of Berkshire and Oxfordshire. They were one of the tribes which submitted to Cesar.

Atreus, in fabulous history, son of Pelops and Hippodamia. He and his brother Thyestes murdered their half-brother Chrysippus, from jealousy of the affection entertained for him by their father. Thereupon, they fled to Euryssesus, with whose daughter, Erope, A. united himself, and, after the death of his father-in-law, became King of Mycene. Thyestes, yielding to an unlawful passion for the wife of his brother, dishonoured his lied, and had two sons by her. A., after the discov- ery of this injury, banished Thyestes, with his sons. Thrusting for revenge, Thyestes conveyed away secretly a son of his brother, and instigated him to murder his own father. This design was discov- ered, and the youth, whom A. thought to be the son of his brother, was put to death. Too late did the unhappy father perceive his mistake. A horrible revenge was necessary to give him consolation. He pretended to reconcile to Thyestes, and invited him, with his two sons, to a feast, and, after he had caused the latter to be secretly slain, he placed a dish made of their flesh before Thyestes, and, when he had finished eating, brought the bones of his sons, and showed him, with a scornful smile, the dreadful revenge which he had taken. At this spectacle, the poets say, the sun turned back in his course, in order not to throw light upon such a horrible deed.

Attitudes. See Agamemnon.

Attrap (atrap, Fr.; tripje, N.; Dutch) is applied in- differently to the sleeve, or to the sails. The anchor is attrap (derangéé), when it is drawn out of the ground in a perpendicular direction, either by the cable or buoy-rope. The top-sails are said to be attrap, when they are hoisted up to the mast-head, or to their utmost extent.

Attrony is a deficient nourishment of the body. There are many diseases in which the body becomes daily more lean and emaciated, appears deprived of its common nourishment, and, for that reason, of its common strength. It is only, therefore, in those cases in which the emaciation constantly increases, that it constitutes a peculiar disease; for when it is merely a symptom of other common diseases, it ceases with the disease, as being merely a consequence of great evacuations, or of the diminished usefulness or imperfect digestion of the nourishment received. But, when emaciation, or attrony constitutes a disease by itself, it depends upon causes peculiar to this state of the system. These causes are, permanent, op- pressive, and exhausting passions, organic disease, a want of proper food or of pure air, exhausting dis- eases, as nervous or malignant fevers, suppurations in important organs, as the lungs, the liver, &c. Copious evacuations of blood, sweat, urine, &c., and various nutritious food, to produce this disease, and, on this account, lying-in women, and nurses who are of slender constitution, and those who are too much addicted to venery, are often the subjects of this complaint. This state of the system is also sometimes produced by poisons, e. g., arsenic, mercury, lead, in miners, painters, gliders, &c. - A species of attrony takes place in old people, in whom an excess of sweat and flesh brings on a termination of life without the occurrence of any positive disorder. It is known as the marasmus senilis, or attrony of old people. Attrony is of frequent occurrence in infancy, as a consequence of improper, unwholesome food, exposure to cold, damp, or impure air, &c., particularly in superfluous whispering, noisy, or violent cries. The organ of the system, the bowels, worms, obstructions of the mesenteric glands, followed by extreme emaciation, which state of things is often fatal, although the efforts of the physician are sometimes successful, when all the causes of the disease have been previously removed. A loca- state of the same kind is sometimes produced in sin- gle limbs, by palsies, or the pressure of tumours upon the nerves of the limb, &c., and is generally curable by removing the cause.

Attrapos; one of the Fates. (q. v.)

Attacca, Italian (attach), signifies, in music, that a passage is to follow another immediately; e. g., attacca allegro.

Attachment, in English law, implies the taking or apprehending of a person by virtue of a writ or pre- cept. It is distinguished from an arrest by proceeding outside a higher court by precept or writ; whereas the latter proceeds out of an inferior court by precept only. An attachment is made only against the goods, whereas an attachment lies only against the goods only, and sometimes against the body and goods. In some countries, a creditor may previously attach another person's property, real or personal, to satisfy the judgment he may recover; in other states, no such previous attachment can ordinarily be made, and is permitted only in case of absconding debtors, or other particularly excepted cases. And the more general and prevailing rule throughout the world is, that the property of a person can be seized only in pursuance of a judicial order or decree, made upon testimony being produced, and the party heard; and between a creditor and debtor, the more general and almost universal rule is, that the creditor cannot seize the goods or property of his alleged debtor until the debt is established by the proceedings of a judicial tribunal. In regard to the person, attachments or arrests are made for a cause established by one person, and among others, for debt. But, in respect to an arrest of the person, as well as that of property, the laws of most countries do not permit the person of any citizen to be seized and imprisoned without a decree or judgment of a court directly authorizing the arrest. But in some of the states of the Ame- rican Union, a creditor to the amount of five dol- lars, or some other amount, greater or smaller, may ar- rest his debtor, at the commencement of the process against him, in order that the creditor may have his body to levy execution upon, when the debt shall be established by a judicial decree or judgment. But attachment of the person for this cause is not per- mitted by the laws of most countries, except in cases of the apprehended absconding of the debtor; this being an exception to the rule most generally adopt- ed, which is, that the creditor first establishes his debt, and gets judgment and execution upon it, be- fore he can use it as an instrument for violating the personal liberty of his debtor. In cases of alleged crime, the person of the accused party is seized, and he is imprisoned, or compelled to give bail by the laws of all countries; but he is most generally first taken before a court of justice, and then an arrest for cause against being imprisoned, or required to give bail. —Another cause of attachment is, the defend- ant's not appearing at court, after being summoned by subpoena as an order of court prescribing a penalty.
ATTACHMENT—ATTAINDER

In case of disobedience) out of a court of chancery, his not obeying is considered to be a contempt of the court, which thereupon orders him to be arrested, and brought into court. But attachment for this cause is not made in a court of law; for if the defendant, having, does not appear, on being called in court, his default is noted and the court proceeds to give judgment against him, upon such testimony as the plaintiff may produce. One reason of this distinction between a court of equity and a court of law is, that the presence and agency of the defendant are requisite, in many equity cases, in order to carry into effect the judgments of the court; as when the court decrees the specific execution of an agreement, or the rendering of an account, or the disclosure of facts by the defendant upon his oath. Attachments are issued by courts for various other contempts, as against an officer of a court, for abusing the process of the court, e.g., if he refuse to execute it without a bribe from a party; against a witness who refuses to appear when summoned for the purpose of giving testimony, or who refuses to testify, after he has appeared, before a court of law or a grand jury; against any person, whether an officer of the court, a party to the suit, or a mere bystander, for disorderly conduct in the presence of the court, whereby its proceedings are disturbed and the administration of justice interrupted; for attempting to corrupt a juryman, or forcibly detain a witness who is summoned to testify in a case; for publishing an account of the proceedings of the court while a case is pending, in such a manner that the minds of the judges or jurors may be prejudiced by such publication; for obstructing the serving any writ or process of the court; for taking out an execution where there is no judgment; and, in general, an attachment lies against any person who directly obstructs or interferes with the execution of justice. It lies against the judges of an inferior court who proceed in a case contrary to the order of a superior court.

ATTACHMENT, FOREIGN, is the attachment, by a creditor, of a debt due to his debtor from a third person; called foreign attachment, from its being one mode of securing debts due from foreigners. In Scotland, it is called assisting the debt. In London, the process is called a garnishment, or warning, the person summoned being the garnishee. The same process is in some of the United States, called the trustee process, or, when summoned the trustee, on the supposition of his having in his hands and possession, or being intrusted with, the money or goods of the principal debtor.—The general rule, as to arresting debts due from third persons, by foreign attachment, is, that only absolute debts can be so attached, not the claims which the principal debtor may have against the garnishee, or supposed trustee, for damages on account of trespasses and wrongs done to him by the garnishee or supposed trustee. As the process is instituted to recover a supposed debt due to the plaintiff from the principal defendant, by obtaining satisfaction of a debtor of that defendant, he must have notice, and be made a party to the suit, and have an opportunity to dispute the demand of the plaintiff; and the law, in some instances at least, allows the garnishee or trustee, if he be really a debtor to the principal defendant, to take upon himself the defence against the plaintiffs demand.

ATTACK. Every combat consists of attack and defence: the first, with few exceptions, will always be more advantageous: hence an experienced general chooses it, if possible, even in a defensive war. Nothing is more ruinous than to lose its advantage; and it is one of the cardinal maxims of war, to deprive an adversary of it, and to confine him to the defensive. The attack is directed according to the condition and position of the enemy, according to the purpose of the war, according to place, time, and circumstances. Many modes and combinations are allowable. The simplest and most unexpected form will be the best. On the dexterity and courage of the troops, the correct and quick judicious direction of the commander, and on the time and place of the attack. Those attacks are the best, where all the forces can be directed in concert towards that point of the enemy on which his position depends. If he be beaten at this point, the resistance at others will be without concert or energy. Sometimes it may be of advantage to attack the weakest side of the enemy, if in this way a fatal blow can be given by the centre, so as to keep it: an attack at this point is not advisable, because it leads to no decisive results, leaves the stronger points to be overcome afterwards, and divides the force of the assailant. In most cases, the enemy may be resisted, if his forces can be divided, and the several parts attacked in detail. The worst form of attack is that which extends the assailing troops in long, weak lines, or scatters them in diverging directions. It is always unfortunate to adopt half measures, and not aim to attain the object at any price. Instead of saving power, these consume it in fruitless efforts, and extend the area of the conflict. The prolonged sieges of such of this war. If an attack at this point is not advisable, because it leads to no decisive results, leaves the stronger points to be overcome afterwards, and divides the force of the assailant. In most cases, the enemy may be resisted, if his forces can be divided, and the several parts attacked in detail. The worst form of attack is that which extends the assailing troops in long, weak lines, or scatters them in diverging directions. It is always unfortunate to adopt half measures, and not aim to attain the object at any price. Instead of saving power, these consume it in fruitless efforts, and extend the area of the conflict. The prolonged sieges of fortresses, see the article Siege. Field fortifications are attacked with columns, if possible, from several sides at the same time, and with impetuosity. Commonly, the artillery breaks a way beforehand, destroys the works, and disturbs the garrison.

ATTAINDER is, by the common law, the corruption of blood, or stain consequent upon a person's being adjudged guilty of a capital offence, in which case the law set a note of infamy upon him, and put him out of the community of his nation and felicity, except that he should be executed. But this attainder does not take place until judgment is pro-
nounced against him. It might be by confession, as
when the party pleaded guilty, or by verdict, when
he pleaded not guilty, and was found guilty by the jury.

ATTAIN is a writ at the common law against a jury
for a false verdict. It might be brought by a party
aggrieved, and lay where the jury found a verdict
against the evidence, or found a fact foreign to the
evidence, or where their verdict was against well-
known and acknowledged law. It was a process for
trying the jurors for misconduct in trying a case.
The writ seems to be now obsolete in England.

ATTAINMENT, Francis; a celebrated English prelate,
was born in 1602, and received his education at
Westminster, where he was elected scholar of the
Christ’s-church college, Oxford. He distinguished
himself at the university as a classical scholar, and
gave proofs of an elegant taste for poetry. In 1687,
he took his degree of M.A., and for the first time
appeared as a controversialist in a defence of the
character of Luther, entitled, Considerations on the
Spirit of Martin Luther, &c. He was also thought to
have assisted his pupil, the hon. Mr Boyle, in his
famous controversy with Bentley on the epistles of
Plutarch. He continued some time longer at college,
exceedingly discontented, feeling, with truth, that he
was not fitted for the work to which his mind was
allocated; and, after filling all the ambition and restlessnes
by his subsequent career was so much distinguished. His father
advised him to marry into some family of interest,
“bishop’s, or archbishop’s, or some courtier’s;” to
which parental counsel the future bishop duly at-
tended.—Having taken orders in 1691, he settled in
London, where he became chaplain to William and
Mary, preacher of Bridevell, and lecturer of St
Bride’s, and soon became distinguished by the spirit
and elegance of his pulpit compositions, but not with-
out incurring opposition, on the score of their ten-
dency and doctrine, from Handly and others. Con-
trary, however, was altogether congenial to the
disposition of A., who, in 1706, commenced one with
doctor WAKE, which lasted four years, on the rights,
privileges, and powers of convocations. For this
service, he received the thanks of the lower house of
convocation, and the degree of doctor of divinity
from Oxford.—Soon after the accession of queen
Anne, he was made dean of Carlisle, and, besides his
dispute with Handly on the subject of passive obedi-
ance, he aided in the defence of the famous Sache-
vrell, and wrote “A Representation of the present
State of the Church.” This was adopted in London, so
as to be presented to the queen, although privately circu-
lated. In 1712, he was made dean of Christ-church,
and, in 1713, bishop of Rochester and dean of
Westminster.
The death of the queen, in 1714, put an
end to his hopes of further advancement; for the
new king treated him with great coolness, doubting
aware of either the report or the fact of his offer, on
the death of Anne, to proclaim the Pretender in full
favour, if allowed a sufficient guard. A. not
only refused to sign the loyal declaration of the
bishops in the rebellion of 1715, but suspended a
clergyman for lending his church, for the perfor-
mance of divine service, to the Dutch troops brought
over to act against the rebels. Not content with a
constitutional opposition, he entered into a corre-
spondence with the Pretender’s party, was appre-
hended in August, 1722, and committed to the
Tower, which was followed by his removal to
brought into the house of commons for the infliction
of pains and penalties. This measure met with con-
siderable opposition in the house of lords, and was
resisted with great firmness and eloquence by the
bishop, who maintained his innocence with his usual
acuteness and dexterity. His guilt, however, has
been tolerably well proved by documents since pub-
ished. He was deprived of his dignities, and out-
lawed, and was afterwards, where he was
himself in study, and in correspondence with men of
letters. But, even here, in 1725, he was actively
engaged in fermenting discontent in the Highlands
of Scotland. He died in 1731, and his body was
privately interred in Westminster abbey. As a com-
poser of sermons, he still retains a great portion of
his original reputation. His letters, also, are
extremely easy and elegant; but, as a critic and a
controversialist, he is deemed rather dextrous and pop-
ular, than accurate and profound. If an anecdote
told by Pope to Chesterfield be correct, he was a
sceptic early in life, but the following story, probably
states, that he ceased to be so after his mind had be-
come mature.

ATTICE; a peculiar kind of base, used by the ancient
architects in the Ionic order, and by Palladio
and some others in the Doric.—Attic Order, or Atticas,
in architecture; a kind of order raised upon another
larger order by way of crowning, or to finish the
building.—Attic Salt; a delicate, poignant kind of
wit, for which many Athenians were distinguished,
and which, in fact, was peculiar to them. The mo-
derns have adopted this expression from the Latin
Atticus, in architecture, which is a square
upper part of a house, where the windows are
usuall square.

ATTICA, a province of ancient Greece. the capital
of which, Athens, was once, by reason of its intel-
lectual culture and refinement, the first city in the
world, is a peninsula, united, towards the north, with
Bortia, towards the west, in some degree, with Me-
garis, and extends far into the Egean sea at cape
Surnum (now cape Colonna), where the Athenians
had a fortress and a splendid temple of Minerva.
The unfruitfulness of its soil protected it against fo-
ign invaders, and the Athenians boasted of their
ancient and unmingled race. They called themselves
sons of the soil on which they dwelt, and pretended
that they originated at the same time with the
sun. The earliest inhabitants of A. lived in a savage man-
er, without bread, without marriage, and dispensed
its bounty, private and public, with the utmost
scantiness. They did not possess either spade, wheel
or plow, sowing and reaping by rule of fortune, and
eating what grew. This was too much for the har-
dgment of the earth; he established laws of marriage, and
directed the burial of the dead. The inmates, who amount-
ed to about 20,000, he divided into four classes, com-
pelled them to bring their habitations near to each
other, and protect them with a wall against the at-
tacks of robbers. This was the origin of Athens,
which, at that time, bore the name of Cecropia. One
of the Cecrops’ descendants, as like him in spirit
as in name, founded eleven other cities, which, in
after times, made war upon each other. These
conquered their cities to unite, and to give to Cecro-
opia, now called Athens, as the capital city of the whole
country, the supreme power over the confederacy.
He founded the great feast called the panathenaia.
He himself, as the head of the state, watched over the
administration of the laws, and commanded the
wealth of the people. He ordered the young men —
noblemen, husbandmen, and mechanics. From the
first class the magistrates were selected, who per-
formed the duties of priests, and interpreted the laws.
He embellished and enlarged Athens, and invited
foreigners to people the country. After the death of
Cordes, B. C. 1069, the monarchical form of govern-
ment, which had continued 487 years from the time of Cecrops, was abolished. An archon, chosen for life, possessed the regal power. After 316 years, the term of office of the archons was limited to ten years, and, seventy years later, to one year, and their number was increased to nine. A regular code of laws was now needed. The archon Draco was commissioned by the people, but his severe, distasteful code was not approved by the minds of the people, and, B.C. 591, Solon introduced a milder code and a better constitution. He provided that the form of government should continue democratic, and that a senate of 400 members, chosen from the people, should administer the government. He divided the people into four classes, according to their wealth. The offices of government were to be filled from the three first, but the fourth were to be admitted to the assemblies of the people, and to hold an equal share, by their vote, in legislation. But this constitution was too artificial to be permanent. Pisistratus, a man of talents, boldness, and ambition, put himself at the head of the poorer classes, and made himself master of the supreme power in Athens. His government was splendid and beneficent, but his two sons could not maintain it. Hippiarchus was murdered, and Hipponicus banished. Clisthenes, a friend of the people, exerted himself to prevent future abuses by some changes of laws of Solon. He divided the people into ten classes, and made the senate consist of 500 persons. A was already highly cultivated; the vintage and harvest, like all the labours of this gay people, were celebrated with dance and song, with feasts, and sacrifices. The wool of A. was famous, on account of the care bestowed upon the sheep, and the skill with which it was dyed of the most beautiful colours. Mount Hymettus (q. v.) yielded the finest honey, and mount Laurium contained rich silver mines, the products of which were appropriated to the support of the fleet. Then came the splendid era of the Persian war, which elevated Athens to the summit of fame. Miltiades at Marathon, and Themistocles, at Salamis, conquered the Persians by land and by sea. The freedom of Greece escaped the dangers which had threatened it; the rights of the people were enlarged; the archons and other magistrates were chosen from all classes without distinction. The problems of war to the Romans (B.C. 500 to 350) was most remarkable for the development of the Athenian constitution. According to Bockh's excellent work, Die Staatsaufaltung der Athenen (2 vols., Berlin, 1817), A. contained, together with the islands of Salamis and Helena, a territory which coincided with the inhabited part of Attica, with an area of 365,000 of whom were slaves. Bockh estimates the inhabitants of the city and harbours at 150,000; those of the mines at 20,000. Cinon and Pericles (B.C. 444) introduced the highest elegance into Athens, but the latter laid the foundation for the future corruption of manners, and for the gradual overthrow of the state. Upon the beginning of the Macedonian war Philip won which ended with the conquest of Athens by the Macedonians. The vanquished were obliged to receive the most mortifying conditions from the victors. Thirty superior magistrates were placed over the city, who, under the protection of the Macedonian garison, were arbitrary and cruel. After eight dreadful months, Thrasybulus overthrew this tyranny, and restored freedom and the old constitution, with some improvements.—Athens began to elevate herself again among the states of Greece, and was fortunate in her alliance with Thebes against Sparta. But this new period of power did not long continue. A more dangerous enemy rose in the North—Philip of Macedon. The Athenians had opposed him in the Phocian war, and Philip, therefore, took possession of some of their colonies. The Greeks took up arms, but the battle of Chaeronea (B.C. 338) was the grave of their liberty. Athens, together with the other states of Greece, was now dependent on the Macedonians. In vain, after the death of Alexander, did the Athenians attempt to regain their freedom: they were obliged to receive a Macedonian garrison in the harbour of Munychia. Antipater ordered that only those parts of the state which had been allotted an estate of more than 2000 drachmae should take part in the administration of the government. Soon after, Athens was taken by Cassander, because it had joined his enemies, contrary to the advice of Phocion. Cassander restored the oligarchy, and named Demetrius Phalereus governor of the state, who quietly enjoyed the office for ten years. But the Athenians, who hated him because he was not chosen by them, called Demetrius Poliorcetes to their assistance, who took the city, restored the ancient constitution, and was loaded with the most extravagant marks of honour by the Athenians; yet, when he went to war, he lost the affection of the unstable multitude, who, on his return, excluded him from the city. But he conquered Athens, forgave the citizens, and permitted them to enjoy their liberty, merely placing a garrison in the havens of Munychia and the Piraeus. This garrison was afterwards driven out by the Athenians, who, for a long time, remained masters of the Peloponnesian empire. Cassander again conquered them, and in this situation they remained until they separated themselves from the Macedonians, and joined the Achaean league. They afterwards united with the Romans against Philip, and their new allies confirmed their freedom. When they suffered themselves to be misled to support Mithridates against the Romans, they drew upon themselves the vengeance of Rome. Sulla captured the city, and left it only an appearance of liberty, which it retained until the time of Vespasian. This emperor formally changed it into a Roman province. After the division of the Roman empire, A. belonged to the empire of the East. A.D. 596, it was conquered by Alaric the Goth, and the country devastated.—The latest and most beautiful engravings of the antiquities of this country are, "The Unedited Antiquities of Attica, comprising the Architectural Remains of Eleusis, Rhamnus, Sounium, and Delos, by the Society of Dilettanti," London, pub. by Longman and Murray, 1817, &c. See Athens.

ATTICA, Heroles. See Heroles Atticus.

ATTICLES, Titus Pomponius; a Roman, belonging to the rank of equites, who, in the most agitated time of the empire, was governor of the Achaean district. He was of the Pomponian family, from which he originated, was one of the most distinguished of the equites, and derived its origin from Numia Pomphilus. He lived in the latter period of the republic, and acquired great celebrity from the splendid of his private character. He inherited from his father and from his uncle, Q. Cæcilius, the great fortune. When he attained maturity, the republic was disturbed by the factions of Cinna and Sulla. His brother Sulpisius, the tribune of the people, being killed, he thought himself not safe in Rome, for which reason he removed, with his fortune, to Athens, where he devoted himself to science. His benefits to the city were so great, that he gained the affection of the people in the highest degree. He acquired so thorough a knowledge of Greek, that he could not be distinguished from a native Athenian. When Rome had recovered some degree of quiet, he returned, and inherited from his uncle ten millions of restorations. His sister married the brother of Cinna. With this omen, as well as with Hortensius, he lived on terms of intimate friendship. It was his principle never to mix in politics, and he lived undisturbed amidst all the successive factions which reigned in
Rome. Caesar treated him with the greatest regard, though he was known as a friend of Pompey. After the death of Pompey in 48 B.C., Brutus, with Antony, without, however, offending Antony. When Brutus was obliged to flee from Italy, he sent him a million of sesterces, and likewise supported Fulvia, the wife of Antony, after the disastrous battles of Mutina, and therefore was spared when fortune again smiled on Antony, and the friends of Brutus generally were the victims of his vengeance. The daughter of A. was married to M. Vespasianus Agrippa, and Augustus became his friend. He often received letters both from Augustus and from Antony, when he was absent from Rome. He reached the age of seventy-seven years without illness. At this time, he became afflicted with a disorder which he felt to be incurable. He therefore ended his life by voluntary starvation, and was buried near the Appian way, in the grave of his uncle.

**ATLILA** (in German, **Attila**); the son of Mandrag, a Hun of royal descent, who followed his uncle Reza in 434, and shared the supreme authority with his brother Bleda. These two leaders of the barbarians, who had settled in Scythia and Hungary, threatened the Eastern empire, and twice compelled the weak Theodosius II. to purchase an inglorious peace. They invaded all the nations of Europe and Asia. The Huns therefore esteemed their bravest warrior and most skilful general. Their regard for this person soon amounted to superstitious reverence. He gave out that he had found the sword of their tutelar god, and, proud of this weapon, which added dignity to his power, he designed to extend his rule over the whole earth. He caused his brother Bleda to be murdered (444), and, when he announced that it was done by the command of God, this murder was celebrated like a victory. Being now sole master of a warlike people, his unbounded ambition made him the terror of all nations; and he became, as he called himself, the sun of which God had chosen to chastise the human race. In a short time, he extended his dominion over all the people of Germany and Scythia, and the Eastern and Western emperors paid him tribute. The Vandals, the Ostrogoths, the Gepidae, and a part of the Franks, united under his banners. Some historians assure us, that his army amounted to 700,000 men.

When he had heard a rumour of the riches and power of Persia, he directed his march thither. He was defeated on the plains of Armenia, and drew breath of his desire of plunder in the dominions of the emperor of the East. He made a pretext for war, for all states which promised him a rich booty were his natural enemies, and all princes whom he hoped to conquer had broken alliances. He therefore went over to Ilyria, and laid waste all the countries from the Black to the Adriatic sea. The emperor Theodosius collected an army to oppose his progress; but, in three bloody battles, fortune declared herself for the barbarians. Constantinople was indebted to the strength of its walls, and to the ignorance of the enemy in the art of besieging, for its preservation. Thrace, Macedonia, and Greece, were submitted to the savage ruber, who destroyed seventy flourishing cities. Theodosius was at the mercy of the victor, and was obliged to purchase a peace. One of the servants of Attila, Edekon, was tempted by a cunning, Chrystophylus, to undertake the assassination of his master on his return to the Danube, but was caught at the moment of execution. He failed him; he fell at the feet of his master, and acknowledged his criminal design. Constantinople trembled at the idea of Attila's revenge; but he was contented with reproaching Theodosius for his perfidy, and requiring the head of Chrysothylus. The emperor engaged to pay a new tribute.—A. now directed his views to Gaul. With an immense army, he passed the Rhine, the Marne, and the Loire, and came to the Loire, and sat down under the walls of Orleans. The inhabitants of this city, encouraged by their bishop, Agnun (Anianus), expelled the first attack of the barbarians, and the united forces of the Romans, under their general, Actius, and of the Franks, under the King, Theodoric, compelled A. to raise the siege. He retreated to Champagne, and waited for the enemy in the plains of Chalons. The two armies soon approached each other. A., anxious for the event of the battle, consulted the soothsayers, and they assured him of a defeat. He concealed his alarm, and the ranks of his warriors, reminded them of their deeds, spoke of his joy at the prospect of a battle, and at the thought that their valor was to be rewarded. Inflamed by this speech, and by the presence of their leader, the Huns were impatient for battle. Both armies fought bravely. At length, the ranks of the Romans and Goths were broken through, and A. was already sure of the victory, when the Gothic prince Thorsimon, the son of Theodoric, poured down from the neighbouring height upon the Huns, He threw them into disorder, spread death through their ranks, and A., pressed on all sides, escaped from his camp. Thus A. gave the bloodiest battle which has ever been fought in Europe; for, according to contemporary historians, 106,000 dead bodies covered the field of battle. A. caused all his camp equipage and treasures to be brought together into a heap, in order to burn himself with them, in case he should be reduced to extremities. But the enemy were contented with collecting their forces during the night, and, having paid the last honours to the dead body of king Theodoric (Dietrich), which they discovered with difficulty, they saluted his son, Thorsimon, king upon the field of battle. Thus A. escaped destruction. But the Franks pursued him, hanging on his rear, till he had passed the Rhine.—Rather irritated than discouraged, he sought a new opportunity to seize upon Italy, and demanded Honoria, the sister of Valentine III., in marriage. This princess had been separated from the court, and in account of an intrigue with Eugenius, her chamberlain. She offered her hand to A.; he accepted the proffered match, and demanded, as a dowry, the kingdom. When this demand was refused, he attacked Italy with dreadful fury. The emperor treated him with kindness, and, to this was, perhaps, the bloodiest battle which has ever been fought in Europe; for, according to contemporary historians, 106,000 dead bodies covered the field of battle. A. caused all his camp equipage and treasures to be brought together into a heap, in order to burn himself with them, in case he should be reduced to extremities. But the enemy were contented with collecting their forces during the night, and, having paid the last honours to the dead body of king Theodoric (Dietrich), which they discovered with difficulty, they saluted his son, Thorsimon, king upon the field of battle. Thus A. escaped destruction. 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found lifido veiled, sitting by the cold corpse of her husband. During the night he had been suffocated by his own blood (439). The news of his death spread sorrow and terror in the army. His body was enclosed in a casket of gold, then of silver, and the third of iron. The captives, who had made the grave, were strangled. — The description that Jomandres has left us of this barbaric king reminds us of his Càlmuc-Tartar origin. He had a large head, a flat nose, broad shoulders, and a short and knobby body. His walk was proud, his voice strong and well-toned.

Attar, John Denis, a French Jeunet and painter, was born at Dole, Franche-Comté, in 1702, and died 1788, at Pekin, whither he had accompanied a mission. The emperor Kien Long was so much pleased with his battle-pieces, that he offered him the dignity of mandarin, and gave him the income thereto belonging, when A. refused the Chinese title. A. wrote a very interesting account of the emperor’s gardens, of which a translation by Spencer, under the name of Sir Harry Beaumont, appeared in 1792.

Attaturk, the term of park as it signifies the position and situation of figures. Attitudes require a regular study, a part of which is a knowledge of anatomy. The art of exhibiting attitudes, at least in modern times, is of recent invention. At the end of the last century, the celebrated lady Hamilton began the practice, and, as every art begins with imitation, she imitated, with great talent, the attitudes of antique statues in many large towns of Europe, and Sir William Hamilton could say that he possessed, in his wife, a whole collection of antiques. Her dress was a simple tunic, fastened with a ribbon tight under the breasts, and a claw. With these she imitated all the different dressier of the ancients. M. Custodier drew her attitudes, and published them in London. On the continent of Europe, this art has been carried to much perfection by Mrs Hendel Schütz, who exhibited the most beautiful attitudes, copied from the Greek, Egyptian, Italian, and German styles of art. But she was not satisfied with imitations. She invented many attitudes, which were declared by all the critics of the day (amongst whom was Goethe), some of the finest productions of art. Her attitudes have been drawn and published by Peroux and Ritter (Frankf. on the Maine, 1809). There has been also a male artist of the same kind, 384t von Seckendorf (called Patrick Peat), who accompanied his exhibitions with lectures. He died in America. Ducrow, the celebrated equestrian, has likewise signalized himself in the display of attitudes.

Attorney (aetornatus, in Latin); a person appointed to do something for and in the stead and name of another. An attorney is either public or special. The former is an officer of a court, who is authorized by the laws and the rules of the court to represent suitors, without any special written authority for the purpose. The rules and qualifications, whereby one is entitled to practice as an attorney in any court, are very different in different countries and in different courts of the same country. Almost every court has certain rules, a compliance with which is necessary, in order to authorize any one to appear in court, and represent any party in a suit, without a special authority under seal. The principle upon which these rules are founded, is the exclusion of persons not qualified by honesty, good moral character, learning and skill, from taking upon them this office. And any attorney may, by malpractice, forfeit this privilege; and the court, in such case, strikes his unpawn out. The noun, in Latin, is derived from a verb, that means to appoint, or authorize. Does not prevent his being a special attorney, with a specific power from any person who wishes to constitute him his representative: for every man who is capable of contracting, has the power to confer upon another the right of representing him, and acting in his stead. An attorney of a court has authority, for and in the name of his principal, to do any acts necessary for conducting the suit of his principal. — A special attorney is appointed by a deed called a power or letter of attorney, and the deed by which he is appointed specifies the acts which he is authorized to do. It is a commission, to the extent of which only he can bind his principal. As far as the acts of the power or deed are, in their time, not broken or inverted, the acts, or those of his principal, are authorized by his power, his acts are those of his principal. But if he goes beyond his authority, his acts will bind himself only; and he must indemnify any one to whom, without authority, he represents himself as an attorney of another, and who contracts with him, or otherwise puts confidence in him, as being such attorney.

Attraction; the tendency, as well of the parts of matter in general, as of various particular bodies, to approach each other, to unite, and to remain united; sometimes, also, the power inherent in matter, existing without any necessity, and sometimes the imperious desire of a certain object, to be united with another. The word means that this property is common to all matter. Even liquids cohere in their parts, and oppose any endeavour to separate them. The minute particles unite into drops; if they are brought in contact, into large masses. Fluids attach themselves to solid bodies, particularly to such as have very smooth surfaces, as glass: they rise up of themselves in fine tubes (see Cappillary Tube), &c. Every body tends to the earth, and, if raised from its surface, falls back to it again. The plumb-line, which is usually vertical, takes an oblique direction in the vicinity of high mountains; the sea tends to the moon; the moon itself is constantly drawn towards the earth, and the other planets, towards the sun. The heavenly bodies are continually subject to the simple law of mutual attraction. The Grecian naturalists speak of attraction; Copernicus and Tycho likewise admit it; Kepler’s bold and comprehensive mind first hazarded the assertion that it must be universal and mutual in all bodies; Descartes sought to banish it entirely from natural philosophy, as one of those occult powers which he did not acknowledge; but Newton adopted it, and determined its laws, after many years of accurate observation. Fruitless attempts have been made to explain it by those powers which tend to come together from sensible distances, that tendency is denominated either the attraction of gravity, magnetism, or electricity, according to circumstances; when the surfaces of bodies in contact tend together, it is by adhesion, when the particles of the same body tend together, it is by cohesion, and when the particles of different bodies in contact tend together, it is by affinity. These three latter species of attraction act at insensible distances. We cannot enumerate all the particular subdivisions of attraction, but the most important are those of chemical affinity, &c.; of attraction: one of the laws of magnetism, &c. (Respect these, see the particular articles.) The best work on the attraction of the heavenly bodies, is Newton’s Principia, and Laplace’s Mécanique Ce- leste. On the attraction which mountains exert on the plumb-line, see von Zach’s L’Attraction des Montagnes et ses Effets sur les Fils à Plomb (Avignon, 1814, 2 vols.) See the article Mechanics.

Attitude. 1. Every quality which is ascribed to any one as characteristic.—2. The sign which indicates that quality. In this latter sense, it is synonymous with symbol. (q. v.)

Attwood, John, of Walker in B. S., an eminent mathematician, who was educated at the university of Cambridge. In 1784, he published, in one volume, Svo., a Treatise on the Rectilinear Motion and Rotation of
Boles; with a Description of Original Experiments relative to that Subject—a work remarkable for its perspicuity, and the clearness with which it affords. About the same time, he made public an Analysis of a Course of Lectures on the Principles of Natural Philosophy, read at the University of Cambridge, which is not less valuable than the preceding. William Pitt, having attended Mr Atwood's university lectures, conceived such an opinion of his talent and scientific information, that he engaged him to devote a considerable part of his time to financial calculations, and bestowed on him a sinecure office, the income of which he retained from 1784 till his death, in 1807, at the age of sixty two, when the office, he being past his majority, was abolished. Mr Atwood published a Dissertation on the Construction and Properties of Arches, 1801, 4to, and several other valuable treatises relating to mathematics and mechanical science.

**Atys, or Atys.** 1. The favourite of Cybele, who, having broken the vow of chastity which he made to the goddess, castrated himself, as a punishment for his crime. See Cybele.—2. A son of Cressus, King of Lydia; an affecting example of filial love. He was dead, when, seeing a soldier in a battle who had raised a sword against his father, he exerted himself so much, that the hand of the tongue gave way, and he cried out, "Soldier, kill not Cressus!"

**Aubaine, Droit d'.** Foreigners in France, in the middle ages, were called Albanis, or Atiani. Some derive this word from Albanach, which term the Highlanders of Scotland, even now, apply to themselves; and, if this name was common to all the Gaelic tribes, or, at least, if it was used by the inhabitants of Bretagne, the German races may have applied it, from this circumstance, to all foreigners. The Romans, indeed, did not permit foreigners to inherit property—a law which the emperor Frederic I. abolished, since he gave to all foreigners the right of making a will, and ordered that the effects of such as died without one should be assigned by the bishop to the foreign heirs, or, if this was not possible, should be employed for some pious purposes. France was the only country where foreigners were treated according to the maxim of law peregrinus liber est, servus moritur. They were permitted to acquire all kinds of property, even real estate. They could not, however, obtain it by inheritance, nor bequeath it at their death. The king (by virtue of the law of aliens, droit d'Aubaine), in whose peace and protection they remained during life, was their only heir and lawgiver, and had the whole right of disposing of them. It was very early softened in favour of the relations who resided in the kingdom. Some cities, as Lyons, in order to favour commerce, obtained the privilege that the estate of foreigners who died in them should go to the foreign heirs, and this was agreed upon by treaties with certain states. (See the account of these states in Schlozer's State Papers—Statutes anzeigen—H. 31, and the later treaties in Marlen's Recueil des Traites.) The national assembly, by the decrees of the 6th of Aug., 1790, and the 8th and 31st of Aug., 1791, abolished this law; and, as it was acknowledged by no other country of Europe as a general rule, but was only put in force as a measure of retaliation against France, there was no necessity for a particular abrogation of the same in any European state. The French, however, were not conscious of this. They confounded their own droit d'Aubaine, and the right of deducing a portion of the estates of foreigners deceased; and the droit d'Aubaine was restored in the Code civil (Code de Napoleon, art. 11), because complaint was made that other countries, especially Prussia, had not abolished it.—2. In Briva, no droit d'Aubaine is known. The alien can transact any business there (under the provisions of the Alien and Naturalization Acts) to his heirs, wherever they may be. Real estates alone he cannot acquire. (For further information respecting the rights of aliens in England, see Alien, Alien Act, and Naturalization.)

**Aube, department of ; A French department in the former province of Champagne. (See Department.)—Aube; a river of France, which rises in the department of Upper Marne, and, running through that of Aube, passes by Bar-sur-Aube and Arcis, and falls into the Seine, near Nogent. The Aube became important, in the last war against France, as a line of communication. (See France.)**

**Aubert-Debayer, Jean Baptiste Amulial; born in Louisiana, Aug. 9, 1759. From the 18th year of his age, he was an officer, and fought in the service of the United States in the war of independence. Shortly before the breaking out of the French revolution, he went to France. In 1792, he was elected president of the legislative assembly. As general of brigade, he defended Mayence, and justified himself from the charge of improperly surrendering the place. He afterwards fought with vigour against the Vendeeans, in the west of France. In the year 3 of the republic, he was appointed minister of militia; and, in the year 4, to Constantinople as French ambassador, where he died two years afterwards. He was an ardent republican, upright, and endowed with talent, but is said to have been extremely vain.**

**Aubigne, Theodore Agrippa d'; a French author, born in 1560. He early gave proofs of talent. In his thirteenth year, he lost his father, and fought afterwards under Henry IV., king of France, who made him a gentleman of his bed-chamber. He soon became a favourite of Henry, but when the king, thinking it necessary, favoured the Catholics more than the Protestants, A. expressed his displeasure with little reserve, and, at length, lost the favour of Henry. He now retired to Geneva, where he devoted himself to literary pursuits. He wrote a Histoire Universelle, from 1550 to 1601, with a short account of Henry IV.'s death, 3 vols., folio, the first volume of which was ordered to be burned by the parliment of Paris. He died at Geneva, in 1639.**

**Aubrey, John, F. R. S.; an English antiquary, born at Easton Piers, in Wiltshire, in 1626; educated at Oxford. He collected materials for the Monasticon Anglicanum, and afforded important assistance to Wood, the Oxford antiquary. He lost his property, and was reduced to the lowest of estate, but a lady Long supported him till his death, about the year 1700. He published little, but left large collections of manuscripts, which have been used by subsequent writers.**

**Aubry de Montdidier; a French knight of the time of King Charles V., who, according to tradition, was basely murdered, in 1571, by his companion in arms, Richard de Macaire. The murder was discovered by means of a dog of the deceased, who showed the most hostile disposition to the murderer. The king compelled Macaire to fight with his accuser, the dog, in order to decide the case; and the murderer was conquered. This story has been formed into a drama, for the German stage, called the Dog of Aubry, or the Wood of Bondy.**

**Aubrun; a post-village of New York, and capital of the county of Cayuga, in the township of Aurelius, on the great western turnpike, at the north end of Owasco lake.**

Atwood, H. (under name), the French author. See Atys. Wiltshire, in 1626; educated at Oxford. He collected materials for the Monasticon Anglicanum, and afforded important assistance to Wood, the Oxford antiquary. He lost his property, and was reduced to the lowest of estate, but a lady Long supported him till his death, about the year 1700. He published little, but left large collections of manuscripts, which have been used by subsequent writers.**

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1825, 2982. It is a pleasant and flourishing village, and contains an academy, a court house, a state prison, large enough to receive 1000 prisoners, a county jail, a market house, a Presbyterian theological seminary, and four houses of public worship. The theological
Auckland—Auctioneer.

There does not appear to be any good ground for it in principle, and the same objections lie against this tax that are made to the Spanish alcabalas (q.v.), or tax on private sales. The vendor must pay the tax, and a man's selling goods is not, in general, a proof, nor the vendor's taxing the tax from bidding the price of a sale or a tax. So far from this is the fact, that, in very many instances, the property or straitened circumstances of the vendor are the cause of his putting up his property at auction. When these sales are taxed, therefore, the law makes many exceptions, with the intention of preventing the tax from being charged on the ability to sell from necessity, rather than the expectation of making a profit.—Much discussion has been had upon the effect of sales by auction, in an economical point of view; as, whether they give a facility to the introduction of foreign manufactures, to the discourage-ment and depression of the domestic, with which they come into competition; and whether they have a fa-vourable or unfavourable influence upon the course of production and consumption, considered as a part of the general system of business and economy, inde-pendently of their effect in respect to the introduction of foreign manufactures. There can be made to these questions, since it must, in each case, depend, in some degree, upon the manner in which the auctions are conducted. But, supposing them to be conducted with perfect fairness and honesty, it must then depend upon the condition of the industry of the community. The German fairs have an effect similar to that of auction sales. An extensive fair, or sale by auction, by show-ing, and, in effect, exaggerating the surplus or defi-ciency of articles, aggravates the stagnation in one case, and enhances the prices in the other. All such fluctuations tend to check and arrest the current of trade that is carried on upon a small scale. Those who carry it on upon the largest scale, whether domestic or foreign, will drive out the smaller ones, since they will, as has been invariably proved, push on their business, in spite of the sacrifices which they may be obliged to make, and they gain an impetus which is not easily checked. Whether auctions are injurious or not, in either respect, will depend, therefore, upon the scale on which they are conducted, and the extent of different systems or processes of produc-tion, which are thus brought into competition. When the competition, they undoubtedly tend to make it more close and direct, and if one of the rivals has any advantage at the time being, he is likely to destroy the other; or, if there be no other advantage on either side, the party willing and able to make the greatest sacrifices will eventually keep possession of the market.

Auctioneer; a person who conducts sales by auction. It is his duty to state the conditions of sale, to declare the respective biddings, and to terminate the sale by knocking down the thing sold to the highest bidder. An auctioneer is held to be lawfully authorized by the persons in contract for him, whether it be for lands or goods, and his writing down the name of the highest bidder in his book, is sufficient to bind any other person for whom the highest bid-der purchased, even though such person be present, provided he do not object before entry. An au-
tioneer must take out a license, renewable annually on the 5th of July, for which he is charged £5; and if he sell goods for the sale of which an excise license is specially required, he must also take out such license, unless the goods be the property of a licensed per-son, or the owner be himself prepared to give the neces-sary formalities, in case such additional license is not re-
quired. (6 Geo. 4. c. 81.) Auctioneers within the limits of the chief excise office in London are bound when they receive their license, to give security to...
that a ciple was not a hammer. 

Auctioneers, therefore, to employ puffers, or mock bidders, to raise the value of the articles sold by their apparent competition, and many questions have grown out of it. It was long ago decided, that if the owner of any property, or one in legal possession, is required to bid for him, it is a fraud on the real bidder, and the highest bidder may refuse to complete his contract. (6 T. Rep. 642.) But it seems as if the mere employment of puffers under any circumstances were now held to be illegal. "The inclination of the courts at the present time, is, that a sale by auction should be conducted in the most open and public manner possible; that there should be no reserve on the part of the seller, and no collusion on the part of the buyers. Puffing is illegal, according to a late case, even though there be only one puffer; and it was held, that such persons can be sued at law for employing such persons to bid upon the sale of horses could not be sustained."—(Woolrych on Commercial Law, p. 262.) A party bidding at an auction may retract his offer at any time before the hammer is down. Another clearly established principle is, that verbal declarations by an auctioneer are not to be suffered to control the printed conditions of sale; and these, when posted up under the box of the auctioneer, are held to be sufficiently notified to purchasers. Auctioneers, like all other agents, should carefully observe their instructions. Should they fail to do so, although through their carelessness or inattention, they will be responsible. They must also answer for the consequences, if they sell the property entrusted to their care for less than the price set upon it by the owners, or in a way contrary to order. An auctioneer who has duly paid the license duty is not liable, in the city of London, to the penalties for acting as a broker without being admitted agreeably to the 6 Anne, c. 16. The establishment of mock auctions is said to be a common practice among swindlers in London. Persons are frequently placed at the doors of such auctions, denominated bakers, to invite strangers to come in and puffers are in wait to bid up the article much beyond its value. A stranger making an offer at such an auction is almost sure to have the article knocked down to him. Plated goods are often disposed of at these auctions; but it is almost needless to add, that they are of very inferior quality. Attempts have sometimes been made to suppress mock auctions, but hitherto without much success. 

Aude—auditor. 333

Aude—that is, a French department in the former province of Languedoc. See Department.

Aude, Jean Baptiste; united, in a high degree, the talents of an engraver with the knowledge of natural history. He was born at Rochefort in 1759, went, at the age of 18, to Paris, to learn drawing and painting, and made himself a skillful miniature painter. In 1789, he became acquainted with Gigot d'Orcey, a great lover and promoter of natural history, who possessed a vast collection, the most specimens of which he employed A. to paint, and who left him, after his death, most of his works. A. afterwards made a collection, the value of which he brought back a number of designs, which have been used in Olivier's History of Insects. This occupation awakened in him a taste for natural history. He now undertook some works which laid the foundation of his fame. The first was, Histoire Naturelle des Singes, de l'Afrique et de l'Inde (Paris, 1791, folio), in which he himself shows an able draughtsman, engraver, and writer. With regard to colouring, so essential in natural history, he brought it to a greater perfection than it had ever before attained. Not satisfied with laying different colours on the same plate, so as to produce a kind of painting, he went farther, and, instead of water-colours, used the more durable oil-colours. He carried his art to still greater perfection, by using gold in his impressions, the colour of which he changed in different ways, in order to imitate the splendour of his patterns. Natural history was greatly benefited by his work, the splendour of which was astonishing. His Histoire des Colébiens, des Oiseaux-Mouches, des Jaccards, et des Pro metopa (Paris, 1802, folio), is esteemed the most complete work that has appeared in this department. Fifteen copies were struck off with golden letters. Scarcely was this work begun, when A. formed new plans, for the execution of which the longest life would hardly have been sufficient. He died in 1800, when he had scarcely begun the Histoire des Gimperaux et des Oiseaux de Paradis. Both works were excellently finished by Desray, who was in possession of the material, and engaged in carrying on the work. A. rendered much assistance in the publication of Levaillant's African Birds. He conducted the impressions of the plates as far as the thirteenth number.

Aventin is used to signify the ceremonies practised in courts at the admission of ambassadors and public ministers to a hearing.—It is also the name of courts of justice or tribunals which were established by the Spaniards in America, and formed upon the model of the court of chancery in Spain.—It is also the name of one of the ecclesiastical courts in England, which, whatever the bishop calls up a cause to be argued before himself.

Avrino, in the language of the ancient law; an officer of the courts, whose duty it was to interrogate the parties. In a narrower sense, an officer who overlooks accounts. The auditeur du châtelet, in France, was a member of that court of justice for the city of Paris. (See Châtelet.) This court decided in cases of small importance (where the amount in dispute did not exceed 50 francs). In the eleven high offices of accounts (chambres des comptes) of France, the members were divided into conseillers-maitres and conseillers-auditeurs, as also German colleges (departments of government) are into counselors and assistants. A similar division in the courts of justice was introduced by Napoleon, viz., that of conseillers and juge-auditeurs, which distinction still exists. In England, this term is applied to those who examine accounts. The chief accountant's office is called office for auditing the public accounts. The members of the Spanish courts of justice are generally called auditoros. This appellation also obtains among the papal officers. The twelve councillors of the renowned rota Romana (q. v.) are called auditoros sacri palatii apostolici, or auditori rotae. In some of the papal colleges of finance, the camera apostolica, at the head of which is the curate camerlenghe, there is
AUERBACH—AUGEREAU.

An auditor camera, who exercises the power of the college in causes of minor importance.

Auerbach was born at Wittenberg, July 18, 1552. His writings are few, consisting of notes on the ancient languages, and partly political, published from his papers, at Paris, in 30 vols. Among his political works, the most distinguished are Projet d'Education politique précédé de quelques Réflexions sur l'Assemblée Nationale, 1789; and De la Constitution des Romains pendant les Rais et au Temps de la République, 1792, the product of thirty years' labour, which first appeared after his death, with the rest of his posthumous works.

AUGEREAU, Pierre François Charles, duke of Castiglione, marshal of France; son of a fruit merchant; born at Paris, 1757; served as a volunteer in the French army; went from thence into the Neapolitan service, established himself at Naples, in 1787, as a fencing-master, and was banished thence, in 1792, with the rest of his countrymen. He served, afterwards, as a volunteer in the army of Italy, in which his talents and courage soon gained him promotion. He distinguished himself, in 1794, as general of brigade in the army of the Pyrenees, and, in 1796, as general of division in the army of Italy. He took the pass of Millesimo; made himself master, April 16, of the intrenched camp of the Piedmonters at Arcole; after having ridden across the bridge of Lodi, and carried it with the enemy's intrenchments. June 16, he passed the Po, and made prisoners the papal troops, together with the cardinal legate and the general's staff. Aug. 1, he came to the assistance of Massina, maintained, during a whole day, a most obstinate struggle against a superior number of troops, and took the village of Castiglione, from which he derived his ducal title. Aug. 25, he passed over the Adige, and drove back the enemy as far as Roveredo. In the battle of Arcole, when the French columns wavered, A. steadied a standard, rushed upon the enemy, and gained the victory. The directory bestowed this standard on him, Jan. 27, 1797. Aug. 9, he was named commander of the 17th military division (division of Paris), in place of general Hary. He was the instrument of the violent proceedings of the 15th of Frondor, and was saluted, by the decimated legislative body, as the saviour of his country. In 1799, he was chosen a member of the council of five hundred, and, therefore, resigned his command. He then obtained from the consul, Bonaparte, the command of the army in Holland. He led the French and Batavian army on the Lower Rhine, and, at the battle of Mannes, which was fought on the bridge of Lodi, and carried it with the enemy's intrenchments. June 16, he passed the Po, and made prisoners the papal troops, together with the cardinal legate and the general's staff. Aug. 1, he came to the assistance of Massina, maintained, during a whole day, a most obstinate struggle against a superior number of troops, and took the village of Castiglione, from which he derived his ducal title. Aug. 25, he passed over the Adige, and drove back the enemy as far as Roveredo. In the battle of Arcole, when the French columns wavered, A. steadied a standard, rushed upon the enemy, and gained the victory. The directory bestowed this standard on him, Jan. 27, 1797. Aug. 9, he was named commander of the 17th military division (division of Paris), in place of general Hary. 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where he took part in the battle of Lojusce. At the entrance of the allies into France, his duty was to cover Lyons. Louis XVIII. named him a peer. After the fall of Napoleon, A. used reproachful language respecting him in a proclamation to his army. Napoleon, therefore, on his landing in 1815, declared him a traitor. A., however, expressed himself in his favour, but was, like his adversary, put in the new order of things. After the return of the king, he took his place again in the chamber of peers, sat among Néy's judges, was for a while unoccupied, and died, June 11, 1816, at his estate La Houssaye, of the tropies.

Augias. See Augaeus.

Augite (pyroxene); the name of a species in mineralogy, interesting on account of its wide distribution and the numerous varieties of form and colour under which it appears. When crystalized, it assumes the form of short, slightly rhombic prisms, with their lateral edges replaced, and terminated at one or both extremities by numerous planes; and, when massive, is generally capable of mechanical division, in lines parallel to the sides of an oblique rhombic prism of 57° 5' and 92° 5', its primitive form. Its specific gravity is from 3-23 to 3-54; lustre vitreous, and hardness 5. Names of older writers have been applied to some of its most remarkable varieties; as, diopside, to greenish-white, transparent crystals; augite, when it is in imperfectly prismatized and foliated masses; and coccolite, when in small, slightly-graining masses. This species occurs abundantly in black crystals in basil and lave, and enters into the regular composition of many rocks, besides being found in veins in primitive rocks. It is composed essentially of silex, lime, and magnesia, to which oxyde of iron is sometimes added; and is one of those few mineral substances, whose composition may be imitated by the artificial mixture of its constituents, and subjecting them to fusion. Its native crystals, likewise, when fused, and suffered to cool slowly, re-assume their original shape and colour. A transparent green variety, found at Zillerthal, in the Tyrol, is used in jewelry.

Augsburg, the capital city in the Bavarian circle of Upper Danube, formerly a free city of the empire, lies between the Wertach and Lech, and is the residence of a bishop. It has 3600 houses, and 29,000 inhabitants, of whom 12,000 are Protestants. The curiosities are the bishop's palace, where the confession of Augsburg was signed in 1530; the city hall, esteeemed the finest in Germany; the Fuggerei (100 small houses, built by two brothers, of the name of Fugger, for the residence of the poor inhabitants of the city, a monument of the benevolence of those immensely rich citizens); the cathedral church, and the gallery of paintings of the German schools, &c. The city has considerable carrying trade and dealings in bills of exchange, important commercial transactions with Vienna and Italy, and is likewise a mart for the wines of southern Germany and Italy. Whether A. bore the name of Dunaisia before the entrance of the Romans into the country is uncertain, but it is well settled that the emperor Augustus, about 12 B. C., after conquering the Vindelic, placed a colony there, which must be considered as the origin of the present A. After the division of the empire of the Franks, A. came under the dominion of the duke of Swabia, and by his court, by which it was enriched, purchased its freedom of the duke, which was afterwards confirmed by the emperor. The city now reached the summit of its prosperity, and was, together with Nuremberg, a great mart for the commerce between the north and south of Europe, until, towards the end of the 15th century, the discoveries of the Form-
guese and Spaniards gave a new direction to the whole commerce of the world. In 1368, in consequence of the opposition of the lower classes of citizens, the aristocratic government was abolished, and a democratic form substituted, which continued till 100 years later, when the nobles, with the assistance of the emperor, Charles V., again obtained the supremacy of the council. And still one of the principal manufacturing places in Germany.

Augsburg Confession, presented by the Protestants, at the diet of Augsburg, 1530, to the emperor and the diet, and, being signed by the Protestant states, was adopted as their creed. Luther made the original draught of the confession, and later the final form, according to the views of Saxony, at Torgau, in seventeen articles; but, as its style appeared to be too violent, it was altered by Melancthon, at the command of the elector, and, in compliance with the wishes of the body of Protestant princes and theologians. Thus changed, it was presented and read in the diet, June 25. The original is to be found in the imperial Austrian archives, and the edition of the Augsburg confession, at Wittenberg, 1531, was printed from this. Afterwards, Melancthon arbitrarily altered some of the articles, and a new edition, with his changes, appeared in 1540. This is the form of the confession which was held the original and those who held the altered Augsburg confession. The former is received by the Lutherans, the latter by the German Reformed, who thereby secured to themselves, at the religious peace of 1555, the privileges extended only to the adherents of the Augsburg confession, and kindred sects.

Augsburg Gazette. See Allgemeine Zeitung.

Augurs; certain priests among the Romans, who, from the flight and the cries of birds, from lightning, &c., predicted future events, and announced the will of the gods. They were consulted respecting both public and private concerns, and their respectability, as well as their influence in the state, was very great. By merely pronouncing the words Alio die (another day), they could dissolve the assembly of the people, and annul all the decrees which had been passed at the meeting. Their answers, as well as the signs by which they governed themselves, were called auguries. Public auguries were, 1. appearances in the heavens, as thunder and lightning. The augur remarked the place where the flash of lightning originated, and where it disappeared. He stood on an elevated place (arx, templum), where he had a full view of all around him. After the sacrifices had been made, he then offered his prayers in the temple, his face towards the east, his head covered, and pointing with his staff (lituus) to that portion of the heavens within the limits of which he proposed to make his observations. On the left were the propititious, on the right the unpromising omens. 2. The cries and the flight of birds. Predictions founded on the observation of birds were properly called avispece, and were very common even among the Greeks, who took them from the Chaldæans. They afterwards became so important, that, among the Romans, nothing of consequence in peace or in war was undertaken without consulting birds, whose continual flight was supposed to give them universal knowledge. They were propitious or unpromising, either from their species or from the circumstances in which they appeared. The birds of a prophetic character were divided into two principal classes—those whose flight and those whose cry was indicative of future events. The one class were in the air, and the crow, the night-owl, the cock; in the former were the eagle, the crow, the raven, the kite, and the vulture. The two last were always unpromising; the eagle, on the contrary, was propitious when he flew from left to right; the crow and the raven were
propitious on the left, and unpromising on the right. 3. The willingness or unwillingness of chickens to eat was also a sign. The former was interpreted as a good omen, the latter as a bad one. Chickens were made use of particularly in war; therefore a pontifex, some augurs and haruspices (see Auruppex), together with a pullarius with a hen-coop, were attached to the army. Besides these three principal classes, certain omens were drawn from quadrupeds; e. g., if a beast crossed one's path, or was seen in an unusual place, and from many occurrences more or less uncommon, e. g., sudden melancholy, sneezing, spilling the salt on the table, &c. The augurs explained such signs, and taught how the gods were to be appeased. Hence the right of taking omens, that is, the right to inquire of the gods, by certain signs, how the war would terminate, belonged only to the commander-in-chief. The inferior officers fought only under his auspices; that is, the declaration which he issued was binding upon them, and the fortunate or the unfortunate issue of the war was attributed to him alone.

August; the name of the eighth month from January, inclusive, and the sixth of the Roman year, which began with March. It was called Sextilis, till the emperor Augustus, in consideration of the many inscriptions to which he had happened to him in this month, affixed to it his own name.

Augusta; the name of a very great number of ancient places; as, Augusta Treverorum, now Treves; Augusta Ausciorm, now Auch; Augusta Taurinorum, now Turin, Augusta Suessnum, now Soissons, &c. Augusta also is the name of many modern places and rivers in South America.

Augusta; a post-town of Maine, in the United States, on the river Kennebec, 168 miles N. E. of Boston; population, in 1810, 1853; in 1820, 2457. It is a pleasant and flourishing town, and has, by an act of the state legislature, been constituted the seat of the state government after January 1, 1832. Here is an elegant bridge across the Kennebec, consisting of two arches, each 150 feet long. The river is navigable to A. for vessels of 100 tons.

Augusta; a city of Georgia, opposite to Hamburg, in South Carolina, with which it is connected by a bridge; population, in 1810, 2476; and in 1827, about 5000. It is situated on an elevated plain. The streets are wide, intersecting each other at right angles, and are ornamented with trees. The houses are mostly of brick, and many of them are spacious. Among the public buildings are a city-hall, an academy, a court-house, a theatre, an hospital, two markets, and six houses of public worship. A. is favourably situated for trade, and has a very flourishing commerce. More than 100,000 bags of cotton are annually deposited here, and hence conveyed down the river to Savannah and Charleston, for northern and European markets.

Augustin, or Aëtus, Saint, called the apostle of the English, flourished at the close of the sixth century. He was sent, with forty monks, by Gregory, to introduce Christianity into the Saxon kingdoms. He was kindly received by Ethelbert, king of Kent, whom he soon converted; and such was his success with his subjects, that he is said to have baptized 10,000 in one day. This success may be attributed to his reputation of miraculous power in the restoration of sight and life, more probably than to any other cause. Among the public buildings are a city-hall, an academy, a court-house, a theatre, an hospital, two markets, and six houses of public worship. A. is favourably situated for trade, and has a very flourishing commerce. More than 100,000 bags of cotton are annually deposited here, and hence conveyed down the river to Savannah and Charleston, for northern and European markets.
Augustus—Augustus.

however, till 1256, and, in 1567, were made the fourth in rank among the mendicant orders, coming after the Dominicans, Franciscans, and Carmelites. They wear black cloaks. Before the reformation, they had about 2000 convents, containing 30,000 monks, and also 500 nunneryes. After the reformation, a number of them were founded. As the order they were separated into many considerable brotherhoods, among which the barefooted monks, in Italy, Spain, and France, were the most numerous. At the beginning of the 18th century, the order numbered forty-two provinces. The number of convents and nunneryes is about the same as before. The communities are found in Italy, Spain, Portugal, in the Austrian states, and in America. In 1817, Augustine nuns of the congregation of Our Lady appeared again in Paris. Their number is thirty-two; they support themselves by their industry, educate poor children, and possess no landed property.

Augustus (Romulus Monyllus, surnamed Augustus); son of Orestes, a general of the Roman emperor Julius Nepos. Orestes deposed the emperor, and placed his son upon the throne, in 475. In the following year, Odoacer, a commander of the Germanic forces, who, after his entrance into Italy, placed Orestes to death, obliged A. to resign, and thus put an end to the Roman empire in the West. During the twenty years of the existence of this empire, it succeeded the murder of Valentinian III., no less than thine emperors are mentioned.

Agrippus (Caius Julius Caesar Octavius); originally called Caius Octavius; son of Caius Octavius and Accia, a daughter of Julia, the sister of Julius Caesar. The Octavian family originated at Velletri, in the country of the Volsciens. The branch to which Octavius belonged was rich and distinguished. His father died when he was a lad, and, after he received an education, he was sent into Macedonia, after being chosen praetor, where he was distinguished as a civil and military officer. Octavius was born during the consulate of Cicero, 65 B.C. He lost his father when young, but was very carefully brought up at Rome by his mother, and L. M. Philippus, the second husband of Accia. His talents gained him the regard of his great uncle, Julius Caesar, who declared himself willing to adopt him for his son, in case he himself should remain without children. Octavius was at Apollonia, in Epirus, where he was studying eloquence, under the renowned Apollonius, when he received the news of the tragical death of his uncle, and of his having adopted him as his son. Notwithstanding the anxiety of his friends, he went over to Italy, in order, if circumstances should favour him, to satisfy the hopes which he had entertained from being adopted by Julius Caesar. When he landed at Brundusium, deputies from the veterans collected there came to him. Conducted in triumph to the city, and saluted as the heir and avenger of Caesar, he made his adoption publicly known, and took the name of his uncle, adding to it that of Octavious. He ascended the throne in the year 27 B.C. at the head of the veterans, possessed himself of all the public money in Brundusium, and advanced through Campania to Rome. Here there were two parties; that of the republicans, who had killed Caesar, and that of Antony and Lepidus, who, under the pretence of avenging him, strove to establish their own authority. The latter party became victorious, and the consul, Antony, exercised almost unlimited power. Octavius addressed himself first to Cicero, who had retired to his villa at Cumae, being desirous to gain this great orator, always beloved by the people, to his cause. From thence he went to Rome, where the greatest part of the magistrate, soldiers, and citizens came to meet him, Antony, alone, paying no attention to his return. After Octavius had caused his adoption to be confirmed in the most solemn manner, he went to Antony, begged his friendship, and demanded of him the inheritance left him by Caesar, in order to pay the legacies mentioned in his will. Antony, however, refused to give up his claims, but afterwards changed his demeanour, when he found the influence of Octavius continually increasing, and his own proportionably diminishing.

There could be no lasting union between two equally ambitious rivals. The heart of Antony was still devoted to his old scenes of his life; and, the rest of Italy, they defeated the republican army under Brutus and Cassius, in Macedonia;—all this is contained in the article on Antony. Antony honoured the memory of Brutus, but Octavius insulted his corpse. After his return to Rome, he satisfied the avarice of his soldiers by the division of the conquered lands. This division caused great disturbances. In the midst of the stormy scenes which convulsed Italy, he was obliged to contend with Fulvia, whose daughter, Clodina, he had rejected, and with Lucius, the brother-in-law of Antony. After several battles, Lucius threw himself into the dye of Perugia, and he was soon after obliged to surrender. The city was given up to be plundered, and three hundred senators were condemned to death, as a propitiatory sacrifice to the names of the defied Caesar. After the return of Antony, an end was put to the proscriptions. Octavius allowed such of the proscribed persons as had escaped death by flight, and whom he no longer feared, to return. There were still some disturbances in Gaul, and the naval war with Sextus Pompeius continued for several years. After his return from Gaul, Octavius married the famous Livia, the wife of Lucius, Nero, who, in 27 B.C., had resigned her, after he himself had divorced his third wife, Scribonia. Lepidus, who had hitherto retained an appearance of power, was now deprived of his authority, and died as a private man, 13 B.C. Antony and Octavius now divided the empire. But while the former, in the East, gave himself up to a life of luxury, the young Octavius pursued his plan of making himself sole master of the world. He especially strove to obtain the love of the people. He showed mildness and magnanimity, without the appearance of striving after the highest power, and declared himself ready to lay down his power when Antony should return from the war against the Parthians. He appeared rather to permit than to wish himself to be appointed perpetual tribune—an office which gave him supreme power. He received an advance in the affection of the people, the more openly did he declare himself against Antony. By making public a will, wherein his rival appointed his sons by Cleopatra his heirs, he stirred up the ill-will of the Romans against him. Availing himself of this feeling, Octavius declared war against the queen of Egypt, and led a considerable force both by sea and land, to the Egyptian gulf, where he gained the naval victory of Actium (q.v.), which made Octavius master of the world, B.C. 31. He
pursued his rival to Egypt, and ended the war, after he had rejected the proposal of Antony to decide their differences by a personal combat. Cleopatra and Antony killed themselves. Octavius caused them to be buried together. A son of Octavius was sacrificed, to ensure his safety. Cassiovan, a son of Caesar and Cleopatra, shared the same fate. All the other relations of Antony remained unijaured, and Octavius, on the whole, used his power with moderation. He spent two years in the East, in order to improve the allures of Egypt, Greece, Syria, Asia Minor, and the islands. On his return to Rome, he celebrated a triumph for three days in succession. Freed from his rivals and enemies, and master of the world, he was undecided concerning the way in which he should exercise his power in future. Agrippa, whose victory had given him universal dominion, counseled him to renounce his authority. Marcus opposed this; and Octavius followed his advice, or rather his own inclinations. In order to make the people look upon him as an unlimited monarch, he abolished the laws of the triumvirate, beautified the city, and in control of the abuses which had prevailed during the civil war. At the end of his seventh consilium, he entered the senate-house, and declared his resolution to lay down his power. The senate, astonished at his moderation, besought him to retain it. He yielded to their prayers, and continued his reign through them. He now obtained the surname of Augustus, which marked the dignity of his person and rank, and united, by degrees, in himself, the offices of imperator, or commander-in-chief by sea and land, with power to make war and peace; of pontifex over all the provinces; of perpetual tribune of the people, which rendered his person inviolable, and gave him the power of interrupting public proceedings; and, in fine, of censor, and pontifex maximus, or controller of all religious matters. The laws themselves were subject to him, and the observance of them depended upon his will. To these dignities we must add the title of father of his country. Great as was the power given to him, he exercised it with wise moderation. It was the spirit of his policy to retain old names and forms, and he steadfastly refused to assume the title of dictator, which Sylla and Caesar had made of themselves. It was not in many wars, particularly in Gaul and Spain, where he triumphed over the Cantabrians after a severe struggle. His arms subjected Aquitania, Pannonia, Dalmatia, and Illyria, and held the Dacians, Numidians, and Ethiopians in check. He concluded a treaty with the Parthians, by which they gave up Armenia, and restored the eagles taken from Crassus and Antony. At the foot of the Alps, he erected monuments of his triumphs over the mountaineers, the proud remains of which are yet to be seen at Susa and Asta. After he had established peace throughout the empire, he closed (for the third time since the foundation of Rome) the temple of Janus, B. C. 10. But this peace was interrupted, A. D. 9, by the defeat of Varus, who lost three legions in an engagement with the Germans, under Arminius, and killed himself in despair. The information of this misfortune greatly agitated A. He let his beard and hair grow, and often cried out in the deepest grief, "O Varus, restore me my legions!" Meanwhile the Germans were held in check by Tiberius. During the peace, A. had issued many useful decrees, and abolished abuses in the government. He gave a new form to the civil courts, improved the manners of the people, particularly by promoting marriage, enacted laws for the suppression of luxury, introduced discipline into the armies, and order into the games of the circus. He adored Rome in such a manner, that it was truly said, "He found it of brick, and left it of marble." He also made journeys, as Velleius says, everywhere, to increase the blessings of peace: he went to Sicily and Greece, Asa Minor, Arabia, Syria, Egypt, and Phrygia, to visit cities and colonies. The people erected altars to him, and, by a decree of the senate, the month Sextilis was called August. Two conspiracies, which threatened his life, miscarried. Capio, Murena, and Egnatius were punished with death; Cinna was more fortunate, receiving pardon from the emperor. This magnanimity increased the love of the Romans, and diminished the number of the disaffected; so that the master of Rome would have nothing to wish for, if his family had been as obedient as the world. The debauchery of his daughter Julia gave him great pain; and he showed himself more severe against those who destroyed the honour of his family, than against those who threatened his life. History says, that, in his old age, he was ruled by Livia, the only person, perhaps, whom he truly loved. He had no sons, and lost by death his sister's son, Marcellus, and his nephew, the son of Mark Antony, whom he had appointed his successors. Also, Drusus, his son-in-law, whom he loved, died early; and Tiberius, the brother of the latter, whom he hated, on account of his bad qualities, alone survived. These numerous calamities, together with his continually-increasing infirmity, brought amongst him the weariness of life. He undertook a journey to Campania, from whose pure air he hoped for relief; but disease fixed upon him, and he died, at Nola (August 19, A. D. 14), in the 76th year of his age, and 46th of his reign. When he felt his death approaching, he is said to have called for a mirror, arranged his hair, and demanded of the by-standers, "Have I played my part well?" and, an answer being returned in the affirmative, "Then," added he, using the form of the players, "farewell, and applaud," (caelei, et plaudite). If this last passage in the life of A. is true, it is certainly indicative of his character, his policy, and even of his fortune. It is certain, that his conduct was always measured and determined beforehand, and that he had a great power of remaining cool and unmoved amidst the cares and attentions of government. Sturdily concealing his own plans, he made use of the passions and ambitions of others to further them. He conquered Brutus by means of Antony, and Antony, by means of Agrippa. He several times changed his party, but never his purposes, and knew how to cause power to be offered, and pressed upon him, while it was, in fact, the object of all his exertions. It cannot be denied that he used his power with wisdom, and became the benefactor of his country, which he had previously plunged into the horrors of civil war. His taste and active mind led him to favour and protect the learned; and he even exercised the art of the poet himself; so that he was not unworthy of giving his name to an age distinguished for intellectual creations. His death plunged the empire into the greatest grief. He was numbered among the gods, and temples and altars were erected to him.

Augustus II., Frederic, elector of Saxony and king of Poland, second son of John George III., elector of Saxony, born at Dresden, in 1670, was remarkable for his bodily strength and activity. To his residence in France he owed that taste for luxury and the fine arts, which afterwards made the Saxon court inferior in splendour to none in Europe. But that except that, in 1691, he visited Vienna, where he contracted a friendship with the archduke Joseph, afterwards Joseph I. By the death of his elder brother, John George IV., in 1694, he became elector. The Polish throne having become vacant, in
1696, by the death of John Sobieski, A. presented himself as a candidate for it. The abbé de Polignac, the French ambassador at Warsaw, supported the pretensions of the prince of Conti, whom the Polish nobility preferred; but A. had an army on the frontiers, obtained votes by bribery, and publicly embraced the Catholic religion. June 27th, 1697, the election took place. A. strengthened his party by marching 10,000 Saxons into Poland. Bribery and intimidation obtained him the victory. After he had ascended the throne, a treaty was concluded between Denmark, Poland, and the czar Peter I., against Charles XII. of Sweden, in which the object was the conquest of Livonia. A. resolved that the Danes under the walls of Copenhagen, and the Russians at Narva, was now ready to advance into Poland, and A. was obliged to provide for the defence of his own dominions. Thus commenced the celebrated northern war, which lasted twenty years, in which A., with his faithful Saxons, had to withstand the opposition of the Poles, as well as the valour of the Swedes. Charles declared him a usurper, and thus separated the cause of the republic from that of the king, who obtained but little assistance from the Poles. The Swedes advanced to Clissaow, between Warsaw and Posen. In July, they were met and driven back, gaining only half the number; but the Poles gave way in the beginning of the engagement, and Charles gained a complete victory, July 20, 1702. May 1, 1703, the Saxon army was defeated again at Pultusk. The diet assembled at Warsaw declared A., Feb. 14, 1704, incapable of wearing the crown of Poland, and Stanislaus Leszynski, waywoode of Posen, was chosen king, July 12, 1604. Charles, victorious on every side, advanced into Saxony, and A. found himself obliged to conclude a secret peace; at Altranstadt (q. v.), Sept. 24, 1706. Meanwhile the Russians, ignorant of these transactions, obliged A. to attack the Swedish general Marléfeldt. He gained a signal victory at Kalisch, and entered Warsaw in triumph, at the time that the proposals of Charles were brought to him. However much he might desire to take advantage of his good fortune, it was too late. Saxony lay at the mercy of the Swedes. He signed the treaty, and, December 18, 1706, visited Charles in his camp at Altranstadt. To complete his mortification, Charles compelled him to send to Stanislaus the jewels and archives of the crown, with a letter of congratulation. He returned to Dresden, where he was received by the emperor, whom he was at length to persuade. Count Flemming, his first minister, advised him to make himself master of the person of his dreaded enemy; but he rejected the unjust proposal. He now devoted himself to the domestic affairs of Saxony. His love of splendour had involved him in many expenses, by which the finances of his kingdom were disordered. In 1708, he served, under an assumed name, in a campaign against the French, in the Netherlands. In 1709, after the defeat of Charles at Pultawa, the Poles recalled A., who united himself anew with Peter. These two monarchs, in alliance with Denmark, sent troops into Pomerania. Notwithstanding the exhausted state of Sweden, the Swedish general Steinbock gained a splendid victory over the allies at Gadebusch, Dec. 20, 1712, which compelled them to raise the siege of Wismar and Stralsund. Charles XII., having afterwards returned from Flanders, made up his mind to carry his determination to prosecute the war with vigour, an alliance, at the head of which was A., was formed against him; but his death put an end to the war, and A. concluded a peace with Sweden. A confederation was now formed in Poland against the Saxon troops. The Poles yielded but too readily to the example of their king, and the last years of his reign were characterized by boundless luxury and corruption of manners. We read with astonishment, even at this day, the descriptions of the extravagance which he permitted himself. It is related that he gave a regiment of dragons to king Frederic William of Prussia for twelve porcelain vases. He was not disliked by his subjects, and filled with dignity his station among the European powers. In his character generous ideas were united with despotic feelings, a taste for pleasure with the cares of ambition, and the restlessness of a warlike spirit with the effeminacy of a luxurious life. Death surprised him in the midst of his pleasures and projects. On his journey to Warsaw to attend the diet, a small wound in his knee becoming inflamed, he died, Feb. 17, 1733, and was buried in Copenhagen. His wife, Christine Eberhardine, left him one son. By his mistresses he had many children. The court of Konigsbore him the celebrated Maurice of Saxony. See Coal, countess of.

Ancesters III., Frederic, elector of Saxony and King of Poland, son of Augustus II., born at Dresden, 1696, succeeded his father as elector, in 1733. Towards the end of this year, Louis XV. endeavoured to replace Stanislaus Leszynski, whose daughter he had married, on the throne of Poland; but France was too far distant to send troops enough to Poland to support him. A. maintained his independence separated from the diet, and, supported by a Russian army, chose A. king; and in 1736, he was first generally recognized as such by the congress assembled at Warsaw to conclude a peace. Although without the great and amiable qualities of his father, in other respects he closely followed his example, distinguishing himself by the splendour of his feasts and the extravagance of his court. He squandered immense sums on pictures and musicians. Hunting was his passion. The cares of government he gave up to his favourite and prime minister, count Broh (q. v.), who was able enough to persuade the elector to remain quiet, but proud and jealous of his dignity, that he alone exercised the supreme power. His system of politics consisted in entire dependence upon Russia. He preferred Dresden to Warsaw, and, through his long absence from Poland, the government sunk into entire inactivity. Never were the annual diets more turbulent, and never were they so inefficient from the unending obstinacy of the members, who continually opposed each other, under the most trivial pretences. A. was satisfied if he could remain in his beloved Saxony, and thus the great Kingdom of Poland was almost entirely without a government for thirty years. In the midst of this confusion, the Poles appeared to be satisfied and happy; but, when Frederic II. had conquered Silesia, A., disturbed by the rapidly-increasing power of Prussia, united himself with the queen of Hungary, by the treaties of Jan. 30, and May 23, 1742, and Feb. 21, and May 18, 1745. He pledged himself by means of the money which England and Holland were to pay him, to furnish her with 30,000 auxiliary troops, which he sent into Silesia, where they were united with the Austrian army, but were entirely defeated at Holten- Friedberg, Sept. 22, 1745. Frederic II. then declared Saxony itself, and prince Leopold of Dessau defeated 2v—x2
the Saxon army once more, Dec. 15, 1745, at Kes-selsdorf, under the walls of Dresden. A deserted his capital, and preserved his pictures and porcelain, but lost them all the same, which fell into the hands of the victors. By the peace of Dresden, Dec. 28, 1745, he was reinstated in the possession of Saxony, in the next year. In 1756, he saw himself involved anew in a war against Prussia. When Frederic declined his proposal of neutrality, he left Dresden, Sept. 10, and entered the camp at Parn, where 17,000 Saxon troops were assembled. Frederic surrounded the Saxons, who were obliged to surrender, October 14. A. fled to Konstien, and afterwards to Poland. His authority in this country had always been inconsiderable, and after the loss of Saxony, became still more insignificant. The accession of Catharine to the Russian throne was a new source of disquietude to him, for the great empress sought, in every way, to deprive the Saxon princes, who were allies of France, of the Polish throne. The peace of Hubertshausen, therefore, was hardly concluded, when A. returned from Warsaw to Dresden, where he was seized, Oct. 6, 1745, with a fits of dysentery, which attacked his stomach, and put an end to his life. He had, like his father, before his accession to the Polish throne (1712), embraced the Catholic religion at Bologna. His son Frederic Christian succeeded him as elector of Saxony, and Stanislaus Poniatowski of Poland.

AULIC (from the Latin autel, used for court); an epithet given to a council in the ci-devant German empire, the Reichskammer. The aulic council was one of the two supreme councils of the German empire, which first received a distinct form, after the cession and oblation of the elector, in 1439, to establish the court of the imperial chamber (der Reichs-Kammergericht). After the erection of this council, the emperor still had, as before, officers who decided all disputes brought to him from his hereditary dominions, and from the empire at large. He, of course, would not allow the estates the same influence, in the appointment of these officers, which they exercised in the appointment of the members of the other court above-mentioned. But as his officers composing the aulic council took cognizance of judicial processes, the estates frequently complained of its being below their status; and, however, to maintain any thing, except more precision in its organization, in 1559 and 1564. In the peace of Westphalia, it was acknowledged as a supreme court of the empire, equal to the court of the imperial chamber. It consisted of a president, a vice-president, and eighteen councilors, a part of whom, at least, were to be taken, not from Austria, but the other states of the empire. Six were to be Protestants; all were appointed and paid by the emperor. If the Protestant councilors were unanimous, the votes of the rest could not prevail against them. The counsellors were divided into a bunch of counts and lords, and a bunch of learned men (Gebihrer), with a fit of dysentery, which attacked his stomach, and put an end to his life. He had, like his father, before his accession to the Polish throne (1712), embraced the Catholic religion at Bologna. His son Frederic Christian succeeded him as elector of Saxony, and Stanislaus Poniatowski of Poland.

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AUREUS—AUSONIUS.

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...unfortunate father, Shah Jelian, succeeded to the throne. Aurung-Zebo was distinguished, when a youth, for his serious look, his frequent prayers, his love of solitude, and his secret contemplation of his deep plans. He caused himself to be received among the fakirs, wore their habit, and wished to visit the tomb of the great prophet at Medina. But in his twentieth year, he laid aside the Koran, which he had hitherto carried in his bosom, raised a body of troops by his address and good fortune, and obtained the government of the Deccan. Here, wishing to give the fakirs a proof of his love and friendship, he invited them to a feast, and compelled them, notwithstanding their resistance, to put on new and decent clothing. He burned the old clothes, and found therein a quantity of gold and silver pieces, which did him good service when he came to carry on war with his brother. He stirred up dissensions between his brothers, made use of the assistance of one against the other, and finally shut his father up in his harem, where he kept him prisoner. He then proceeded to his relations in his absence, and, in 1629, ascended the throne of Hindostan, and took the name of Auran Gah. Notwithstanding the means by which he had got possession of power, he governed with much wisdom, consulted the welfare of his people, watched over the preservation of justice, and the mixing of the arts, and sought to confirm his own power. Two of his sons, who had endeavored to form a party in their own favor, he caused to be arrested and put to death by slow poison. He carried on many wars, conquered Golconda and Visapot, and drove out, by degrees, the Mahrattas from their country. Aurungzeeb, once his residence, now desolate, Seely has described in his Wonders of Elora (London, 1824). After his death, the Mogul empire declined, wars immediately broke out between his sons, and several conquered provinces sought to make themselves independent.

AUREA, or AUREIS NUMMIS; the first gold coin which was coined in Rome, 546 A. U. C., in the second Punic war. It weighed two denarii and one quinaria, and was worth 25 denarii, or 100 sesterces (Suet. Oth. 4; Tacit. Hist. i. 24). In later times, it was called solidus, but had diminished in value. At first, it was made out of a pound; under Nero, forty-five; under Constantine, one hundred. It was about as much as a ducat, or nine shillings sterling.

AURICULAR CONFESSION. See Confession.

AURIGA, in astronomy; the Wagoner (κεραυνός); a constellation in the northern hemisphere, containing sixty-six stars, according to the British catalogue.

AURORA (Greek, αὐρορας); in mythology, daughter of Hyperion and Thia, and sister of Sol and Luna. She was one of the ancient goddesses of the race of the Titans, but retained her rank among the later race of gods. To the Titan Ateoses, son of Crias, she bore the Wagoner, Zephyrus, Boetes, and Arvocel, the Morning-star, and the Constellations. She rises from the ocean, drawn by the celestial horses Lampus and Phaeton, and, with rosy fingers, raises the veil of night, shedding light upon the world, until she flies from the splendor of day. Among the mortals whose beauty captivated the goddess, poets mention Orion, Thiburnus, and Cephalus.

AURORA AUSTRALIS. See Aurora Borealis.

AURORA BOREALIS (French, aurore boréale; German, Nordlicht; northern light. We often see in the north, near the horizon, usually a short time after sunset, a dark segment of a circle, surrounded by a brilliant arch of white or fiery light; and this arch is often separated into several concentric arches, leaving the dark segment visible between them. From these arches, and from the dark segment itself, in high latitudes, columns of light, of the most variegated and beautiful colours, shoot up towards the zenith, and, sometimes, masses like shelves of light are scattered in the whole sky, or a great portion of it, and then splendid; and its increasing beauty is announced by a general undulation of the masses of light. A kind of fiery coronet is afterwards formed about the zenith, by the meeting of all the columns of light, resembling the knob of a ten. At this moment, the spectacle is at its height, but a few moments later, in the摇 brilliant appearances are also attended, in high latitudes, with loud noises, described as resembling the hissing and crackling of fireworks. This appearance has received the name of northern light, because, on account of our position on the earth, we see it only about the north pole. A similar appearance, quadratial, was seen about the south pole, in 1773, by Cook's sailors, between 58° and 60° S. lat., and later travellers have observed the same. These phenomena ought, therefore, properly to be called polar lights.—Philosophers are of different opinions as to the cause of the aurora borealis. It is, however, satisfactorily ascertained to be within the region of our atmosphere. Heli ascribed it to the refraction of the sun and moon by the clouds of snow and needles of ice, which are constantly floating in the atmosphere of the frigid zones. Mainon supposed it to proceed from the atmosphere of the sun. Baius ascribed it to magnetism, and its remarkable influence on the needle has been generally observed. Franklin attributed it to electricity. Riots, who was sent to the Shetland islands in 1817, by the French academy of sciences to determine the length of the pendulum vibrating seconds, had an opportunity, Aug. 27 of the same year, of verifying the nature and splendor of the appearance, at the island of Utir. On this occasion, he ascribed to the phenomenon a volcanic origin, and his reasoning is given at length in the Journal des Savants for 1820. His description of this wonderful phenomenon is to be found in Biot's Précis Éléments de Physique, 3d ed., Paris, 1824, vol. ii p. 99 et seq. An ingenious hint of Kastner, advanced in the sixth edition of Grien's Physik (Physics), Halle, 1820, is deserving of attention. He considers polar lights as the electricity of the earth rising periodically to the poles. Observations on this appearance were communicated to Biot, and were annexed to the map of the northern lights, by Franklin's Narrative of a Journey to the Shores of the Polar Sea, in 1819, &c. London, 1823, 1824. A series also of interesting observations on this subject, made in December, 1829, by the Rev. James Farquharn, of Aberdeenshire, with an apparatus transmitted to him by the Royal Society of London, will be found published in the Transactions of that Society for 1830.

AUSONIUS, Decius Magnus, the most celebrated Roman poet of the 4th century, was born at Burdigala (Bordeaux), about the year 310. He studied under several celebrated master poets, and at last, professor of rhetoric in his native city, whence his fame extended through the whole empire. Vaiettinius intrusted to him the education of his son Gra- tius, and appointed him afterwards questor and pre-
AUSPETICE — AUSTELRITZ.

For Gratin had ascended the throne, bowed himself, and was grateful to his preceptor. About the year 320, he appointed him consul in Gaul. After the death of Gratin, A. lived upon an estate at Bordeaux, devoted to literary pursuits, and died about 394.—As Valentinian was of the Christian religion, it is probable that A. was so too; and very likely his writings confirm this conjecture. Critics are not unanimous on the subject of his poetical merits. He is, undeniably, learned and ingenious, but his style and versification have the blemishes of the age, and his Latin is impure. His epigrams, idyls, elegies, letters in verse, &c., are extant. The most famous is about to be found in the following. He lived, 1675-80, 9 vols., 4to, by Souchy; Paris, 1780-34, Jambert; Paris, 1760-70, 4 vols., 12mo.

AUSPETICE. See Augur.

Austria, Jane, a gifted novelist, was born Dec. 16, 1775, at Steventon, in the county of Hants; of whom her father was rector. Upon his death, her widow and two daughters retired to Southampton, and ultimately, in 1807, to Claverton. During her residence in the last-mentioned place, Miss Austin composed the novels, which, for ease, nature, and a complete knowledge of the features which distinguish the domestic life of the English country gentry, are very highly esteemed. The principal of these productions are Sense and Sensibility; Pride and Prejudice; Mansfield Park; and Emma. Two more were published after her death, entitled Northanger Abbey, and Persuasion, which were, however, her most early attempts. The object of Miss Austin, in all her works, was to advance the superiority of sound principle, unaccompanied by ignorance, and to inculcate the truth, that in love, marriage, and friendship, the personal and mental attractions of the opposite sex, were, in her estimation, of little worth. She died, in 1817, in her forty-second year.

AUSTELRITZ: a town with 2000 inhabitants in the dominions of the prince of Ranzutitz-Rittberg, in the circle of Dornburg, in Moravia, ten miles east of Brann, on the highway which leads by Goding to Hungary, is famous for the battle of the 2d of December, 1805, and the armistice of the 6th of the same month. These events were turning points in the destiny of Europe and the elevation of Napoleon. Their immediate consequence was the peace of Paris; but the most important result was the subjection of Germany and the humiliation of Prussia; for the victory at A. not only frustrated Pitt's great plan of reducing the power of France, by the allied arms of Britain, Russia, and Austria, to the bounds, which, ten years after, the peace of Paris assigned to it, but also established, with the assistance of French diplomacy, Napoleon's continental and federative system. Napoleon, after the capitulation of Mack, in Ulm, Oct. 19, unchallenged at Lambach and Mariazell by the Austrian troops under Meerwaldt, and at Durnstein, Nov. 11 (where Mortier suffered loss), by the Russians under Kutusoff, occupied Vienna, 13th Nov., and immediately took possession of the bridge over the Danube, leading to Moravia, while Prince Auerberg, who should have burned it, allowed himself to be deluded by a pretended negotiation for peace. Marshal Lannes, therefore, on the 14th, attacked the French army under Kutusoff, who, to preserve himself, resolved to sacrifice the rear-guard of 6000 men, whom prince Regnation commanded. This intrepid general, however, notwithstanding he was attacked by 50,000 French at Hochbrunn, on the 16th, and at Guntersdorf on the 17th, forced his way with the remains of his troops to the main army, on the 18th. Here he received support, which had arrived, on the 16th, from Berlin, and on the same day the great Russian army under Buxhowden, had united with that of Kutusoff. Nov. 24, the Russian granals, 10,000 strong, also arrived, and it was resolved, at the head-quarters of the two emperors, Alexander and Francis, at Olm,ata (the two commanders then in want of provisions), to march, Nov. 27, from the advantageous station of Olschan (eight miles from A.), in five parallel columns, against Brum, where Napoleon had already taken up his head-quarters on the 20th, and offer him battle. But the Russians lost many days by repeated changes in their plans, and Napoleon deceived them by negotiations (in which prince A. had very high demands), also by retiring, as if he wished to avoid an attack, and to conceal his force, contracted his troops into a narrow space. He thereby gained time, till the arrival of the corps under Berndotte, and two divisions of Davoust's, Dec. 1st, when he prepared his army, which rested on Brum, for battle, and assured his troops of the victory of the following day, being the anniversary of his coronation. The French army, in a position unknown to Koutousoff, was about 80,000 strong. The army of the allies numbered about 84,000 foot and 16,000 horse. The allies were better armed and better commanded, but the French was the largest army. On the morning of the 2d, about seven o'clock, the battle began, according to a plan prepared by the Austrian general Weyrother. Buxhowden, who commanded the left wing of the Russian army, was stationed beside the 1st column, led by lieutenant-general Dacktoroff, which, together with the 2d, under general Lanceron, and the 3d, under general Praylszewsky, was to surround the right wing of the French under Soul. The village of Delitz was taken after an obstinate engagement; but deluded by the enemy's retreat, Buxhowden pressed forward, with the 1st column, too far to the left, and fell into a narrow defile, which two divisions of Davoust had occupied in the night. About the same time, the 2d and 3d columns, in order to attack the right wing also in front, had left the heights of Pratz, which overlooked the field of battle. These were immediately occupied by Soul, and maintained, after a fight of two hours, by the aid of a part of the centre, under Berndotte, against the efforts of Koutusoff. This decided the victory; for the Russian left wing, which was before engaged with Davoust, and, after Soul's change of position, with the French reserve also, was cut off from the other wings. While the French army, under Soult, the 2d and 3d columns fell into disorder. Lannes immediately pressed forward with the left wing, and the French centre, under Berndotte, supported by a well directed fire, broke the centre of the allies (where the Austrians, mostly newly-enlisted troops, stood under the command of Koutusoff), and rushed it upon the right wing of the Russians under Bagration and prince Liechtenstein, so that the Russian reserve came too soon into the engagement. Still it made for a long time a gallant resistance under the grand prince Constantine and the prince Dolgoroucki. After this body was thrown into disorder by the French left wing under Lannes, and the last attack of the Russian Guards frustrated by the French guards and the cavalry, which Munt commanded, the allied army retreated under cover of Bagration and Kienmayr, about one o'clock, in good order, to A. Buxhowden, who commanded in chief, issue of this battle was singular. The French troops of the right wing, with their rear resting on A., attacked the remainder of the left wing of the allies, and, in the end, marched down from the same heights, from which, in the morning, the allies had descended to attack them. Consequently, the Russian left wing
suffered the most, as it had to force its way over the frozen ponds at Kobelnitz and Sutschau, and over a narrow dike. According to the French account, several thousand of the allied troops were drowned in these ponds, when Napoleon ordered the ice to be broken with shot. At that crisis, lieutenant-general Przybyszewsky, with 113 officers and 6000 men, was forced to lay down his arms. According to Koutou-ns's report, the Russians lost 12,000 men on that day; the French made their own loss about 4500 men. The number of the allies taken prisoner was 20,000 men, and that of the cannon taken, which, for the most part, were stuck fast in the morasses, rather more than 150. The Austrians lost 5322 in killed, wounded, and prisoners. The battle, it is said, would have been won by the Russians, if they had fought either before the 1st of December, and consequently before Bernadotte and Davoust had re-enforced the French army, or after the 15th; for an army of 50,000 men was approaching from the Hungarian frontier, towards Vienna and the Danube, led by the archdukes Charles and John, who had joined their forces near Windisch-Feistritz, in Styria, Nov. 27, while Massena remained at his post on the Ison-zo. Troops were also levied in Hungary, and, in addition to this, a body of Russians, 12,000 strong, under General Przybyszewsky, had advanced from Upper Silesia, December 3, and provided the people of Bohemia to arise in a body; and, in consequence of the treaty of Petsdam, Nov. 3, by which the king of Prussia joined the Russian alliance, an army of 150,000 men—Prussians, Saxons, and Hessians—stood ready, in case Napoleon should refuse, on the 15th of December, the mediation of Prussia, according to the treaty of Luneville, to invade France, and to break through Napoleon's lines upon the Danube; while an army of 50,000 men—Prus- sians, Russians (under Tolstoi), Swedes, Hanoverians, and Britons—in Upper Germany, threatened the frontiers of the Netherlands. In Italy, too, the landing of the British and Russians might effect an important diversion. In spite of all these resources, Austria asked for peace. December 3, prince John von Liechtenstein appeared at Napoleon's head-quarters; and, on the 4th, the emperor Francis him- self, was moved to arrive at the terms. Koutou-ns's French outposts, not far from the village of Nasedol- wicz, near a mill at Saroschutz, where the two monarchs made a truce, and laid the foundation of a peace. Napoleon's adjutant, general Savary, accom- panying the German emperor back to his head-quarters, to him, where Alber-bauersheide, was the place of the treaty. The Russian account says that the emperor would not allow him to come into his presence; but the French bulletins give a circumstantial account of his audience, which is also mentioned by the Austrian general von Stutterheim, the author of Materiaux pour servir à l'Histoire de la Bataille d'Austerlitz, published at Paris (but not in the first edition, said to have been dictated by Napoleon). Prince Bér- tier and prince von Liechtencstein concluded, on the 6th, a truce, according to the terms of which the French army was to hold the Austrian circle, Venice, a part of Bohemia and Moravia, and Presburg; the Russian army was to evacuate the territories of the emperor of Austria; no levy-was to be made in Bo- hemia or Hungary, and no foreign army was to enter the states of the house of Austria. On the 7th, Napoleon imposed upon the countries held by his troops a tax of a hundred millions of francs. Alex- ander, according to the wishes of the emperor of Austria, drew off his army, though he would not accord to the treaty, but placed his troops in Silesia and Lower Saxony, at the disposal of the king of Prussia. March 4, 1806, his troops in Dalmatia took possession of Cutaro (q. v.), which had been given up by Austria to France. The truce of Austerlitz did not bar the way to the Austrian army, and broke its former alliances, so that the Russian minister, count von Haugwitz (who had come to Vienna, in November, that he might act as mediator on the 15th Dec., but had been anticipated by Na- poleon), finding, in the altered state of affairs, that he must either take the war into his own hands or the French emperor, or make an alliance with him, concluded, Dec. 15, in opposition to his instructions, the treaty by which Prussia exchanged the alliance of Russia for that of France. (See Lucchesi On the Confede- ration of the Rhine, i. 340, and Scholl's Traité de Pere, viii. 27.) Austria afterwards subscribed, Dec. 26, the hard conditions of the peace of Presburg (q. v.), by which she not only gave up a territory of 24,200 square miles, with 8,785,000 inhabitants, and a revenue of 13,010,000 florins, but lost her alliance with Switzerland and Italy, and her influence in the German empire. Thus Napoleon's superiority was established in Italy, the dependence of the princes of Lower Germany upon France confirmed, and Prus- sia drawn from its system of neutrality.

Austri, St. See Augsbut.

Austral Ocean. See South Sea and Krausenstern.

Australasia. See Australia, and Terra Australis; geography, the fifth, great division of the globe, so called from its austral, or southern position. Sometimes the name is applied only to those islands lying around New Holland from long. 96° to 185° E., and lat. 35° N. to 50° S.; but the more comprehensive sense of the term embraces Polyneesia, or those islands lying northe of New Holland and east of the Philippines, from lon. 170° to 230° E., and lat. 35° N. to 50° S. Some geographers gave the name of Oceana to the whole collection of the islands in the Pacific ocean; but the term Australia has prevailed. This portion of the globe began to be discovered after America and the South seas were known to the Europeans. Megellan, who first undertook a voyage round the world, had promised the Spanish monarch, into whose service he entered when he left the Portuguese, that he would arrive at the Moluccas by sailing west- ward. On this voyage, he discovered, March 6, 1521, the islands of Marquesas, a group which constitutes a part of A. Magellan must, therefore, be regarded as the first discoverer of this portion of the globe, and opened the way for the subsequent discoveries in this quarter. Three hun- dred years elapsed before all the islands, which now pass under the name of A. and Oceania, were known to the Europeans. After Magellan, the Spanish navigators con- tinued the process of discovery in this part of the world, particularly Alvaro de Mendana, who, in the last part of the 16th century, discovered the Solomon islands and the Marquesas, and passed through the Society and Friendly Islands without seeing them. Fernandes de Quiros, who had accompanied him on his third voyage, took a southerly direction, and hit upon the part of the South sea which contains the most islands. He made known to the world the Society islands and Tvrn del Espiritu Santo. In the 17th century, the Dutch began to explore this part of the ocean, and, besides several small islands, dis- covered the largest island of A., New Holland, which received its name from them, although there is some reason for supposing that it had been visited by the Portuguese a hundred years earlier; but their discoveries seem to have been concealed by their government, and afterwards forgotten. The Dutch, however, of New Holland, e. g. Edel's Land, Nuyt's Land, De Witt's Land, retain the names of the Dutch dis- covered. Tasman, a Dutchman, and Dampier, an Englishman, continued the discoveries. In the mi-
of the 18th century, the Englishmen Byron, Wal- 

tis, and Carteret, and the Frenchman Bougainville 
exterted themselves to extend the knowledge of A. 

But James Cook (q. v.), who circumnavigated the 

world from 1768 to 1779, contributed most to the 

more accurate examination of this portion of the 
globe, corrected the knowledge of Europeans with 

regard to the islands already known, again discovered 

islands before seen, and was the original discoverer 
of New Caledonia and the Sandwich islands. After 

the time of Cook, both the French and English ex-

termed themselves to give the world a better acquain-
tance with A. Among the later navigators, Entre-
casteaux, Baudin, Pe NOI dores, Krusenstern, and 

Kotzebue have added to our knowl-

dge of A. There are, doubtless, many islands still 
in these seas, which no European has seen, and of 
those known, only the coasts have yet been explored. 
The South sea and the Pacific ocean, between the 
estern shore of Asia and the western shore of Ame-

rica, contains all the islands of A., which occupy a 
space of 130° in length, and 82° in breadth, as they 
extend from 50° S. to 35° N. lat., and from 95° to 

230° E. lon. The superficial contents are estimated 
at about 3,500,000 square miles; of which New 

Holland alone is almost equal in size to Europe. 

With these may be reckoned these islands as continuous 
chains of mountains, which rise from the sea, and, 

running in a direction from N. to S. E., in a double row, like 
hills and promontories, surround New Holland. 
The line nearest the main land of New Holland begins 
with New Guinea, and ends with New Zealand; the 
second line begins at the Ladrone, and passes on to 

Naviator's island and the Friendly islands, whence it 
takes a direction from the west towards the east. 

From these almost continuous rows of islands the 
Sandwich islands are wholly separated. —The soil of 
A. is fruitful, especially in the islands of the torrid 
zone. Plants transported thither from Europe flour-

ish. Some of the islands are low and flat; others 
have steep, rocky shores, and are filled with moun-
tains, some composed of primitive rocks, others of 
flatoa and basalt. The highest known are the Mauna 
Roa, in the Sandwich islands, and Peak Egmont, in 
New Zealand, the height of which amounts to 14,000 
feet. Several of these islands are of volcanic origin: 
others are raised from the bottom of the sea by suc-
cessive layers of coral, or carried to their present 
height by accumulations of the same substance on 

the original rocks at the bottom of the deep. The 
coronation rocks, rising from the depths of 

the coasts, and constitute reefs, so that it is dangerous 
to approach them. The mountains of A. have not 
yet been explored, and their structure investigated. 
The shores of New Holland, New Guinea, and New 

Zealand, and the mountains in their vicinity, have 
been examined by naturalists but slightly. The residence 
of Europeans in the other islands, also, has been too short 
to allow them to make accurate observations. In later 
times, the English have made an attempt to pass from 
the eastern coast of New Holland, where their colonies 
are situated to the interior. The mountains extending 
from north to south, on the west of these colonies, 
called the Blue hills, consist of steep crags, fearful 
precipices, and ranges of heights of successively 
increasing elevation, which made all early attempts to 
become acquainted with the interior of no avail. At 
length, Nov. 3, 1815, Mr Evans, an Englishman, 
succeeded in ascending these, and, in 1815, a road 
was completed over them. On the interior of the 
naturalists have only penetrated into the interior about 140 miles 
from the eastern shore, though the distance to the 
western shore is more than 2700 miles. There is 

a remarkable want of large streams in this portion of 
the world, though the islands in general are not de-
ficient in water. The rivers of New Holland are 

small arms of the sea, which extend far into the 

interior, retain the saltiness of the ocean, experience 
the ebb and flow of the tide, and receive some insig- 
nificant streams on the coast. The largest river of 

New Holland is the Hawkesbury, in Broken Bay, 
which is navigable for the largest ships 40 miles up 
the country, and is 150 rods broad. Beyond these 

hills, the river Macquarrie has been discovered, which 
is lost, with other rivers, in the morasses. New 

Holland probably contains, according to the account 
of Oxley, a large lake in the interior, similar to the 
Caspiam, into which the rivers flow. The climate of 

A., as a whole, is warmer than that of any other part 

of the world, and partly in the torrid, is in some parts warm, 
though the heat is generally less oppressive than in the same 
lattitudes in Asia and Africa. In other parts, it is 
temperate, mild, and healthy. Those countries of A. 

which lie in the southern hemisphere are colder than 
those in the northern. The productions are, in part, 

the same with those of other countries of the same 
latitude; in part, peculiar to itself; for instance, birds 
without wings, having hair instead of feathers; quad-
rupeds with the benches of birds, white eagles, &c. 

The mammals and beasts of prey are few. The 
principal trees are the eucalyptus, the oomus, the 

Dampier, 100 to 150 pounds; the wonabit (both of which have a 
pouch under the belly, a characteristic belonging to 
many of the quadrupeds of New Holland); the omi-
thonychus, perhaps the most singular animal in the 
world, to which nature has given the body of a 

quadruped, and the head, or, at least, the beak of 
a bird; the dasyure, the dingo, or New Holland dog, 
the New Holland flying-squirrel, several species of 

ossomus, the kangaroo rat, hogs, dogs, rats, bats, 

whales, sea bears, sea lions, and sea elephants. 

Horses, oxen, sheep, and goats, were introduced thither 
by Europeans. Among the birds which are distin-
guished for the splendour of their colours and variety 
of their plumage, are several kinds of parrots 

and birds of paradise; the New Holland cassowary, which 
weights 70 pounds, and surpasses the East Indian birds 
in size and in the beauty of its plumage; the splendid 
menura, remarkable for the elegance of its tail; and 
the black swan. There are also hens, doves, and 
ducks. The coasts are well stocked with fish, of 

which there are several kinds peculiar to them. The 
varieties of insects and shell fish are very great. 
The richness of the vegetable kingdom is still greater; 
in New Holland alone, 1,600 new plants have been 
discovered, and of these 250 are New Holland 

in esculent plants. Among these are the sago, areca, 
coconut, and eucalyptus trees, which attain a height of 180 feet, and a circumference of 

50 feet; the cajuput, gum tree, bread fruit, guavas, 
bananas, rotang; casuarina, or club trees, of which the 
natives make the most durable weapons and furniture; 

paper-nulberry trees, from the finest bark of which 
cloth is manufactured; lemons, oranges, figs, sugar 
cane, betel pepper, and another kind of pepper, of 

which an intoxicating drink, called aree, is made; 
cotton trees; New Zealand flax, which forms an 
excellent cord; yams, arum. These form the principal 
articles of agriculture in the Sandwich islands. 
The Europeans have introduced European plants, grains, 
and garden fruits, almonds, pomegranates, tobacco, 

hemp, flax, hops, &c. In the mineral kingdom, though 
little examination has been given to it, there have 
been found coal, cement, iron, gold, silver, certain 
chalcedony, agate, jade, or oriental kidney stone, 
marble, lime, rock salt, &c. A. is very thinly 

inhabited. There are, on an average, about two inhabitants 
in a square mile, as the whole number is estimated at 

only 1,700,000. They consist, principally, of two 
distinct classes; one of Negroes, called Topians, and
one somewhat different from the Europeans in appearance, and belonging to the Malay race. From the union of the two principal varieties several intermediums have been produced, as the Dutch Malays of New Guinea, Louisdie, the Solomon islands, New Hebrides, New Britain, and New Caledonia; and, in New Holland particularly, they have projecting lips and woolly hair, like all other negroes, from whom they are distinguished by very thin, lean arms and legs. This race, in cultivation, is far below the other race, the Malays, especially in New Holland, where they have very disgusting and ape-like features, stand on the lowest step of bodily and mental improvement, and live in a savage state, without laws, and without religion. Their great mouths, and thick, projecting lips, put out somewhat like a snout, and their little, flat noses are lost behind them. Their deep sunk eyes betray a rude and malicious spirit, and sometimes, though rarely, a stupid good humour. They are naked, or slightly clothed in the skins of beasts, live on fish, or the fruits of trees, or on the flesh of the kangouras, which they find so difficult in catching, and devour everything almost raw; they hardly pull the feathers from birds before they consume them.

The inhabitants of New Caledonia and the New Hebrides, who are also regarded as Papuans, eat the flesh of their enemies, when they have killed them, and often make them to dance and drink of the blood and arum. The pure Malay race, who inhabit the Australian islands,—i.e. the Friendly, Society, and Sandwich islands,—are distinguished for the most beautiful and regular forms of which humanity is capable. Their complexion is sometimes not darker than that of the Spaniards and Italians, and some of the women are as white as the most beautiful Europeans. In general, these islanders seem to be good-natured, sociable, gentle, happy, and gay. Travellers, however, agree in this, that they have a strong propensity to steal, and give up their wives and daughters to the Europeans without restraint. Among some of them, the shocking custom of eating human flesh, and offering human sacrifices, still prevails. They live in villages, where there are even some public buildings to be found. They make boats ornamented with carved work, tools, furniture, and weapons of stone and wood, which are of a better kind than all the rest of their property. They make nets, baskets, cori, very fine mats, and cloth for their dress, which they know how to dye exquisitely. They carry on a sort of agriculture, which consists principally in the cultivation of arum, yams, and potatoes, and live in a civil union, of which the foundation was, and is still, to the effect, that there are a supreme and inferior gods; they have priests and sacrifices, and entertain hopes of sensual indulgences in another life. Their morality, or buildings for the dead, are commonly places where the worship of their gods is performed. But the missionaries have now spread the Christian religion in the Society and Sandwich islands, and put an end to the ancient superstitions. Among all these islanders, the inhabitants of the Sandwich islands have made the greatest progress, through their acquaintance with the Europeans. Besides these original inhabitants of A., there are also some Europeans; a few in the Sandwich islands; upwards of 50,000 in the colony established by the British on the eastern shore of New Holland, and a less number in Van Diemen's Land. In 1824, Great Britain took possession of all these islands and territories, with all the people on them, except the groups of Carolines, Marquesas, New Hebrides, the nearest group of Dominions, Montevideo, Mulgrave, Fisher, Friendly, Bligh's, Navigator's, Society, Marquesas, Washington's, and Sandwich islands. (See King's Survey of the Coasts of Australia, London, 1827, and Cunningham's Two Years in New South Wales, 3d edit., London, 1829; also, Statistical Account of the British Settlements in Australasia, 8c., 3d edit., London, 1829, 2 vols.)

Austria (in German, Ostreich, i.e. East-empire.) The population of this empire is composed of Germans, Scavonians, Magyars, (by which name the Hungarians call themselves,) and Italians. Its capital was the territory below the Enns. In the time of Charlemagne, about 800, the margrave of A. was formed by a body of militia, which protected the south-east of Germany from the incursions of the Asiatic tribes. In 1136, it was united with the territory above the Enns, and made a duchy. In 1522, the state began to increase under the dominion of the house of Hapsburg. (q.v.) This dynasty soon added several new territories, which afterwards formed the Austrian circle, and, in 1438, obtained the electoral crown of the German emperors. In 1435, A. was raised to an archduchy, and, having acquired Hungary and Bohemia by the consent of the inhabitants, it attained the rank of a European monarchy. The Lorraine branch of the house of Austria maintained this rank at the peace of Aix-la-Chapelle, signed in the year 1748. They confirmed the union of their territories by elevating the monarchy, in 1804, to an hereditary empire, and established its dignity as one of the chief powers in Europe, before, during, and after the congress of Vienna, in 1815.

Ancient History of the Country till the year 992.—After the Romans had vanquished the Noricans, A.D. 53, and gained possession of the Danube, the country north of the Danube, extending to the borders of Bohemia and Moravia, belonged to the kingdom of the Marcomanni and Quadi; a part of Lower Austria and Stiria, with Vienna (Vindobona), a municipal city of the Roman empire, belonged to Upper Pannonia. In the rest of the country, the Goths, the Carians, and a part of Carniola, formed a portion of Noricum. Góz belonged to the Roman province of Illyricum, and Tyrol to Rhaetia. These limits became confused by the irruptions of the barbarians. The Bohi, Vandals, Heruli, Rugi, Goli, Huns, Lombards, Franks, and Goths, in the course of the 5th and 6th centuries, successively occupied the country. But after the year 568, when the Lombards laid established their power in Upper Italy, the river Enns formed the boundary line between the German tribe of Bavuvarii, the proprietors of the territory above the Enns and the Arabs, who had removed from the East to the banks of that stream. In 611, the Wendi, a Slavonic tribe, appeared on the Mur, Drave, and Save. In 788, the duchy of Bavaria was dissolved, and the Arabs passed over the Enns, and invaded the counties of the Franks in the Bavarian territory. In 701, Charlemagne forced them to retire to the Raab, and united the territory extending from the Enns to the junction of the Raab with the Danube (the territory below the Enns) with Germany, under the name of Avaria, or Eastern Marchia (Marchia Orientalis), or Austria; and, in the 10th century (in the year 996), the country of Old Avaria, or that called Östirich, or Östreich, the German name for Austria. Many colonists, particularly from Bavaria, were sent by Charlemagne into the new province, and a margrave was appointed to administer the government. The archbishop of Salzburg was at
the head of ecclesiastical affairs. After its separation from Verdin, in 843, Avaria formed the eastern boundary of the German empire. On the invasion of Germany by the Hungarians, in 900, Avaria fell into their hands, and was held by them till 956, when the emperor Otho I., in consequence of the victory of Burgundy, restored a great part of this province to the empire. By the power and address of its margraves, the whole country was joined again with Germany, and, in 1043, under the emperor Henry III., and the margrave Albert I. (the Victorious), its limits were extended to the Leythain.

Austria. — House of Babenberg, till 1282. — From 932 to 1156, the imperial title was extended so as to include the territory above the Enns and the whole was created a duchy with certain privileges. Under this duke the court resided at Vienna. Duke Leopold VI., the son of Henry, received the duchy of Styria, in 1193. as a fief from the emperor Henry VI., it having been added to the empire by Otho I., in 956, by his victory over the Hungarians. It was this prince who imprisoned Richard Cour de Lion (q. v.), king of England. Duke Leopold VII., the youngest son of the former, erected a palace within the city of Vienna, which is still occupied by the Austrian monarchs, under the name of the old castle. Leopold VII., called the Glorious, established the hospital of the Holy Cross, made Vienna, which had adopted a municipal constitution in 1193, a staple-town, and granted 30,000 marks of silver for the promotion of trade and commerce. In 1229, he purchased a part of Carniola, from the ecclesiastical principality of Freisingen, for 1650 marks, and left the country in a flourishing condition to the youngest of his three sons, Frederic II., surnamed the Warrior. In 1236, this prince was put under the ban of the empire, on account of his joining the Latins in the Crusade against the emperor Frederic II.; and other parts of Bavaria were seized upon his territory above the Enns as far as Lintz. The rest of the country was granted, as a fief by the emperor, to a margrave, and Vienna became an imperial city. During the emperor's campaign in Italy, duke Frederic recovered the principal part of his lands, and his rights were confirmed by the emperor. at Verona, 1245. The rights of Vienna, as an imperial city, were abolished, and Frederic was to be called king, as sovereign of Austria and Styria; but all his expectations of empire were disappointed by his death in the battle of Leythain against Bela IV., king of Hungary, July 15th, 1246, in the thirty-fifth year of his age. Thus the male line of the house of Babenberg became extinct. — The period from 1246 to 1282 is styled the Austrian interregnum. The emperor Frederic II. declared Austria and Styria a vogue, i.e., the hereditary property of the German emperors, but in fact, the hereditary property of the German emperors, the priviledges of which, as an imperial city, were once more renewed. But the female relations of the deceased duke Frederic, his sister Margarete (widow of the emperor Henry VI.), and his niece Gertrude, by the permission of pope Innocent IV., in 1248, laid claim to the inheritance of their brother. The margrave, Hermann, with the aid of the pope and a strong party, made himself master of Vienau, and of several Austrian cities. In Styria, he was opposed by the governor Meinhard, count of Goraz. But Hermann died in 1250, and his son Frederic, who was afterwards beheaded, in 1258, at Naples, with Conradin of Sicily, by a papal sentence, a year later. The whole country was distracted by various parties, and the emperor Conrad IV. was prevented, by disputes with his neighbours, from turning his attention to Austria. In 1251, the states of Austria and Styria determined to appoint one of the sons of the second sister of Frederic II., the daughter of Count Meinhard (widow of the margrave Henry the Illustrious), to the other. The deputies were on their way to Misilina, when they were persuaded by king Wenceslaus, on their entrance into Prague, to declare his son Ottocar duke of Austria and Styria, who made every effort to support his appointment, by arms, money, and especially by his marriage with the empress-widow Margarete. Ottocar wrested Styria from Bela, king of Hungary, by his victory of July, 1260, in the Marchfield; and, in 1262, forced the emperor Richard to invest him with both duchies. Soon after, by the will of his uncle Ulrich, the last duke of Carinthia and Friuli (Frederic II. a.m.); in 1269, he created the dukedom of Carnithia, a part of Carniola connected with it, the kingdom of Istria, and a part of Friuli. But his arrogance soon caused his fall. In 1272, he refused to acknowledge count Rodolph of Hapsburg emperor, and was obliged to defend himself against his arms. After an unsuccessful war, he was forced to cede all his Austrian possessions in Nov. 1276. In 1277, he attempted to recover these territories, but, in the battle of the Marchfield, Aug. 26, 1278, he was slain, and his son Wenceslaus was obliged to renounce all claim to them, in order to preserve his hereditary estates. The emperor Rodolph remained three years in Vienna, and then appointed his eldest son governor. But, having succeeded in gaining the consent of the electors of Saxon and Brandenburg, of the three ecclesiastical electors, and of the count-palatine of the Rhine, he granted the duchies of Austria and Styria, with the province of Carinthia, to his two sons, Albert and Rodolph, Dec. 27, 1282.

This brings us to the History of Austria under the House of Hapsburg.—I. From 1282 to 1526. Albert and Rodolph transferred Carinthia to Meinhard, count of Tyrol, father-in-law to Albert. In 1283, they concluded a treaty, by which Albert was made sole proprietor of the dukedom of Carinthia; Vienna, having again renounced its privileges as an imperial city, was made the residence of the court, and the successors of Rodolph, from this time, assumed Austria as the family title. The introduction of the Hapsburg dynasty was the foundation of the future greatness of Austria. The despotic Albert was assailed by Hungary and Bavaria, and, in 1298, he won the Roman crown in an engagement with Adolphus of Nassau. After this, he undertook the conquest of Switzerland; but was assassinated, May 1, 1308, at Rheinfelden, by his nephew, John of Sembria (see John the Porricle), from whom he had basely withheld his hereditary estates. The inheritance of John fell to the five sons of the murdered Albert.—Frederic, surnamed the Fair, Leopold, Henry, Albert, and Ottok. They were forced to purchase of the emperor Henry VII. the counties of Hapsburg, in 1308, of 26,572 square miles, for 20,000 marks of silver. Under their father, in 1301, the margravate of Sembria was added to the territories of Austria, and the contest with Bavaria ended in the cession of Neuberg. On the contrary, the attempt of duke Leopold, in 1315, to recover the forest towns of Swit...
(zerland, which had been lost under Albert, was
frustrated by the valor of the troops of the Swiss
consecracy in the battle of Morgarten. In 1314, his
brother, the youngest of his three elder brothers,
elected, was conquered by his rival, the emperor
Louis (of Bavaria), in 1322, at Muehdorf and was
his prisoner, for two years and a half, in the castle of
Traunstein. The dispute with the house of Luxem-
burg, in Bohemia, and with pope John XXII, induced
his brothers, Albert II, and Otho, to lose him captives.
Upon this the latter renounced all share in the
government, and pledged himself to surrender all the
imperial domains which were still in the possession of
him. But Leopold considered the agreement derogatory
to his dignity, and continued the war against
Louis. Frederic, therefore, again surrendered him-
self a prisoner in Munich. Moved by his faithful
adherence to his word, Louis concluded a friendly
compact with Frederic, and made preparations for their
common government, Sept. 7, 1325. These
preparations, however, were never carried into
execution, for the agreement had been concluded without
the consent of Leopold, who was poisoned, in 1326, and
Henry of A. in 1327; Frederic also died without
children, Jan. 13, 1330, after which his brothers, Al-
bert II. and Otho, came to a reconciliation with the
emperor Louis. After the death of their uncle,
Henry, margrave of Tyrol and duke of Carinthia (1327),
the emperor, according to the will of the brothers,
the emperor to grant them the investiture of Tyrol and
Carinthia, in May, 1335: they ceded Tyrol,
however, to John, king of Bohemia, by the treaty of
Oct. 9, 1336, in behalf of his son John Henry, or
rather of his wife, Margaret Maultasch. In 1344,
after the death of Otho and his sons, Albert II.,
called the Habs, united all his Austrian territories,
which, by his marriage with the daughter of the last
count of Pfirt, had been augmented by the estates of
her father in 1324, and by the Kyburg estates
in Burgundy in 1326. Of the four sons of Albert II.
(Rodolph, Albert, Leopold, and Frederic), Rodolph
(IV.) completed the church of St Stephen's, and
died at Milan, in 1365, without children, a short time
after his youngest brother, Frederic. In 1379, the
two surviving brothers divided the kingdom, so that
Albert III. (with the title) became master of Aus-
tria and retained the government of the territories of his
brother's minor sons. Margaret Maultasch ceded
Tyrol to him on the death of Meinhard, her only son,
who was married to the sister of Albert. She
retained nothing but a few castles and 6000 marks of
gold. Her claims to Bavaria, also, she renounced,
in consideration of receiving Scharding and three
Tyrolese cities, Kitzbuhl, Ballenberg, and Heiligenstein,
and 116,000 florins of gold. In 1365, Leopold III.
had bought the claims of the count of Feldkirch for
36,000 florins; for 55,000 florins Austria received
Brisgau from the count of Furstenberg, with the
cities of Neuberg, Old Deisch, Kissingen, and
Billingen. The remainder of Carniola and the Win-
disch Mark, after the death of the last count of Gorz,
were purchased, together with the county of Plu-
denz, from the earl of Werdenberg, and the posses-
sions of the count of Hohenloch, for 66,000 florins;
and the city of Trieste was required, in 1380, by
allegiance between Hungary and Venice. Moreover,
the two governments of Upper and Lower
Suabia were pledged for 40,000 florins by the
city of Rome, Wenceslaus, to duke Leopold. The Aus-

trian and Stirian lines, founded by Albert III. and
Leopold III., his brother, continued for seventy-
eight years. In 1395, when Albert III. died, his
son, Ferdinand, regent in Fries and Palestine. On his re-
turn, he determined to take vengence on his father's
murders, and to rouse Moravia, for his hostile conduct;
but he was poisoned, in 1404, at Znaim. His young son
and successor, Albert V., was declared of age in
1410; and, being the son-in-law of the emperor
Sigismund, he inherited the dominions of Hungary and
Bohemia in 1347, and connected them with his
lands in Germany in 1438. But in the following year
the young prince died. His posthumous son, Ladislas,
was the last of the Austrian line of Albert, and its
possessions devolved on the Stirian line, 1457. From
this time, the house of Austria has furnished an
unbroken succession of German emperors. Hungary
and Bohemia were lost for a time by the death of
Albert V., and, after the unhappy contests with the
Swiss, under Frederic III., the remains of the Haps-
burg estates in Switzerland. But several territories
were gained; and, to increase the rising splendor of
the family, the emperor conferred upon his son-in-
the rank of an archduchy. The dispute which
broke out between Frederic and his brothers, Albert
and Sigismund, relating to the division of their paternal
inheritance, ended with the death of Albert, in
December, 1464. In the course of the troubles which
ensued, the Austrian prince was besieged in the citadel of Vienna by the citizens,
who favoured the cause of the murdered prince.
Sigismund now succeeded to his portion of the estate
of Ladislaus, and Frederic became sole ruler of all
Austria. His son Maximilian, by his marriage with
Mary, the surviving daughter of Charles the Bold,
united the Netherlands to the Austrian dominions.
But it cost Maximilian much anxiety and toil to
maintain his power in this new province, which he
administered as the guardian of his son Philip. His
confinement at Bruges, in 1489, resulted in an agree-
ment which was decided for his advantage; but he
lost, at the same time, the duchy of Guelders.
After the death of his father, which happened Aug. 19,
1493, he was made emperor of Germany, and
transferred to his son Philip the government of the Ne-
thelands. Maximilian I. (see this article and Ger-
rmany) purchased the patrimony of the house of
Hapsburg with his own purse, and several other territories, particularly some be-
longing to Bavaria. He also acquired for his family
new claims to Hungary and Bohemia. During his
reign, Vienna became the great metropolis of the
arts and sciences in the German empire. The
marriage of his son Philip to Joanna of Spain made the
house of Hapsburg to the throne of Spain and the
Indies. But Philip died in 1506, thirteen years be-
fore his father, and the death of Maximilian, which
happened Jan. 12, 1519, was followed by the union
of Spain and Austria: his grandson (the eldest son of
Philip), Charles I., king of Spain (see Charles V.),
was elected emperor of Germany. In the treaty of
Worms, April 28, 1521, and of Ghent, May 7, 1540,
he ceded to his brother Ferdinand all his hereditary
estates in Germany, and retained for himself the
kingdom of the Netherlands. The house of A. was
now the proprietor of a tract of country in Europe
comprising 360,230 sq. miles. The emperor Charles
V. immediately increased the number of provinces in
the Netherlands to seventeen, and confirmed their
union with the German states, which had been con-
cluded by his grandfather, under the title of the
circle of Burgundy. In 1526, A. was recognized as
a European power.  
II. From 1526 to 1740.—Ferdinand I., by his
marriage with Anna, the sister of Louis II., king of
Hungary, who was killed in 1526, in the battle of
Molnès, acquired the Kingdoms of Hungary and Bohemia, with Moravia, Silesia, and Lusatia, the upper and lower Silesia, and Upper Lusatia, and to his eldest son, Ferdinand, its king. Notwithstanding the divided opinions of the nobles, and the rising fortune of his adversary, John von Zopyla (see Hungary), he was raised to the throne of Hungary, Nov. 26, 1520, by the Hungarian diet, and was crowned, Nov. 5, 1527. But Zopyla resorted for assistance to the sultan Soliman II., who appeared, in 1529, at the gates of Vienna. The capital was rescued from ruin solely by the prudent measures of the count of Sahn, general of the Austrian army, and the imperial forces compelled Soliman to retreat. In 1533, a treaty was made, by which John von Zopyla was allowed to retain the royal title and half of Hungary, and his posterity were to be entitled to nothing but Transylvania. But, after the death of John, new disputes arose, in which Soliman was again involved, and Ferdinand maintained the possession of Lower Hungary only by paying the warlike sultan the sum of 30,000 ducats annually. This took place in 1562. Ferdinand was equally unsuccessful in the duchy of Württemberg. This province had been taken from the restless duke Ulrich by the Subanian confederacy, and sold to the emperor Charles V.; and, when his estates were divided, it fell to Philipp, Landgrave of Hesse, the friend of duke Ulrich, took advantage of the opportunity offered him by the embarrassment of Ferdinand in the Hungarian war. With the aid of France, he conquered Württemberg; but France ceded it again to Ulrich in the treaty of Carlowitz, in 1557. In Bohemia, concluded June 29, 1534, on condition that the province should still be a fief of Austria, and, after the extinction of the male line of the duke, that it should revert to that country. The remaining half of Bregenz, the county of Thengen, and the city of Constance, were insufficient wholly to compensate these losses; nevertheless, the territory of the German line of the house of Austria was estimated at 114,685 square miles. Ferdinand received also the imperial crown in 1556, when his brother Charles laid by the sceptre for a cowl. He died July 25, 1564, with the fame of an able prince, leaving three sons and ten daughters. According to the directions given in his will, the three brothers divided the patrimony, so that Maximilian II., the eldest son, who succeeded his father as emperor, obtained Austria, Hungary, and Bohemia; Ferdinand, the second, received Tyrol and Hither Austria; and Charles, the third, Imperial crown, Brabant, Dutchy of Limburg, Ger- tinia, Carniola, and Gorz. But, in 1595, after the death of the archduke Ferdinand, the husband of Philippine Welser, the fair maid of Augsburg, his sons Andrew (cardinal and bishop of Constance and Brazen, and governor of the Netherlands for Spain) and Charles (margrave of Burgau) were declared incompetent to succeed their father, and his possessions reverted to his relations. In Hungary, the emperor Maximilian met with far better fortune than his father had done. The death of Soliman II. in 1566, was for a time his successor. By a peace, and, in 1572, Maximilian crowned his eldest son, Rodolph, king of Hungary: he was afterwards crowned king of Bohemia, and elected king of Rome. In his attempts to add the Polish crown to his Austrian dominions, he was equally unsuccessful with his father; but he was succeeded in the government by a similar enterprise after the death of Stephen Bathler, in 1587. Maximilian died Oct. 12, 1576, and Rudolph, the eldest of his five sons, succeeded to the imperial throne. The most remarkable events by which his reign is distinguished are, the war against Turkey and Transylvania, and his great contest with the Protestants, who were all driven from his dominions, and the circumsstances which obliged him to cede Hungary, in 1598, and Bohemia and his hereditary estates in the Austrian empire to his brother, Ferdinand, and his annul the emperor. The period of fifty years in which time we may date the successful exertions of the Austrian sovereigns to put down the restless spirit of the nation, and to keep the people in a state of abject submission, Matthias, who succeeded Maximilian on the imperial throne, concluded a peace for twenty years with the Turks; but he was disturbed by the Bohemians, who took up arms in defence of their religious rights. Matthias died March 20, 1619, before the negotiations for a compromise were completed. The Bohemians refused to acknowledge his successor, Ferdinand, and chose Frederic V. the head of the Protestant league, and elector of the Palatinate, for their king. After the battle of Prague, 1620, Bohemia submitted to the authority of Ferdinand. He immediately applied himself to eradicate Protestantism out of Bohemia Proper and Moravia. At the same time, he deprived Bohemia of the right of choosing her king, and of her other privileges. He erected a Catholic court of Reform, and thus led to the emigration of thousands of the inhabitants. The house of Hapsburg has presented an example, which stands alone in history, of the manner in which violence and tyranny can check the progress of civilization; and Bohemia, the scene of those religious freedoms which have been defended with such heroic zeal, is now greatly inferior in cultivation to every other country of western Europe. The Austrian states also favouring, in general, the Protestant religion, were compelled by Ferdinand to swear allegiance to him, and Lutheranism was strictly forbidden in all the Austrian dominions. The province of Hungary, which revolted under Bethlen Gabor, prince of Transylvania, was, after a long struggle, subdued. This religious war dispeopled, impoverish- ed, and paralyzed the energies of the most fertile provinces of the house of Austria. During the reign of Ferdinand III., the successor of Ferdinand (1657-57), Austria was continually the theatre of war. In the midst of these troubles, Ferdinand ceded Lusatia to Saxony at the peace of Prague, concluded in 1653; and when the war was ended, he ceded Alsace to France, at the peace of Westphalia, in 1648. The emperor Leopold I., sun and successor of Ferdinand III., was victorious through the talents of his minister, Eugene, in two wars with Turkey; and Vienna was delivered by John Sobiesky (q. v.) and the Germans, from the attacks of Kara Mustapha, in 1683. In 1687, he recovered the Austrian kingdom which had joined to it the territory of Transylvania, which had been governed by distinct princes. Moreover, by the peace of Carlovitz, concluded in 1699, he restored to Hungary the country lying between the Danube and the Theiss. It was now the chief aim of Leopold to secure to Charles, his second son, the inheritance of the Spanish monarchy, then in the hands of Charles II. King of Spain, who had no children to succeed him; but his own indecision, and the artful policy of France, induced Charles II. to appoint the grandson of Louis XIV. of France, to be his heir in case of the Spanish succession, in 1701. Leopold died May 5, 1705, before it was terminated. The empe- ror Joseph I., his successor and eldest son, continued the war, but died without children, April 17, 1711. His brother Charles, the destined king of Spain, im- mediately meditated securing the war to the Baro- nies, states, to take upon him the administration of the government. He was elected emperor, Dec. 24 of the same year; but was obliged to accede to the peace of Utrecht, concluded by his allies, at Rastadt and Baden, in 1714. By this treaty, Austria received the Nether- lands from the Dutch, and the province of the Protestants, in 1790, was given to Austria in exchange for
Sardinia. The duchy of Mantua, occupied by Joseph in 1708, was now made an Austrian lie, because it had formed an alliance with France, prejudicial to the interests of Germany. This monarchy now embraced 191,024 square miles, and nearly 29 million inhabitants. Its annual income was between thirteen and sixteen million florins, and its army consisted of 130,000 men; but its power was weakened by new wars with Spain and France. In the peace concluded at Vienna, 1735, and 1748, Charles VI. was forced to cede Naples and Sicily to Don Carlos, the infant of Spain, and to the King of Sardinia a part of Milan, with the hereditary duchy of Parma and the city of Piacenza. In the next year, by the peace of Belgrade, he lost nearly all the fruits of Eugene's victories, even the province of Temeswar; for he was obliged to transfer to the Porte Belgrade, Servia, and all the possessions of Austria in Wallachia, Orsova, and Bosnia. All this Charles VI. willingly acceded to, in order to secure the succession to his daughter, Maria Theresa, by the Pragmatic sanction. This law of inheritance was passed 1713-1719, and acknowledged one after another by all the European powers.

History of Austria under the House of Hapsburg-Lorraine—1. From 1740 to 1790. By the death of Charles VI. Oct. 20, 1740, the male line of the Austrian house of Hapsburg became extinct; and Maria Theresa (q. v.) having married Stephen, duke of Lorraine, ascended the Austrian throne. On every side her claims were disputed, and rival claims set up. A violent war began, in which she had no protector but Britain. Frederic II. of Prussia subdued Silesia; the elector of Bavaria was crowned in Lintz and Prague, and, in 1742, chose emperor, under the name of Charles VII. Hungary alone supported the hereditary and the French claims. But, in the fact of Hapsburg's concluded June 4, 1742, she was obliged to cede to Prussia Silesia and Glina, with the exception of Teschen, Jagerndorff, and Troppau. Frederic II., by assisting the party of Charles VII., soon renewed the war. But Charles died Jan. 29, 1745, and the husband of Theresa was crowned emperor of Germany under the title of Francis I. A second treaty of peace, concluded December 25, 1745, confirmed to Frederic the possession of Silesia. By the peace of Aix-la-Chapelle, Oct. 18, 1748, Austria was obliged to cede the duchies of Parma, Piacenza, and Guastalla to Philip, infant of Spain, and several districts of the kingdom of Naples. The division of Hapsburg's was now firmly established; and it was the first wish of Maria Theresa to recover Silesia. With this object in view, she formed an alliance with France, Russia, Saxony, and Sweden. This was the origin of the seven years' war; but, by the peace of Hubertshain, 1755, Prussia retained Silesia, and Austria had sacrificed her blood and treasure in vain. The first paper money was now issued in Austria, called state obligations, and the emperor Francis erected a bank to exchange them. After his death, August 18, 1765, Joseph I., his eldest son, was appointed colleague with his mother in the government of his hereditary states, and elected emperor of Germany. To prevent the extinction of the male line of her family, Maria Theresa now established two collateral lines; the house of Tuscany, in her second son, Peter Leopold; and the house of Este, in the person of the archduke Maria Theresa. Maria Theresa indemnified the country by the confiscation of several cities, formerly pledged to Poland by Hungary, without paying the sum for which they stood pledged; by obtaining Galicia and Lodomoria in the first protracted division of the kingdom of Poland, in 1772, and the marches of West Galicia, which was ceded by the Porte, in 1777. In the peace of Teschen, May 13, 1779, Austria received Invierville, and the vacant county of Hohenems in Simbag, the county of Falkenstein, and the Sibinian territories of Tettang and Argen; and thus, at the death of the empress, Nov. 28, 1780, Austria contained 234,684 square miles; it had lost 10,366 square miles, and gained 34,000; the population was estimated at 24 millions; but the public debt, also, had increased to 160 million florins. The administration of the empire was distinguished by the most useful institutions of government, agriculture, trade, and commerce, the education of the people, the promotion of the arts and sciences, and the respect shown to the religious opinions of the kingdoms, also, even those with the Roman court, were happily conducted by the talents of her minister, Kaunitz. (q. v.) Her successor, Joseph II. (q. v.), was active and restless; impartial, but too often rash and violent. While a colleague with his mother in the government, he diminished the expenses of the state, and introduced a new system in the payment of pensions and of officers. But, after the death of his mother, all his activity and talent as a sovereign was fully developed. As severe to the military as to the civil officers, he adhered, however, to liberal principles. The division of the province of the Palatinate, to which the Protestants received full toleration, and the rights of citizens; the Jews were treated with kindness; 500 convents and religious establishments were abolished, and even the visit of Pius VI. made no alteration in Joseph's system of reformation. The system of education he subjected to revision and improvement; and he encouraged manufactures by heavy duties on foreign goods. But his zeal excited the opposition of the enemies of improvement. The Low Countries revolted, and his vexation probably led him to attempt the exchange of the Netherlands, under the title of the kingdom of Austrian Netherlands, of Bavaria, under an elector. But the project was frustrated by the constancy and firmness of the next agnate, the duke of Deux-Ponts, and by the German league, concluded by Frederic II. Joseph was equally unsuccessful in the war of 1788 against the Porte. His exertions in the field destroyed his health; and grief at the rebellious disposition of his hereditary states accelerated his death, which happened Feb. 20, 1790. II. From 1790 to 1815.—Joseph II. was succeeded by his eldest brother, Leopold II. (q. v.), formerly grand duke of Tuscany. By his death, however, he quelled the turbulent spirit of the Netherlands, and restored tranquillity to Hungary. The treaty of Reichenbach, with Prussia, July 27, 1790, and the treaty of Sistov, Aug. 4, 1791, led to a peace with the Porte. The unhappy fate of his sister and her husband, Louis XVI., of France, induced him to form an alliance with Prussia; but he died March 1, 1792, before the revolutionary war broke out. Soon after the accession of his son, Francis II., to the throne, and before the 14th of July, 1792, when he was elected German emperor, France declared war against him, as king of Hungary and Bohemia (q. v. France.) In the first articles of peace, dated at Campo-Formio, Oct. 17, 1797, Austria lost Lombardy and the Netherlands, and received, as a compensation, the largest part of the Venetian territory; two years previous, in 1795, in the third division of Poland, the Austrian dominions had been enlarged by the addition of West Galicia. In the beginning of the year 1799, the emperor Francis, in alliance with Russia, renewed the war with France. But Napoleon extorted the peace of Lunéville, Feb. 9, 1801, and Francis acceded to it, without the consent of Britain. By the conditions of the treaty, he was to cede the greater part of Falkenstein and the Carinthia. Ferdinand, grand duke of Tuscany, at the same time, renounced his
from this province, and received, in return for it, Salzburg and Berchtesgaden, with a part of the territory of Passau, and was afterwards made master of the largest part of Eichstadt, and honoured with the title of imperial archbishop of the Tyrolian archbishoprics Trent and Brixen, and with the understanding its cessions of territory to France, had gained, including its acquisitions in Poland, 9280 square miles; this made the whole extent 253,771 square miles. The public debt had also increased to 1200 million florins. The first war of Napoleon, the so-called holy war, brought about the proclamation of Napoleon as emperor, and against this, Francis declared himself hereditary emperor of Austria, and united all his states under the name of the empire of Austria. Immediately after this important act, he took arms once more, with his allies, Russia and Great Britain, against the government of France. The war of 1805 was terminated by the peace of Presburg (Dec. 26, 1805). By the conditions of the treaty, Francis was obliged to cede to France the remaining provinces of Italy; to the king of Bavaria Burgau, Eichstadt, a part of Passau, all Tyrol, Vorarlberg, Holzheim, Rottenfel, Tettnang, Argen, and Lin- dass, and to confirm to his dominions those which lay on the Danube, the county of Hohenberg, the land-grave of Nellenburg, Altdorf, and a part of Bris- gau; and to the grand duke of Baden the remainder of Brisgau, Ortenau, Constance, and the commandery of Meinau. He received, in return, Salzburg and Berchtesgaden; the elector of Salzburg was compensated by the province of Wurzburg; and the dignity of grand master of the Teutonic order was made heredi- tary in the house of Austria. Thus ended a war which cost the Austrian monarchy, besides the territories just enumerated, 90 million florins, which were carried away by the French troops, and 800 million florins for the other expenses of the war; of which Francis paid a large proportion from his private purse. After the formation of the confederation of the Rhine (July 12, 1806), Francis was forced to resign his dignity as emperor of Germany (Aug. 6, 1806), which had been in his family more than 500 years. This was one of the most important consequences of the war. He now assumed the title of Francis I., empe- ror of Austria, and resolved, in 1809, on a new war with France, aided only by Great Britain, who did nothing more than furnish some pecuniary assistance, and whose troops were engaged only on Aichelberg. Austria fought courageously, but in vain. The peace of Vienna (Oct. 14, 1809) cost the monarchy 42,380 square miles of territory, 3,500,000 subjects, and more than eleven million florins of revenue. The public debt was also increased to 1200 million florins, and all the paper money in circulation was estimated at 950 millions. Napoleon, after tearing from the Austrian monarchy its finest provinces,—the duchy of Salzburg, with Berchtesgaden, Innviertel, Western Hausruerkviertel, Carniola, and Gor, Trieste, the circle of Villaci, a large part of Croatia, Istria, Reuens in the north of the Bohemian territories in Saxony, 350,000 the circle of Zamoski in East Galicia, Cracow, with half the salt-works of Wielickza, the circle of Tarnopol, and many other provinces which were given to Russia,—formed a personal connexion with the ancient family of Hapsburg by his marriage with Marie Louise, daughter of the emperor of Aus- tria, and, March 14, 1812, concluded an alliance with the emperor Francis against Russia. But the emperor of France was repulsed, on his invasion of this country; Prussia rose up against him; the con- gress of Prague met and separated again without ac- complishing anything, and Francis declared war against France, and formed an alliance, Sept. 9, 1815, at Teplitz, with Britain, Russia, Prussia, and Sweden against his son-in-law. In the battle of Leipsie, the Austrian troops took an hon- orable part. The firmness with which the emperor signed the act of prescription against his son, and fixed the fate of his daughter and her infant, excited the universal admiration of Europe. The defen- sion of Francis against Napoleon a second time, when he returned from Elba. He also opposed Munti in Italy. Yet the Austrian cabinet endeavoured to provide for young Napoleon in the settlement of the affairs of France. By the peace of Paris, 1814, Austria gained the por- tion of Ljubljana, part of the Illyrian Vene- tian kingdom, and recovered together with Dalmatia, the hereditary territories which it had been obliged to cede. The former grand duke of Wurzburg, on the contrary, ceded his territory to Bavaria, and again took possession of Tuscany. In the new system of Europe, established at the congress of Vienna, which met in 1815, and by the treaty concluded with Bavaria, at Munich (April 14, 1816), the Austrian monarchy not only gained more than 4286 square miles of territory, but was also essentially improved in compactness; and its commercial import- ance was increased by the monopoly of Dalmatia and Venice. The reconquest of this power on the part of the states of Europe, in consequence of the congress of Vienna, as the first member of the great quadruple alliance (changed, by the congress of Aix-la-Chapelle, 1818, to a quintuple alliance), and as the head of the German confederation, has been continually increas- ing since the congress at Aix-la-Chapelle, and is evi- dent to those who feel an interest in the history of the age. Of the foreign affairs of the government, which have been conducted by the prince von Met- ternich, the most important is the connexion of Aus- tria with the German confederation. The imperial cabinet overruled the deliberations of the German confederates at Frankfort, through its minister, count Buol-Schauenstein (who was succeeded, in 1823, by the baron of Munch-Dillinghausen), so that all the decrees made in the congress of Carlsruhe, in Aug., 1819 (see Congress and Carlsruhe), relating to a gen- eral censorship of literary institutions, the suppression of liberal opinions and writings, and of secret societ- ies, were unanimously adopted and published, Sept. 20, 1819, and renewed Aug. 16, 1824. A congress was held at Vienna, Nov. 25, 1819, com- posed of all the ministers of the German confederates, to draw up a constitution for the federal government of Germany. It was signed at Vienna, May 15, 1820; and, June 8, of the same year, it was acknowledged at Frank- fort as the universal law of the German confederation. (q. v.) The ideas of the Austrian cabinet, in regard to the political condition of Germany, were made known to the public by the remarkable Lettre confi- dentielle de S. A. le Prince de Metternich à M. le Baron de Berwart, premier Ministre du Grand Duché de Baden, June, 1820. This letter is printed in Le- sur's Annuaire (Paris, 1821, p. 228). The united in- fluence of Austria and Prussia, in the military committee of the congress, decided the foundation of the Ger- man military system, and regulated the numbers and distribution of the army of the confederacy, and the occupation and command of the fortresses of the empire. It must be observed, however, that A. (in conformity with the 18th art. of the constitution), abolished, in 1839, the right of emigration from its own states to those of the German allies, and con- cluded the Elbe navigation acts (see Elbe) at Dresden, in 1821, and at Hamburg, in 1824. Saxony and Bavaria formed a closer connexion with the house of A., by a family union, in 1819 and 1824. The queen of Saxony was born (Nov. 8, 1813) the wife of Frederic prince of Saxony a daughter, of the emperor Francis November 4, 1824, the second imperial prince, the archduke Francis (born 1802),
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was married to Sophia, princess of Bavaria, half-sister of the empress of A. (The house of A. now exists in twenty-four separate branches.) Of the five principal powers which decided the political condition of Naples, Piedmont, Spain, and Greece, in the congress of Troppau, 1820, Laybach, 1821, and Verona, 1822 (q. v.), A. was the first. The harmony which existed between the three founders of the Holy Alliance, so called, led to the establishment of the principles of legitimacy; and every one knows the important consequences of this union, in the maintenance of principles contrary to the spirit of the age and the law of nations; as in the law relating to the armed interference. A. executed the decrees of the congress as far as related to Naples and Piedmont. (See Naples and Piedmont, revolution of.) Her influence was felt in the Swiss confederacy. In the dispute between Portugal and Brazil, A., being connected with the emperor of Brazil by means of a family union, did not oppose the independence of the new empire, for which Great Britain interceded. The infant dou Miguel swore allegiance, in Vienna, to the Portuguese constitution, and immediately conduct ed himself like a robber and a madman. These will probably show what share has been taken by A. in the disputes of the royal family of Portugal. To the alliance formed by Russia, Great Britain, and France, for the pacification of Greece (July 6, 1827), A. made little opposition, because she considered the Greeks should still remain in bondage; especially if the fall of the Porte (a power which the congress of Vienna declared to be indispensable to the other states of Europe) should increase the strength of Russia. This power already presses on the unprotected frontiers of A.; if it should extend its conquests in that direction, the trade of this country with Moldavia and Walachia would be entirely cut off. Moreover, it would be very prejudicial to her to have a constitutional state established in the south-east, on the confines of Hungary and Transylvania, which, by religious sympathies, would exert an influence on Servia and the southern provinces of Hungary. When prince Alexander Ypsilanti, leader of the Heteriais (see Hetaera) in Moldavia, entered the Austrian territory, he was detained by the Austrian authorities at Munkastrict, and afterwards in Thebes. He was finally released, and arrived at last, in 1827. A. prohibited all societies for the aid of Greece, and all contributions of money or arms; the Greeks from Russia were forbidden to march through the country, and the Philhellenes were forbidden to traverse her territories to reach the ports of the Adriatic.* On the other hand, A. aided (by its internuncios in Constantinople) the efforts of the British ambassador to settle the disputes between Russia and the Porte, and effected the evacuation of the principalities by the Turkish troops; which led, also, to the conclusion of the treaty of Ackerman, in 1826. (See Ottoman Empire.)

In its politics, both at home and abroad, A. has more influence than any other state in Europe, in suppressing liberal opinions and resisting the claims of the age. The cabinet has recourse to measures, of which other cabinets, striving after the same end, are as yet ashamed. The subjects are forbidden to praise or blame the administration; and thus no one is permitted to express any political opinions. The citizens are cut off from literary intercourse with other nations by the censorship established for their protection. On the frontiers, there are, likewise, in Austria, different kinds of prohibited books: some are wholly prohibited; others are prohibited to all but the learned; and the whole nation has been, for centuries, destitute of the means of high intellectual cultivation. They are good-natured and lively. Eating, drinking, dancing, music, and women make up the sum of an Austrian's enjoyment. If his emperor allows these indulgencies, he receives the approbation of his subjects, even though he appropriates the estates of orphans, which have been intrusted to the government, and proclaims a public bankruptcy. Every restraint is used to keep the spirit of the people stagnant. Francis, on his visit to Laybach, 1829, observed to the professors there, that he wished for no learned men; that he needed good, loyal citizens, and common schools were quite sufficient for their education. Francis' organization for the administrative, and political cases, is good; for a perfect despotism, as well as a free government, requires that the rights of all the people should be equally respected. But, in state trials, every species of injustice is permitted. The policy of A. has been characterized, for ages, by an insatiable thirst for the aggrandizement of the state, both by force of arms, and by the oppression of every country which she has held in subjection, except during the reign of Joseph II. She has contended with France, for centuries, for the control of Europe. A. has always directed its efforts towards Italy and the East; and the former may now be regarded as wholly dependent on her. The internal government is remarkable for the constant embarrassment of the financial department, which leads to the most unjust and arbitrary measures. The state becomes bankrupt, extorts loans, and compels the borrowers to make new ones to secure the first. In order to soothe every liberal sentiment, foreigners engaged in private instruction, especially the Swiss, have been generally expelled from the empire. The adherents of Carbonarism have been condemned to death (see Italy); and, in July, 1824, several persons were executed for their opinions. The empress was forbidden to enter the Austrian states; among them were lady Oxford, Mrs Hutchinson, lady Morgan, and lord Holland. Finally, an imperial decree has been issued, that all works written by Austrians in foreign countries should undergo the censorship of the press at home; and, in 1824, the order was extended to engravings, lithographs, and other prints. The archduke Rudolph was chosen by the ecclesiastical chapter, and appointed archbishop of Olmutz, by pope Pius VII. His brother, the emperor, confirmed him in this dignified office; and, soon after (Aug. 2, 1819), he was made a cardinal. In the autumn of 1820, the emperor travelled to Presburg and Ofen. He pledged himself to the nobles of the juniate of Pest, to maintain inviolate the constitution of the country, as the palladium of its privileges and the security of its happiness. His speech on this occasion contained the following specimen of elegant Latin:—

"Totus mundus delirii, et relictit antiquos suis legibus, constitutiones imaginarium querit." (The whole world is mad; they have deserted the good laws of their fathers, and run after the shadows of constitutions.)

The public measures have lately raised the financial credit of the government. All that has been done for this department since the charter of March 21, 1818, is recounted in a subsequent article (Funds, public) where the lottery loans of Rothschild

* The semi-official paper at Vienna, the Österreichisches Hofbacher (the Austrian Observer), which is entirely subservient to the government, constantly wrote against the Greeks, and the majority of the Turkoholics there, with some reason, to mention here the denunciation which this paper (on the whole, an able one) gave of legitimacy, when the question rose, whether the Turks were a legitimate power or not. and whether, in consequence, the Greeks were rebels or not. The Observer denied, that any power was legitimate, with which other legitimate powers had concluded treaties for a series of years!"
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are described. From the report of the committee chosen to examine the operations of the sinking fund, it appeared, that, of the old debt (contracted in 1805), a sum of 200,000,000 florins were discharged in 1824; and the new debt (contracted since 1815), amounting to 206,000,000 florins, was considerably diminished. But the sinking fund was so increased after its establishment (March 1, 1817), that, in 1825, the amount disposable was estimated with more than 150,000,000 florins. The public debt has since been regularly reduced. From the annual report of the president of the bank of A., the count of Dietrichstein, now deceased, it appears, that, in seven years previous to Jan. 1, 1825, 284,342,600 florins of the paper money in circulation had been redeemed. In order to raise the value of the depreciated paper currency, a particular fund was established to redeem it, and the rate fixed at 250, since 1816. The paper florin is worth six groschen, eight pfennige, and twenty kreuzer, or fifty kreuzer of Viennese currency, or 1s. 8d. sterling. Loans were afterwards instituted to increase the quantity of specie in the monarchical, and to promote the payment of old arrears. Of these, the loan of two and a half million pounds sterling, made at London, in the close of the year 1823, was destined for the payment of the British demands (fifty florins each), from 1809, to 1825. Notwithstanding this, the Austrian paper money increased to such a degree, that, in the beginning of 1825, the national securities at five per cent. (metalliques) stood, in Frankfort, at almost 96 (on the 6th of Aug., 1827, at more than 91), and the bank stocks at more than 1400 (on the 6th of Aug., 1827, at 1302), while, at the end of 1820, the former stood at only 73, and the latter at scarcely 552. 

By its artificial financial system, A. has made the rich speculators of many other countries dependent on itself, and rendered it their interest to promote her power and influence.

The prosperity of agriculture is closely connected with the improvement of the finances. In order to gain a knowledge of the state of the country in general, it was decided, in 1819, to establish a committee of topography and statistics (taking the Russian board as a model), and to connect it with the council of state. This led to an attempt to drain the morasses of Laybach. In the next year, the new system of taxation was completed. To divide the expenses of the government more equally, the whole monarchy had been surveyed in the time of Joseph II. To facilitate the trade of Italy with the south of Germany, the road from Chavenna over the Splugen has been built since 1820, with the aid of the neighbouring Swiss cantons; and a new passage from Tyrol to South-eastern Germany was opened in September, 1824, by a splendid road through Bormio and Tyrol. (See Alps, roads.)

For the completion of the Alpine roads over the Splugen and mount St. Bernard, A. concluded a treaty with Sardinia, May 20, 1824, to which the cantons of the Grisons and Tessin acceded. The canal from Vienna to the borders of Hungary has been opened, and another from Vienna to Trieste, to unite the Danube with the Adriatic sea, has been begun.† In 1820, the canal from Milan to Pavia was finished, connecting Milan with the gulf of Venice. In the commencement of the 19th century, Bohemia contained only 280 miles of regular roads; at present, it contains 1104 miles. The Danube has been joined to the Rhine by a new railroad, which is carried over the mountains from Mauthausen, in Upper Austria, to Budweis, in Bohemia; in all, seventy-five miles. The navigation of the Danube, and the trade of Turkey, were opened to the subjects of Austria by the new commercial treaty concluded with the Porte in 1818; at the same time, the commerce of the Mediterranean became an object of importance. The arrivals and clearances at the free port of Trieste amount annually to 2200 vessels; and the state, which numbered, in 1815, only 157 licensed vessels, had, in 1820, exclusive of coasters, 528 trading vessels, of 110,500 tons burden, 6856 sailors, and 5369 guns. The naval force was increased for the protection of trade; and the emperor erected, at Venice, a college for the instruction of young naval officers.

In August, 1819, young men were prohibited from entering foreign universities, and a resolution was made, Sept., 25, 1819, to establish a Luthenral theological institution in the centre of the empire. This "theological school for the adherents to the Angsberg confession," was opened at Vienna, April 2, 1821. The professors are native theologians, and the minutes are compiled by the confessional general superintendent over the whole. The government, at the same time, received into Galicia fifty Jesuits, who were banished from Russia in 1820, and appropriated to their use the great Dominican monastery at Tarnopol. Lyceums also were erected, or instructors provided for those already in existence. Towards the close of this year, the Redemptorists (q. v.) were established in Vienna, and the Jesuits instituted a school in this capital. In the public papers of the year 1821, an order was issued, forbidding private persons in the city and in the provinces to send abroad for instructors; especially since the education of youth might be intrusted to the Jesuit fathers, and their colleagues, the Redemptorists. In November, 1822, the Bible societies were once more forbidden to distribute Bibles in the Austrian dominions, particularly the Bohemian Bible, which, consequently, was no longer sent abroad to sell itself with the council of state. This led to an attempt to drain the morasses of Laybach. In the next year, the new system of taxation was completed. To divide the expenses of the government more equally, the whole monarchy had been surveyed in the time of Joseph II. To facilitate the trade of Italy with the south of Germany, the road from Chavenna over the Splugen has been built since 1820, with the aid of the neighbouring Swiss cantons; and a new passage from Italy to South-eastern Germany was opened in September, 1824, by a splendid road through Bormio and Tyrol. (See Alps, roads.) For the completion of the Alpine roads over the Splugen and mount St. Bernard, A. concluded a treaty with Sardinia, May 20, 1824, to which the cantons of the Grisons and Tessin acceded. The canal from Vienna to the borders of Hungary has been opened, and another from Vienna to Trieste, to unite the Danube with the Adriatic sea, has been begun.† In 1820, the canal from Milan to Pavia was finished, connecting Milan with the gulf of Venice. In the commencement of the 19th century, Bohemia contained only 280 miles of regular roads; at present, it contains 1104 miles. The Danube has been joined to the Rhine by a new railroad, which is carried over the mountains from Mauthausen, in Upper Austria, to Budweis, in Bohemia; in all, seventy-five miles. The navigation of the Danube, and the trade of Turkey, were opened to the subjects of Austria by the new commercial treaty concluded with the Porte in 1818; at the same time, the commerce of the Mediterranean became an object of importance. The arrivals and clearances at the free port of Trieste amount annually to 2200 vessels; and the state, which numbered, in 1815, only 157 licensed vessels, had, in 1820, exclusive of coasters, 528 trading vessels, of 110,500 tons burden, 6856 sailors, and 5369 guns. The naval force was increased for the protection of trade; and the emperor erected, at Venice, a college for the instruction of young naval officers.

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expense of the state. The cadet schools at Olmutz and Gmritz are still in a flourishing condition; and an increased number of companies, regiments, and companies of officers, at Herrnhults, where 46 pupils can be instructed.

Von Hietzinger published, at Vienna, in 1822, in 2 vols., the statistics of the Austrian military districts, established in the year 1807. A comparison of this account with the statistics of the military colonies of Russia (6. v.) affords interesting views. A., it is well known, first carried into effect the idea of military colonies, by the grant of lands to 18 Schelvonic regiments, along the confines of Turkey. These regiments have the same origin, the same language, and the same religion with the majority of the Russians. The whole country is divided into 214 company districts, and eight squadron districts. Of the male population, in 1820, only 16,834 men were exempt from military duty. The troops consisted of 17 regiments of infantry, one battalion of Tschaikistes, and a regiment of Hussars; together, 46,579 men, exclusive of the civil officers. In case of war, this number can be increased to 70,000, including the reserves, besides the militia, which are kept under pay. The common service in the cordon on the frontiers required 4,000 men. In case of troubles in Turk, or reports of the plague, 6,800 are called out; if the Austrians are beaten, 10,000 men are brought into action, and often dismissed again within eight or fourteen days. The inhabitants on the frontiers are obliged to serve, on an average, at least 100 days yearly. The revenue of the frontier settlements was estimated, in 1820, at 1,553,000 florins, convention money;—see Money, standart of. This money expended on them was 2,457,900 such florins; 1,384,600 of which were applied to the support of the troops stationed there. (See Military frontiers.) The economical regulations of the Austrian army are described by Hubler, and an account of the nature of their discipline is given by Bergmayer (Vienna, 1821). The Austrian Military Journal, conducted by captain Schels, is full of information on this subject.

The best map of the Austrian empire is that prepared by the topographical cabinet of the quarter-masters general, and drawn by the engineer of this colonel Fallon. It is in nine sheets, published at Vienna, in 1822. According to this map, the Austrian monarchy embraces, I. The hereditary states of Austria, which form a part of the German confederacy; 76,199 square miles, 9,843,430 inhabitants. The number of the inhabitants of the imperial Austrian part is 9,837,383 square miles, 1,908,200 inhabitants; austria below the En, or lower Austria (7,113 square miles, 1,119,900 inhabitants), embracing Vienna, the capital; b. Austria above the En, or Upper Austria, including the Innviertel, the Hausnackviertel, and the Salzacht, or Salzburg circle (the duchy of Salzburg, q.v.); 7119 square miles, 788,289 inhabitants. 2. The duchy of Sörö; 8454 square miles, 780,100 inhabitants. 3. The country of Tyrol, raised to a principality, with several districts of Salzburg, and the Vorarberg dominions; 11,589 square miles, 738,500 inhabitants. 4. The kingdom of Bohemia, with Eger and Asch; 20,172 square miles, 3,380,000 inhabitants. 5. The magminate of Moravia, with Austrian Silesia; 10,192 square miles, 1,505,500 inhabitants. 6. The duchy of Auschwitz, lying in Galicia, but included in the German confederacy, as an ancient Bohemian fee; 2,619 square miles, 335,100 inhabitants. 7. The kingdom of Illyria; 9132 square miles, 897,000 inhabitants. This kingdom includes, a. the government of Laybach, or the duchies of Carniola, and Carinithia; b. the government of Trieste, or the Littorale; 3242 square miles, 371,129 inhabitants. 8. The hereditary principality of Hungary; 155,105 square miles, 10,628,500 inhabitants. They contain, a. the kingdom of Hungary, with the provinces of Sclovania and Croatia; 88,574 square miles, 6,836,600 inhabitants; b. the principality of Transylvania (exclusive of the military districts); 18,350 square miles, 1,435,000 inhabitants; c. the Austrian military districts; 1. In Croatia; Banal, Waraschine, and Carstadt, united under one governor, in 1824, together with the Banal military lands, 995 square miles, 96,000 inhabitants; 2. The two generalats, 5092 square miles, 301,200 inhabitants. 2. In Sclovania; 2945 square miles, 244,000 inhabitants. 3. The Hungarian and Banatic military lands; 5856 square miles, 105,000 inhabitants. The Transylvania military frontier; 5351 square miles, 147,300 inhabitants. III. The kingdom of Dalmatia, with Ragusa and Cattaro, containing 5897 square miles, and 320,000 inhabitants. IV. The Lombardo-Venetian kingdom; 17,608 square miles, 4,710,000 inhabitants. V. The kingdom of Galicia and Lodomoria, with the province of Dukowia; 39,272 square miles, 4,075,000 inhabitants. Thus the whole Austrian monarchy contains more than 256,309 square miles, and upwards of 29 million inhabitants. By the census of 1826, the population is estimated at 304 millions. Besides this, the collateral lines of A. have many valuable possessions in the Tyrol and Styria, containing 10,489 square miles, and 1,618,500 inhabitants. The principal nations of A. are, 1. The Sclovaniens, 13,400,000. 2. The Germans, 5,900,000. 3. The Italians, 4,350,000. 4. The Magyars, or Hungarians, 4,000,000. 5. The Walachians, 1,700,000. 6. The Jews, 450,000. 7. The Zigeuners, or Gipsies, 110,000. 8. The Armenians, 13,002. 9. The Greeks, 3910; together with Clementines, Turks, Albanese, French, &c. The most populous part of Austria is the Lombardo-Venetian kingdom: the population is 387 to a square mile. Next to this are Bohemia and Moravia, above and below the En. The smallest population is found in the military districts on the frontiers, Carinthia and Tyrol, Salzburg, and Dalmatia. According to the local returns, published by the geographical board of Vienna in 1822, edited by colonel Fallon, and prepared in the preceding year, the rate of the annual increase of the population appears to be as follows:

In Hungary and Transylvania
Austria Proper, Soria, and Transylvania
Bohemia, Galicia, Illyria, and Moravia
Dalmatia
Tyrol, and the Lombardo-Venetian kingdom

This statement gives an increase, in 12 years, on the population of 1815, calculated at 27,000,000, of more than 27 per cent; in fact, nearly 7,000,000. Diferent authorities agree, up to the year 1821, in a rate of increase, which, if continued to 1829, would make that increase more than 7,000,000. The monarchy numbers 777 cities, 635 suburbs, 2,224 market towns, and 69,105 villages. The most populous cities are, Vienna, Milan, Venice, Lemberg, Padun, and Debrecyn (population, 41,175).—Of the numerous navigable rivers, the largest are, the Danube, Ens, Morow, or Marsch, Lewith, Rain, Drave, Save, the Po, the Elbe, the Moldau, Eger, Oder, Vistula, and Dniester. Thirty canals, seven of them very large, have been constructed, during the reign of the present emperor, for the promotion of trade. The largest lakes are, the Neussee, Polischen, Cirknitz, and Lago Maggiore. The mountains of Bohemia, which present a surface of 48,397 square miles: the Ortlespitze is 14,466 feet high; the Great Guknacker, 12,339; Hohenwart, 10,392; Wieschenhoun and Hochhorn, 10,600—11,000; Terglon, 9,744; Watmann, 9,900; Bromberg, 9,600. 2. The Sudetes (white mountains, 4,500 feet high), Paschkopel, 3. 2 y 4.
AUSTRIA—AUTENRIETH.

The Carpathian mountains.—The climate is different in different parts of the empire.—The Austrian mines and washings yield, annually, of gold, 3,000 marks; of silver, 108,000 marks; upwards of 2,200 tons of copper; of tin, 100; of iron, 60,000; of mercury, 281; of cinnaabar, 435; cobalt, 88 tons; calamine and zinc, 386 tons; arsenic, chrome, tellurium, antimony, antimonite (383 tons), manganese, bismuth, leadstone, precious stones, marble, porcelain, meerschaum, coal, sulphur, salt, &c.—There are also 600 mineral springs in the empire, of which Bohemia alone contains 150; the most celebrated are at Carlsbad, Toplitz, Fransensbad, Marienbad, Seidelsbad, Weitra, Gastein, Mendia in the Banat, and Albano in Italy, &c.

Austria furnishes wheat, and similar kinds of grain, in abundance; also maize, rice, pulse, fruits, including the best southern fruits, oil, &c., wine, hops, sulphur, tobacco, hemp, and flax, wood, various woods, black-cattle, bufaloes, horses, asses, and mules, sheep, goats, swine, poultry, wild beasts, fishes, pearl-oysters, bees (which yield, annually, 1200 tons of wax, and 19,500 tons of honey), silk (2,570,000 pounds). Prince Liechtenstein, at Eisgrub, in Moravia, has the largest plantation of foreign woods in Austria. Every branch of agriculture that is prosecuted with care and skill, and the raising of sheep is particularly attended to. There are still, however, in Hungary, 2119 square miles of morass. The most fertile and best cultivated part of the empire is the Lombardo-Venetian territories. The manufacture of silk, in this district, has also been highly improved by count Dandolo. The manufactures yield, annually, 1,425 million florins, convention-money. They consist of watches and clocks, porcelain, mirrors, and brass, iron, and steel, linen, cotton, paper, tobacco, sugar, wool, silk, leather, and bleached waxes. The trade has increased since the recovery of Italy. The exports of the country amount to more than thirty-six million florins, convention-money (see Money); and the imports to forty-four million. The principal sea-port is Trieste, Venice, and Fiume; other places of trade are Vienna, Prague, Pest, Lemberg, Brody, and Gritz. The bank of Vienna affords the most important support to the commercial interests of the state: the same advantage is derived from the Austrian national company of commerce, lately erected for the sale of merchandise, and the promotion of trade. The state religion is the Roman Catholic. The bishoprics in Germany and Hungary are richly endowed, particularly the archbishoprics of Gran, Colocza, Olmutz, Erlau, &c. The whole number is fourteen. In Lemberg and in Venice there is an Armenian Catholic archbishop, and in Venice a Catholic patriarch. The Greek church is under the archbishop of Carlowitz. The Lutherans and Calvinists have consistories and superintendents; and in Hungary and Transylvania, their civil rights are nearly equal to those of the Roman Catholics. There are also Memnonites, Mohammedans, &c., in various parts of the empire. The number of Catholics in A. is estimated at 23,978,000; members of the Greek church, 2,614,237; Calvinists, 1,584,716; Lutherans, 1,119,800; Unitarians, 49,000. Universities are established at Vienna, Prague, Pest, Lemberg, and Pavia. There are lyceums at Lintz, Gritz, Brunn, Graz, Vienna, and Vienzenitz; a school of medicine at Vienna; an academy for painting, sculpture, architecture, and engraving at Vienna; a library; a gallery of paintings; collections of medals and other antiquities, which are deserving of notice.

The government is a monarchy; in Hungary and Transylvania a despotism; in the other territories of the empire, the estates of which are four are in Tyrol, including the prasenathy) are convened to grant the supplies called for to meet the expenses of government. But the system of imposts and customs, existing between the different districts, is an impediment to commerce. The law of primogeniture prevails in regard to the succession to the throne. There are seven knighley orders,—1. that of the golden fleece; 2. of the starry crown, for ladies of princely or ancient noble families; (the following being also orders of merit); 3. the military order of Maria Theresa; 4. the royal order of St Stephen, in Hungary; 5. the imperial Austrian order of Leopold, which has existed since 1807; 6. the order of the iron crown (renewed 1824); 7. the order of Elizabeth Theresa, for officers only, who have risen, at least, to the rank of colonels. There are, also, in Austria, a. the ancient imperial Teutonic order, of which an archibishop is appointed grand-master by the emperor; b. the spiritual order of St John, which has a grand-primate in Bohemia, and several commanderies in Upper and Lower Austria; c. the order of the cross with the red star. At the head of the administration, under the direction of the emperor, stands the privy-counselor for home affairs. There are two departments of government, one for civil, and one for martial affairs, both under the direction of a minister. The judicial system is mild and well-regulated. The civil code, completed July 1, 1811, is very good. The courts were much improved as early as 1781. A general penal code was adopted Jan. 1, 1804. These laws are in force only for the German, Galician, and Italian territories, for Dalmatia, and the military districts. The revenue of the state (including the extraordinary income) is estimated at 220 million florins of silver, and the interest of the public debt at twenty-two millions yearly. By the loan of 1827, the debt of the state was increased to 690 million florins. This estimate is exclusive of 98,054,413 florins in redemption and anticipation certificates (einlosungs und anticipations scheine), which were in circulation June 30, 1827. The standing army, in time of peace, is composed of 271,400 men, including 59,000 horse, and 17,790 artillery. The supplementary troops, the reserve, and the militia, together, comprise about 479,000 men. The naval force consists of three ships of the line, six frigates, three corvettes, three brigs, and four schooners. There are, also, in the empire, twenty-five fortresses, and fifty-nine fortresses in the Austro-Italian monarchy, see the works of Generisch (Viennn, 8 vols. 1817); Coxe (History of the House of Austria, London, 1807, 3 vols. 4to.); J. B. Schela's History of Austria (Vienna, 1819—27, 9 vols., to the time of Joseph II.). In regard to the statistics of this country, the following works are valuable.—Darstellung des Fabrik- und Gewerbebeizes in seinen gegenw. Zustande; vorzügl. in technischer merkw. und statisch. Bezieh. und mit Berucksichtung des Fabrik- und Gewerbebeizes im Oestreich. Kaiserstaate, herausg. von Steph. Ed. von Kein. Vienna, 1824. Die Dumann. und Quarantäsenverfassung des Ostreich. Kaiserstaates, in ihrer gegenw. Gestalt. Von A. A. Kronnegger. Vienna, 1824. Handbuch für Reisende in den Oestreich. Kaiserstaate von R. von Jenny: to which Hormayr's Archiv., 1824, is a useful supplement. Gelehrten und Schriftsteller-Lexicon der Oestreich. Monarchie. Monarchie von D. Schellin. Vienna, 1801. Gelehrte Amateure, a valuable addition to De Luca's Gelehrte (Oestreich. Oestreich. Artenkri).}

ACTENKRI, John Henry Ferdinand, chancellor of the university of Tübingen, and professor of medicine in the same institution, was born in the year 1772, and early established himself as a professor of natural science. His imagination was lively,
and his memory remarkably tenacious. After he had received his doctorate, he visited North America. During his travels in this part of the world, he was attacked by the yellow fever in a solitary place, at a distance from human assistance, and saved his life by bold and copious bleeding. After his return, he was appointed professor of medicine, particularly of anatomy, at the University of Paris; and there he laboured zealously. His lectures were eloquent, and his attention to the sick unremitting. He published, likewise, several periodicals, partly alone, partly in connexion with Reil. The king of Wurtemburg appointed him chancellor of the university of Tu- hingen.

AUTEUIL; a small town of France, at the entrance of the wood of Boulogne, somewhat less than a mile from Paris. Men of literary reputation have often resided there. The country-seat of the poet Boileau is still shown there, where the beau esprit of France often banqueted. On a certain time, heated with wine at a supper, the litteri complained of the degeneracy of the age, and lamented their misfor- tune in having been born at such a period. All agreed to plunge into the neighbouring Seine, and the litteri and their adherents were already on their way to the river, when the thought struck Mo- liere, that such an act, by such men, ought not to be performed in the darkness of night. The companions stopped, found he was in the right, and agreed to drown themselves at day-break, after drinking the remainder of their wine. The ingenious Andreux brought this anecdote upon the stage in the piece Molière avec ses Amis, ou le Souper à Auteuil. Madame Helvetius, finally occupied the house. Her evening parties here were celebrated. All who were distinguished in the walks of literature or of active life, were always welcome, whether they were French or foreigners. All were without restraint. Her society was therefore called la société libre des égoïstes. The monarchs of several illustrious men are to be seen in the church-yard at Auteuil; among others, that of Nicolai, president of the chambre des comptes, and the chancellor d’Aguissseau, remarkable as a great civilian and advocate of the rights of men.

AUTHENTIQUE; a name applied, in the civil law, to an extract from the Novels (see Corpus Juris), by which a law of the code is either changed or entirely abolished. The direct consequence of the law, in the middle ages, from a manuscript copy of the Novels (liber authenticus), put among the altered passages of the code, and have thus been introduced in the editions of the Corpus Juris. Some laws, moreover, of the emperors Frederic I. and II. of Germany have been introduced in this way.

AUTOCRYPTIC. See Inquisition.

AUTOCRAT (from the Greek autokrat, himself, and egeri, power); a name given to the Athenian general, when, in particular cases, unlimited authority over the troops was intrusted to him, and he was not bound to give account of his proceedings. Thus Aristides was an autocrat in the battle of Platea. Ugrayus autokratnici were Athenian ambassadors with full powers, corresponding to our plenipotentiaries. In modern times, the word autocrat is used, in poli- tics, for a ruler with absolute power. Thus the em- peror of Russia is styled autocrat of all the Russians. Some writers on morals apply this term to man, to represent his absolute independence.

AUTOMATOM (Greek autokrat, himself, and bion, I teach); those who have obtained knowledge and skill in any art or science, without the personal in- struction of others.

AUTOPHAGI (Gr. autophagi, spontaneous); a self-moving machine, without life. Machines of this kind are kept in motion by means of springs or weights. When they represent human figures, they are called automatons; and those of clocks, water, &c., are also automatons. We find very early mention of them. Homer describes Vulcan fabricating tripods, which moved on living wheels, instinct with spirit. The celebrated statue of Memnon, which emitted musical sounds at sunrise, the walking statues of Dédalus, the flying dove of Archytas (q.v.), are instances of ancient skill in this respect. In modern times, friar Bacon (q. v.) constructed a brazen head which spoke. Regiomontanus (q. v.) made a flying eagle, and an iron fly, which, after making the tour of the room, returned to his hand. Also, about the first of the 13th century, spent thirty years in constructing a human figure, which advanced to the door when any one knocked, opened it, and saluted the visitor. In the water-clock presented to Charlemagne by Haroun al Raschid, twelve doors in the dial opened respec- tively at the hour which they represented; they con- tinued open till noon, when twelve knights issued out on horseback, paraded round the dial, and then, returning, shut themselves in again. Camus con- structed an ingenious toy for Louis XIV., consisting of a carriage drawn by two horses, containing a little figure of a beautiful lady, which rattled and appeared to him. The coachman snatched his whip; the horses moved their legs naturally; and, when the carriage arrived opposite to the king’s seat, it stopped; the page stepped down, and opened the door; the lady alight- ed, and presented a petition to Louis.—The flute- player, the tambour-player, and the wonderful duck of Vaucanson (q. v.), are celebrated for the astonishing ingenuity displayed in their construction. The two brothers Droz (q. v.) have executed some admirable works of the kind. One of them is a child, sitting at a desk, who dips his pen into the ink. It takes the color, and writes in French, which is corrected to him. This must be done, of course, by human intervention. A vase, presented to Bonaparte, when first consul, on being touched, exhibited a palm-tree, under which a shepherdess was spinning. The chess- player of von Kempelen (q. v.) has been supposed to be moved by a man concealed in the chest. The speaking machine of the same artist, the flute-player of Siegmeier, the trumpeters of Maelzel and Kauf- mann, deserve mention among the later automatons. One of the most ingenious automatical mechanisms of the present day is the Swiss Maillardet. His figure constructed a female figure, which performs eighteen tunes on the piano forte; the bosom heaves, the eyes move, and the natural motions of the fingers are performed. The action of this machine con- tinues an hour. Besides this figure, there is a magician, who answers any question taken from twenty medallions. The medallion selected is placed in a drawer, the magical books are gravely consulted, and the magician then strikes with his wand against a door, which opens, and displays an appropriate answer. His other automata are: a boy, which draws and writes; a little figure, a few inches in height, which puts music to its own tune; and in one case, in which it is enclosed; a humming bird, which issues from a box, sings, and returns to the box.
again; a steel spider; a hissing serpent, &c. An engine has been made by Mr Babbage capable of computing any table by the method of differences. The greater the number of differences, the more it will outstrip the most rapid calculator. See Arithmetic.

Autopsy (from Greek autopsia, himself, and αἰτία, sight); observation which one makes himself, in contradistinction from knowledge which we get from the accounts of others.

Autumn; that one of the seasons, which, in the northern temperate zone, begins when the sun, in its apparent direction, to the southern hemisphere, touches the equator. The end of autumn is at the time of the sun's greatest south declination, or when he enters Capricorn. According to our computation of time, the beginning of autumn is Sept. 23, when, for the second time in the year, the days and nights are equal; and the end is Dec. 21, at the time of the shortest day. The autumn of the southern hemisphere takes place at the time of our spring. From this astronomical autumn the physical or popular autumn differs according to the climate. —Autumnal equinox. (See Equinox.)—Autumnal point is called, by some writers, the equinoctial point, and by others, the equinoctial or ecliptic: the sun reaches it Sept. 23. It is said to be at the beginning of Libra, and is continually marked so, notwithstanding the point has long since receded from this constellation, and is now near the stars of the left shoulder of Virgo. It is opposite to the vernal point; therefore its ascension amounts to 180°, and its longitude also to as many, or six signs; its declination and latitude = 0.

Auvergne; a ci-devant province of France, which took its name from the ancient inhabitants, called Aveti-Belgii. It is surrounded by Velay and Forez, Limousin, Bourbonnais, Berry, Rouergue, and Gévaudan, in the heart of France. Upper and lower Auvergne combined together, on 500 square leagues, 800,000 inhabitants. The mountains of Auvergne are among the most noted of France. The northern part is called Puy-de-Dôme, the southern, Pay de Cantal; while the centre is formed of the Mont d'Or. The revolution divided this province into three departments. (See Department.)—Auvergne was celebrated in the time of ancient Gaul, and has always remained a very important part of France.

Auvergnat; a deep-coloured wine, made of black grapes, and grown at Orelune, fit for use until a year old, but, if kept two or three years, becomes excellent.

AvA, or AVENGWA; a town in Asia, formerly the capital of AvA, or Biriiaa, on the Irrawaddy, four miles W. S. W. of Ummerapoors, 500 miles E. Calcutta; long. 90° 58' E.; lat. 21° 46' N. It was divided into the upper and lower city; both fortified. The lower was about four miles in circumference, protected by a wall 30 feet high, with a deep and broad ditch; an embankment of earth supports the wall within. The upper town, which may be called the citadel, does not exceed a mile in circumference, and is much stronger and more compact than the other. The walls are now moulder, and a great part of the timber of which the houses were built has been carried away to be used in a new town, called Ummerapoors. Numerous temples are falling, and the few houses built of brick become the abode of bats. In the temple of Logathera Praw is still to be seen a gigantic image of Godana, of marble. The height of the idol, from the top of the head to the pedestal on which it sits, is nearly 24 feet; the head is eight feet high, and the width of the body is ten feet. The Birmans assert that it is composed of one entire block of marble; nor can any junction be perceived. See Embassy to the kingdom of Ava, by Michael Symes, and Journal of an embassy to the Court of Ava, in 1827, by John Crawford. The county of Ava will be fully treated of in this Encyclopaedia under the article Birman Empire.

Ava-Ava; a plant so called by the inhabitants of Oathee, who make an intoxicating juice out of it. They dry it up, and mix it with each other, and the greatest number of draughts, as the German students do in drinking beer.

Avadontas; a sect of Brahmins, who, in austerity, surpass all the rest. They even reject the earthen vessels to hold provisions, and the stick to lean upon—luxury to which the rich affluence of these valleys gives rise. Some Avadontas go perfectly naked; when hungry, they beg for something to eat: others go to the holy rivers, and there expect the peasants to feed them.

Aval, or Bahrein; the largest of the Bahrein islands in the gulf of Persia, 36 miles in length, and 12 wide, where it is broadest. Besides the fortified town of Bahrein, it contains some poor villages. Long. 48° 4' E.; lat. 26° 36' N.

Avaleanches (in Germany, Lavinen, or Lawinen); large masses of snow, which roll down from the mountains, causing great damage by their fall. They are called snow avalanches. These are so called because they are occasioned by the wind, which carries along the fresh fallen snow, and throws it, in the form of dust, into the valleys. The rapidity with which they come would render this kind the most dangerous of all, were it not for their great lightness, which renders it easy to extricate one's self from them. There have been instances of people remaining 24 hours under such avalanches without being subducted. The second kind are called mountain, snow, hail, or thunder avalanches (Schlund-Lavinen). These are not blown off by the wind, but fall from the mountains, and are heavy; measured by a foot, they are as broad as a span, and has on the ground on which they lie, together with the trees, rocks, &c., which are there. They generally fall in the spring, when the increasing warmth has rendered the snow more damp and heavy. Their fall makes mountain and vale tremble, and is accompanied with a noise like thunder. The third kind, earth avalanches, or landslips, occur when the soil has been weakened by long-continued and deep penetrating rains, when it slides down into the valleys, with all the houses, trees, and entire forests which stand thereon, and causes the most horrible destruction.

Avastorino. See Quartz. Avares; a nation, the remains of the Schew-Schen, driven from their country by the Turks. They came, 100 years later than the Bulgarians, to the regions around the Don, the Caspian sea, and the Wolga. A part remained in Circassia, where they still exist; another portion advanced to the Danube, in 556, and settled in Dacian, served in Justinian's army, aided the Lombards in destroying the kingdom of the Gepide, and gradually conquered (especially under the powerful Khan Baljan, in 582) the region of Pannonia. Under his successors, they made themselves masters of Dalmatia, pressed into Thruggingia and Italy, where they fought with the Franks and Lombards, and extended their dominion over the Scavonians dwelling on the Danube, and farther north, as well as over the Bulgars, who were the Black sea. But they were soon divided, and lost Dalmatia in 640. Limited to Pannonia, they were at length overcome by Charlemagne, 796, and expelled from Moravia and Peterschener. After 827, they disappear from history.

Avatari, in Hindoo mythology; an incarnation of the Siva, such as remarkable incarnations have taken place, according to the Hindoos, but ten are peculiarly distinguished, and four of them are the subjects of Purans, or sacred poems. These ten are the
incarnations of Vishnu, the supreme God. The Matsya avatar was the descent of the Deity in the form of a fish; Kacha yoga, or Kurma, in that of a tortoise; Varaha, as a boar, Vamana, as a dwarf; Narasimha, half lion; Vamana, as a dwarf; Parasurama, as the son of Jamadagni. All these took place in the Suya Yuga, or golden age. The others are more recent.

The seventh incarnation is called Rama-chandra avatara, the descent of Vishnu to destroy a giant. Their contests are the established story of an extended epic called the Rámâyana. The eighth avatar, called Bala-Bhoma, was in order to chastise other giants; the ninth, Buddha, had a similar object. The Kalki, or tenth avatar, is yet to come at the end of the Kali Yuga, or the iron age. See Indian Mythology.

AVELINO, also AVE MARIA, among the Catholics; the beginning of a prayer to the holy Virgin, whose whole prayer is called Ave Maria. Ave, in Latin, means hail. Ave Maria! is Hail Mary! It is the beginning of the salutation which the angel addressed to the Virgin, as he announced to her that she should be the mother of the Saviour (Luke i:32). Ave, gratia plena: Dominus tecum; benedicta tua in mulieribus. The name Ave Maria is also given to some little balls in rosaries, each of which denotes a prayer, called Ave Maria (see Rosary); while the larger balls denote a Pater-noster. As in Italy, a ball denotes the name of a saint, and the rosaries used there are decorated with the figures of saints. The people address their prayers to the Queen of heaven, the close of the 24th hour, which, according to the Italian division of time, coincides always with sun-set, is called Ave Maria; and it is usual to say, at Ave Maria, half-past Ave Maria, &c., instead of at 24 o'clock, half-past 24, &c. The explanation has been taken advantage of with very beautiful effect by Lord Byron in the third canto of his Don Juan—

Ave Maria! Blesséd be the hour,
The time, the place, the spot, where I am:
I have felt that moment in its fullest power,
She felt the bliss, she felt it loud and clear.

Ave Maria! 'tis the hour of prayer;
Ave Maria! 'tis the hour of love;
Ave Maria! may our spirits dance To a like delight, to a like song!

Ave Maria! oh! that face so fair
That painting is no idill, 'tis too like.

AVEN, or ELVIN; a considerable stream in the middle part of Lancashire, which falls into the Clyde a little above Hamilton. Aven is also the name of a river which divides Stirlingshire from Linlithgowshire, and falls into the frith of Forth between Grange- mine and South Queensferry. Hill is also the name of a tributary streamlet of the Spey.

AVETINE, John (properly Thurmayr), a historian, born at Abensberg, in Bavaria, in 1477, studied at Ingeolstadt and Paris, and afterwards gave lectures at Cracow and Ingeolstadt. In 1512, he was appointed tutor to two Bavarian princes, with one of whom he visited foreign countries. In 1517, he was appointed Bavarian historiographer, and wrote his famous Annales Botorum (first edition by Gundling, Leipsic, 1710, folio), and his Bavarian Chronicle, both standard works for German history. His Rudolph Promontor Latiniene were published in 1512, and contributed much to advance the study of philology in Germany. He died Jan. 9, 1534.

AVENZOAR, or DENI ZOHAR; an Arabian Physician of the 12th century, born at Seville, in Spain, where his father practised medicine. He became known in his profession, travelled much, and passed through many adventures, among which was a long imprisonment at Seville. He laid the care of an hospital, and composed a work entitled Al Thester, containing a compendium of medical practice, and including many facts and observations which, though separate, were probably the result of his own experience.

He died at Morocco in 1169. The report of his having lived to the age of 135 is probably an error, arising from his having been confounded with his son, of the same name and profession, who lived at Mec- chech, and was the author of a treatise on the regimen of health.

AVERAGE, common, customary, or petty. In case of shipments of goods, the bills of lading often contain a stipulation that the shipper shall, besides a certain rate or amount of freight money, also pay "prime and average." The word average, in this place, originally denoted several petty charges, such as towage, beauncage, &c., or were borne by the ship, freight, and cargo, the kind and amount of which are very various, being determined by the marine ordinances of some countries, and by the usages of particular ports. There is often a great variety in the usages at the different ports of the same country in this respect. But the practice has come very much into use in Great Britain, and is general in the united states, to allow a certain rate per cent, on the value of the freight and cargo. The shipper, by paying the bill of lading, provides for the payment of these. The printed form of the bills of lading usually contains the words primeage and average, with a blank space, so that, when filled up, it reads either with or without primeage and average, according to the agreement of the parties. Average, general, or gross, consists of expenses incurred, sacrifices made, or damage sustained, for the common benefit of ship, freight, and cargo, and comprehends jetson (the loss sustained by throwing overboard a part of the cargo, or of the provisions, tackle or furniture of the ship, for the general safety, or the cutting away of a mast, and also ransom paid to pirates, compromise with captors) if permitted by the laws), the damage occasioned by purposely running the vessel on shore, and, by the usage of some countries, the expense of getting a stranded vessel afloat, though it may be partially stranded, and the expenses of delaying the voyage to seek a port to refit. The expenses and damage that are the subjects of contribution in general average, must be divided among all the parties to whom the ship, freight, and cargo, belong, in the proportion of their sove and from the several interests. Contribution for damages is provided for in the maritime laws of Rhodes, and therefore adopted into the
Roman code.—Average, peculiar, is the loss, expense, and damage sustained on a ship, freight, or cargo, which is to be borne by the party to whom the interest belongs, on the claim upon the other for interests for contribution, and, in general, comprehends loss or damage that happens accidentally, and is not incurred voluntarily and purposefully. It is also called partial loss, which description is likewise applied to a loss of only a part of the value of the interest herein, in distinction from a total loss.

AVERNO; a lake in the kingdom of Naples, between ancient Cumae and Puteoli. It is circular, in some places 180 feet deep, and surrounded by hills of a moderate height, which used to be covered with immense woods, so that gloom and darkness surrounded the lake, and accumulated effluvia filled the air with contagion. These woods no longer stand, but the regions about the lake are still unhealthy. In ancient times, a savage people fed hither, who only ventured out by night. Their conduct struck terror into the neighbouring people, whose stories gave rise to the fable of the Cimmerians, who lived in perpetual darkness; and the idea arose, that the dead were here called up from the infernal world. Homer makes this lake the entrance to hell, and describes the visit of Ulysses to it. Virgil has followed Homer in this way, and certain verses also, were taken up their residence at this lake, who dealt in conjurations, exorcised spirits, &c., and carried on their occupation only by night. Hence this wood became the grove of Hecate.

Averroes (corrupted from Ebne or Ibn Rushd); the most renowned of the Arabian philosophers, and inquisitor of Moses Maimonides, was born at Cordova, in Spain. His father, chief magistrate there, instructed him in the Mohammedan laws, and appointed Topshah to teach him theology and philosophy. His talents and knowledge procured him the succession to his father's office. The King of Morocco appointed him cadi in the province of Mauritanian. But his success was envied, and he was accused of rejecting the established religion, and, in consequence, deprived of his offices, and banished to Spain. He returned to Cordova, where he was assisted by his scholar Maimonides; but was soon persecuted there also, and fled to Fez. Here he was condemned, by a spiritual court, to recant, and undergo a public penance. Upon this, he went back to his own country, where the caliph Almansor, after a time, restored him to his dignities. He died, after an active life, at Cordova, in 1217 or 1218. In the estimation of Aristotle as the greatest of all philosophers, and explained his writings, with only a slight deviation from his views. The Alexandrian doctrines, also, had much influence upon him. Against the orthodox Arabians, particularly against Algaali, he set himself up as a defender of philosophy on rational principles. He was called, among the Arabians, by way of eminence, the Interpreter (of Aristotle). They adhered very closely to his translation of Aristotle, made from the Syriac. He wrote, also, a compendium of physic, called Colleet, or Universall, and many treatises in theology, philosophy, jurisprudence, and medicine.

AVESNES, or AVENNES; one of those many fortresses which protect France on the side of Germany, and which mostly originated under the restless Louis XIV. It was also one of the fortresses kept by the allies both in the terms of the peace of 1815. Lon. 4° E.; lat. 50° 7' N.

AVETRON, département de l'; a French department in the former Gueyenne and Garooge. See Department.

AVENARY. The avairy was common to the country-houses of the Romans, but with peculiarly, as it would appear from Pliny, for birds destined to be eaten. Singing-birds, however, were kept by the Persians, Greeks, and also the Romans, in wicker-cages; and these utensils, no doubt, gave rise to the large and elegant aviaries of the other country, and in what age, appears uncertain. They are highly prized in China. In the alterations which took place during lord Amherst's embassy, it was stated, on the part of the emperor, that Sir George Hamilton had built himself a house and an aviary. That they were in use in England in Evelyn's time is evident from a memorandum entered in his diary, that the marquis of Argyle took the parrots in his aviary at Sayes' court for oculo. — The canary, or singing-bird aviary, used not infrequently to be formed in the opaque-roofed green-house or conservatory, by enclosing one or both ends with a partition of wire, and furnishing them with dead or living trees, or spray and branches suspended from the roof for the birds to perch on. Such are chiefly used for the canary, bullfinch, linnet, &c. — The parrot aviary is generally a building formed on purpose, with a glass roof, front, and ends; with shades and curtains to protect it from the sun and frost, and a flue for winter heating. In these, artificial or dead trees, with glazed foliage, are fixed in the floor, and sometimes cages hung on them; and at other times the birds are enclosed in an aviary, which is so fixed, that in addition to houses for the different sorts of birds, a net or wire curtain is thrown over the rows of trees, and supported by light posts or hollow rods, so as to enclose a few poles or even acres of ground and water in various forms. In this the birds in fine weather sing on the trees, the aquatic birds sail on the water, or the gold-pheasants stroll over the lawn; and in severe seasons they betake themselves to their respective houses or cages. Such an enclosed space will of course contain evergreen as well as deciduous trees, rocks, reeds, aquatics, long grass for larks and partridges, spruce firs for pheasants, furze-bushes for linnets, &c. An aviary, somewhat in this way, was formed by Catherine of Russia, in the Hermitage palace. These are the only sorts admissible in elegant gardens; since nothing, to one who is not an enthusiast in this branch of natural history, can be more disagreeable than an apartment filled with the dirt and discordant music of innumerable birds; such, for example, as the large aviary at Kew. Birds from the hot climates are sometimes kept in hot-houses among their native plants, as in the large conservatories at Vienna. In the case of birds, there is no question regarding whether they be kept in cages or free, or be covered with wire cloth, and the number must not be great, otherwise they will too much disfigure the plants with their excrement. — Gallinaceous aviary. At Chiswick, portable netted enclosures, from ten to twenty feet square, are distributed over a part of the lawn, and display a curious collection of domestic fowls. In each enclosure is a small wooden box or house for sheltering the animals during night, or in severe weather, and for breeding. Each cage or enclosure is contrived to contain one or more trees or shrubs; and water and food are supplied in small basins and appropriate vessels. Curious varieties of aquatic fowls might be placed on floating aviaries on a lake or pond.

AVICENNA, or EBN-SINA, an Arabian philosopher and physician, was born at Assena, near Baghara, A. D. 983; possessed a very strong memory, and, after going through a course of study with various masters, became a pupil at the school of Bagdad, where he exhibited indefatigable industry, and no inconsiderable portion of fanaticism. According to his own account, he read the metaphysics of Aristotle, and afterwards selected them among them. He completed his studies at the early age of
Avienus—Axiom

18, and began to practise as a physician. He soon acquired a degree of reputation which reached the ears of the various Eastern princes, all of whom were desirous of retaining him in their service; but he finally yielded to the importunities of the Scotch, who appointed him his physician and grand vizier. His unflagging love of pleasure, however, soon made him lose his post and his master's favour; and the remainder of his life was spent in great adversity, as he was charged with the crime of heresy, in addition to other accusations. He died at Hamedan, in a pleasant situation, A. D. 1036, aged 58. A left many writings, mostly commentaries on Aristotle. They consist of twenty books on the Utility of the Sciences; the Heads of Logic; and various pieces in metaphysics and morals. Of his medical works, the principal is called Cane Medicinae, which is thought very lightly of by Haller and Fremai. His works were printed in the original Arabic, at Rome, in 1497, more than one Latin version of which has been translated, the latest being that of Vopacius Fortunatus, (Louvain, 1651).

Avienus, Rufus Festus; a Latin poet of the fourth century. The works attributed to him are, Latin versions of the Phenomena of Aratus, and Periplus of Dionysius, &c. Some of these productions still remain, and show him to have been a tolerable versifier. The best edition of his works is that of Cannegger, 1731. Very little, is known of his history.

Avignon, chief city of the department of Vaucluse, in the south-eastern part of France, on the Rhone, with narrow and crooked streets, contains a great number of churches and sacred buildings, among which is the church of the Franciscans; several scientific institutions, and among them an athenaeum and a medical library; 2800 houses, and 24,000 inhabitants; respectable silk manufactories, silk-dyeing establishments, and other works. The country is agreeable, and extremely fruitful in corn, wines, olives, the Avignon berry (of a yellow colour), kermes, sumach, and the richest fruits of the south. Here Petrarch lived several years: here he saw his Laura, who formed the subject of his most beautiful verses, and whose tomb is still to be found in the Franciscan church. The fountain of Vaucluse is five leagues from A. This city and its district, in the middle ages, was a county which the popes, who had already received the county of Venaissin, in 1273, from king Philip the Bold, as a present, bought of Joanna, queen of Sicily and countess of Provence, in 1311, for 50,000 florins. Joanna had fled to Provence because Louis I, king of Hungary, wished to take revenge on her for the death of his brother, her husband, whom she had caused to be murdered. The papal government retained the two provinces, under the rule of a vice-legate, till 1790, when, after many stormy scenes, the city, with its district, was annexed to the French republic, and, in 1791, was formally united with it. At the peace of Tolentino, the pope renounced A. and Venaissin. Louis XIV, and Louis XV, several times took possession of A., when offended with the pope. From 1695 to 1757, seven popes in succession fixed their residence in this city. The Catholic historians commonly call this period the Babylonian captivity of the popes. Near A. are found many Roman antiquities.

Avoirdupois (French, avoirdu pois); a kind of weight, of which a pound contains 16 ounces, and is in common use. In France, for 50,000 florins, Joanna had fled to Provence because Louis I, king of Hungary, wished to take revenge on her for the death of his brother, her husband, whom she had caused to be murdered. The papal government retained the two provinces, under the rule of a vice-legate, till 1790, when, after many stormy scenes, the city, with its district, was annexed to the French republic, and, in 1791, was formally united with it. At the peace of Tolentino, the pope renounced A. and Venaissin. Louis XIV, and Louis XV, several times took possession of A., when offended with the pope. From 1695 to 1757, seven popes in succession fixed their residence in this city. The Catholic historians commonly call this period the Babylonian captivity of the popes. Near A. are found many Roman antiquities.

Avon; the name of several rivers in England, the most important of which are the following four. 1. Rising in Leicestershire, runs S. W., and falls into the Severn at Tewkesbury. Stratford-on-Avon, a town on this river, is celebrated for its buildings. 2. In Monmouthshire. 3. In Wiltshire, enters the English channel at Christ-church bay, in Hampshire. 4. The Lower Avon, which rises near Tetbury, in Gloucestershire, and falls into the Severn N. W. of Bristol, being navigable as far as Bath.

Avius. See Adulom.  

Avitus; a part of the fertile territory of Alaba, on the Gold Coast. The Dutch have a fort here, called fort Anthony, situated on the most western promontory of cape Three Points. The Portuguese founded the first settlement here, but were driven from it by the Dutch, in 1642. — Avin is likewise the name of a river which runs through the capital of this country, called, also, Avin.

Axiom (principle); a universal proposition, which the understanding must perceive to be true as soon as it perceives the meaning of the words, though it cannot be proved, because it is impossible to make it plainer. It is therefore called a self-evident truth. To these propositions belong, indisputably, those in which the subject and predicate are either the same or are only expressed in different words, since we cannot think a thing is really different from itself: for instance, A is A; Every quantity is like itself; A thing is like itself; A thing cannot, at the same time, be and not be; &c. To axioms belong also propositions, of which the predicate expresses only some idea which enters necessarily into our conception of the subject. Such is the proposition, A triangle has three sides, because the subject, triangle, cannot be conceived otherwise than three-sided. All reasoning must start from axioms. There has been much dispute what proposition is to be regarded as absolutely first in all human knowledge. Some have considered as such the position, It is impossible for a thing to be and not to be at the same time; others, Whatsoever is, is; others, Every thing either is or is not; others, the principle of contradiction; and others, the principle to regard any thing as true without proofs, or any thing false against established proofs. All these positions are fundamental truths. They all have this in common, that we cannot help regulating our thoughts, in the judgment of truth, conformably to them. They are all necessarily believed to be true. Many principles, however, are esteemed, by one class of men, self-evident, which another will not admit. There can never, therefore, exist perfect uniformity in human reasoning. There is only one science, which starts from axioms acknowledged by all mankind, and which, therefore, is of a more general character than any other—viz. mathematics. But about some principles of every other science, which are generally considered axioms, great doubts have existed. Thus it is regarded as an axiom of moral philosophy, that There exists a distinction, in the nature of things, between moral good and evil. This can be moved, but it is generally admitted; and all our social, political, and religious relations are regulated by this principle; yet there have existed men of acute minds, who have disavowed this axiom altogether, and made interest the sole rule of conduct. Many of them lived in the
time of Helvetius. (q.v.) It has always been a great question in philosophy, whether these axioms are in- nate or drawn from experience.—Bacon calls axiom a general principle, obtained by experiment and ob- servation, from which we may safely proceed to reason. In this sense it gives the name of axiom to the laws of motion, which, of course, are ascertained by the investigation of na- ture; he also terms axioms those general, experimen- tal truths, or facts, which form the ground-work of the science of optics. Dugald Stewart thinks that, in his day, the word was used in a sense analogous to Newton's phraseology "too implicitly."

Axis, in geometry; the straight line which divides the area of a curved figure (e. g., of a circle, ellipse, &c.) into two parts, similar and similarly situated, on both sides of the line. Further, a straight line drawn from a point in the periphery through the centre of a sphere is its axis; and a straight line drawn from the vertex of a cone through the centre of its base, is the axis of the cone.—The axis of the world is the imaginary line drawn through its two poles and its centre.

Axium, Axium, Arxum, or Aesum; a city in Tigris, a province of Abyssinia. Neither Herodotus nor Strabo mentions A., though, in the first century after Christ, it was repeatedly spoken of, and particularly about the time of Ptolemy, as the chief city of an impor- tant kingdom, which, through Asia, was connected with Ethiopia. At the time of the periplus of the Red Sea, A. was the great depot of the ivory trade. The importance of this city and its kings was first made known to us by a stone (Aesumitic marble) with a Greek inscription, first ex- plainsed by Salt, who discovered it, and afterwards by M. de Wendel, in the Museum des Alterthums- weissen, e. Wolf und Buttman, 3d vol., p. 515.) This inscription, like similar ones that have since come to us from that quarter, contains an ac- count of the eminence of one Aiamas (a boasting king, who called himself a son of Mars) towards several inferior Kings, whom he conquered, the interest in this inscription was increased by the ex- planation which it afforded of the second half of the Adulanic marble. (q.v.), which is the place where the stone was found, still exhibits many remains of its former great- ness. Among its ruins are shown the royal throno, and house of obelisks and obelisks. A. is originally a city, one of which Salt declared to be the most beautiful that he had seen. Cotton goods, and the finest parch- ment, are still manufactured here.

AYACUCHO, BATTLE OF. This engagement is one of the most celebrated in the history of South America, having been decisive of the independence of Upper and Lower Peru. For several months before this event, the Colombian auxiliary army, under general Sucre, and the royalist army, under the viceroy La Serna, had been moving in face of each other with va- rious success, but, on the whole, to the disadvantage of the Colombians. Sucre and his men were anxious for battle; and at length La Serna determined to engage them on the plain of Ayacucho, Dec. 9, 1825. The royalist force consisted of 5,310 men, that of the patri- otics of 5,780 men. Generals Sucre (the commander- in-chief) and a number of the Meridian generals turned themselves on this occasion, and the battle terminated in the total defeat of La Serna, who was taken prisoner, with the loss of 1800 men in killed and wounded, and in the capitulation of Cenarte, the second in command. Of the patriots, only 370 were killed, and 500 wounded. The battle filled all Spanish America with rejoicings, as it effec- tually accomplished the delivery of Peru from the Spaniards. See Peru, Bolivia, Sucre.

AYESHA; daughter of Abubeker, the favourite wife of Mahomet, the Arabian prophet, though she bore him no child. After his death, she opposed the succession of Ali, raised an army against him, and was taken prisoner, but dismissed with that spirit of chivalry which had already arisen among the Arabi- ans. Her name became common in the East for womanly passion. She died in 677, it is said, sixty-seven years old.

AYR; a river of Ayrshire, which runs a course westward eighteen miles, intersects the district of Kyle, and finally loses itself in the frith of Clyde, below Portencross. Ayr; a royal burgh, and capital of Ayrshire, is situated on the southern bank of the river Ayr, near its confluence with the frith of Clyde. It is distant seventy-six miles W. S. W. of Edinburgh, and thirty- four S. S. W. of Glasgow. The place has been inhabited from a remote antiquity. It was the site of a Roman station, and it is generally understood that a hamlet remained here up to the reign of William the Lion, in 1197, when that monarch engrafted a new town upon the older settlement. About the year 1202, William constituted the town a royal burgh, and granted Wallace a charter. He was one of his patriotic exploit, and a strong garrison was placed in the town by Edward I. The tower of the ancient church of St. John, where a parliament sat and confirmed Robert Bruce's title to the crown, and which Cromwell converted into a cattle- pen, was formerly the public accountant's or saving's- bank, a dispensary, jail, and court-house. The government of the town, by charter of William the Lion, is vested in a provost, two bailiffs, a dean of guild, a treasurer, and twelve councillors. Its trade is chiefly with Ireland; the export consists of cottons, woolens, iron, coal, whetstones, paint, &c., and the imports of grain, spirits, timber, slates, bricks, and lime. At the mouth of the harbour are two reflecting lights; its channel, however, is too shallow to admit vessels drawing more than twelve feet. The river is swift, and in some places is much impeded by a shifting bar of sand. About 6000 tons of shipping, from 200 tons downwards, and 500 seamen, belong to this port. Ship-building is carried on to some extent, also tanning, boot, and shoe-making, and the manufacture of soap. Compa- nies are established here for catching and curing white fish, which abound in great variety in the flats and sand-banks along the shore; the salmon fishery is also prosecuted with success. This is a considera- ble resort of the gentry, particularly at the seasons for holding the Caledonian hunt and the races, which are most seriously attended. The population of the parish and burgh of Ayr in 1831 was 7,606.

AYR; a parish of Ayrshire, which to annex the ancient parish of Alloway, in the district of Kyle. It includes also the town of Ayr, and is watered on the north by the Ayr, on the south by the Don, and in the west by the Clyde, which bounds it on the west. The soil is well cultivated, and adorned with fine seats and plantations. The frith and rivers abound with fish, the trade in which is carried on with success. Here are courts in plenty, and a noted chalybeate spring, found at near the celebrated Winton to the south of Ayr, and called the Slee's spring. It is the residence of the Duke of Hamilton, the Duke of Buccleuch, the Duke of Montrose, and Sir James Hamilton of Finnart, Bart. See Ayrshire, Kyle, Alloway, Kirk-Irton, Stewartry, and Succotash.
that town and the village of Alloway. It is pointed out to the notice of travellers by a sign-board and inscription. A monument has been erected to the memory of Robert Burns, who was born in Alloway, where he lived until his death in 1796. The village, however, is not the site of his birthplace.

The parish of Ayr extends along the south side of the river Ayr, this small parish is situated on the north side of the same river. It is a burgh of considerable consequence, having a baronial jurisdiction, and governed by a magistracy elected by freemen, but without parliamentary representation. It is of very ancient erection, owing its privileges to Robert Bruce; who, upon being attacked by leprosy, came to reside in this place, and was induced to establish a lazarette, and to confer considerable favours on the town, and on the small village of Priestwick, about two or three miles distant. In Newton-upon-Ayr are a number of very good houses. It has a tolerably good harbour, chiefly occupied with the coal trade. From its situation on the banks of the Ayr and the sea-coast, the soil is mostly flat and sandy. Its extent is about three miles in length and one and a half in breadth. In 1831 the population was 18,549, of which 11,826 were males and 6,723 were females.

AYRSHIRE, or AYRSHIRE; an extensive maritime county on the western coast of the lowlands of Scotland, bounded by Renfrewshire on the north, the counties of Dumfries and Lanark on the east; by Wigtown and the Stewartry of Kirkcudbright on the south; and by the Irish channel and the frith of Clyde on the west. It used to be divided into three districts of Cunningham on the north, Kyle in the centre, and Carrick on the south; the latter of which, although the least fertile, abounds most in picturesque beauty. The soil varies considerably: towards the sea-shore it is for the most part sandy, with an occasional intermixture of rich loam. More inland, it is composed of a large proportion of stiff deep clay, which, when properly cultivated, is highly productive. In some parts this clay is only superficially spread over a substratum of schistus and till, and in a few places a gravelly soil prevails. Towards the east the country is hilly, naked, and unfruitful, with the exception of patches of rude pastureage, and fern, and peat moss. Most of the rivers in the south of Scotland rise from the ridge of which the mountains in the district of Carrick, rising from 1000 to 2000 feet above the level of the sea, form a part. Of these, the Ayr, the Doon, the Lugar, the Stinch, and the Girvan, intersect this county, and discharge themselves into the Irish channel. In the district of Kyle is Lake Doon, six miles in length, from which issues the river of the same name. The sea-coast, which is the most thickly interspersed with towns and villages, possesses the six harbours of Ayr, Irvine, Saltcoats, Ardrossan, Troon, and Dunure. That of Troon has been much improved by the recent construction of a pier, and is further benefited by the formation of a rail-road to Kilmarnock. The principal towns and villages are the royal burghs of Ayr and Irvine, Kilmarnock, Old Cumnock, Saltcoats, Tarbolton, Mauchline, Beith, Kilmarnock, Dalry, Catrine, Larss, Girvan, and Ballantrae. On the shores of Carrick are several remarkable caves, and the stupendous rock of Ailsa rises nearly opposite Girvan. Carrick has been of late years prudently governed in this county of late years, principally owing to the establishment of the Douglas and Heron bank, which, by affording temporary facilities to landed proprietors, induced them to plant and improve their estates, although in several instances with very fatal results to themselves, when too sanguine speculations failed. Roads were opened, and canals formed by similar assistance, to the great benefit of the county, however unfortunately for individuals. Tillage is most productive near the river Ayr, the interior and mountainous parts being chiefly dedicated to the rearing of cattle, which are produced in great numbers, and highly valued. This shire is also celebrated for the best cheese in Scotland, of which it exports great quantities. The most important mineral found in Ayrshire is coal, seams of which are discovered in almost every parish, so that 100,000 tons have been exported annually. It also abounds in lime-stone, free-stone, iron-stone, and lead-ore, of which the most considerable mines are in the parish of New Cumnock. To the above must be added copper-ore, plumbago, barytes, crystal of zeolite, gypsum, agates, and a kind of whet-stone, called water-of-Ayr stone, much valued by cutters. In most of the lakes there is plenty of marl, and great quantities of sea-weed are thrown ashore, which is manufactured into kelp. The abundance of fuel in the county renders it peculiarly adapted to manufactures, and, accordingly, those of cotton, woollen, thread, and muslin, are carried on to a great extent, in addition to considerable iron-works at Muirkirk and other places. The salmon fisheries, in which species of fish the river Ayr abounds, likewise form a considerable source of profit to the different landed proprietors, while the sea-coast abounds with all kinds of white fish, and one or two companies are formed in the town of Ayr for curing them. Ayrshire is the seat of many noted Scottish families, among which may be enumerated the Kennedys, the Cunningham, the Cochranes, the Stewarts, the Montgomeries, the Boys, the Blairs, the Boswells, the Oswalds, and the Campbells. The monuments of antiquity are numerous, including cairns, encampments, Druidical circles, and the remains of various castles, one of the most remarkable of which is that of Kilbirnie, in the district of Cunningham, near a beautiful lake. The following abstract will exhibit a comparative view of the population of Ayrshire in 1811, 1821, and 1831:—

### Table: Population of Ayrshire

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Population</th>
<th>Number of Houses</th>
<th>Number of Families</th>
<th>Number of Inhabitants in Ayrshire</th>
</tr>
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<tbody>
<tr>
<td>1811</td>
<td>135,671</td>
<td>23,184</td>
<td>6,862</td>
<td>63,506</td>
</tr>
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<td>63,506</td>
</tr>
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In 1821 the population of Carrick amounted to 43,398; of Cunningham to 65,906; and of Kyle to 68,061; total 148,868.

ATTON, Sir Robert; an elegant poet during the reign of James VI., was born in Fifeshire, Scotland, 1570, and studied at St Andrews. He afterwards resided for some time in France; whence, in 1603, he addressed an elegant panegyric in Latin verse to King James, on his accession to the crown of England, which was printed at Paris the same year; and
this panegyric had, no doubt, some influence in securing to the author the favour of that monarch, by whom he was successively appointed one of the gentlemen of the bed-chamber, private secretary to his queen, Anne of Denmark, besides receiving the honour of knighthood. He was, at a later period of his life, honoured with the appointment of secretary to Henrietta Maria, queen of Charles I. During his residence abroad, as well as at the court of England, he lived in intimacy with, and secured the esteem of, the most eminent persons of his time. He died at London, in March, 1637—8, and was buried in the south aisle of the choir of Westminster Abbey, where a handsome monument was erected to his memory. The poems of Sir Robert Aytoun, for the first time published together, in the Miscellany of the Bannatyne Club, are few in number, but are greatly distinguished by their elegance of diction, John Aubrey remarks, "that Sir Robert was one of the best poets of his time," and adds the more important testimony, that "Mr John Dryden has seen verses of his, some of the best of that age, printed with some other verses." According to Dempster, Aytoun was also a writer of verses in Greek and French, as well as in English and Latin. Several of his Latin poems are preserved in the work called, "Deliciæ Poetarum Scotorum," which was printed in his lifetime (1637) at Amsterdam.

AZERBIJAN; a province of Persia, part of the ancient Media. It is separated from Armenia on the north by the river Araxes, and from Irak on the south by the Kizil oxen or golden stream. It has the Caspian sea and Ghilan on the east, and Armenia and Kurdistan on the west. The country is superior to the southern provinces of Persia, being richly diversified with wood and water. Lead, copper, sulphite, and sulphur, are found within the confines of A.; also a kind of beautiful transparent marble or jasper, which takes the highest polish, and is used in the buildings of Tabreez, Schinaz, and Ispalun, under the name of Tabrezee marble. The province is divided into twelve districts. The chief towns are Tabras or Tabreez, containing 30,000 inhabitants; Meannah, Ardebil, Shebusher; Tasouj, in ruins; Shamh, with 2000 inhabitants; Chooee, with 25,000; Ooroomes, with 12,000; and Moraqes, with 15,000. The climate is healthful; in summer and autumn hot, but cold in winter, which is severely felt by the lower orders, owing to the want of fuel, for which there is no substitute except dried cow-dung mixed with straw.

AZIMUTH of a star; the arc of the horizon comprehended between the meridian of the observer and the vertical circle passing through the star. It is easterly, if the star is observed before, westerly, if after, and zero, if at, the time of culmination. It is usual to connect with the quadrant a graduated, horizontal circle, called the azimuth circle. The zero of its divisions is brought into the situation of the meridian, and we have immediately the azimuth of the star, whose height above the horizon is determined by the telescope of the quadrant.

AZOCA (from the Spanish azogue, quicksilver) were those Spanish ships, commonly called the quicksilver ships, from their carrying mercury to the Spanish West Indies, to extract the silver from the mines of Mexico and Peru. They were prohibited from carrying any goods except for the king of Spain.

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AZZARA—BABER.

363

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the service of the king of Spain. A. entered on the
career of diplomacy, was sent to pope Clement XIII.
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gistinguished himself in this post, and always maintained
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he was sent to the conqueror of Italy, to obtain his
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arte. He went soon after, in a diplomatic charac-
ter, to Paris, where the agreeable society and recep-
tion which he met with compensated him for the loss
of his old friends, of an elegant library, and a rich
collection of paintings and antiques. He was sub-
sequently recalled, banished to Barcelona, again sent
ambassador to Paris, and again deprived of this im-
portant office. His feeble health at last gave way,
and he died at Paris, Jan. 26, 1804.

B

B; the second letter in all European alphabets, in
Hebrew, and most other languages. It belongs to
the mutes and the labials, and, as all labials are easy
to be pronounced, b is one of the first letters which chil-

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portant office. His feeble health at last gave way,
and he died at Paris, Jan. 26, 1804.

B; the second letter in all European alphabets, in
Hebrew, and most other languages. It belongs to
the mutes and the labials, and, as all labials are easy
to be pronounced, b is one of the first letters which chil-

connection with the painter Mengs, who had entered
the service of the king of Spain. A. entered on the
career of diplomacy, was sent to pope Clement XIII.
as royal agent for ecclesiastical affairs, highly dis-
gusted himself in this post, and always maintained
a great influence in the most important negotiations
between his country and the papal court. (See
Dohm's Memoirs of Joseph II. and Rome.) In 1766,
he was sent to the conqueror of Italy, to obtain his
favour towards Rome. Bonaparte immediately con-
ceived an esteem for him, and, after this meeting, A.
always regarded him with admiration. At that time,
also, commenced his connexion with Joseph Bonap-
arte. He went soon after, in a diplomatic charac-
ter, to Paris, where the agreeable society and recep-
tion which he met with compensated him for the loss
of his old friends, of an elegant library, and a rich
collection of paintings and antiques. He was sub-
sequently recalled, banished to Barcelona, again sent
ambassador to Paris, and again deprived of this im-
portant office. His feeble health at last gave way,
and he died at Paris, Jan. 26, 1804.
on disposition; and he is noted as the first Indian sover- 
engaged in war, who had the road by which he travelled 
measured after him. See Dow’s History of Hindos- 

tan.

Babrius, Francis Noel; one of the numerous indi-

guals, of more zeal than judgment, who dis-

tinguished themselves during the French revolution. 
He was a Jesuit, and published a poem against the 
Jacobins, entitled, Du Systême de Dépopulaisons, 
and de la Famine, 8vo. Soon after, he started a democratic 
journal, called Le Tribun du Peuple, par Graceus Babef. 
He thenceforth went with great severity against the 
Jacobins, and even addressed severe reproaches to 
the national representatives. After the fall of 
Robespierre, to which he powerfully contributed, he 
openly attacked the terrorists, and, after the organi-

zation of the new government, in 1795, he resigned 
his journal, and advocated in it the most democratic 
principles, with such energy as to bring on him the 
verge of government powers. He became a direct 

den of the old regime, tried at Vendome, with some 
accomplished, declared 
guilty, and condemned to death, in 1797. He en-
daugher to destroy himself, but was prevented, 
and fell by the hand of the public executioner. 
The debates on his trial were published in 6 vols., 8vo.

Barrington, Anthony; a Catholic gentleman of 
Derbyshire, who associated with others of his own 
persuasion to assassinate queen Elizabeth, and deliver 
Mary, queen of Scots. The plot being discovered by 
Walsingham, the conspirators were executed in 1550. 
Barrington himself seems to have been put to death 
by this rash conspiracy by a romantic hope that Mary, 
in gratitude, would accept of him as a husband.

Baron; a common name applied to a genus of 
monkeys, with the exception of one species peculiar 
to Africa. This genus is the cynocephalus, or dog-

head monkeys of modern naturalists, and is divided 
to two sub-genera, well characterized by the 
difference of their tails: the first is called baboon, having 
the tail longer than, or nearly as long as, the body, 
and continuous with the dorsal spine; the second, 
named mangrill, is characterized by a short, slender, 
and dog-like tail, placed perpendicularly to the dorsal 
spine. There are four species of the first and two of 
the second sub-genus. The most striking peculiarity 
of the whole is the elongated, dog-like head, with 
its flat, compressed cheeks, projecting and strong 
teeth, and forehead depressed below the level of 
the superior margins of the orbits. Notwithstanding 
this close approximation to the shape of the dog’s head, 
the form and position of the eyes, combined with the 
give to these creatures a resemblance to humanity as 
skirmishing as it is disgusting. The whole aspect of the 
animal impresses the beholder with an idea of great 
physical strength, united with a temper at once 
irresistibly vicious and brutally ferocious. Such, at 
least, is the true character of the baboons capable of 
being ruled by the severest treatment. It is only 
when well constrained, that they can be even 
partially restrained: left to their own will, their 

dogs and guns, in order to destroy them, 
on account of the ravages they commit in the fields 
and gardens. They make a very obstinate and effect-

ual resistance to the dogs, and only retreat before 
men when armed with guns. They live exclusively 
on fruits, seeds, and other vegetable matters, which 
show how independent their disposition is of every 
thing but peculiarly adapted to this purpose, to 
which the lasciviousness of these despicable creatures, 
which, when in captivity, indulge their lubricity in 
the most disgusting manner—a circumstance which 
renders it unsafe for females to visit exhibitions of 
animals where these beasts form a part of the number. 

The baboons are not formidable to man, as a 
part of a caravan for general exhibition, without 
being carefully secured and well watched.

Babur. See Baker.

Babrians, of Babrius; a Greek poet, supposed to 
have lived a short time before the beginning of the 
Christian era. He turned the fables of Aesop into 
verse, of which work some fragments have been 
published in Fabulae Gr. Lat., cum Notis Neveleti, Frank- 
fort, 1660, 8vo. Mr Tyrwhitt printed, in 1776, Dis-
sertatio de Babrio, Fabularum Aesoparum Scriptore, 
containing all the information he could collect con-
cerning the Babrians.

Babylonia (now, Irak Arabi); an Old Asiatic 
empire, bounded E. by Susiana, S. by the Persian 
gulf and Chaldea, W. by Arabia Deserta, and N. by Media 
and Armenia, or Mesopotamia. As the Chaldeans 
possessed the whole country, it was also included 
under the name Chaldea. It is a level region, 
watered by two great rivers, the Euphrates, or Frat, 
and the Tigris. The former stream, which is almost 
always on a level with its low banks, overflows on the 
slightest occasion. It inundates the whole coun-
try every spring, when it is swollen by the waters 
from the mountains of Armenia and its branches as the 
Nile does Egypt. Nature has supplied the want of 
wood and stone by clay, which, when dried in the 
sun, or burned in furnaces, makes durable bricks, 
that even to the present time have resisted the effects 
of the climate in the ruins of the ancient city. For 
mortar, the inhabitants use bitumen, of which there 
are copious springs.

The extent of the old capital, Babylon, situated on 
the Euphrates, according to the representations of 
the ancients, approaches the miraculous. The walls 
are said to have been 350 feet high, and 87 feet 
wide, and surrounded by a moat 100 gates of 
brass, and to have been more than 60 miles in circuit. 
The temple of Belus and the hanging gardens were 
among the greatest curiosities of this gigantic 
city, of which almost every trace is destroyed. The 
Babylonians, one of the most ancient nations of 
the earth, of the Semitic race, as appears by their lan-
guage, which is an Aramaic or Syriac dialect, were 
three distinct people, with settled abodes, and a certain 
degree of scientific cultivation, as early as 2000 B. C. 

The Mosaic account mentions Nimrod as the founder 
of the first of these nations, and describes him as 
the father of these nations. (See Assyria.) B. C. 630, the Chaldeans, 
a wandering people, under Nabopolassar, descended
BACCA LAUREUS—BACCHUS

from Taurus and Caucasus, conquered Western Asia, destroyed Jerusalem under Nebuchadnezzar (588), subjected Tyre and Phenicia, and founded an empire which extended to the shores of the Mediterranean. Babylon had even earlier, was once a princely oriental

island, particularly of astronomical and astrological

knowledge, was the capital of this empire. Commerc
ced and industry introduced wealth, and this pro
duced a love of luxury and magnificence. The

buildings, Babylon, lies for more than a thousand years, the philosophical course, in one of the royal colleges,
institutes of education or divinity schools, in which

philosophy is taught. Those candidates, likewise,

who have been educated and instructed in the house

of their father, or uncle, can, be admitted to the bacca
dculus. The candidates for the academical degree of bacca

laurus are examined in all that is taught in the higher classes of

the royal colleges, that is, in Greek and Latin au-

thors, rhetoric, history, philosophy, the elements of

mathematics, and particularly of that branch of art

which they drive them from the year,

At the commencement of the 5th year, the

candidates are admitted to the bacca
dculus. The candidates for the academical
degree of bacca

laurus are examined in all that is taught in the higher classes of

the royal colleges, that is, in Greek and Latin au-

thors, rhetoric, history, philosophy, the elements of

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thors, rhetoric, history, philosophy, the elements of

mathematics, and particularly of that branch of art

which they drive them from the year,
and saved the gods from impending ruin. According to some, he escaped the dangers which surrounded him in this conflict, by transforming himself into a lion. During the rejoicings for victory, Jupiter joyfully presented his son, Bacchus, (in the person of a youth) with which words Bacchus was afterwards usually saluted. We find him represented with the round, soft, and graceful form of a maiden, rather than with that of a young man. An ornament peculiar to him is the torm. His long, waving hair, is kept in the form of a Bouch, and is wreathed with sprigs of ivy and vine-leaves. He is usually naked; sometimes he has an ample mantle hung negligently round his shoulders; sometimes a fawn-skin hangs across his breast. The bearded Bacchus is properly of Indian or Egyptian origin. The golden horns (the symbol of invincible force) upon his head, were hidden by the Greek sculptors, or shown but little.

The feasts consecrated to Bacchus were termed Bacchanalia, Dionysia, or, in general, Orgia. They were celebrated with particular solemnity in Athens, where the years were universally reckoned by them. During their continuance, the least violence towards a guest was a capital crime. These orgies were celebrated in spring. The most important part of the celebration was a procession, representing the triumph of Bacchus. This was composed of the above-mentioned train of Bacchantes, of both sexes, who, inspired by real or feigned intoxication, wandered about, rioting and dancing, and gave themselves up to the most extravagant licentiousness. They were masked, clothed in fawn skins, crowned with ivy, and bore in their hands drinking cups and spears entwined with ivy (thyrsi). Amidst this mad crowd marched, in beautiful order, the delegated body of the senate (composing of citizens). They bore upon their heads consecrated baskets, which contained first-fruits of every kind, cakes of different shape, and various mysterious symbols. This procession was usually in the night-time. The day was devoted to spectacles and other recreations. At a very early hour, they went to the theatre of Bacchus, where musical or dramatical performances were exhibited. All over Athens reigned licentiousness and revelry. These feasts passed from the Greeks to the Romans, who celebrated them with still greater dissoluteness, till the senate abolished them, B. C. 187. (On the Pansa, see the essay of P. N. Rolle, Recherches sur le Culte de Bacchus, Paris, 1824, 3 vols.)

BACCHYLIDES: born in Iolus, a city of the island Cos; the last of the ten great lyric poets of Greece, whom the Alexandrine canon declared classical. The nephew of Simonides, and a contemporary of Pindar, he is placed as a poet beside them. Hiero, at whose court he lived, esteemed him very highly, and preferred him even to Pindar. Of his odes, hymns, psalms, triumphal songs, the few fragments which remain are collected in some editions of Pindar, and in the Anales of Brunck: there are many traces of him in the odes of Horace. Without having the impetuous eagle-flight of Pindar, he was neither destitute of fire and energy, nor of grace and richness.

BACCIO DELLA PORTA, Francesco Bartolomeo; a celebrated painter, better known under the name of Fra Bartolomeo di San Marco, was born in 1499, at Savignano, near Prato in, Tuscany. He learned in Florence, the first principles of painting from Cosimo Rosselli, made rapid progress, and acquired, by studying the works of Leonardo da Vinci, that beauty and grandeur of style, that vigour of colouring and outline, by which his later productions are distinguished. At this time, he undertook his famous fresco in the church-yard of the hospital Santa Maria Nuova, regarded as the most perfect of his productions. The monastery was besieged, and B. made a vow to become a monk, if he should happen escape this peril. In consequence of this vow, he took the Dominican habit in the same monastery, 1500, and assumed the name of Fra Bartolomeo. This event agitated him so much, that, for the space of four years, he did not touch his pencil, and employed it afterwards only on devotional subjects. The pictures which he executed at this period are superior to his earlier productions. Raphael visited Florence in 1504, and contributed to the brilliant success of Fra Bartolomeo. The latter learned perspective from his friend, and gave in return to the former the effects of his art.

Some years afterwards, he visited Michael Angelo and Raphael at Rome, and had the rare modesty to do homage to their great talents by confessing his own inferiority. After his return to Florence, he executed several religious pictures, among which were a saint Mark and saint Sebastian, two compositions which obtain the admiration of every connoisseur. His style is severe and elevated, but, at the same time, very graceful in youthful figures; his colouring possesses vigour and brilliancy and comes near to that of Titian and Gior- gione. But he particularly excels in drapery, which he represents with a simplicity and purity, that in none before him represented with equal truth, fullness and ease. He died in 1517. His disciples were Cecchino del Frate Benedetto, Camfinian, Gabriel Rustucci, and Fra Paolo of Pistoia, who inherited his designs. His excellent pictures are preserved in the gallery of the grand duke at Florence and in the palace of Pitti.

BACCIOCCI, Felix Pascal, formerly prince of Lucca and Piombino, husband of Elisa Bonaparte, sister of Napoleon, born May 18, 1762, in Corsica, of a noble but poor family, entered the army as a cadet, and was a captain when Bonaparte commanded the army of Italy in 1800. At this time his marriage took place. She was the daughter of a general-in-chief. In 1806, he received the title of prince, from the principality of Lucca and Piombino, assigned to his wife, whom, after the revolution of 1814 and 1815, he accompanied into banishment. From that time he lived with her and his son, under the surveillance of the Austrian government, at Turin.

His wife, Maria Anna Eliza Bonaparte, born at Ajaccio, Jan. 8, 1777, and educated in the royal institution for noble ladies at St Cyr, had lived with her mother at Marseilles, during the revolution. In 1797, she married captain Bacciocchi, according to the wish of her mother, but without the consent of her brother, who was then general-in-chief. In 1799 she went to Paris, and resided there with her brother Lucien, who awakened in her a taste for poetry and the fine arts. She collected around her the most accomplished men of the capital, among whom was the painter Bouchotier, the viscount Chateaubriand, and the marquis de Fontanes. Generous as she ever was towards distinguished talent, she conferred particular obligations on the two last.
Fontanes was patronized by Napoleon, chiefly through her recommendation. Conscious of her intellectual superiority, she kept her husband in a very subordinate position. She was a member of the principalities of Lucca and Plombino, and, as grand duchess of Tuscany, she enacted the part of a queen. When this Semiramide of Lucca, as a witty writer styles her, reviewed the troops of the duchy, her husband discharged the office of aid-de-camp. She introduced many reforms, though not properly assisted by the officers intrusted with her confidence. In 1814, she retired to Bologna, but was obliged, in the following year, to reside in Austria. Here she lived, at first, with her sister Carolina; afterwards, with her family, under the inspection of the government, at Trieste, where she called herself the countess Compiagno. Elisa Bacciochi died of a nervous fever, August 7, 1820, at her country seat, Villa Vicentina, near Trieste. She was deposited in the chapel of her own palace, in a tomb built by herself. In Trieste, she was distinguished for charity and benevolence. Notwithstanding her wish, that her daughter Napoleon Elisa, born June 3, 1806, and her son, should be put under the care of her brother Jerome, her husband remained their legal guardian.

Bach, Johann Sebastian; among the German musical composers of the last century, and perhaps of the most famous, and the greatest of the name, so distinguished in musical literature, was born in 1685, at Eisenach; died in 1750, at Leipzig. He received his first instruction on the harpsichord at Ordruff, from his elder brother, John Christopher. After the death of his brother, he studied music at Lambergh, and made himself familiar with the French style, while in the chapel of the duke of Halle; in 1703, entered into the service of the duke of Weimar; went, in 1704, to Arnstadt, where he made great proficiency; was, in 1707, organist at Muhlhausen; in 1708, organist of the court in Weimar; and, in 1714, master of the concert at the same place; afterwards, in 1717, chapel-master at Cothen; in 1723, chanter and director of music at St. Thomas's school at Leipzig; and, in 1736, composer at the royal and electorate court of Saxony. His life has been written by Forkel. As a player on the harpsichord and organ, Sebastian Bach has no equal. The character of his compositions breathe an original inspiration, and are chiefly of the religious kind. They consist of cantatas and motetos, and many pieces for the organ and the piano. B: his family came from Prensburg, in Hungary, which Sebastian's father, himself a good musician, went there to settle, and which kingdom was settled in Germany. More than fifty musical performers have proceeded from this family, Sebastian himself had eleven sons, all distinguished as musicians. The most renowned were the following: Wilhelm Friedemann, born in 1710, at Weimar, died master of the chapel of Hesse-Darmstadt, at Berlin, in 1784. He was one of the most scientific harmonists, and most skilful organists. Charles Philip Emanuel, born in 1714, at Weimar, died in 1788, at Hamburg. After having studied law at Leipzig, he went to Berlin, as a musician in the Prussian service, and was finally director of the orchestra at Hamburg. He has composed mostly for the piano, and has published melodies for Gellert's hymns. His vocal compositions are excellent. His essay on the true manner of playing on the harpsichord is, even now, a classical work in its kind. John Christopher Frederic, born at Weimar, died in 1755, master of the chapel at Bückeburg, a great organist, is known also by the music he has published. John Christian, born in 1735, at Leipzig, died in London, 1782, was, on account of the graceful and agreeable style in which he wrote, a favourite composer with the public.

Bacharach; a small place, of 1200 inhabitants on, and opposite to the Rhine. It is a very pleasant town, containing the ruins of the castle Stahleik, also those of a church, and another church, still existing, in the true Byzantine style. It produces excellent wine, which was once so highly esteemed, that pope Pius II. (Eneas Sylvius) ordered every year a quantity to Rome, and the emperors were intrusted to Nuremberg some important privileges for a moderate quantity of this delicious beverage. The view from the ruins of the castle is one of the sublimest on the Rhine.

Bachalmont, François le Coigneux de, born at Paris, 1624, died there, 1702, was early employed as councillor of the parliament of Paris, of which his father was president. In the disturbances of 1648, he took part against the court, and from him originated the name of the Fronde. He said that the parliament re minded him of the schoolboys who played with slings in the boutevards of Paris, and dispersed at the sight of a police officer, but collected again as soon as he was out of sight. The comparison pleased; the enemies of Mazarin adopted hat-cords in the form of a sling (fronde), and were called Frondeurs. In the war of the Fronde, B. found frequent occasion to exercise his wit, in epigrams, against the court. After the troubles of 1648, he devoted himself to devotion, and to poetry. Similarity of taste and character pro duced an intimate friendship between him and La Chapelle, and they composed in common that charming account of a Journey, which met with so much favour among the friends of light and sportive poetry. He has written, also, many gay songs, which, however, are too much scattered to allow of a complete collection being made. M. Lefevre de St Marc has published one, but does not pretend that all the pieces are genuine.

Bachelor. See Baccalinus.

Back; a word often used in sea terms. To back an anchor; to carry out a small anchor, ahead of the large one, in order to support the latter.—To back and fill, is an operation generally performed in narrow rivers, when the vessel has the tide in her favour, and the wind against her. To back the sails, is to arrange them in a situation that will occasion the vessel to retain, or to move astern, in consequence of the tide current being in her favour, and the wind contrary, but light. Back the main top sail; the command to brace that sail in such a manner, that the wind may exert its force against the fore part of the sail, and, by thus laying it aback, materially retard the vessel's course. To back, to lay back a vessel, is to place the water in the bottom of the vessel to that depth that is necessary to float her, by raising the keel. To back an anchor, is to carry an anchor out, or to put a small anchor ahead of a large one, in order to support the latter. The word is of Welsh origin, signifying little battle. Laws of the Game. 1. If a man is taken from any point, it must be played. 2. A man is not played, till it is placed upon a point and quitted. 3. If a player has only fourteen men in play, there is no penalty attending it. 4. If he bears any number of men before he has entered a man taken up, and which he desires to enter, such men, so borne, must be entered again in the adversary's table, as well as the man taken up. 5. If he has mistaken his throw, and played it, and his adversary has thrown, it is not in the choice of either of the
players to alter it, unless both parties agree to it. (See Hoyle's Games, improved from the latest and best authorities.)

BACKHUYSEN, Ludolf, a very celebrated painter of the 17th century, particularly in sea pieces, born in 1631, at Embden, was first employed as a clerk by his father, who was secretary to the sires-general. He afterwards entered a mercantile house at Amsterdam, and, without instruction, began to sketch the vessels which arrived in the harbour. These attempts met with no applause, and led him to devote himself entirely to painting. He received instruction from van Everdingen, and soon acquired, by his assiduity, and his frequent visits to the rooms of the best artists, an extraordinary degree of facility and skill; but what most contributed to his rapid progress was the zeal with which he studied nature. On the approach of a storm, he was accustomed to embark in a light boat, and calmly observe the motions of the waves, the tremendous shock of the breakers, and the tossings of the agitated vessels. The terrified sailors often forced him to the shore, in spite of his earnest entreaties to accompany them. He had thus hastened his return home, without speaking a word, or allowing his attention to be distracted by any other object, and completed, with admirable exactness in the most minute particulars, the sketches which he had already made. This courageous zeal procured his pictures the first rank among the Dutch painters. After his return to his room, and Peter the Great even wished to take lessons of him. The burgomasters of Amsterdam commissioned him to execute a sea piece, for which they paid 1300 florins, and which they presented, in 1665, to Louis XIV. This beautiful picture is still in Paris. In all his paintings, the utmost truth prevails. His colours are excellent, and his stroke is remarkably well suited to imitate the water and its motions: his skies are light, and of great variety. B. also attempted poetry, and gave instruction in peumsanship. His gayety and strength of mind did not quit him even during the long sufferings which put an end to his life, in 1709, at the age of 78 years. His pictures will always retain a high value. At the sale of the pictures of P. de Smeth, in Amsterdam, 1810, four pieces of Backhuyzen were sold for 550, 805, 980, and 1400 florins.

Bacon, Anthony, the son of Sir Nicholas, and elder brother of Francis, was born at the house of Peter the Great, in 1558. He studied at Cambridge, and travelled much. In 1579, he went to Paris, and resided there, and in other parts of France, a considerable time. He there became acquainted with Henry IV., with whom, and with many of the first literati of Europe, he carried on an extensive correspondence after he had returned to England. The time of his death is not known.

Bacon, Francis, baron of Verulam; one of the most remarkable men of whom any age can boast; a reformer of philosophy, by founding it on the observation of nature, after it had consisted, for so many centuries, of scholastic subtleties and barren dialectics. He was born at London, in 1561, and displayed, from his earliest childhood, proofs of a superior mind. In his 19th year, he entered the university of Cambridge, where he made astonishing progress in all the sciences there taught. He had not completed his 16th year, when he wrote against the Aristotelian philosophy, which seemed to him more calculated to perpetuate disputes than to enlighten the mind. It was then the custom, in England, to send abroad, particularly to France, those young men who were destined for public life. Young B. went to Paris, and there, with Amias Paulet, who soon after sent him to England with an important message. He discharged it to the satisfaction of the queen (Elizabeth), returned to France, and travelled through several provinces of that country, to study its manners and laws. When 19 years old, he wrote a work, entitled, Of the State of Europe, in which he gave the most astonishing proofs of the early maturity of his judgment. The death of his father, however, made him return to his native country, in order to be enabled to live suitably to his rank, he devoted himself to jurisprudence, and pursued the study of the law with so much success, that he was made counsel extraordinary to the queen before he was 25 years old. His professional labours did not, however, make him lose sight of the ideas, which he had early conceived, of reforming the plan of scholastic studies agreeably to sound philosophy. His place was more honourable than lucrative. B.'s talents, and his connexion with the lord treasurer, Burleigh, and his son Sir Robert Cecil, first secretary of state, seemed to promise him the highest promotion; but the enmity between the latter and the earl of Essex, likewise a friend and protector of B., prevented his advancement. Essex endeavoured to indemnify him by the donation of an estate in land. B., however, soon forgot his obligations to his generous benefactor, who had so long and so faithfully fallen into disrepute, but, without being obliged, took part against him on his trial. Against this ingrate the public voice was raised, and, whatever B. might say in his justification, he remained at court the object of hatred to one party, and of jealousy to the other. B. knew not how to do anything in his favour. In parliament, he conducted himself, for some time, with dignity and independence. He had been chosen member for the county of Middlesex, in 1593, and voted with the popular party against the measures of the ministers, though he continued in the service of the crown. But, towards the end of Elizabeth's reign, his parliamentary conduct became more servile. If any thing can excuse him, it is his poverty, which was so great that he was twice arrested for debt. The reign of James I. was more favourable to him. The prince, who was ambitious of being considered a patron of letters, conferred upon him, in 1603, the order of knighthood. Having been commissioned to make a representation of the oppressions committed by the royal purveyors in the king's name, he executed the task with so much address as to satisfy both the king and the lords, and by this he immediately became the object of the public thanks, and James made him one of the king's counsellors, with a pension of forty pounds, which was soon followed by another of sixty pounds. His situation now continually improved: he contracted an advantageous marriage; in 1617, was made lord keeper of the seals; in 1619, lord high chancellor of England and baron of Verulam, and, in the following year, viscount St. Alburn's. He might now have lived with splendour, without degrading his character by those acts which have stained his reputation. Nevertheless, great complaints were made against him. He was accused, before the house of lords, of having received money for grants of offices and privileges under the seal of state. He was unable to justify himself, and, desiring to avoid the mortification of a trial, confessed his crimes, and threw himself on the mercy of the peers, beseeching them to limit his punishment to the loss of the high office which he had dishonoured. After he had acknowledged, by an explicit confession, the truth of almost all the charges, notwithstanding the intercession of the king, and the interest which they themselves took in one of their most distinguished members, the lord chamberlain sentenced him to a fine of £40,000, and to be imprisoned in the Tower during the pleasure of the king. He was also declared for ever incapable of place or employment, and forbidden to sit in parliament, or to appear within the verge of the court.
BACON.

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This severe sentence was doubtless just; yet it must be allowed, that he was actuated neither by avarice nor corruption of heart, but that his errors are rather to be attributed to a weakness of character, which was abused by others. Traits of generosity and independence, which his life also displays, show clearly that he knew and valued virtue. He was unfaithful to the views he had not sufficient firmness of character to resist the unjust demands of others. His sentence was not rigorously executed; he was soon released from the Tower, and the rest of his punishment was, by degrees, remitted entirely. He survived his fall only six years, and died in 1626.

All less penetrative of this great man aimed at a reform in the system of human knowledge. He examined the whole circle of the sciences, investigated their relations, and attempted to arrange them according to the different faculties of the human mind, to which each belongs. In this, however, he could not succeed, for want of a well-founded and natural division of the powers of the mind; for he divided the sciences into those of the memory, of the understanding, and of the imagination. This he explains in his Instauratio Magna, under the head De Dignitate et Insigni Sciendi Virtute. He first perceived that, in all the branches of natural science, the only way to truth is by the observation of nature. How this observation is to be directed, and how nature is to be examined, is illustrated in several places. He explained his ideas on this subject in the above mentioned treatise (De Dignitate, &c.), and in the Novum Organum Scientiarum. His universal genius had attended to all the sciences; he perceived to what point each of them had advanced, what false directions they had taken, and how they were to be brought back to truth. As a metaphysician, he displayed so much truth and profoundness of mind, in his views of the operations of the mind, of the association of ideas, and of the prejudices which surround us from our cradle, and prevent the free exercise of reason. As a natural philosopher, he brought forward very ingenious views, and was on the route to several important discoveries. He invented a kind of general machine, by his experiments with which he was led to suspect the elasticity and gravity of the air, which Galileo and Torricelli afterwards discovered. He clearly indicated the attraction of gravitation, which Newton afterwards proved. He wanted only experiments in order to demonstrate the principles of this power. He treated also of natural history, but only in an abridged manner, in his work Syntaxis Magnica, &c. He wrote several treatises on medicine; among others, one on life and death. But physiology and chemistry were then so imperfectly understood, that he could not avoid falling into great errors. The science of law he treated not merely as a lawyer, but as a legislator and philosopher. His aphorisms are not less remarkable for profound views than for vigour and precision of expression. Morals are the subject of one of his finest works, entitled Essays, or Sermones Fideles—a treasure of the most profound knowledge of man and of human relations, delivered in an eloquent and vigorous style. As an historian he is less distinguished; he wrote a history of Henry VII. Of his knowledge of antiquity, his work On the Wisdom of the Ancients bears witness, in which he explains the ancient fables by ingenious allegories. He possessed a less profound knowledge of mathematics, and to this it is to be ascribed, that he who so generally discovered the errors of the human mind, and pointed out the truth, opposed the Copernican system. In this point alone he failed in the reform of his time. In other departments of human investigation, he soared to such a height, that his contemporaries could not fully estimate the extent of his genius, the justness of his views, and the importance of his labours. He himself was his only judge, and, with a just pride, he says, in his will, “My name and memory I bequeath to foreign nations and to my own countrymen, after some time be passed over.” Goethe says of B., “I drew a sponge over the table of human knowledge.” The works of B. appeared in London, in 1765, in 5 vols. quarto. They are partly in English, partly in Latin. The Library of Useful Knowledge contains a popular treatise on the Novum Organum.

Bacon, John, a celebrated English sculptor, was born in Somers House, in 1740. Having been apprenticed, at the age of fourteen, to Mr Crisp of Bow-church-yard, and employed in modelling and painting small porcelain ornaments for chimney pieces, his ambition was awakened by beholding the models sent by sculptors of eminence to be baked in his master's pottery-furnaces at Lambeth. He, therefore, set himself about producing some works of art of a similar class, and such was his diligence, and so great his success, that he obtained not fewer than nine premiums from the society for the encouragement of art. While yet an apprentice, he formed a project for making statues of artificial stones, which was afterwards perfected, and is still carried on in a manufactory in the New Road. About 1763, he began to work in marble; and shortly afterwards seeing the imperfection of the method then in use, he invented a new instrument for transferring the form of the model to the marble (technically called, getting out the points), which instrument has been adopted since by other sculptors. And, indeed, when Canova came to London and saw it, he expressed his admiration of it, and regretted he had not known it at an earlier period of his life. In 1769, Bacon obtained from the Royal Academy the first gold medal given by that society, and the following year he was chosen an associate. Having produced and exhibited a statue of Mars, Dr Markham (afterwards archbishop of York) employed him to produce a bust of his Majesty, for Guy's hospital college, Oxford. When employed in modelling this work, the king asked him whether he had ever been abroad, and on Bacon answering in the negative, his majesty said that “he was glad to hear it, as he would then reflect the greater honour on his native land.” Having obtained the royal commission by this bust, he was employed to make a duplicate of it for the university of Gottingen. In 1777, he was commissioned to prepare the model of a monument in honour of Mr Guy, the founder of Guy's Hospital, which afterwards procured him the honour of executing that of lord Chatham, in Guildhall. The year following, he was chosen into the Royal Academy, and completed a beautiful monument to the memory of Mrs Draper, in Bristol cathedral. His other works are too numerous to be specified here, but the principal of them are two groups for the interior of Somers House, the statue of Judge Blackstone, for All Souls college, Oxford; another of Henry VI. for Eton college; the monument of lord Chatham in Westminster Abbey, and the statues of Dr Johnson and Mr Howard, in St Paul's cathedral. Mr Bacon died, August 7, 1799, leaving two sons and three daughters, by his first, and three sons, by his second wife. His second son, John, who succeeded to a considerable part of the property, is also a distinguished artist, and has performed several great national works.

Bacon, Roger; an English monk, who, by the power of his learning, raised himself above his time, made astonishing discoveries in several sciences, and contributed much to the extension of real knowl-
BACON—BADAJOZ.

ledge. He was born in 1614, near Lichester, in the county of Somerset, of an old and respectable family. Following the impulsive of an inquisitive spirit, he overcame all the obstacles opposed to his progress by ignorance and superstition. He first entered the university of Oxford, and went afterwards to that of Paris, but was not satisfied with the information received from his preceptors. He met, however, with generous friends of science, whose contributions enabled him to purchase books, to prepare instruments, and to make the necessary experiments. In examining the secrets of nature, he made discoveries, and deduced results, which gained him the admiration of the enlightened, who comprehended their natural connection; but which appeared so extraordinary to the ignorant, that they were believed to be works of magic. This opinion was countenanced by the jealousies of the monks of the palace, whose interest he himself loudly blamed the ignorance and corruption of the clergy, and in particular of the monks, and even wrote a letter to the pope, representing the necessity of reform. In revenge, they denounced to the court of Rome his dangerous opinions and aston- ishing operations, which they attributed to the agency of the devil. The pope forbade him to teach at the university. He was soon afterwards thrown into prison, prevented from holding communication with any person, and even deprived of necessary food. Among the enlightened individuals, which admired his genius and pitied his misfortunes, was the cardinal bishop of Sebina, papal legate in England, who no sooner ascended the papal chair, under the name of Clement IV., than he liberated him, and took him under his protection. Clement demanded a collection of all his works, upon which B. wrote that work, which was afterwards printed, under the title of Opus Majus, and sent it to him by his favourite disciple, John of Paris, in 1267. Under Clement's successor, Nicholas III., the general of the Franciscans, Hieronymus ab Esculo, declared himself an admirer of B.'s genius, and issued an order for his imprisonment, which was confirmed by the pope. This new confinement lasted ten years; and when Hieronymus ab Esculo was elected pope, under the name of Nicholas IV., B. was again convinced his innocence and utility of his labours, by sending him a treatise On the Means of avoiding the Infamities of Old Age. After the death of Nicholas IV., he regained his liberty by the intercession of some distinguished Englishmen, and returned to Oxford, where he wrote a Compendium of Theology, and died soon afterwards, according to some, in 1292, or, as others think, in 1294.

Though an extraordinary man, B. could not entirely free himself from the prejudices of his time. He believed in the philosopher's stone, and in astrology. This is shown to be found in his writings now preserved, and ingenious views on optics, e. g., on the refraction of light, on the apparent magnitude of objects, on the magnified appearance of the sun and moon when in the horizon, &c. He describes very exactly the magnifying power of convex and concave lenses, and speaks of their application to the purposes of reading, and of viewing distant objects, both terrestrial and celestial; and it is easy to prove from his writings, that he was either the inventor or improver of the telescope. He also gives descriptions of the camera obscura, and of the burning glass. He made, too, several chemical discoveries. In one place he speaks of an inextinguishable fire, which was probably a kind of phosphorus: in another, he says that an artificial fire could be prepared with sulphuret and other ingredients, which would burn at the greatest distance, and by means of which thunder and lightning could be imitated by means of sulphuret, sulphur, and charcoal. He hazardously introduced the idea of gunpowder. He was so well versed in Greek and Hebrew, and wrote Latin with such elegance and clearness, that his acquirements in these respects would alone secure him a high character. He was intimately acquainted with geography and astronomy, as appears by his discovery of the errors of the calendar, and their causes, and by his proposals for correcting them, in which he approached very near to truth. He himself made a corrected calendar, of which there is a copy in the Bodleian library. Even in mechanics he was no less skilful; and his precepts for the conduct of life, and is, in every respect, entitled to remembrance as a great philosopher and a wonderful man.

BACTRIANA, or BACTRIA; one of the principal provinces of ancient Persia, and, before Cyrus, a powerful kingdom. It extended from the Indus to Paropamisus, and the Caspian sea to the Ganges. It was a country of great magnitude, and none of the Persians, who mastered it, could resist its attractions. The Persians derived their mythology, religion, and architecture from Bactria. Persia here declared himself sovereign of Asia, after the destruction of the Persian monarchy. It is to be regretted, that our knowledge of this country is so slight. Even the conversations of Alexander give no particular account of it.

BADAJOZ, or BADAJOZ (with the Romans, Pax Augusta); the fortified capital of the Spanish province Estremadura, on the left bank of the Guadiana, which is crossed by a stone bridge of twenty-two arches, built in 1690. It stands on a high, fertile soil, and has 14,000 inhabitants. Lon. 6° 47' W.; lat. 38° 49' N.; eighty-two miles N. W. of Seville. B. contains a cannon foundry, and is a bishop's see. It was besieged, in the wars with Napoleon, three times by the British. After the expulsion of Massena from the Portugal, and his retreat through Estremadura, it was the chief object of the British general to take B., which the French had possessed from March 10, 1811, as well as Ciudad-Rodrigo and Almeida. After the capture of Olivenza (April 16, 1811), Wellington caused B. to be invested; but, as Scult approached to its succour, he was obliged to raise the siege, May 14. After the battles of Fuentes d'Onor and Albufera, B. was besieged a second time, May 25; but, after several unsuccessful attacks, Wellington raised the siege, June 16, 1811. After the capture of Ciudad-Rodrigo (Jan. 19, 1812), Wellington commenced the third siege, March 17, with 16,000 men, and, on the 6th of April, took the city by storm, after a sanguinary conflict. The garrison, together with the commander, general Philip- pon, were made prisoners. The besiegers lost seventy- two officers, and 903 men killed; 366 officers, and 3483 men wounded.—In the peace of B., concluded between Spain and Portugal, 6th June, 1801, Portugal promised to shut its harbours against the British. Spain retained Olivenza, and its territory along the Guadiana. See Portugal.
Baden, grand-duchy of; governed by a family of princes, who derive their origin from Geoffrey, a duke of the Allemani, who defended his country till his death, in 709, against the attacks of the Franks. In 1801, the government devolved upon Charles Louis Frederick, who, in 1806, was married to Stephanie Louise Adélaïde Napoléone, an adopted daughter of Napoleon. After the return of the Empire, he left no male descendants, his uncle, Louis William Augustus, became his successor, with the title of margrave.

Until the peace of Lunéville, the territory of Baden contained about 1,150,900 inhabitants. At this peace, 169 square miles, with 25,000 inhabitants, were given up, and, on the other hand, 1,270 square miles, with 245,000 inhabitants, were gained. May 1, 1803, the margrave received the dignity of elector. By the peace of Presburg, which restored Brissago to Baden, and by her accession to the confederation of the Rhine, to which she owes the grand-ducal title, and the sovereignty of the greater part of the territory of the prince of Furstenberg, of the landgraviate of Clettgau, and of the principality of Leiningen, &c., as well as by the exchanges made, Baden increased in 1815 almost 30,000 new subjects, the size of her territory has been enlarged to 5900 square miles, with 1,145,000 inhabitants. This was the number of inhabitants in 1825. In 1829, there were 1,090,910, according to official papers, showing an increase at the rate of one and forty-eight hundredths annually. The hereditary lands (Baden-Baden and Baden-Durlach) contain, exclusive of the territories ceded, 1080 square miles, with 217,381 inhabitants; and the whole of the acquisitions have been estimated at about 4450 square miles, with 750,000 inhabitants; among which, however, some seignories seem not to be comprehended. The grand-duchy contained, in 1819, eight seignories, comprising 1315 square miles, and 196,000 inhabitants, and a taxable capital of 139,900,000 florins, besides eighty-one independent proprietors, with 635 square miles, 120,000 inhabitants, and 30,018,000 florins taxable capital. Setting these aside, there remain under the exclusive control of the sovereign, about 3800 square miles, with 690,000 inhabitants, and 535,501,000 florins taxable capital. The finance regulations for 1835, 1836, and 1827, fixed the revenue of the state at 9,329,250 florins, of which 5,900,000 were derived from the resources of the administration, 2,110,465 florins. According to the budget of 1890, Baden had but 13,605,100 florins of debts. After the battle of Lepanto, the grand-duke of Baden left the confederation of the Rhine, and, in 1816, joined the German confederation, in the diet of which he has the seventh place, and in the general assembly (plenum) three votes. The country of Baden, one of the most fertile in Germany, extends to a great length, but with little width, along the Rhine, from its outlet from lake Constance to the confluence of the Neckar, and consists mostly of a fertile plain, with excellent cornfields and vineyards, washed on the west by the Rhine, and bordered on the east by the Odenwald and the Black Forest, of both which mountains considerable parts belong to this grand-duchy, and contain, besides the charming Bergstrasse and the picturesque valley of the Murg, are distinguished. The chief productions are grain, which is abundant, in particular, spelt, a great plenty of fruit (in the warm regions of the Bergstrasse, almonds, chestnuts, and walnuts are found), and which a great deal is exported, tobacco, madder, excellent hemp, and good wines, many kinds of which are esteemed in foreign countries. The forests are likewise in an excellent condition, as the former grand-duke was careful to preserve them, whilst other princes of Germany wasted their woods. By means of mercantile societies, and the easy communication afforded by the rivers Murg, Kenzig, and Rhine, considerable commerce in wood has been carried on between Baden, France, and Holland. The raising of cattle is extensively pursued in the department of the Black Forest, and mountains, minerals of various kinds are found, but there is a deficiency of salt. From the sands of the Rhine gold is washed, of which Baden, in former times, coined ducats, bearing the inscription, Sie fulgent litera, and the motto, on vingts. They employ about 10,000 persons. Most of them are in Manheim, Pforzheim, and Carlsruhe. The manufactures of jewelry, of toys, and trinkets, at Pforzheim, of which there are, at present, twenty-one, producing annually wares to the amount of 600,000 florins, are generally known. A peculiar branch of industry, among the inhabitants of the Black Forest, is the making of wooden clocks. This business employs about 700 workmen, who furnish annually above 100,000 clocks, which are sold all over Europe and in America. The exports of the country, however, consist almost entirely of its natural productions than of its manufactures, and are easily transported along its good roads, and the navigable rivers Rhine, Neckar, and Maine. On account of its situation between Germany, France, and Switzerland, Baden derives much advantage from its carrying trade. The majority of the inhabitants are of the Catholic Church, though the grand-duke is a Lutheran. For the instruction of the Protestant youth, and for the country schools, which are everywhere established, teachers are educated in the seminary at Carlsruhe. Provision is made for the promotion of learning by the Latin schools, academies, and gymnasiums, and by the universities of Heidelberg and Freiburg. On the 3d of May, 1819, the grand-duke established the following division of the state: the capital, Carlsruhe, belongs to no circle, but is immediately subject to the minister of the interior; the rest of the state is divided into six circles. Since that time, in consequence of the convention with Bavaria and Austria (Frankfort, July 10, 1819), the Austrian county Hohegoroldeck (near the Black Forest, containing 58 square miles and 4500 inhabitants, and yielding a revenue of 25,000 florins) has been incorporated with Baden, for which they are give up to Austria a proportional part of Wertheim.

The grand-duchy of Baden anciently enjoyed, like almost all the countries of Europe, a constitution in which the estates were represented. This was, however, finally lost, like the constitutions of most of the other states. After the middle of the 17th century, the dukes of Baden were absolute, till the reigning grand-duke, in 1818, bestowed on his subjects a constitution, proceeding, like the French, from the prince alone (constitution royale), and not consisting of a compact between the people and the prince, but an English constitution, or that of Wurttemberg. The legislature of Baden now consists of two chambers. To the first one belong, besides the peers, eight deputies of the nobility, one deputy of each of the universities of Baden, the Catholic bishop, and a Protestant prelate, and the grand-duke himself can nominate eight members, without reference to their birth or station. Accordingly, the first chamber may consist of twenty-eight members. The second chamber consists of sixty-three deputies; one for about 16,000 souls. Every citizen and officer of government may be chosen as a deputy, but he must possess either a taxable property of 10,000 florins, or some office which gives him an income of at least 1500 florins. In 1819, the chambers assembled for
the first time, but were dissolved July 28, because they could not agree with each other or with the ministry. In 1829, they were assembled again, and, though the discussions had by no means subsided, they agreed on some important measures—the abolition of the remains of bond-service, the responsibility of the inhabitants of the Palatinate for the relief of the capital, and Louis effected a junction with them by a vigorous salary. The city was relieved, the Turks retired in disorder, and Louis gained several victories. He subsequently received the command in chief of the imperial army on the Danube, and, instead of his health, 1698, at Nissa, and Aug. 10, 1691, at Salenkemden. In 1693, he was entrusted with the command of the imperial army in Germany, against the French; he retook Heidelberg, and afterwards visited England to concert with king William the plan of operations against France. He opened the campaign in the spring of 1694, invaded Alsace, baffled the vigilance of the duke of Lorges, and showed the greatest activity, though he suffered violently from the gout. When the throne of Poland was vacant by the death of Sobieski, in 1697, he was among the competitors for the crown; but Frederic Augustus I., elector of Saxony, gained the prize, and the margrave returned, after the peace of Ryswick, into his own country. When the Spanish war of succession broke out, he commanded the imperial army, and, in 1702, took Lissà, and, in 1705, took Ljubljana, notwithstanding its valiant resistance. In 1706, he showed his talents in the art of fortification, by laying out the famous lines of Stolhoven, which extended from the Black Forest, through Buhl, to Stolhoven and the Rhine. Yet the fortune of war proved at last less favourable to him, of which his excessive exertion, owing to his bad health, and the poor condition of the army of the empire, were the causes. He was one of the greatest generals of his time, and was never really defeated. After having made twenty-six campaigns, commanded at twenty-five sieges, and fought thirteen battles, he died at Paris, Dec. 1, 1712.

Baden; a mountainous district in Inverness-shire, 33 miles in length, and 27 in breadth. It is watered by the river Spey, several extensive lochs, and a few rivulets. Much of the surface is covered with forests of natural growth, abounding with game. The scenery is very polished, and the Bagh, or remains of a Roman camp adjacent to which have been found a tripod, also an urn containing ashes. Badenoch gave title of baron to the Cumynys, which was forfeited in 1306. The population of the district is small.

Badens, Francis; an historical and portrait painter, born at Antwerp in 1751. He was highly esteemed. The news of his brother having been assassinated caused his death in 1803.

Bader (meles, Bres); a genus of mammiferous quadrupeds, belonging to the plantigrade tribe, which place the soles of the foot against the ground in walking. The head of the animals pertaining to this genus is very similar to some of the smaller varieties of dogs, having a moderately elongated snout, small eyes, and short, rounded ears. The teeth bear a considerable resemblance to those of the bear, to those of the bear, to which genus that of the badger is closely allied. The body is large, supported on short, stout legs, and the paws are enveloped by the integument so as to leave but a small part free, and are provided with long, curved claws, esp. the large, strong, гл. The movements are slow, the belly appears to be traipsed along the ground, although the length of hair on the inferior part of the body makes this trailing appear greater than it really is. Possessing a considerable
373 and, the badger excavates a long and winding cavern, at the extremity of which it sleeps securely during the day-time. At night, it comes out to seek for its food, which consists either of vegetation or small birds, etc. This regimen which shows the similarity of this genus to the bear as much as its general resemblance of structure. When attacked by dogs or other enemies, the badger defends itself with great resolution, and inflicts many severe wounds on the aggressors before it is finally vanquished. It is, therefore, often truly saving sport of by dog-fanciers, who place it in a list species, and place their favourites to draw it out. Foxes often drive out the badger from his den, and enlarge it for their own use. On the whole, the badger is a harmless creature, seldom seen unless hunted for, and doing very little injury, except when greatly multiplied. The female brings forth three or four at a litter.

Only two species of the badger are known, the European (M. vulgaris) and American (M. Labrador). The European badger has a broad, white stripe from its forehead down to the nose; and a longitudinal hair, or stripe begins between the eye and snout, on each side of the head, gradually thickening toward, until it includes the eye and the ear, behind which it terminates. The hair covering the body is harsh, long, scattered, and of three colours, white, black, and red, differing in the proportion of these in different parts. Black is the predominant colour on the inferior parts of the body.—The American badger is only found in the remote western territories of the United States, and in some parts of the British possessions in America. It is very different from the European in physiognomy, having a forehead projecting considerably above the roof of the nose, which, in the European, is a continuous line with the forehead, and in having a longer tail, covered with long hair, reaching almost to the ground when the animal is walking. The tail of the European badger is not more than half the length of the legs. The colour of the American is clannily greyish, and lighter than that of the European. The weight of the American species is from 14 to 18 pounds.

BADIA, Domingo; a Spanish traveller, who, under singular circumstances, visited, in 1603 and the four following years, the Mohammedan countries bordering on the Mediterranean. During one of his tour, he professed to be a Mussulman, which character he had qualified himself to support, by submitting to circumcision. He travelled under the denomination of Ali Bey et Abbasi, which style he also assumed in his travels, published in French at Paris, by Delagr. in 1814, 2 vols. 8vo; and about the same time in English at London. It is now admitted that he was employed as a political agent by the prince of peace, at the instigation of Napoleon. His peculiar situation and religious profession gave him opportunities for making many observations which could not occur to other travellers; and his volumes are curious and interesting, though rather tinctured with an air of exaggeration, somewhat excusable in a person placed in such extraordinary circumstances. Burckhard, another Oriental traveller, who heard of Ali Bey at Aleppo, gives the following account of him: "He called himself Ali Bey, and professed to be born of Tuscan parents in Spain, and to have received his education in that country. Spanish appears to be his native language, besides which he spoke French, a little Italian, and the Moghrabian dialect of Arabic, but badly. He came to Aleppo by the way of Constantinople and Smyrna. During the course of his travels, he collected the Spaniard Badia, and his miniature in your library. He was a man of middling size, long, thin head, black eyes, large nose, long black beard, and feet that indicated the former wearing of tight shoes. He professed to have travelled in Barbary, to have created the Lybian deme, between Lebanon and Egypt, and, from Cairo, to have gone to Mecca and back. He travelled with Eastern magnificence, but here he was rather shy of showing himself out of doors: he never walked out but on Fridays, to the prayers of noon in the great mosque. One of the before-mentioned dervishes told me that there had been a great deal of talking about this Ali Bey at Damascus and Hamar: they suspected him of being a Christian; but his great liberality, and the pressing letters which he brought to all people of consequence, stopped all further inquiry. He was basely employed by his companions and mistreated the native animal during the two months of his stay at Aleppo." This traveller died in his native country, some time after his return to Europe.

BAERT, Jean; also Barti; born at Dunkirk, 1651; the son of a poor fisherman; according to some, a native of the parish of Corban, in the district of Munster, and the canton of Berne, where his family lives at present. He raised himself, under Louis XIV., to the rank of commodore. The Dutch, English, and Spanish called him the French devil. The marine of Louis XIV. owed principally to this rough mariner that respect which it enjoyed from other nations. B. happening to be at Versailles, the monarch said to him, "Jean Baert, I have made you a commodore." "Sir, then you have done well," answered the mariner. The courtiers laughed; but Louis told them, "This is the answer of a man who feels his own worth." B. brought into port a number of Dutch and English vessels, burned others, landed at Newcastle, and laid waste the neighbouring country. In 1692, with a fleet of three ships, he met the Dutch fleet, loaded with corn from the Baltic, put to flight the escort, and took sixteen merchantmen. In 1694, when there was a scarcity of corn, he successively captured several times, notwithstanding the watchfulness of the English, in bringing into the harbour of Dunkirk ships loaded with this article. Once he delivered a number of such vessels, in the boldest manner, from the Dutch, into whose hands they had fallen, and received, in consequence, letters of nobility. After having passed the English, in 1696, who blockaded the harbour with a fleet three times as strong as his own, he met the Dutch fleet, from the Baltic, consisting of 110 sail, and convoyed by five frigates. The escort, with forty ships, soon fell into the hands of the French; but, on his return to Dunkirk, thirteen Dutch ships of the line appeared, and, to avoid a very unequal combat, he was obliged to burn the greater part of his captures. The peace of Ryswick put a stop to the deeds of this valiant officer. He spent the last years of his life at Dunkirk, and died there in 1702.

BAFFIN, William; an English navigator of the 17th century, famous for his discoveries in the Arctic regions. He visited West Greenland in 1615, again in 1615, and made a voyage to Spitsbergen in 1614. In 1623, and 1624 he ascertained the limits of that vast inlet of the Arctic Ocean, which is distinguished by the appellation of Baffin's Bay. The time of his death is not recorded.
BAFFIN'S BAY—BAGPIPE.

Baffin's Bay; the largest and most northern gulf on the eastern coast of North America; between 70° and 80° N. lat.; discovered by Baffin, in 1616. This gulf flows through Baffin's and Davis's straits, between Cape Chidley, on the coast of Labrador, and cape beside the Noven Island, into the Atlantic. On the south-west side of Davis's strait, Baffin's bay is separated by a mass of islands from Hudson's bay, which abounds with whales. From Baffin's bay captain Parry started, in 1819, in search of the north-west passage.—See North Pole, exploration of.

Bagdad; capital of a Turkish pachalik of the same name, in the southern part of Mesopotamia, or Al-Dscheria, now Irak Arabi, containing about 70,000 square miles, and 650,000 inhabitants; 44° 29' E. lon., and 30° 20' N. lat. The greater part of it lies on the eastern bank of the Tigris, which is crossed by a bridge of boats, 620 feet long. The old B., the residence of the caliphs, with 2,000,000 inhabitants, now in ruins, was situated on the western bank of the river. The modern city is surrounded by a brick wall, about six miles in circuit, and with a dozen gates. The houses by which it may be filled with water from the Tigris; but the cannon on the numerous towers are old, and unfit for use. The castle commands the Tigris, and contains an arsenal, but is untenable. The houses, mostly built of brick, are but one story high, the streets unpaved, and so narrow, that six to eight men dare richly ride abreast. The houses of the wealthy are distinguished by a better architecture. The palace of the governor is spacious, and magnificently furnished. The public baths and the coffee-houses of the city, though in a bad condition, are much frequented. The markets afforded an abundance of provisions at a low price. B. is an important mart for Arabian, Indian, and Persian productions, as well as for European manufactures. A splendid view is afforded by the bazaars, with their 1200 shops filled with all kinds of Oriental goods. The chief manufactures of the city are, red and yellow leather, much esteemed, and silk, cotton, and woolen cloths. With the aid of the British and Persians, the pacha has established a cannon foundery. B. supplies Asia Minor, Syria, and a part of Europe, with East Indian goods, which are imported to Bassora, ascended by the Tigris in boats, and conveyed by the Tigris, the Tigris, and the Al-basra. The capital of Bassora, Kesr, is the capital of the Diyar-Basra, Al-basra, Damascus, and the western parts of Persia. There is also some trade in jewels. A British packet runs between Bagdad and Bassora. A multitude of strangers assemble at B., partly on mercantile business, partly to visit the sepulchres of the saints, among which is that of the prophet Ezechiel. The heat of the summer obliges the inhabitants to shelter themselves in subterranean chambers; but the winter is cold enough to make a fire necessary. The city is, nevertheless, agreeable, healthy, and free from pestilential diseases; but the inhabitants frequently suffer from cutaneous disorders. B. is inhabited by Turks, Persians, Armenians, Jews, and a small number of Christians. The Turks compose three-fourths of the whole population. The Jews are confined to a secluded district of the city, and are in a very wretched condition. Included are the Arabs, Hindoos, Afghans, and Egyptians, who are accustomed to reside here, the population may amount to 50,000. The Persians, under the particular protection of the government, enjoy a very extensive trade, and are renowned for honesty, prudence, and integrity. The higher classes are furnished with the prevailing vices of the East. The people are bold, enterprising, and turbulent.

Bagdad was begun, in 792, by the caliph Abu Gisfar-Almansor, finished in four years, and raised to a high degree of splendour, in the ninth century, by Haroun Alraschid; but, 100 years after, it was destroyed by the Turks. In the 13th century, it was stormed by Holgram, and burnt, and caused the reigning caliph to be slain, and destroyed the caliphate. The descendants of the conquerors were expelled, in 1392, by Tamerlane (q. v.), and, in 1412, by Kusr-Yusef. In the following century, Shah Ismael, the first sovereign of Persia of the house of Solo, took possession of the city. After this, it was a perpetual subject of contest in the wars between the Turks and Persians. After a memorable siege, in 1638, it was conquered by the Turkish emperor Amurath IV., and Nadir Shah enslaved in vain, in the 18th century, to wrest it from the Turks. Bagehot, Robert, an ingenious English novelist, was born at Derby, in 1726; died at Tavmouth, in 1801. During the greater part of his life, he followed the occupation of paper maker. The titles of his works are, "Mount Hemneth," "Barham Downs," "The Fair Syrian," "James Wallace," "From Man as he is," and "Hermann, or a Man as he is not." Bagossy, Jens (the Danish for Euanneal), a Danish poet, who also wrote much in German, was born Feb. 15, 1764, at Coror. He has given the history of his education, and described the influences which determined his character, in the Labyrinth. In 1785, he published his Disquisitions respecting the Bible. He was the occupying of paper maker. The titles of his works are, "Mount Hemneth," "Barham Downs," "The Fair Syrian," "James Wallace," "From Man as he is," and "Hermann, or a Man as he is not." Bagnio; a well-known wind instrument, of high antiquity among the northern nations, which has so long been a favourite with the natives of the Highlands of Scotland, that it may be considered as their national instrument. The peculiarity of the bagpipe consists in collecting the air into a leathern bag, from which it is pressed into the pipes by the arm of the performer. The chanter, into which is inserted a reed for the production of the sounds by the air from the bag, is perforated with holes like the German flute, which are stopped with the fingers. The other parts of the instrument are three tubes or drones, which are also furnished with reeds. Two of the drones are in unison with D on the chanter, which corresponds with the lowest note of the German flute. The third drone, which is the longest, is an octave lower. The tuning of the bagpipe is accomplished by lengthening or shortening the tubes or drones. The bagpipe is a powerful instrument, and calls for great exertion of the lungs. The Irish bagpipe is smaller, softer in its notes, and is always played with bellows. It is not known when the bagpipe first found its way
into Scotland, but it is probable that the Norwegians and Danes first introduced it into the Hebrides, which islands they long possessed. The bagpipe is indeed of very ancient origin, as representations of it are to be found on Grecian and Roman sculptures. In India and in Africa, the pipes and reeds, with the reeds of the mountains play on the bagpipes before the images of the Virgin. The music is very simple and sweet; and every traveller remembers it with delight.

Bahamas, or Lucaya Islands; in the Atlantic, near the east coast of North America. There are 1,324 islands, or islets, in this group. They are conical in shape, and the number of these islands, some say 500; but many of them are mere rocks, and others, on account of the navigation, little known. The principal are, Bahama, Eleuthera, Abaco, Yuma, or Exuma, and Providence. They are, in general, fertile, with a soil similar to South Carolina. Lon. 73° to 81° W.; lat. 22° to 27° N. These islands, in 1773, contained 2,053 whites, and 2,241 Negroes; and, in 1803, 14,358, including 11,356 blacks and people of colour. The inhabitants are of two descriptions, the residents and the wreckers. The residents are chiefly loyalists, and there is not the remotest proof that any of them, or their descendants, were ever connected with Carolina and Georgia, at the close of the American war. The wreckers are constantly employed in the business of rescuing shipwrecked vessels, with their crews and cargoes, from the waves. They sail in small, flat bottomed sloops, just fitted for the seas which they meet, and these vessels are excellent sailors; They are familiar with all the keys, shoals, and breakers; and, with acclivity and courage, encounter every danger or hardship. They are licensed by the governor, and receive salvage on all property rescued from the waves. By day they are always cruising; at night, they usually put into the nearest harbor. Their great places of resort are, the Florida gulf, the Hole in the Wall, and the Hogspits. The number of these vessels is very great, 40 sail being sometimes seen in one inlet. These islands are heaps of limestone and shells, covered with vegetable mould. The keys are chiefly rocky and sandy; on some of them a few trees are found. All the large islands that front directly upon the Atlantic stretch from south-east to north-west, and the ridge of each is in the same direction. The soil of all the islands is a thin, but rich, vegetable mould. It yields, for a few years, luxuriously, but is soon exhausted. The chief production is cotton.

The first discovery of these islands was made by Columbus, Oct. 12, 1492, when he fell in with Guanahani. New Providence, one of the largest of the group, was discovered on the 17th of the same month. In 1667, Charles II. of England granted all the Bahamas to the Duke of Albermarle and the other proprietors of Carolina. Five years after this grant, the first settlement was made on New Providence. For many years, the inhabitants suffered severely from the depredations of pirates and of their Spanish neighbours. The celebrated Black Beard, or John TENCH, was the leader of the buccaneers. He was killed off the coast of North Carolina, in November, 1718. The islands were soon afterwards abandoned by the pirates, and a permanent settlement made at Nassau, in New Providence under governor Morgan. This town was fortified in 1740. Early in the American war, it was taken by the Americans, but speedily abandoned. The Spaniards took it again in 1751, but the British soon repossessed themselves of it. Since that period, all the islands have continued under their jurisdiction.

The chief of the islands, which gives its name to the group; sixty-three miles long, and about nine wide; fifty-seven miles from the coast of East Florida; lon. 73° 10' to 80° 24' W.; lat. 26° 40' to 27° 5' N. Though this island is well watered, the soil fertile, and the air serene, yet it is inhabited only by a few people, who subsist by selling necessary to ships, which the currents drive on their coasts. It formerly produced guinacum, sarsaparilla, and rhubarb, of which all the Spaniards are said to have destroyed.

Bahar (more properly Bihdr, from the Sanscrit Vihdr, a Buddhist monastery); the second province of the British dominions in India; bounded E. by Bengal, N. by Nepal and Morung; W. by Orissa, and W. by Oude and Alhambah; lon. between 84° and 88° E.; lat. between 22° and 27° N. The population is estimated at 5,000,000; three Hindoos to one Mohammedan. B. contains 51,973 square miles, of which about 20,000 are plain arable ground. It is one of the most fertile, highly-cultivated, and populous countries of Hindostan, producing grain, sugar, tobacco, cotton, rice, opium, betel, saltpetre, timber, &c. It is now divided into seven collectorships.

The climate of B. is more temperate than that of Bengal. The Ganges, the Soane, the Gunduck, the Dummodooh, Caramnassah, and the Dewah are the principal rivers of this province. The chief towns are Patna, Monghyr, Buxa, Rotas, Guhay, Dinapoor, and Boglipoor. The inhabitants excel the Bengalese both in strength and stature. — Bahar Proper is one of the seven districts into which B. is divided. Square miles, 8850. — Bahar, the capital of this district, 290 Ibs. W. Calcutta, lon. 85° 45', lat. 25° 14' N., is remarkable for the number of magnificent funeral monuments which it contains.

Bahar, or Barre; weights used in several places in the East Indies. They have been distinguished as the great bahar, with which are weighed pepper, cloves, nutmeg, ginger, &c. and the little bahar, with which are weighed gold, silver, vermillion, silk, &c. But this weight varies much in different parts of the East.

Bahia, formerly St. Salvador, till 1717 the capital of Brazil, is situated on the bay of All Saints, in 13° 50' S. lat., and 37° 23' W. lon. It is strong by nature, and is also fortified. It has 13,000 houses, and about 100,000 inhabitants, among whom are 40,000 whites; the rest are mulattoes and negroes. It is the seat of an archbishop, and contains a university; has a very healthy climate, as well as one of the best harbours in Brazil; carries on an active trade with the United States and Europe, and pursues the whale-fishery near the south pole. The exports are the productions of the tropics—Brazil-wood, spices, southern fruits, rice, tapioca, cattle, sugar, tobacco, cotton, and coffee (cheaper than that of Rio Janeiro, but inferior, because the soil is too rich for the coffee-tree). Gold and diamonds are also secretly exported. — The government of this name (54,160 square miles, 5,000,000 inhabitants), on the river San Francisco, is created, from the north to the south, by the mountains Erio and Champado. It has its name from the bay on which the capital, described above, is situated. Sugar and coffee are raised here in large quantities, and the soil is esteemed the best in Brazil for the growth of the sugar-cane.

Bauh, the chief of the Bahama islands, which gives its name to the group; sixty-three miles long, and about nine wide; fifty-seven miles from the coast of East Florida; lon. 73° 10' to 80° 24' W.; lat. 26° 40' to 27° 5' N. Though this island is well watered, the soil fertile, and the air serene, yet it is inhabited only by a few people, who subsist by selling necessary to ships, which the currents drive on their coasts. It formerly produced guinacum, sarsparilla, and rhubarb, of which all the Spaniards are said to have destroyed.
great talents, and made himself known very early, but was probably spoiled by this very success. In 1763, he was appointed professor in the university of Leipsic, and his theological preaching procured him many admirers, but, in consequence of an irregularity, he was obliged to quit that city in 1769. From this time he led an unsettled life. He was successively professor of theology and preacher in Erfurt (where he was made doctor of theology), in Giessen, Switzerland, and in Turkestan, but was obliged to leave each of these places, on account of his severe attacks on the clergy, and the heterodox views manifested in his writings and sermons, as well as on account of his irregular life. The collegiate council declared him disqualified to preach or to publish, unless he would revoke the religious principles advanced in his works. At length he found an asylum in the Prussian dominions. In 1779, he went to Halle, where he published his Creed. It is thoroughly deistical, denying the miracles, and not insidious on the immortality of the soul. He lectured in Halle, but soon became involved in difficulties with the clergy; upon which he left the city, and established, in a neighbouring vineyard, a public house, where he had many customers. But two works which he wrote against the Religious Edict (a miserable law, issued under the late king of Prussia, which is still pursued by us, and be believed in apparitions), in one of which he proposed a union of all religions, made him suspected. He was condemned, and confined in the fortress of Magdeburg. Here he wrote his life. At the end of a year, he again opened his public house at Halle, and died in 1782. He wrote and spoke with ease and fluency, but his works, even the most learned of them, are wanting in thorough knowledge; yet they have certainly had some influence.

BAILIFF. See Bajodeer.

BAIS. This Campanian Brighton (Nactus in orie sinu Bajicis praestant amisam, Horace), once the place where the wealthy Romans had their country-seats, the favourite abode of the Ambauba and the Balatrones, is now deserted, and interesting to the stranger only for the ruins of old baths, which are shown as temples, and for the remains of former palaces, visibles here and there of the sea. Bais possesses its fame from its hot baths, and its situation on a most charming bay, secured, by surrounding hills, from the violence of the winds. "Even before the time of Cæsar," says Vidal, in his remarks on the 15th epistle of the first book of Horace, "Bais was the place where the citizens right themselves entitled to last beside the rest of republican law, and to give themselves up, without shame, to the pleasures and voluptuousness which brought this charming place into such ill repute, that Propertius was impatient to call his mistress away from it, and Cicero, in his defence of the young M. Cælius, thought it necessary to apologise for defending a man who had lived at Bais." Its insalubrity, of which there are intimations even in the letters of Cicero, may have been occasioned partly by the vapours of its hot springs, but is now increased by the desertion of the country, and the stagnation of the ditches used for steeping flax. Yet the charm of its situation still survives, though only single fishing-boats are seen on its bay, to call and mind the fleets, which, staring from the Julian and Misenum lakes, passed by the islands, within sight of Puteoli.

The Bajos, or Bajos sea, an artery, 260 miles long, from S. W. to N. E., and from 20 to 53 in breadth, interspersed with islands; lon. 104° to 110°, lat. 51° 20' to 55° 20' N. It contains many fish, particularly sturgeons, pikes, and seals. In the environs are several sulphurous springs, and in one part, near the mouth of the river Barguen, it discharges a kind of pitch, which the inhabitants purify. The water is sweet, transparent, and appears, at a distance, green. This lake takes its name from the Upper Augura, Selunga, Barguen, and other rivers; but the Lower Augura is the only one by which it seems to discharge its waters. Nothing can be conceived more interesting and magnificent than this lake. Those who have visited it seem at a loss for language adequate to describe the feelings which it excites when first beheld. It is enclosed by rugged mountains, and the sublime scenery around strikes every beholder with astonishment and awe. At some seasons, it is so agitated by violent storms, that, in the tremendous roaring of its billows, it equals the mighty ocean, while at others, the clearness of its unroughened bosom emulates the lustre of the finest mirror.

Bail, in one of its senses, the delivery of a person to another for keeping, and is used in reference to one arrested, or committed to prison, upon either a civil or criminal process; and he is said to be bailed, when he is delivered to another, who becomes his surety in bonds (to a greater or less amount, according to the amount of the demand for which he is sued, or the heinousness of the crime with which he is charged), for his appearance at court to take his trial. Bail is either a merely speculative, or being merely fictitious, whereby nominal sureties, as John Doe and Richard Roe, are feigned to be answerable for the defendant's appearance at the court to which he is cited. Special bail is that of an actual surety.

Bailiff. In the court of the Greek emperors there was a grand bajolos, first tutor of the emperor's children. The superintendent of foreign merchants seems also to have been called bajolos, and, as he was appointed by the Venetians, this title (bajio) was transferred to the Venetian ambassador. From Greece, the official bajolos (bajius, bailiff, in France; bailiff, in England), was introduced into the south of Europe, and denoted a superintendent; hence the eight baiiti of the knights of St John, which constitute its supreme council. In France, the royal bailiffs were commanders of the militia, administrators of their districts, and held the judicial power in the great courts of the states or provinces; in others, they were presidents of the judges, and in still others, they were judges. In the course of time, only the first duty remained to the bailiff; hence he was called baili d'épée, and laws were administered in his name by a lawyer, as his deputy, lieutenant de robe. The seigniories, with which high courts were connected, employed the bailiff who thus constituted the court, where, the lowest order of judges. From the courts of the nobility, the appellation passed to the royal courts; from thence to the parliaments. In the greater bailiwicks of cities of importance, Henry 11. established a collegial constitution, under the name of presidial courts. As all offices of justice could be purchased, and, in the lower courts, no examination was required (only the counsellors in the presidial courts were to be twenty-five years of age, licentiates of law, and be examined by the chancellors), and as the bailiwicks were generally very small, this kind of jurisdiction fell into great contempt. The bailiff had become a standing subject of ridicule on the stage, for their ignorance, their ridiculous presumptuation, their deceit and injustice. The royal bailiwicks, therefore, by an order of Sept. 1, 1770, were reformed; the jurisdiction of the nobles was first abolished by the royal act of Aug. 4, 1780, and was replaced by the district courts, tribunaux de première instance.

The name of bailiff was introduced into England with William I. The counties was also called bailiwick (bailiwick), while the subdivisions were called hundreds; but, as the courts of the hundreds have
long since ceased, the English bailiffs are only a kind of subordinate officers of justice, like the French huissiers. Every sheriff has some of them under him, for whom he is answerable. In some cities, the highest municipal officer yet bears this name, as the high bailiff of Westminster. In London, the lord mayor and aldermen are the best persons to hold it (which had before the present became usual), and dismissing, in this quality, the criminal jurisdiction of the city, in the court of Old Bailey, where there are, annually, eight sittings of the court, for the city of London and the county of Middlesex. Usually, the residence of the last person in office is marked by a greater public obsequy than his predecessor; and in some instances, the term bailiff, in England, is applied to the chief magistrates of towns, or to the commanders of particular castles, as that of Dover. 

The term bailiff, in Scotland, is applied to a magistrate of a burgh, having powers very similar to those of a justice of peace.

Among the Teutonic order of knights, and in the German division of the knights of St John, the dominions of the order, and with them the knights, were divided into districts (bailiwicks), over each of which a commander presided. The single houses of the order, however, continued.

BAILLIE, Matthew, M. D.; an eminent physician and anatomist, was born on the 27th October, 1761, in the manse of Shotts, Lanarkshire, Scotland. His father was the Rev. James Baillie, D. D., then minister of the parish of Shotts (a place remarkable at that time, as being one of the most sterile spots in the Lowlands of Scotland), and afterwards professor of divinity in the university of Glasgow. His mother was Dorothea, daughter of Mr John Hunter of Kilbride, in the county of Lanark, and sister of the two celebrated anatomists, Dr William and Mr John Hunter, of Edinburgh.

After having received the rudiments of his education under his parents' superintendence, in 1773, when in his thirteenth year, he was placed at the university of Glasgow, where he distinguished himself. In 1779, having been appointed to an exhibition or bursary, he went to Balliol college, Oxford, on the same foundation where Adam Smith and other eminent Scotsmen had preceded him; and, when of the usual standing, he was admitted to his degrees in arts and physic, having obtained that of M. D. in 1789, while yet keeping his terms at the university, in the year 1780, Dr Baillie went to London, and commenced his medical and anatomical studies under his maternal uncles, Dr William and Mr John Hunter, then lecturers in London, and as he resided in the house of the former, he was employed to make the necessary anatomical preparations for the purposes of illustrating and demonstrating the human structure. Some time before Dr Hunter's death, which took place in March, 1783, Dr Baillie had become the chief demonstrator and teacher of practical anatomy, and afterwards joint lecturer in the theatre of Windmill street with Mr Crouckshank, who, during Dr Hunter's life, had also been associated in giving these lectures. Dr Baillie commenced lecturing in 1784–5, and soon acquired the highest reputation as a teacher, to which character his arduous labours in the formation of nearly eleven hundred anatomical preparations greatly contributed. In the year 1787, Dr Baillie was elected one of the physicians of St George's hospital, and held that office for thirteen years. In the year 1789, he was admitted a candidate at the college of physicians, and in the following year a fellow thereof. He served the office of censor in 1792 and 1793, and was chosen one of the commissioners for the inspection of some houses in 1794 and 1795.

Dr Baillie was but little known to the public as a physician till the year 1798, when his intimate friend, Dr David Pitcairn, having been compelled by illness to repair to Lisbon for the benefit of a milder climate, Dr Baillie was introduced to the patients of his friend, and very soon after felt himself placed at the very acme of his profession, being applied to by the first medical man of the group of his companions. He was married.

His introduction to George III. took place in consequence of his attending the duke of Gloucester during his last illness, and on the first vacancy, which happened in 1810, he was nominated one of his majesty's physicians in ordinary, and received the offer of a laboratory, which he was pleased to accept. Soon afterwards, being at the very height of his practice, his professional income amounted to £2,010,000 per annum; a sum which in those days was reckoned quite unprecedented, although several medical men now in London are believed to receive much more.

His work on "the Morbid Anatomy of some of the most important parts of the Human Body," had previously made him well known over the whole continent, and the reputation he had acquired, not only for consummate anatomical knowledge, but for sound and unerring judgment in the distinction of various internal diseases, and the proper treatment of internal disease, joined to his quiet, unobtrusive, and gentle manners, gave an authority and weight to all his opinions, particularly amongst his professional brethren, which was quite unprecedented. Indeed, it may be safely affirmed, that no physician since the days of Dr Sydenham, had ever attained such an ascendency over the public mind as that enjoyed by the subject of this memoir. Eminent as a physician, those who knew Dr Baillie concurred in asserting that he was not less distinguished as a man. Simplicity, singleness of heart, and ingenuousness, were the leading characteristics of his character, and his, occasional outbursts of apprehension, and expressed himself with perspicuity and readiness, and had such an entire command of thought and language, that he has been known, when a lecturer, to change the subject of his lecture at the moment of delivering it, and to give at once a lecture which had not been previously studied or prepared. His judgment was remarkably correct, and his opinion and advice, therefore, upon all subjects, were of great value. He had the power of reasoning clearly and powerfully, but on many occasions, he seemed to arrive at his conclusion by a sort of intuition, rather than to make his way by argument. His mind was always more readily engaged by what was useful, than by what was merely curious or ingenious. In society he was remarkable for being frank, good humourcd, and kind, whilst the warmth of his manner and expression, indicative of the interest he felt in all around him, set every one at their ease, and called forth their best and happiest feelings. His general knowledge enabled him to bear a part in any conversation that took place; and in spite of the distinction of his overwhelming professional engagements, he found time to make himself acquainted with all those new publications which excited a general interest. Never was there a man more disinterested, fair, candid, or generous; nor one whose natural elevation of mind raised him more above the reach of whatever is base, sordid, or selfish. Of this the following anecdote, related by Mr Bell in the introductory lecture to his course of anatomy, affords a splendid proof. "While still a young man, and not affluent, his uncle William dying, left him the small family estate of Long Calderwood. We all know of the unhappy misunderstanding that existed between Dr Hunter and his brother John. Dr Baillie felt that he had reason to believe that his uncle, and made it over to John Hunter.—The latter long refused, but, in the end, the family estate
remained the property of the brother, and not of the nephew of Dr Hunter.'

Dr Baillie had an elder brother, who died at an early age, and two sisters who survive him, Agnes and Jouna, the latter the well known authoress of a "Series of Plays on the Passions." He married Elizabeth, daughter of John Livingstone, a eminent physician, and sister of the present attornay general, and of lady Croft. Dr Baillie died at Duntisbourne House, near Cirencester, in Gloucestershire, on the 23d September, 1823, in the 62d year of his age, leaving a widow with a son and daughter. He was bequeathed by will $200 to the College of Physicians, London, together with all his medical and anatomical books, and the plates of his 4 Illustrations of Morbid Anatomy,"—and also a farther sum of $4,000, in case his son, William Hun- ter Baillie, should die without issue. To the same body he had previously, during his lifetime, given all his collection of anatomical preparations, and a sum of $600. Three hundred pounds were also left to the society for the relief of the widows and orphans of medical men, and the rest of his property to his widow and family. His will was proved in the prorogue court, in October, 1823, and the effects sworn to be under $260,000. It was dated 21st May, 1810. Besides the two works already noticed, Dr Baillie published an anatomical description of the gravid uterus, and two anatomical papers in the Transactions of the Royal Society, for the years 1788 and 1798. He also published eleven essays in the Transactions of the Society for the promotion of Medical and Chir-urgical knowledge, and seven papers in the Medical Transactions, published by the London College of Physicians.

Baillie, Robert; an eminent and learned Scottish presbyterian, was born at Glassgav, in 1599. Having studied divinity in his native university, he received, in 1622, episcopal orders from archbishop Law, of Glasgow, and became tutor to the son of the earl of Eglintoun, by whom he was pre- sented to the parish church of Kilwinning. In 1626, he was admitted a regent at the college of Glasgow, and, on taking his chair, delivered an inaugural orna- tion, De Mente Agente. About this period he appears to have prosecuted the study of the oriental languages, in which he is allowed to have attained no mean proficiency. Though educated and ordained as an episcopalian, he resisted the attempt of archbishop Law to introduce the use of the Latin, and was afterwards prayed into the presbytery of Scotland, and joined the presbyterian party. In 1638, he was chosen to represent the presbytery of Irvine in the General Assembly, by which assembly the royal power was braved in the name of the whole nation, and episcopacy formally dissolved. In the ensuing year, when it was found necessary to vindic- ate the proceedings of the Assembly with the sword, Baillie entered heartily into the views of his coun- trymen. He accompanied the army to Dunse Law, in the capacity of preacher to the earl of Eglintoun's regiment. This expedition ended in a treaty between the Scottish leaders and their sovereign, in terms of which hostilities ceased for a few months. On the renewal of the insurrectionary war next year, Baillie accompanied the Scottish army on its march into England, and became the chronicler of its transac- tions. Towards the end of the year 1640, he was selected by the convention as a member of the later company of the lords, and was pointed out as the proper person to go to London, along with other commissioners, to prepare charges against archbishop Laud, for his in- novations upon the Scottish church, which were alleged to have been the origin of the war. He had, in April an expedition, published a pamph- let, entitled, "Lamentations over the Couter- burians Self-conversion; or an Evident Denomi- stration of the avowed Arminianism, Paperie, and Tyrannie of that Faction, by their own confes- sions," which perhaps pointed him out as fit to take a lead in the prosecution of the great Antichrist of Scottish presbytery. Of this, and almost all the other proceedings of his public life, he has left a minute account in his own hand-writing, which was preserved entire in the archives of the church of Scotland, and in the university of Glasgow, and of which excerpts were published in 2 vols. 8vo, Edin- burgh, 1773. These reliques of Mr Baillie form valuable materials of history. Not long after his return to his native country in 1642, he was appoint- ed joint professor of divinity at Glasgow, along with Mr David Dickson, an equally distinguished, but less moderate divine. It affords some proof of the esti- mation in which he was now held, that he had the choice of this appointment in all the four universities of Scotland. He performed his duties from this period till the restoration, and at the same time attended all the General Assemblies as a member, except during an interval in 1643-6, when he was absent as a delegate to the Westminster assembly of divines. From 1646 to 1649, he discharged his ordinary duties as a theological teacher, without taking a leading part in public affairs. But in the latter year, he was chosen by the church as the fittest person to carry its homage to king Charles II. at the Hague, and to in- vite that monarch to assume the government in Scot- land, under the limitations and stipulations of the covenant. After the restoration, though he remained principal of his college through court patronage, he scrupulously refused to accept a bishopric, and did not hesitate to express his dissatisfaction with the re- introduction of episcopacy. He died July, 1662, in the 63d year of his age. Mr Baillie, besides his let- ters to ministers and others of controversy, published several pamphlets, suiteable to the spirit of the times, was the author of a learned work, entitled, Opus Historicum et Chronologicum, which was published in folio at Amsterdam. He was a man of extensive learning—understood no fewer than thirteen languages, among which were Hebrew, Chaldee, Syrian, Samaritan, Arabic, and Ethiopic—and wrote Latin with flu- ency.

Baillie, Robert, of Jerviswood, a distinguished Scottish patriotic of the reign of Charles II., was the son of George Baillie of St John's Kirk in Lanarkshire, cadet of the ancient family of Baillie of Lamington, who had in former times purchased the estate of Jervis- wood, also in Lanarkshire, in the reign of Charles I. from a family of the name of Livingstone. The cir- cumstance which first brought him into public notice deserves to be given in detail, as it tends to illustrate the propugacy of that government, under which he eventually fell a martyr.

During the administration of the duke of Lander- dale, a wretch of the name of Carstairs had bargained with archbishop Sharpe to undertake the business of an informer upon an uncommonly large scale; having a troop of other informers under him, and enjoying a certain reward for each individual whom he could detect at the conventicles, besides a share of the fines imposed upon them. It may be supposed than an individual who could permit himself to enter upon a profession of this kind, would not be very scrupulous as to the guilt of the persons whom he might take under his notice. Jerviswood appears to have, at least in one noted instance, ponied upon an individ- ual who was perfectly innocent. This was the Rev. Mr Kirkton, a nonconformist minister it is true, but one who had been cautious to keep strictly within the verge of the law. Kirkton was law of Mr Baillie of Jerviswood, by his marriage to the sister of that gentleman, and he is eminent in
Scottish literary history for a memoir of the church during his own times, which was of great service in manuscript to the historian Wodrow, and was at length published in 1817. One day in June, 1676, as Mr Kirkton was walking along the High Street of Edinburgh, Carstairs, whose person he did not know, accosted him to prison, but he utterly refused to speak with him in private. Mr Kirkton, suspecting no evil, followed Carstairs to a very mean looking house, near the common prison. Carstairs, who had no warrant to apprehend or detain Mr Kirkton, went in to get one, locking the door upon his back. The contents of this warrant he perceived that he was in some danger, and prevailed upon a person in the house to go to seek his brother-in-law, Mr Baillie, and apprise him of his situation. Carstairs, having in vain endeavoured to get the requisite number of privy councillors to sign a warrant, now came back, resolved, it appears, to try at least if he could not force some money from Mr Kirkton for his release. Just as they were about to confer upon this subject, Mr Baillie came to the door, with several other persons, and called to Carstairs to open. Kirkton, hearing the voices of friends, took courage, and desired him to come in, and show a warrant for his detention. Carstairs, instead of doing either, drew a pocket pistol, and Kirkton found it necessary, for his own safety, to enter into a personal struggle, and endeavour to secure the weapon of his antagonist. The gentlemen without, hearing a struggle, and cries of murder, burst open the door, and found Carstairs sitting upon Mr Kirkton, on the floor. Baillie drew his sword, and commanded the youth to come off, asking him at the same time if he had any warrant for apprehending Mr Kirkton. Carstairs said he had a warrant for confining him in jail, took courage, and dared him to show it, though Mr Baillie said that, if he saw any warrant against his friend, he would assist in carrying it into execution. The wretch still persisting in saying he had a warrant, but was not bound to show it, Mr Baillie left the place, with Mr Kirkton and other friends, having offered no violence whatever to Carstairs, but only threatened to sue him for unlawful invasion of his brother-in-law's person. It might have been expected from even a government so lost to all honour and justice as that which now prevailed in Scotland, that it would have at least the good sense to restrain its agents from using such desperate means in its tools. On the contrary, it was resolved to brace the popular feeling of right, by listening to the complaints of Carstairs. Through the influence of archbishop Sharpe, who said that, if Carstairs was not contented, no one would be procured to apprehend families afterwards, a majority of the council agreed to prosecute Baillie, Kirkton, and the other persons concerned. For this purpose, an antedated warrant was furnished to Carstairs, signed by nine of the councillors. The margrav of Athol told bishop Burnet, that he had been one of the nine who lent their names to this infamous document. The whole case was, therefore, made out to be a tumult against the government; Baillie was fined in 6,000 merks, (£2318 sterling), and his friends in smaller sums, and to be imprisoned till they should render payment.

The case went on in a similar manner, in every particular, to the principles of truth, honour, and justice, that, even if not directed against individuals connected with the popular cause, it could not have failed to excite general indignation. It appears that a respectable minority of the council itself was strongly opposed to the proposals of the ministers. It was said that the noblest of the Greeks, and of the primitive Christians, and first martyrs in those last days of the church. At length, on the 23d of December, 1684, he was brought before the court of

Halton, however, who was at this time a kind of pro-engent under his brother Lauderdale, had interest to obtain the dismissal of his opponents from the council, namely, the duke of Hamilton, the earls of Morton, Dunbar, and Kincardine, and the lords Cochrane and Primrose, whom he branded, for their conduct on the preceding occasion, as enemies to the church, and favourers of conventicles.

After this period, nothing is known of Mr Baillie till the year 1683, when he is found taking a prominent share in a scheme of emigration, agitated by a number of Scottish gentlemen, who saw no refuge but this from the persecution of the government. These gentlemen entered into a negotiation with the paten-

tees of South Carolina, for permission to convey themselves thither, along with their families and dependents. While thus engaged, Mr Baillie was induced, along with several of his friends, to enter into correspondence and counsel with the heads of the Puritan party in England, who were now forming an extensive plan of insurrection, for the purpose of obtaining a change of measures in the government, though with no ulterior view. Under the pretext of the American expedition, lord Melville, sir John Cochrane of Balfillock, and Mr Baillie, were invited and repaired to London, to consult with the duke of Monmouth, Sydney, Russell, and the rest of that party. This scheme was never properly matured; indeed, it never was any thing but a matter of talk, and had ceased to be even that, when a minor plot for assassinating the king, to which only a small number of the party were privy, burst prematurely, and involved several of the chiefs, who were totally ignorant of it, in destruction. Sydney and Russell suffered for this crime, of which they were innocent; and Baillie and several other gentle-

men were seized and sent down to be tried in Scotland.

The subsequent judicial proceedings were charac-
terized by the usual violence and illegality of the time. He endured a long confinement, during which he was treated very harshly, and not permitted to have the society of his lady, though she offered to go into prison, as an assurance against any attempt at facilitating his escape. An attempt was made to procure sufficient proof of guilt from the confessions wrought out of his nephew-in-law, the earl of Tarrun (who had been first married to the elder sister of the duchess of Monmouth); but, this being found insufficient, they were accused of having adopted the unlawful expedient, too common in those distracted times, of putting him to a purgative oath. An accusation was sent to him, not in the form of an indictment, nor grounded on any law, but on a letter of the king, in which he was charged with a conspiracy to raise rebellion, and a concern in the Rye-

house Plot. He was told that, if he would not clear himself of these charges by his oath, he should be held as guilty, though not as in a criminal court, but only as before the council, who had no power to award a higher sentence than fine and imprisonment. As he utterly refused to yield to such a demand, he was fined by the council in £6,000, being about the value of his whole estates. It was then supposed that the prosecution would cease, and that he would escape with the doom of a captive. For several months he continued shut up in prison, in which condition he was brought almost to the last extremity. Yet "all the while," to use the words of bishop Burnet, "he seemed so composed, and even so cheerful, that his behaviour looked like a reviving of the spirit of the noblest of the Greeks, or of the first martyrs in those last days of the church. At length, on the 23d of December, 1684, he was brought before the court of
justiciary. He was now so weak as to be obliged to appear at the bar in his night-gown, and take frequent applications of cordials. The assize was empannelled at midnight, and sat till nine in the morning of the succeeding day, when a verdict of guilty was returned against Mr Baillie, and he was sentenced to be executed that afternoon, at the cross, and his limbs to be afterwards exhibited on the jail of four different Scottish towns. The reason for such precipitation was the fear of his judges that a natural death would disappoint the wishes of the government, which called imperatively at this moment for a public example to terrify its opponents. Mr Baillie was attended to the scaffold by a faithful sister. The unfortunate gentleman was so weak that he required to be assisted in mounting the ladder: he betrayed, however, no symptom of moral weakness. Just before being consigned to his fate, he said, in the self-acquainting spirit of true excellence, "My faint zeal for the Protestant religion has brought me to this end." His sister-in-law, with the stern virtue of her family, waited to the last. Dr Owen has testified, in a strong manner, to the great abilities of the Scottish Sydney. Writing to a Scottish friend, he said, "You have truly men of great spirits among you, and a gentlemanly spirit." What could be more beautiful than Jervis, Mrwood, a person of the greatest abilities I ever almost met with." Mr Baillie's family was completely ruined by his forfeiture. He left a son, George Baillie, who, after his execution, was obliged to take refuge in Holland, whence he afterwards returned with the prince of Orange, by whom he was restored to his estates. The wife of this gentleman was Miss Grael Hume, daughter of Sir Patrick Hume of Polwarth, a fellow-patriot of Mr Robert Baillie. The occasion of their meeting was very remarkable. Miss Grael, when a very young girl, was sent by her father from the country, to endeavour to convey a letter to Mr Baillie in prison, and bring back what intelligence she could. She succeeded in this difficult enterprise; and having at the same time met with Mr Baillie's son, the intimacy and friendship was formed, which was afterwards completed by their marriage.

Baillie, Jean Sylvain; a learned French astronomer, born at Paris, 1736. Though designed by his father, keeper of the royal gallery of pictures, for a painter, he followed his natural inclination for literature. His first attempts were in poetry. Becoming afterwards acquainted with Lacaille, he was induced by that learned example to attempt the study of astronomy. After the death of Lacaille, in 1703, he entered the academy, and published the calculation of a great many of Lacaille's observations on the stars of the zodiac. He undertook, also, at this time, a great work on the satellites of Jupiter, the theory of which the academy had made a prize question. His Essai sur la Théorie des Satellites de Jupiter, avec des Tables de leurs Mouvements, appeared in 1706. In 1711, he published a treatise on the light reflected by the satellites of Jupiter, which he undertook to measure by an ingenious process. Amidst these laborious occupations, he never lost his love of literature. His eloquiances on Pierre Corneille, Leflins, and others, were so favourably received, that he resolved to select a scientific subject, susceptible of the ornaments of style, which might secure his literary favour. He chose the History of Astronomy (1775 to 1787), in which he compiled, with the greatest care, and entered into the academy of inscriptions. His government also made him a member of the committee for examining the character and influence of animal magnetism, discovered by Mesmer. "B. delivered a double report on this subject, one for the public, to give it a just view of the doctrine, the other for the King alone, on the real causes of magnetism, and its moral influence. The latter was not published till a later period. Baillie was now enjoying the general esteem due to merit and to virtue, when the revolution tore him from his peaceful pursuits. Paris chose him, May 12, 1790, first deputy of the tiers-état; in the assembly itself, he was made first president. He retained this place after the commons had declared themselves for nothing but a monarchial form. To enable them to assemble, he presided, June 20, 1789, in the session of the tennis-court, when all the deputies swore never to separate till they had given France a new constitution. Being chosen mayor of Paris, July 16, he discharged the duties of his office with his usual integrity and disinterestedness; but these virtues were not sufficient to restrain a furious populace, exposed by turns to the influences of opposite parties. The palliative measures employed by B. to preserve the appearance of tranquillity might delay the eruption, but could not suppress it; perhaps there was nothing more of a matter-of-course nature than the most vigorous resistance would have been ineffectual. Once only, and on the most just occasion, he had recourse to rigorous measures. This was after the return of the king from Varennes. The violent revolutionists wished to seize this opportunity for his deposition, and a great number of them assembled, July 17, 1791, in the Champ-de-Mars, in order to sign, upon the altar of their country, a petition to this effect. B., accompanied by the national guards, commanded the rebels to disperse, and, on their refusal, dispersed them by force. The national assembly appointed him president; nevertheless, he resigned his place, Sept. 10, 1791. Petion (q. v.) became his successor. B. retired entirely from public affairs to the country in the vicinity of Nantes. When the increasing troubles left him no security even here, his friend Laplace offered him a shelter in his own house at Melun. In the meantime, by the events of May 31, 1793, circumstances were changed, and a division of the revolutionary army entered Melun. Laplace informed B. of his danger, but, unfortunately, he did not regard the warning, but persisted in going to Melun. As soon as he entered the place, he was arrested, and imprisoned, Feb. 11, Nov. 11, 1793, he was condemned to death by the revolutionary tribunal, and executed on the 12th, with circumstances of great cruelty. He died with the utmost composure. His crimes were, his conduct on the Champ-de-Mars, and the boldness with which he had declared the accusations brought against the queen false and calumnious. His posthumous works are, Essai sur l'Origine des Fables, et des Religions Anciennes, and his Journal during the early period of the revolution, from April 21 to Oct. 2, 1789 (3 vols. 1804).

Bailment in law, is the delivery of a chattel or thing to another to keep, either for the use of the bailor, or person delivering, or for that of the bailee, or person to whom it is delivered. A bailment always supposes the subject to be delivered only for a limited time, at the expiration of which it must be returned to the bailor. All bailments are either gratuitous or paid; in the latter, it is necessary to consider the degree of responsibility of the bailee in regard to the safe-keeping and re-delivery of the subject of the bailment. This responsibility will depend, in some degree, upon the contract on which the bailment is made. If a thing is delivered to a bailee, he, without any advantage or use to himself, or any com-
pensation, but merely for the benefit of the bai('er, he is answerable only for gross negligence; but if the bailment is for the mutual benefit of both parties, the thing must be kept with the ordinary and usual care which a prudent man takes of his own goods; but if it be delivered to him for the benefit of the lessor, he must exercise strict care in keeping it, and be answerable for slight negligence. A special agreement is made in many cases of borrowing or hiring, specifying the risks assumed by the borrower or lessee; and, in such cases, his obligations will be determined by the contract. In ordinary hiring, the bail-lee, after the expiration of the lease, if not paid for, must return the hire to his master who engaged him, or to the owner, if not paid for.

There is an excellent essay on the Law of Bailment by Sir William Jones.

BAILIE, or BAILE, William, a physician of the 15th century, was a native of Scotland. After being educated in his native country, he went to Italy, where he studied medicine with such reputation as to be made rector, and afterwards professor of medicine in the university of Bologna, about the year 1484. In his theory he adopted the Galenic system in preference to the Empiric, and wrote "Apothegmis pro Galeni decem," Lyonn. 1550, 8vo. Mac- kenzie thinks this also was a work entitled, "De Quantitate Sylbarum Graecarum, et te Dialectis," 1600, 8vo.

BAINBRIDGE, John, an eminent astronomer and mathematician, born at Ashby-de-la-Zouch, in Leicestershire, in 1582. He studied at Cambridge, whence, having taken the degree of M. A., he returned to his native place, set up a grammar school, and at the same time practiced physic, devoting his leisure to the science of arithmetic. He at length removed to London, and was admitted a fellow of the College of Physicians, "A dissertation of the Comet of 1618," which he published, was the means of introducing him to Sir Henry Savile, who had founded an astronomical lecture at Oxford, and who in 1619, appointed Dr Bainbridge to an assistant professor. He then entered as a master-commoner at Merton College, Oxford, and afterwards entered at Linacre's medical lecture. He died in 1643, while engaged in publishing corrected editions of the works of the ancient astronomers, an undertaking which was one of the duties enjoined on him as Savilian professor. His only published works, besides that already mentioned, are "A dissertation of the Comet of 1618," which he published, and "A treatise on the Dog Star," 1648. He left some astronomical dissertations, and a considerable quantity of other manuscripts, which are preserved in the library of Trinity College, Dublin.

BIRAM, or BIRHAM; the Easter of the Mohammedans, which follows immediately after the Rhamzam or Lent (a month of fasting), and lasts three days. This feast begins, like the Rhamzam, as soon as the new moon is announced by the persons appointed for that purpose, and, during the course of thirty-three years, takes place in all the seasons and all the months of the year, because the Turks reckon by lunar years. It is the custom, at this feast, for inferiors to make presents to their superiors. This custom formerly extended even to the Europeans, who were obliged to make presents to men of rank, to the pachus and the cadis. The grand seignior is also accustomed to distribute favours and presents. Sixty days after this first great Bairam, begins a second—the lesser Bairam. They are the only two feasts, the celebration of which the Mohammedan religion prescribes to the faithful.

Baird, the Right Honourable, General Sir David, a distinguished British commander, was born in Scotland, and entered the army, December 10, 1772, as an ensign in the second foot, joined the regiment at Gibraltar, April, 1773, and returned to Britain in 1776. Having been promoted to a lieutenant in 1778, he immediately after obtained a company in the 73rd, a regiment then just raised by lord Macleod, with which he sailed for India, and arrived at Madras, January, 1779, where he was immediately joined as a captain in the wars against Hyder Ali, he received on the fifth of June, 1789, the majority of the 73rd regiment, and in October obtained leave of absence, and returned to Britain. In 1791, he returned as lieutenant-colonel of the 71st, and joined the army under the command of Sir John Hope. At the head of a brigade of Sepoys, he was present at the attack of a number of Droogs, or hill-forts, and at the siege of Seringapatam, in 1791 and 1792; and likewise at the storming of Tippoo Sultaan's lines and camps in the island of Seringapatam. In 1788, he commanded a brigade of Europeans, and was present at the siege of Pondicherry. He received a colonelcy in 1784. In October 1797, he embarked at Madras with his regiment for Europe; in December, when he arrived at the Cape of Good Hope, he was appointed brigadier-general, and placed on that staff, in command of a regiment. June 1798, he was appointed major-general, and returned to the staff in India. In January, 1799, he arrived at Madras, in command of two regiments of foot, together with the drafts of the 28th dragoons. May 4, he commanded the storming party at that distinguished action, the assault of Serampore. In July, for a considerable period, the baggage was handed over to the Enam of the army, through the commander-in-chief, with the state sword of Tippoo Sultaan, and also with a dress-sword from the field-officers serving under his immediate command at the assault.

The eminent merit of brigadier-general Baird being now fully known to the government at home, he was in 1800, appointed to the command of an expedition against Batavia, but which was afterwards sent to Egypt. He landed at Cosier in June, crossed the desert, and, embarking on the Nile, descended to Grand Cairo; whence he set out for Alexandria, which he reached a few days before it surrendered to general Hutchison. Next year he led the Egyptian-Indian army overland to India, where he was concerned in various military transactions. His services, however, being soon afterwards attended with the loss of his life, Arthur Wellesley, in a manner no ways creditable to the then existing administration, and which was only eventually justified by the splendid successes of Sir Arthur, he sailed for Britain with his staff, March, 1803, and after a tedious voyage, during which he was taken prisoner by a French privateer, but afterwards retaken, he arrived in England in November.

Sir David Baird was received at the British court with great distinction. In December, he received the royal permission to wear the Turkish order of the Crescent. In June, 1804, he received the honour of knighthood, and on the 18th of August following became knight companion of the Bath. With the increased rank of lieutenant-general, he commanded an expedition which sailed in October, 1805, for the Cape of Good Hope. Landing there, January 6, 1806, he attacked and beat the Dutch army, and on the 18th received the surrender of the colony. Having recalled, he arrived in Britain, April, 1807, and was shifted from the colonelcy of the 54th, which he had held for some years, to that of the 24th, and placed on the foreign staff under general lord Cathcart. He commanded a division at the siege of Copenhagen, and when he was twice wounded, and returned with the army in November.

After a short period of service in Ireland, Sir David sailed in command of an armament of 10,000 men for Corunna, where he arrived in November, 1808, and
formed a junction with the army under general Sir John Moore. He commanded the first division of that army, and in the battle of Corunna, January 16, 1809, he lost his left arm. By the death of Sir John Moore in this action, Sir David succeeded to the chief command, and had the honour of communi-
cating to the victorious emperor the news of the victory of Salamanca. On this occasion, he was rewarded with the commander of the 6th division of the line, and appointed governor of Cadiz. Notwithstanding this, he continued the siege of Badajoz, and at the battle of El Tolmo, September 23, 1810, was severely wounded, but continued to act with dignity and courage. On recovering, he was appointed governor of the important fortress of Cadiz, and in July, 1812, he was again placed in command of the Spanish forces in the peninsula, and in the subsequent campaigns, he displayed his military talents to such an extent that he was created Duke of Wellington, and was invested with the title of Governor-General of the Peninsula, and the rank of Field Marshal. In 1814, he was promoted to the rank of general, and in 1819 became governor of Kinsale in Ireland, and in 1827, of Fort George in the north of Scotland. This brave veteran died at an advanced age, August 18, 1829, at his seat of Ferntower in Perthshire. His lady, who survives him, has designed a monument to his memory on the top of a romantic hill, named, Tom-na-claisht (i. e. the hill of the castle), in the neighbourhood of Fern-
tower. An interesting life of him has recently been published by Mr. Theodore Hook.

BAIRDSTOWN, or Beechfork, a town-tow in the north of Kentucky, and capital of Nelson county, on Beech Fork river; 36 miles S. W. Frankfort, 60 W. S. W. Lexington; lon. 86° 10' W.; lat. 37° 49' N.; population in 1810, 820. It contains a courthouse, a jail, a market-house, a church, and a flourishing Roman Catholic college, styled the college of St. Joseph, which is under the care of the Roman Catholic bishop of Kentucky, and has about 200 students. The college edifice is of brick, four stories high.

BAKES, or De Bay, Michael, born 1518, at Melin, in Hainau, educated at Louvain, in 1551, made professor of theology at this university, in 1563 or 1564, chosen a member of the council of Trent, was one of the greatest theologians of the Catholic church in the 16th century. He founded systematic theology directly upon the Bible and the Christian fathers, leaving the scholastic method. He had read the writings of St. Augustine nine times, and had fully adopted the views of that father, whose doctrines of the entire incapacity of the human will for good, and the insufficiency of good works, he first maintained against the less rigid notions of the Jesuits. The doctrines that the human will, when left to itself, could do nothing of itself, and that Jesus was not free from hereditary and actual sin; that every action, which did not proceed from pure love to God, was sinful; and that no penance was effectual for the justification of the sinner, but every thing was to be attributed solely to the grace of God, through Christ, caused him to be persecuted as a heretic by the old Scotchmen, and, in particular, by the Jesuits, who, notwithstanding the favour in which he stood at the Spanish court, at length succeeded in obtaining a papal bull, in 1567, condemning these doctrines, with others falsely imputed to him. B. submitted; yet the persecutions against him still continued, as did also his defence of the opinions of Augustin in his lectures; and, as the theological faculty at Lou-
vain entirely was his favour, he not only remained in the quiet possession of his dignities, but was also appointed dean of St. Peter's, in 1575, and, in 1578, chancellor of Louvain town; may be considered as conferred upon him the office of inquisitor-general in the Netherlands. He died in 1589, and left the reputation of great learning, pure morals, and a rare modesty. His Augustinian views, which were called thenceforward Jesuitism, were adopted to the Jesuists as the precursor of whom he is considered, and, in their hands, received an interpretation formidable to Je-
suitism and to the papal power. His doctrine of pure, undivided love of God has been adopted by the Quietists. His writings, mostly polemical, were published by Gabriel Gerberon, at Cologne, 1696, quarto.

BAJAZET I., Turkish emperor, in 1389 succeeded his father, Amruath, who fell in the battle of Cassova or Corunna. He caused his eldest brother, Jacob, his rival for the throne, to be stripped of all his rights, and, in the battle of the Caflis, near Durazzo, September 14, 1389, was defeated; under these circumstances, and under the influence of his wife, who was a niece of Timur, he concluded a treaty with the Mongolian general, who had come down from the Caspian to the Euphrates. The Treaty of Durazzo was signed in August, 1390, and was renewed in 1395. Bajazet died, probably, April 3, 1399. He was succeeded by his son, Sultan Sulaiman, who, in 1402, was assassinated by his bodyguard, who commanded the palace guard. The subsequent history of the Bajazet family is obscure, and the line of descent is lost. Bajazet's remains were afterwards removed to Sofia, and were translated to Constantinople, but were again lost in the revolution of 1453. Bajazet's son, Sultan Sulaiman, in 1421, 24, and 25, was defeated by Timur in the battle of Aella.
in making it. Of his Latin style, Sir G. Baker has left a specimen highly creditable to his taste and talents, in the preface to a late edition of the Pharmacopoeia of the medical college.

Baker, Henry; a poet and naturalist of the 18th century, was born in London, and devoted himself to the instruction of persons born deaf and dumb, by which he acquired a handsome fortune. In 1725 and 1726, he published "Original Poems, serious and humorous," in two parts. He was also the author of "The Universe," a poem, and an "Inevocation to Health." He afterwards employed himself much in experimental philosophy, and making microscopical observations. In 1740 he was chosen a fellow of the Royal and Antiquarian societies, and in 1744 he obtained the Coplean gold medal, for his microscopical discoveries on crystallization. He contributed many papers to the Philosophical Transactions; and he was an active member of the Society for the Encouragement of Arts, to which he for some time acted gratuitously as secretary. He died in 1774. By his will he left £200 to the Royal Society, for the encouragement of natural philosophy. Besides the works already noticed, he published "The Microscope made easy," and "Employment for the Microscope;" both illustrated by plates, and containing much curious information. Mr. Baker married a daughter of Daniel Defoe, by whom he had five sons and four daughters. Dr. John Baker, who died in 1767, was the author of "The Companion to the Playhouse," 2 vols. 12mo; since enlarged by Isaac Reed and Stephen Jones. Henry Baker, the younger son, who was an attorney, had some talent for poetry, and in 1756 published "Essays, Pastoral, and Elegiac," 2 vols. 8vo.

Baker, Sir Richard; an English historian of the 17th century. He was born of a good family in Kent in 1658, and became a gentleman-commoner at Oxford, whence he removed to one of the inns of court, and afterwards travelled on the continent. Returning home, he was knighted in 1669 by James I., and in 1690 he filled the office of high sheriff of Oxfordshire, having estates in that county. An unfortunate marriage with the daughter of Sir George Mainwaring, of Ightham, in Shroffness, occasioned his ruin; for, giving security for the debts contracted by his wife, he was obliged to take refuge in the Fleet prison, where, after continuing some years, he died in 1645. He lightened his tedious confinement by turning author. Some religious pieces which he published have been long since consigned to oblivion; but his "Illustration of the Lives of the Popes," 3 vols., appeared in 1694, and was so much admired that his projects were productive of any real advantage to himself or to the public: for it has been stated that he failed in business more than once; and, with regard to the ultimate effect of his improvements, it has been sarcastically, but justly remarked, that they had enabled him to make meat too fat for any body to eat, and too dear for any body to purchase. He was, however, like many other speculators, an intelligent and ingenious man; and he is said to have been distinguished for his humanity to the animals under his care. He died at Dishley, October 1st, 1755.

Bakhtinsky. See Backhuysen.

Baking; the art of preparing bread, or of reducing meal or flour of grain, or other substances, into bread. See Bread.

Baker, Peter Huysinga, a Dutch poet, born in 1715, died in 1801, was a member of the academy of sciences at Leyden. His poem on the inundation of 1740 is much esteemed. All his works make three volumes, of which one volume contains satires and contemptuous songs against the Britons. He was a friend and relation of the Dutch historian Wagener, of whose life he published some notices. He translated Hight's Latin poem on Spring into Dutch.

Balalaika; a musical instrument, of very ancient Schyvonic origin, common among the Russians, Tartars, and, according to Niebuhr, also frequent in

by a Circle, and any (and that one only) Parabole." 4to. This verbose title will give the reader an idea of the merit of Mr. Baker's discoveries, which recommended him to the notice of the Royal Society, by whom he was presented with an honorary medal. He died in 1639.

Baker, Thomas; a learned antiquary, born at Lancaster, in Durham, in 1656. He became a student of St John's college, Cambridge, of which he was afterwards fellow. Entering into orders, he obtained a living, which he resigned in consequence of having embraced the principles of the Nonjurors. On the accession of George I., his refusal to take the oaths required by government, obliged him to give up his fellowship; but being much esteemed in the university, he was allowed to retain his chambers; and Prior the poet most generously made up his loss of income by giving him the emoluments of his own fellowship, his motives for keeping possession of which were not generally known. Baker died in 1740, leaving behind him vast manuscript collections relating to the history and antiquities of Cambridge university, and other subjects; part of which are in the Harleian library in the British museum, and part in the public library at Cambridge. In 1699 Mr. Baker published anonymously a volume, entitled "Reflections upon Learning," which became exceedingly popular, and passed through many editions. The object of the piece was to show the uncertainty and insufficiency of all human learning, and evince the necessity of revelation. Neither in its plan or execution is the work entitled to the unqualified praise which has sometimes been bestowed on it. The author printed nothing else but a preface to a sermon of bishop Fisher.

Bakewell, Robert; an English gentleman in the last century, who acquired some celebrity by his schemes for improving the breeds of sheep and oxen. He possessed an estate at Dishley Grange, in Leicestershire, where his grazing and feeding schemes were put in execution; and he is said to have travelled over various parts of England, Ireland, and Holland, in search of information. In some respects he was very successful; for he found out a method of fattening animals to a prodigious degree for the table; and he sold his stock at a most enormous price. It may be questioned, however, whether his projects were productive of any real advantage to himself or to the public: for it has been stated that he failed in business more than once; and, with regard to the ultimate effect of his improvements, it has been sarcastically, but justly remarked, that they had enabled him to make meat too fat for any body to eat, and too dear for any body to purchase. He was, however, like many other speculators, an intelligent and ingenious man; and he is said to have been distinguished for his humanity to the animals under his care. He died at Dishley, October 1st, 1755.

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Balalaika; a musical instrument, of very ancient Schyvonic origin, common among the Russians, Tartars, and, according to Niebuhr, also frequent in
Egypt and Arabia. It is of the guitar kind, but has only one string.

**Balance.** An instrument employed for determining the quantity of any substance equal to a given weight. Balances are of various forms; that most commonly used, is represented in plate IX. fig. 2, being usually denominated, the beam and scales. The horizontal beam AB rests, and is capable of turning, on the centre of motion C. The scales D and E are suspended by chains from the extremities A and B of the beam, called the centres of suspension. Midway between the centres of suspension, and directly above the centre of motion, there rises from the beam a perpendicular, called the thinnest, slender stem, called the tongue, which, when the beam is level, points to the top of the handle F, by which the whole is suspended. A good balance is necessary, not less for the ordinary commerce of society, than for the purposes of science; and there are few indeed to whom it would be a matter of indifference to know the principles of construction which contribute to the excellence of this simple and useful instrument.

We shall, therefore, as briefly as possible, state the properties of a good balance, and also the means by which these properties are to be secured. There are three good balances of the most approved kind;—

1. That the beam should rest in a horizontal position when the scales are either empty or loaded with equal weights. —2. A very small addition of weight put into either scale, should cause the beam to deviate from the level, which property is denominated the sensibility of the balance. —3. When the beam is deflected from the horizontal position by inequality of the weights in the scales, it should have a tendency speedily to restore itself, and come to rest in the level, which property is called the stability of the balance. The remarks which follow will guide in the construction of a balance, which shall possess the foregoing properties:—The arms of the beam should be exactly similar, equal in weight and length, and as long as possible. The centres of gravity and suspension ought to be in one straight line, and the centres of motion should be immediately above the centre of gravity. The centre of motion and the centres of suspension should cause as little friction as possible, and their axes ought to be at right angles to the line which measures the length of the beam. The centre of motion ought to be a knife-edge, and if the good balances are three. When the beam is deflected, the centres of suspension ought to be knife-edges also: and if the centres of suspension be not knife-edges, the rings with which they are formed should be hard, polished, and of an oval form. There are means of testing whether or not these conditions have been observed in the construction of a balance.

For if the balance have no tendency to one position more than another, when the scales are either loaded, empty, or off altogether, it is a proof that the centres of gravity and motion coincide, and the remedy is to lower the centre of gravity. If the beam is disturbed by a small addition of weight to either scale, the arm at the loaded end descending, and having no tendency to resume the horizontal position; then we may infer that the centre of gravity is above the centre of motion; and it is to be observed, that the quicker the descent of the loaded arm of the beam, the farther must the centre of gravity be lowered before the beam will acquire the requisite stability. If it require a considerable addition of weight in either scale to deflect the beam from the level, we may infer that there is too much friction at the centre of motion, or that the centre of gravity is too low. If two weights are found to be in equipoise, one being in each scale, when a transfer of them is made, that which was in the one scale put into the other, then if there be no longer an equilibrium, we may infer that the arms of the beam are of unequal length.

Various contrivances have been employed, with a view to correct the defects of the common balance. The whole apparatus is not unfrequently enclosed in a glass case, which prevents the heat from expanding the arms unequally, or currents of air from disturbing the equilibrium. A small weight has been made to slide up or down on the tongue, by which means the centre of gravity may be raised or depressed at pleasure; and to regulate the equality of the length of the arms, a regulating screw is employed, by means of which the centre of suspension of either arm may be moved nearer to, or further from, the centre of motion. Balances used for delicate purposes, such as for assaying, have the centre of motion suspended; but that centre is fixed on a pedestal, which firmly supports the whole. Such is the case in the assaying balance, plate IX. fig. 1.—The hydrometric balance (plate IX. fig. 4) is another modification of the common beam and scale. The pedestal D rises from the table AB, to a convenient height, and supports the tablet E, into which the stalk F is fixed. From this stalk, the beam of the instrument is suspended, in a manner which the engraving will easily show. To the bottom of one of the arms C, there is attached a small wire, C, which suspends the substance whose specific gravity is to be taken, and which in the figure is represented as immersed in the water contained in the glass vessel R. The minutiae of construction and use of this balance, can only be understood by following the method usually employed in the determination of specific gravities, which will be found explained under the article Gravity, specific. —The balances, which we have considered above, all require an assortment of weights; and it now remains for us to describe the more important of those balances which require only one weight, but are, nevertheless, capable of determining a great many. Of this description is the stater, or Roman steelyard, represented in plate IX. fig. 3, where AB is a steel bar, moving on the fulcrum C, after the same manner as the common balance. If the arm CA be one inch long, and the arm CB any convenient length, being divided into inches, and also smaller than the short arm CA, so that when the weight which is seen at E is taken off, and the empty scale hung from A, the bar AB will be level, and at rest. If now a weight of two ounces were put into the scale D, the equilibrium will be destroyed, unless a weight of two ounces be hung on the long arm, at the distance of one inch from the centre of motion, or one ounce at the distance of two inches. —If a six ounce weight be put into the scale D, it will be balanced by one ounce at the distance of six inches from the fulcrum C, on the long arm, &c., which follows from the principles of the Lever. And thus, if the arm CB were sixteen inches long, and CA one inch, then would one ounce weight at B balance one pound avoirdupois in the scale D. A modification of this instrument has lately been employed with much advantage in taking specific gravities. The bent-lever, or quadrant balance, is represented in the accompanying cut, and depends on principles nearly the same with those of the steel-yard. The article, to be weighed, is put into the scale, and the index will rise on the graduated quadrant, un-
till an equilibrium takes place, when the index will point out the precise weight of the substance in the scales. The greater the weight in the scale is, the higher will the index rise, which corresponds to the moving of the weight on the steel-yard, farther from the spring balance, see Dynamometer.

Balance of Power. See Power.

Balance of Trade, a subject formerly so much discussed, is now rarely mentioned. The notion was once entertained, that the prosperity of a country depended on exporting merchandise exceeding the value of the imports, and receiving the balance in the precious metals. If a nation has no mines, it can obtain the precious metals only by importation. So far, therefore, there is some ground for the notion. But in speculating on this subject, men fell into two errors—1, in supposing that any direct legislative interference was necessary, in respect to the precious metals; 2, in computing the balance of trade; for, if we compare the value of exports with that of imports received in exchange, the more probable the trade is, the more the balance is against us; that which we value, including the precious metals, exceed that of exports, if we estimate the value in our own markets; and there must be an excess equal to freight and charges, or it is a losing trade to those concerned. But any country may, in fact, have a balance of trade against it, provided it gets credit abroad; and that balance, consisting of the debts of individuals, may be embarrassing to the national industry as much as a private debt may be to a debtor, who has either made a bad bargain, or has to struggle to obtain the means of making payment.

Among seamen, the contracting a sail into a narrower compass, in a storm, by folding up a part of it at one corner, by which it is distinguished from reefing. Balancing is peculiar to few sails.

Balbec, or Balbree: the ancient Helipolis (city of the sun), in Colossyria, in the pachalic of Acre, in Syria, in a fertile valley at the foot of Antilibanus, 40 miles from Damascus; lon. 39º 11' E.; lat. 34º 1' N.; a small neatly built town, surrounded by ruinous walls, containing about 5,000 inhabitants, among whom there are some Christians and Jews.

The city is under the government of an aga, who assumes the name of Bebek. He is the finest in the East, of which a society of Benares, who visited B. in the middle of the eighteenth century, have given the most complete description. As early as the time of Augustus, Helipolis had a Roman garrison. Whether the magnificent temple of the sun, a great part of which is still unroofed, and which is one of the most splendid remains of antiquity, was built by the emperor Antoninus Pius, or by Septianius Severus, upon whose medals it appears to have been first represented, is uncertain. Of fifty-four lofty columns, there are but six standing: their shafts are fifty-four feet high, and nearly twenty-two in circumference; and the whole height, including the pedestal and capital, is seventy-two feet. Excellent marble statues of Jupiter, Diana, and Leda, and bass-reliefs and busts of Roman emperors and empresses, are yet to be seen. The size of the stones, with which the walls of the temple are constructed, is the same with Antoninus Pius. It is also said to have been, known would be able to place them in their present position. Under the emperor Constantine, this temple was neglected, and was changed into a Christian church. Thus it remained until after the irruption of the Arabsians, when it fell to decay. The great pedestal and altar, of which the stone is said to have been, and several other temples, are of distinguished beauty. Obelisk, a general of the caliph Omar, captured the city, after a vigorous defence. In 1401, it was taken by Tamerlane. An earthquake almost entirely destroyed it in 1759.

Balboa, Vasco Nuñez de; born about 1475; one of the Spanish adventurers who pursued the path by which Columbus expected to make their fortunes in America. The Spanish court granted them full permission to make discoveries, without giving them sufficient support. B. after having dissipated his fortune in Spain, went to America, arrived at the isthmus of Darien, and soon became the leader of a small troop of Spaniards, and succeeded in founding a colony in these regions, either winning the inhabitants by kindness, or subjecting them by force. A dispute having taken place between two of his companions, on the division of a quantity of gold, an Indian, who perceived the eagerness of the Spaniards for it, offered to show them a country where this metal was used for the meanest vessels. He led them to the coast of the Pacific ocean, where the way to Peru was open before them. B., however, ventured not to attack Peru with his troop of 150 men. He was satisfied with getting information and possession in the name of the king of Spain, of the great ocean, the boundless plain of which was spread out before him. After four months, he returned to Darien, loaded with gold and pearls. Here he found a new governor, Pedrarias, whom he was commanded to obey by an order of Ferdinand. Though surprised at this ingratitude, he complained, and, in the following year, was appointed vicerecy of the South sea. Pedrarias was apparently reconciled to him, but, soon after, under pretext of neglect of duty, ordered him to be tried and condemned to death. B. was beheaded in 1512, at the age of forty-two years; Balbarro, which afterwards completed the discovery of Peru, had served under him.

Balcun. See Balcun.

Balcunqual, Walter, D.D., an eminent divine of the 17th century, was born at Edinburgh, and entered a bachelor of divinity at Pembroke hall, Oxford, where, September 8, 1611, he was admitted a fellow. He appears to have enjoyed the patronage and friendship of king James, and his first preferment was to be one of the royal chaplains. In 1617, he became master of the Savoy in the Strand, London, which office, however, he soon after resigned in favour of the abbot de Dominis, archbishop of Spalatro, who came to England on account of religion, and became a candidate for the king's favour. In 1618, Dr Balcunqual was sent to the celebrated synod of Dort, as one of the representatives of the church of Scotland. He has given an account of a considerable part of the proceedings of this grand religious council, in a series of letters to Sir Dudley Carleton, which are to be found in "The Golden Remains of the ever-memorable Mr John Hales of Eaton, 460, 1673." In 1621, the archbishop of Spalatro having resigned the mastership of the Savoy, Dr Balcunqual was re-appointed; and on the 12th of March, 1624, being then doctor of divinity, he was installed dean of Rochester. George Heriot, at his death, February 12, 1624, ordained Dr Balcunqual to be one of the three executors of his last will, and to take the principal charge of the establishment of his hospital in Edinburgh. Dr Balcunqual was entitled to no small commendation for the able manner in which he discharged this great and onerous trust. The statutes, which, in terms of the testator's will, were drawn up by him, are dated 1627, and do great credit to his sagacity and practical good sense.

In 1633, the Earl of Hamilton having the earl-marquis of Hamilton to Scotland, to treat with the covenanters, B. accompanied his grace in the capacity of 3 c—d
chaplain. What was his external behaviour on this occasion, we do not know; but it was afterwards surmised by the covetousness, that he had been deposed on the one hand, and that the marquis, who was suspected of moderation, and the people with whom he was dealing. It is asserted by Sir James Balfour, in his "Memorials of State," that Dr Balcunqua also communicated intelligence of all that happened in Scotland, to Signor George Con, the pope's legate, "as a great part of his intercepted letters can be seen. Early in the ensuing year, was published an apologetical narrative of the court-proceedings, under the title of "His Majesties Large Declaration, concerning the Late Tunults in Scotland," which, by universal and apparently uncontested report, was ascribed to the pen of Dr Balcunqua. While this work was received by the friends of the king as a triumphant vindication of his attempts upon the purity of the Scottish church, it only excited new indignation in the minds of the outraged people, who soon after appeared in arms at Dunbar. Last and not the least of these dates is the publication of Dr Balcunqua's diary. When the king could no longer protect his partisans, Dr Balcunqua was forced from his master's sanctuary, plundered, sequestered, and obliged to fly from London. Repairing to Oxford, he attached himself to the precarious fortunes of his sovereign, and for several years afterwards, had to shift about from place to place, wherever he could find security for his life. At length, having taken refuge in Chirk castle, Denbighshire, he died there in a very cold season, on Christmas day, 1645. He was buried next day in the parish church of Chirk, where, some years after, a splendid monument was erected to his memory by a neighbouring royalist, Sir Thomas Middleton of Chirk castle.

Bald, Jacob; born at Ensisheim, in Alsace, in 1603, died, in 1668, at Neuburg, on the Danube. He was a preacher at the court of the elector of Bavaria, and one of the most illustrious Latin poets of the moderns. He witnessed the melancholy scenes of the thirty years' war with a wounded heart. He relieved such as were expelled from their homes, and, at the same time, endeavoured to awaken a better spirit among the Germans, and to excite them to valour, virtue, and unanimity. An extensive and profound knowledge of the world, with a truly philosophical dignity of mind, are everywhere displayed in his poems. He will be admired in Germany in all ages. Augustus William Schlegel says of him, "A deep, strong feeling, often combined with an ardent enthusiasm; an imagination from which strong and wonderful images spring forth in boundless profusion; an inventive fancy, always striking out original comparisons, in surprising forms; a penetrating judgment, which, when not blinded by partiality or early prejudices, catches the human character with a quick and piercing glance; great moral energy and independence; a bold security of genius, always choosing its own path, and not fearing even the most untried; — all these qualities are so strongly displayed in the works of Bald, that we are constrained to declare him an uncommon and richly-gifted poet." His political writings, consisting of lyric, elegiac, didactic, satirical, and other poems, appeared, in 1660, at Cologne, in 4 vols. 12mo; and at Munich, in 1729, 8 vols., a selection by I. C. Orell, Zurich, 1805, second edition, 1818.

Baldwin I., emperor of Constantinople: a prince unmemorable not only on account of his intellect, but as having been the founder of the short-lived dynasty of Latin sovereigns of the Eastern empire. He was born in 1172, and was hereditary count of Flanders and Hainault. Having joined in the fourth crusade, he distinguished himself by his courage and conduct in so long a war on the eastern shore; and when Consti-

tinople, in 1201, was taken by the French and Venetians, Baldwin was unanimously elected emperor of the East. His new subjects revolted against him, being excited by Joannices, king of Bulgaria, whom he had offended by rejecting his proffered alliance. The insurgents seized Adrianople, in besieging which city Baldwin was taken prisoner by the king of Bul-

garia, and probably soon after put to death, with cir-

cumstances of great cruelty, in 1205. The uncertainty of his fate gave rise to a remarkable deception. Twenty years after his disappearance, a hermit ex-
hibited to the crusaders an incense-burner of honour, justice, devotion, and love. The crusaders had estab-

lished courts of Tripoli and Edessa, and princes of Antioch. The feudal dominions of the Christians extended as far as Tarsus and Cilicia; but the vassals of B. were always in rebellion against him, or en-
gaged in conflicts with each other. Against them and the new hosts of crusaders, against the knights of St Mary, the Templars, and the Hospitalers, the Saracens, valiantly fighting under the banner of the cross. His unhappy reign was the last struggle to establish the Christian chivalry, the tournaments, and the knightly orders in the East. With it fell the feudal constitu-

tion in that quarter, both civil and military. B. died not long before the fall of his kingdom, and when his great adversary, Noureddin, was advis-
ed to attack the dominions of the deceased during his funeral, he answered, "Let us respect their affliction; it is just; for they have lost a king such as is rarely to be found."

Baldwin, William; an English writer about the time of the Reformation, chiefly known as a principal author of the "Mirror for Magistrates," a series of tragical stories of persons of rank and note, said to have been projected by Thomas Sackville, first earl of Dorset, who wrote the poetical preface or induction, and the legend of 1. Franck Stafford, dean of Dunkir-

gham, and left the work to be carried on by Baldwin and others. It was first published in 1559, and re-

printed with a second part in 1563. Ritson says, the legends of Henry Percy, earl of Northumberland, Richard, earl of Cambridge, Thomas Montagu, earl of Salisbury, king James I. of Scotland, William Delapole, duke of Suffolk, Jack Cade, Richard Plantagenet, duke of York, lord Clifford, John Tiptoft, earl of Worcester, Richard Nevill, earl of Warwick, king Henry V1., and George duke of Clarence, in the first part, and those of Sir Anthony Woodville and Colling, in the second, are the foundation of the compi-

lation of Baldwin. He was at different times a school-

master, a printer, and a clergyman. He published verses on the death of Edward VI., and other poems. The time of his death is not known; but he seems to
have lived some years after the accession of queen Elizabeth.

Bale, John, (in Latin Balsamos); an English ecclesiastic, and bishop of Ossory in Ireland, was born at Cote, near Dunwich, Suffolk, in 1495. Although educated a Roman Catholic, the Reformation having found its way into England, he became a Protestant, according to his own account, at the instigation of Lord Wentworth; but possibly impelled by a still stronger incentive, as he immediately afterwards married. In early life he enjoyed the protection of lord Cromwell; but after that nobleman's execution, his own warmth of temper, and the intolerance of the English government, compelled him to seek a refuge in the Netherlands. On the accession of Edward VI., he returned to England, and was in the first instance presented to the living of Bishop's Stoke, Southampton, and soon after nominated bishop of Ossory, in Ireland. Here, on his preaching the reformed religion, his clergy either oppressed or forsook him; and so violent was the popular fury against him, that in one tumult five of his domestics were murdered in his presence. The death of Edward VI., and accession of Mary, necessarily added to his danger; and quitting his diocese, he lay some time concealed in Dublin, and then early stated he the English had enabled to reach Switzerland, where he abode until the death of Mary. On his return to England, he made no attempt to recover his Irish diocese, but contented himself with the calm enjoyment of a prebendal stall at Canterbury, where he closed his stormy life in 1563, in the sixty-eighth year of his age. Bale wrote several small pieces while he was a Romanist; and after he renounced Popery, his productions, both Latin and English, were still more numerous. Most of his English writings were attacks upon the religion which he had abandoned, to which he was a bitter, and in party respects, it is to be feared, an unceasing and disingenuous enemy. His "Brief Chronicle concerning Sir John Oldcastle," was republished in 1789; and he is also the author of many strange productions in English metre, among which are several plays on sacred subjects, a specimen of which may be seen in the Harleian Miscellany. To modern readers they appear extravagant burlesques; but, as the author himself informs us, they were gravely and piously represented in his own days by young men at the market cross of Kilkenny. The only work of bishop Bale which has given him distinction among authors, and is universally known, is his "Anthologiae Minori, which appears in the last part of the first volume of the "Scriptores Ecclesiastici," published in 1656, and contains the lives of many English writers.

Bale, Peter; famous for his skill in penmanship, lived in the 16th century. Holingshead, in his chronicle, mentions the wonderful skill of B. in what may be termed micrography; and Evelyn more particularly wrote the "Scriptorium Majoris Britannia Catalogus;" or "An Account of the Lives of eminent Writers of Britain." This account, which, according to the title, commences with Japhet the son of Noah, reaches to the year 1557, at which time the author was an exile in Germany. It is compiled from various writers, but chiefly from the antiquary Leland. With considerable allowances for the strong bias of party zeal, this work may still be read with advantage, although not without errors in regard to dates, and the needless multiplication of the titles of books. That his invective against popery were too indulgently vemment, and his exposures of the vices and corruption of the Catholic clergy overcharged, is now very generally admitted, although not to the extent which the party attacked would insinuate. With every abatement, however, on the score of the warmth of a decided party spirit, the reputation of the name of Bale must ever be considered valuable as the foundation of English biography.

Bale, Basil, or Basly. See Basle.

Bale, Council of. See Basle, Council of.

Balearees; the name of the two islands in the Mediterranean, situated in latitude 39° and 41°, longitude 2° and 4° in Spain, Majorca, in (Spanish, Mallorca) and Minorca (q. v.), which, together with the Pithysian islands, Licia and FORMOSA, formed the Spanish kingdom of Majorca, containing 1758 square miles, and a population of 10,000 inhabitants. The Grecian name B. was given them because the inhabitants were famous for their skill in sailing. The Balearic sailors distinguished themselves in the army of Hannoim. In later times, the Romans took possession of both the islands; afterwards, the Vandals, under Gensetico, and in the 8th century, the Moors, from whom they were taken by James I., king of Aragon, 1202-1234. They then constituted a kingdom, which, in 1375, was united to Spain. The British conquered Minorca in 1708, lost it again in 1713, and restored it in 1725 by the treaty of 1783.—Under the Romans, the B. belonged to the conventus juridicus in Carthagia nova.

Balen, Hendrick van, and Jacob van; father and son; historical painters; the former born in 1560, the latter in 1611, both at Antwerp. The former died in 1652. Pictures by each are still extant, and considered valuable.

Bales, Peter; famous for his skill in penmanship, lived in the 16th century. Holingshead, in his chronicle, mentions the wonderful skill of B. in what may be termed micrography; and Evelyn more particularly wrote the "Scriptorium Majoris Britannia Catalogus;" or "An Account of the Lives of eminent Writers of Britain." This account, which, according to the title, commences with Japhet the son of Noah, reaches to the year 1557, at which time the author was an exile in Germany. It is compiled from various writers, but chiefly from the antiquary Leland. With considerable allowances for the strong bias of party zeal, this work may still be read with advantage, although not without errors in regard to dates, and the needless multiplication of the titles of books. That his invective against popery were too indulgently vehement, and his exposures of the vices and corruption of the Catholic clergy overcharged, is now very generally admitted, although not to the extent which the party attacked would insinuate. With every abatement, however, on the score of the warmth of a decided party spirit, the reputation of the name of Bale must ever be considered valuable as the foundation of English biography.

Bale, Basil, or Basly. See Basle.

Bale, Council of. See Basle, Council of.

Balearees; the name of the two islands in the Mediterranean, situated in latitude 39° and 41°, longitude 2° and 4° in Spain, Majorca, in (Spanish, Mallorca) and Minorca (q. v.), which, together with the Pithysian islands, Licia and Formentera, formed the Spanish kingdom of Majorca, containing 1758 square miles, and a population of 10,000 inhabitants. The Grecian name B. was given them because the inhabitants were famous for their skill in sailing. The Balearic sailors distinguished themselves in the army of Hamilcar. In later times, the Romans took possession of both the islands; afterwards, the Vandals, under Gensetico, and in the 8th century, the Moors, from whom they were taken by James I., king of Aragon, 1202-1234. They then constituted a kingdom, which, in 1375, was united to Spain. The British conquered Minorca in 1708, lost it again in 1713, and restored it in 1725 by the treaty of 1783.—Under the Romans, the B. belonged to the conventus juridicus in Carthagia nova.
life. His education was very limited, and he was apprenticed at an early age to a weaver. Yet we are told that, while still a mere youth, he taught a school for several years in his native parish. At twenty-six, he became clerk to a merchant and manufacturer in Arbroath, and married in the ensuing year. In 1803, he bought the business of a man named Hargis in Edinburgh, which he carried on at the age of twelve; the period of life when Pope and Cowley first began to scribble, and when most men of genius seem to show some sparklings of what they are afterwards to be. He contributed occasional verses and a somewhat inaccurately to the Monthly Review, and in the British Magazine, to Dr. Anderson's "Bee," and to several provincial miscellanies. Some years after his removal to Arbroath, he commenced business in partnership with the widow of his employer, after whose death, in 1800, he assumed another partner. The business was soon after much extended, in consequence of the firm having become government-contractors for supplying the navy with canvas. Still, under the pressure of his avocations, he continued to cultivate his talent for poetry. In a few years he was enabled by his success to create a capital, and to pay the quantities of property. His life now passed in an uninterrupted course of commercial prosperity, domestic pleasure, and literary recreation. He also kept up a correspondence with some of the literary men of the capital, which was to him a source of much pleasure. In 1803, at the age of twenty-six, he removed to Dundee, to assume the management of a branch of a London house, which had long transacted business on a large scale, and which, for many years, had been extensively connected with his own firm. This step was fortunate. In the ensuing year, so remarkable for the facility in the commercial intercourse of the house in which he had embarked his fortunes was suddenly involved in bankruptcy. He now accepted a dependent situation, as manager of a manufacturing establishment in Balgonie in Fife, the emoluments of which were barely sufficient to support a family consisting of a wife, two sons, and three daughters.

Here he continued three years. He was at length induced, in 1818, to remove to Edinburgh, principally on account of his children, who were now arrived at that age when it was necessary to fix them in the pursuit of a profession which might be deemed the most suitable. Here, in the course of a few months, he began to examine the experiences of general paralysis. His face and speech became affected, and he was seized with a particular sensation in the head. In June, 1819, he was obliged to relinquish his employment, and in October, he for the last time set his foot upon the ground.

For ten years after this period, Mr. Balfour spent his days in a wheel-chair, from which he could not rise without assistance, and devoted himself entirely to literature. In 1819, he published a novel, called "Campbell, or the Scottish Protestant," which was favourably received. At the close of the same year he edited the poetical works of his deceased friend Richard Gall, with a biographical preface. About the same time he became a contributor of tales, sketches, and comparisons, to Constable's Edinburgh Magazine; a work of which, in this capacity, he formed one of the chief literary supporters, till its close in 1826. Most of these articles are of eminent merit, painting the humorous manners of Scotland with a mixture of truth, humour, and pathos, that has never been equalled, and forming, in the mass, a most valuable historical record of what they refer to. One poetical series was entitled "Characters omitted in Crabbe's Parish Register," which were of such uniform excellence, that they were supposed by many to be real contributions by the English poet. The notice with which they were honoured, induced the author to re-publish them in 1825, in the shape of a volume. Mr Balfour in 1830, published a volume under the title of "Contemplation and Other Poems." In 1833, he began to contribute novels to the Minerva Press; his first offering was "The Reminiscence of the Smuggler's Hole," and he also published "The Story of Glenloth, or the Smuggler's Cave." He contributed about the same time to "The Caledonian Magazine," and "Literary Olio," published at Dundee. In the year 1827, through the intervention, it is believed, of Mr Joseph Hume, M. P., who introduced the nobleman, Mr Balfour was returned for the premier, Mr Canning, a treasury donation of one hundred pounds was obtained for this unfortunate son of genius, to whom the gift was not less honourable than to those who so generously dispensed it. The latest considerable work of Mr Balfour was a novel, entitled "Highland Mary," in four volumes. It is written with great simplicity and taste, and, as a story, is replete with a mournful pathos. He continued to the last to contribute to the periodical works of the day. He died on the 12th Sept. 1829.

After his death a posthumous volume of his Remains was published, under the title of "Weeds and Wild-flowers."

Balfour, Sir Andrew, Bart., M. D.: an eminent botanist, physician, and general benefactor to his country, was the fifth and youngest son of Sir Michael Balfour, of Balgownie, in the County of Fife, and was born in the parish of Trottick, within two miles of Dundee, on the 18th January, 1650. He prosecuted his studies in the university of St Andrews, where he took his degree of A. M. Quitting the university about the year 1650, he removed to London, where his medical studies were chiefly directed by the celebrated Dr. Harvey, his distinguished physician of King James I., and various other eminent practitioners. He afterwards travelled to Blois in France, and remained there for some time, to see the botanic garden of the Duke of Orleans, which was then the best in Europe, and was kept by his countryman Dr Morison. Here he contracted a warm friendship for that great botanist, which continued unimpaired while they lived. From Blois he went to Paris, where for a long time, he prosecuted his medical studies with great ardour. He completed his education at the university of Cambridge, in which he received the degrees of bachelor and doctor of physic, on the 20th of September, 1681. Returning to London soon afterwards, Dr Balfour was introduced to Chares II., who named him as the most proper person to attend the young earl of Rochester on his continental travels. After an absence of four years, he returned with his pupil in 1677. During their tour he endeavoured, and at that time not without some appearance of success, to recall that abandoned young nobleman to the paths of virtue, and to inspire him with the love of learning. Rochester himself often acknowledged, and to bishop Burnet, in particular, only three days before his death, how much he was bound to love and honour Dr Balfour, to whom, next to his parents, he thought he owed more than to all the world.

On returning to this his native country, Balfour settled at St Andrews as a physician. But his merit was so conspicuous to suffer him to remain long there. In the year 1670, he removed to Edinburgh, where he immediately came into great practice. Here, among other improvements, he prosecuted the manufacture of paper, and was the means of introducing that valuable art into the country—though for many years remained in a state of complete, or nearly complete dormancy; the people deriving stationary articles of all kinds from Holland. Adjoining to his house, he had a small botanic garden, which he furnished
by the seeds he received from his foreign correspondents; and in this garden he raised many plants which were then first introduced into Scotland. One of his fellow labourers in this department was Patrick Murray, afterwards Dr Murray, one of the last of the line of that family into whose house I have written this short note

of study of natural history. This young gentleman, who enjoyed an ample fortune, formed at his seat in the country a botanic garden, containing one thousand species of plants, which at that period was a very large collection. He traversed the whole of France in search of plants for that country; and on his way to Italy, he prematurely died of a fever. Upon his death, Dr Balfour transferred his collection from Livingston to Edinburgh; and with it, joined to his own, he had the merit of laying the foundation of the first public botanic garden in Scotland. Upon his settlement in Edinburgh he had found the medical art taught in a very loose and irregular manner. In order to place it on a more respectable footing, he planned with Sir Robert Sibbald, the royal college of physicians; and of that society his brethren elected him first president. When the college undertook the publication of a Pharmacopoeia, the whole armament of medical men, and their adherents, were enlisted under his particular care. For such a task he was eminently qualified by his skill in natural history. This performance made its appearance in 1685; and, in the opinion of Dr Cullen, it is superior to any Pharmacopoeia of that era. Not long before his decease, his desire to promote the science of medicine in his native country, joined to the universal humanity of his disposition, led him to project the foundation of an hospital in Edinburgh. The institution was at first narrow and confined, but it survived to be expanded into full shape, as the royal infirmary, under the care of George Drummond, by whom it was enriched with a museum, which at that time would have been an ornament to any metropolis. In 1700, his son published a series of his familiar letters.—His brother Sir James Balfour, was an eminent antiquary, herald, and numismatist, and left a numerous collection of MSS, including the history of Scotland, which are now preserved in the Advocates' Library, Edinburgh. From this collection his "Annals and short Passages of State" were published in 1624, in four volumes 8vo, by Mr James Balfour, Lord Clerk of Session, in 1657.

BALFOUR, Sir James, an eminent lawyer and public character of the sixteenth century, was a son of Balfour of Monquharny, in Fife, a very ancient family. In youth, being designed for the church, he made considerable proficiency, not only in ordinary literature, but in the study of divinity and law; which were all alike necessary in those times for an ecclesiastic, on account of the mixed character which the age admitted to be assumed by such individuals. While still a young man, he joined with the conspirators who, after murdering Cardinal Beaton, held the ear of St Andrews against him, and were afterwards, under the government of Arran. He shared the fate of his companions in being sent to the French galleys, from which he escaped in 1550, along with the rest, by the tacit permission of the French government. He seems to have afterwards joined in the proceedings of the reformers, but only with courtier-like temperance, and without going into the enthusiasm in favour of Calvinism. He was preferred to the ecclesiastical appointment of official of Lothian, and afterwards became rector of Fisk, a parish in his native county. In 1563, he was appointed by Queen Mary to be a Lord of Session, and was brought into notice by churchmen and partly of laity. In 1564, when the Commissary court was instituted in place of the ecclesiastical tribunal which had been dissolved at the Reformation, Balfour became one of the four commissioners. In July, 1565, the Queen extended the further favour of admitting him into her privy council. In the beginning of the year 1567, Sir James Balfour was chosen Custos Regius of Edinburgh castle. In this important situation, he conducted himself an object of great solicitude to the confederate lords, who, in the ensuing May, commenced a successful rebellion against Queen Mary. After the queen was dethroned, he was admitted by Murray a lord of his grace's council, and made president of the Court of Session. Sir James continued to preside at the party which opposed Queen Mary, till the death of Murray, January, 1569-70, when he was in some measure compelled to revert to the Queen's side, on account of a charge preferred against him by the succeeding regent, Lennox, who taxed him with a share in the murder of Darnley. For this accusation no proof was ever adduced. Balfour outlived Lennox, and was serviceable in bringing about the pacification between the king's and queen's party, under Morton in 1573. He would appear to have been encouraged by Morton in the task of revising the laws of Scotland, while holding the bench in the way a style allowed at that time to be most masterly. Morton afterwards thought proper to revive the charge brought by Lennox against Sir James, who was consequently obliged to retire to France, where he lived for some years. He returned in 1583, and revenged the persecution of Morton, by producing against him, on his trial, a deed to which he had acceded, in common with others of the Scottish nobility, alleging bothwell's innocence of the king's murder, and recommending him to the queen as a husband. Sir James died before the 14th of January, 1583-4.

The First Earl of Clavers, one of the descendants of Balfour of Pittendreich, president of the Court of Session, continued to be used and consulted in manuscript, both by students and practitioners, till nearly a century after his decease, when it was for the first time supplanted by the Institutes of Lord Stair. Even after that event, it was held as a curious repertory of the old practices of Scottish law, besides fulfilling certain uses not answered by the work of Lord Stair. It was therefore printed in 1754, by the Ruddimans, along with an accurate biographical preface by Walter Goodal. The work has been of considerable service to John Jamieson in his Dictionary of the Scottish language.

BALLIO, or BALLIOL, (John de) founder of Balliol college, Oxford, was the son of Hugh de Balliol, a rich and leading baron in the reign of Henry III., to whose cause he strongly attached himself in his struggles with the barons. In 1263 he laid the foundation of Balliol college, which was completed by his widow. This chieftain received a great accession of wealth and influence by his marriage with Devorgille, one of the co-heiresses of Allan of Galloway, a great baron of Scotland, by Margaret, the eldest sister of John Scoto, one of the descendants of David earl of Huntingdon. It was on the strength of this genealogy that his son John Balliol, under the influence of Edward I., became temporary king of Scotland.

BALLIO, or BALLIOL, John; king of Scotland. On the death of Margaret the maiden of Normandy, and granddaughter of Alexander III., Balliol, being at the head of the English interest in Scotland, claimed the vacant throne by virtue of his descent from David, earl of Huntingdon, brother to William the Lion, king of Scotland. Robert Bruce opposed Balliol; but, having repulsed him on the banks of Bannockburn, Edward I., the decision was in favour of Balliol, who did homage to him for the kingdom, Nov. 12, 1292. Balliol, however, did not long enjoy the crown, for, having
resisted against the power which Edward as-
sumed over Scotland, he was summoned to his tribu-
als as a vassal. Irritated at this, Balold concluded a
treaty with France, on which a war with England
immediately commenced; and, after the battle of
Dunbar, he surrendered his crown into the hands of
the English monarch, who sent him and his son to
London, to be imprisoned in the Tower. The pope
interceded for them; and, when they were liberated,
and committed to his legate, in 1297. Balold retired to
his estate in France, where he died in 1314.

BALLAND, or BALISTE; a kind of machines for
besieging, or attacking the besiegers, in use among
the ancients, by which heavy stones, also arrows and
other weapons, were thrown; and even burning sub-
stances and dead bodies, by the besiegers. Many of
the ancient writers confound the baliste with the
catapulta, but Polybius makes a difference, using
the latter word only for those machines which threw
stones. The mechanism of these machines is not
very clear. There is a third name for a kind of
these machines—angrer. The weight of the stones
thrown was from 10 to 300 pounds. Sometimes a
large quantity of stones was thrown at once. A clear
idea of these instruments cannot be formed without
the study of treatises on the arms and warfare of the
ancients.

Balize; a sea-port of Mexico, in Yucatan, at
the mouth of the river Balize. Vessels of burden
cannot come near the town, on account of a bar in
the river. It is the only settlement of consequence,
belonging to the Spanish Crown in Yucatan, and
consists of about 200 houses, built of wood. The chief
trade is in logwood and mahogany.

Balk; the ancient Bactria. (See Afghanistan.)

Balkan (anciently called Hauma); a lofty and
rugged chain of mountains, extending from Cape
Rinchurum, on the Black sea, in European Tur-
key, to Cape San Stefano, in the Adriatic sea, from
23° to 27° E. lon. Near Sulu Derbent (Porta Tra-
jan), this mountain, called, by the Turks, Eminich
Sag, separates from Rhodope, and divides the valley
of the Dneube, which constitutes Bulgaria, (inhabi-
ted mostly by wandering tribes), from Romania, or
Rumelia. A branch extends from north to south
(mount Athos); another runs through ancient Greece,
and comprehends the mountains Olympus, Ota, Pin-
dus, Parnassus, Helicon. The highest peak, Orbe-
lius, rises 9000 feet above the surface of the sea. After
the Black sea, it is the only sea-coast in Europe, on
the Greeks of the plains and the sea-coast submitted
to the Mussulmans. The warriors, and those who
had no landed property, fled into the mountains, into
the armatholes, and have, in general, maintained a
continual contest with the pachas of the plain:
some have paid a small tribute to the Turkish pacha,
and some have become Mahommedans. The
districts where the Catholic is the prevailing church,
take the wildest inhabitants, and have never been
subjected to the emperors of Constantinople for any
length of time.

Ball. Ball-playing was practised by the
ancients, and old and young amused themselves with
it, particularly in the thermo. The Greeks and Ro-
mans had four kinds of balls. One was of leather,
filled with air, and consequently similar to our foot-
ball. The second ball was round, and thrown with
on the earth, and after which many ran at once; the
third, a small ball, similar to our shuttlecock, which
three persons, placed in a triangle, struck towards
each other; the fourth was thickly stuffed with
feathers, and used peculiarly in the Ionian. In a
Roman villas, a spheristerium, (a place appropriated
for playing ball) was always to be found. In the
middle ages, there were houses appropriated to ball-
playing. In these, certain persons were employed to
pick up the balls of the players, who, in France, were
called magnesia, and, in Italy, magnesie, or mene.
Italy, there are still public places, where people play
with large balls, which they strike with a kind of
wooden cylinder, fastened round their wrists, to an
immense height. The spectators often pay for ad-
mission to the spectacle, and, in some cities, the play-
ers form a company. From what we have seen in
different countries, we think the national German
ball-play the most interesting, and the one which af-
fords the best exercise.

Ballad; a short epic song, (from the Italian bal-
lata, and in French ballate) of an entirely lyric nature.
Ballata is derived from ballare, to dance, probably
from the German valten (pronounced wallen), which
signifies a waving motion. Though the name is
Italian, the species of poetry which we now under-
stand under the word ballad, belonging to England
and the other northern nations of Europe, is of Teu-
tonic origin, at least Percy and Bouterweck agree in
this, and Frederic Schlegel, in his History of An-
cient and Modern Literature (Vienna, 1815), seems
to be of the same opinion. The word ballata passed
from the Italians to the Provencal, from whom it
perhaps was borrowed by one of the northern na-
tions of Europe, where it was applied to short songs,
particularly to the most popular ones, which were short tales in verse,
describing the deeds of heroes, the adventures of lovers,
&c. If we wish to trace the English and Scottish
ballad to its origin, we must have recourse to those
singers who explained their songs with recited ma-
terials; which is the practice of the island before the
Norman conquest, and were of a kind common to all the Teutonic
nations. It is
related of king Alfred, that he sang in the camp of
the Danes. All the Scandinavian nations delighted
in songs celebrating the deeds of heroes, or descri-
bining the passions and adventures of lovers; and the
great three divisions or cycles of the Teutonic poetry
of the middle ages,—the stories of the Nibelungen,
those of Charlemagne (particularly such as relate to
his war against the Ambians, and the battle of Ro-
ccevalles), and the tales of king Arthur's cabal-
table,—consist of what, at a later period, were called
ballada.

The true home of the English ballad is the north-
ern part of England (the North Country), and the
southern part of Scotland, where the influence of the
Normans was least strong in the middle ages. Those
who settled in these parts despised the native poetry,
which they did not understand; and thus it was left entirely to the people,
and re-
tained, for that reason, its simple and popular char-
acter, even after it grew into esteem among the
descendants of the Norman conquerors. The feudal
wars of the Norman knights, and their highly chi-
valric spirit, which flourished in England as long,
and in as much purity, as in the southern countries
of Europe, afforded new subjects to the ballad, and
contributed to modify its character. The minstrels
were accustomed to sing the deeds of their ancestors,
with all the additions which a lively imagination dic-
tated. They soon commemorated, in the same way,
the achievements of their contemporaries, and the
ballads, properly so called, originated. The for-
meyer minstrels became minstrels, who, in common
with the jongleurs, or jouglers (resembling the modern
jugglers, who have derived their name from them),
waited upon the barons, like the French menetriers,
devoting themselves to their amusement, and receiv-
ing in return, pecuniary rewards and hospitable en-
tertainments. (See minstrel and menetrier) are both
derived from the Latin ministerialis.) As the popular
poetry of the first centuries after the Norman con-
quest did not acquire a literary reputation, and pro-
bably was never committed to writing; it is not to be wondered at, that the oldest poems of a mixed Norman and Anglo-Saxon character, which are preserved in MSS, are either imitations of French poetry, or religious songs, such as were found among other nations of the Low Countries, which in poetic on spring is almost the only one of genuine Saxon origin, which has, as yet, been printed from MS. Warton has published it in the additions and emendations which belong to vol. I. of his history of English Poetry. It begins, Suumus eum enim. The earliest of the English ballads which have been preserved cannot be considered as antecedent to the 14th century; and we cannot speak with certainty of the origin of many which appeared before the 15th. We have said that the ballad above described is properly of Teutonic origin; we ought to mention, however, that the Spaniards, and they only, among the southern nations of Europe, have songs of equal age and merit with the English ballads. The principal difference between them is, that the Spanish romance is in trochaic, the English ballad in iambic, metre. The different character of the nations has also produced some diversity in the tone of sentiment and feeling. At the time when this kind of poetry flourished in the two nations, they had very little intercourse with each other, and the similarity of the forms which it assumed can be explained only by an accidental similarity of causes. (For further information on the history of the English ballad, we must refer the reader to Percy's Reliques of Ancient English Poetry; Warton's History of English Poetry; Dr Burney's History of Music; vol. vii. of Bouterweck's History of Poetry and Eloquence since the End of the 13th Century; Sir Walter Scott's Minstrels in the Scottish Border country, a Collection of Popular Ballads and Songs, Edin. 1806, 2 vols. Svo ; Frilays Scottish Historical and Romantic Ballads, Edin. 1808, 2 vols.; Motherwell's Minstrelsy, Ancient and Modern, Glasgow, 1827, 4to ; Buchanan's Ancient Ballads, published at Peterhead.—For information respecting the Spanish ballad, or romance, as it is called by the Spaniards, see the article Romance.)

The French poetry of this kind never reached any high degree of perfection, because their fabliaux, legends, &c., soon degenerated into interminable metrical and prosaic romances of chivalry. In Italy, the ballad never flourished: the lyric has remained a certain antique spirit, and the Italians never partook, to any great extent, in the crusades, being fully occupied at home in the wars of the free cities. The Portuguese never cultivated the ballad much. Almost all their poetry of this kind is to be traced to a Spanish origin. The German ballad never became so popular as the English, nor was so much cultivated as the Spanish. The Russians have lyrico-epic poems, of some of which, some old Russian, are excellent. In modern times, the ballad has been successfully cultivated in Scotland and Ireland by the printing of many of the ballad publications of Goethe, Schiller, Burger, &c.—For some excellent observations on the character of the ballad, and what it requires, see Frederic von Schlegel's Kritische Schriften (on Burger).

BALLAHULISH, or BAllichulish; a village in the parish of Appin, district of Lorn, and shire of Argyle, situated at the head of Loch-Levin, where there is a ferry over to the opposite shore of Inverness. At this village tolls are payable. A little poem, Ballantyne; a parish and village in the district of Carrick, and shire of Ayr, lying on the bold and rocky coast of the north channel, and intersected by the river Stinchard, in which there is a considerable salmon fishery. The surface gradually rises from the sea to the top of that chain of mountains which extends eastward to the Firth, and the soil being poor, is chiefly appropriated to pasture. At the village is a post-house, and a cotton manufactuary, and a general post-office. Vestiges of a castle of the lords of Bargeny and the remains of an ancient church may still be traced here. Population in 1831, 1500.

BALLANTYNE, James, an extensive printer in Edinburgh, whose business was intimately connected with literary productions of Sir Walter Scott, was a native of Kelso. Although not bred to the business of printer, he opened a printing office in his native town, where, besides editing the Kelso Mail newspaper, he printed various works, which rendered his name generally known, and paved the way for his establishment soon after in Edinburgh, where he ever after continued. The whole of the writings of Sir Walter Scott were printed by him, and to his taste the public is indebted for many emendations in the works of that illustrious minstrel and novelist, whose name and influence were to the whole world a source of such assistance highly necessary. For many years Mr Ballantyne conducted the "Edinburgh Weekly Journal," with a degree of good feeling and taste which the public did not fail to appreciate. His theatrical criticisms, in particular, which appeared in that newspaper, were long admired as the very best of the day. Mr B. did not survive Sir Walter Scott above one or two months. He died early in January, 1833. Shortly before his death, he published an affecting statement, in which he only prayed that he might be restored to that degree of health which would enable him to do that which he felt and knew regarding the great and good man who had gone before him. But this was denied. They who had been so long united in their lives were not in death long divided.

BALLANTYNE, John, brother of the preceding, and distinguished as a litterateur and humorist, was also a native of Kelso. While still a young man, his mind was turned to literary concerns by the establishment of a provincial newspaper, the Kelso Mail, which was begun by his elder brother James. The distinction acquired by his brother in consequence of some improvements in printing, by which there issued from a Scottish provincial press a series of books rivaling, in elegance and accurate taste, the productions of a Bensley or a Baskerville, caused the removal of both to Edinburgh about the beginning of the present century. He there embarked largely in the bookselling trade, and subsequently in the profession of an auctioneer of works of art, libraries, &c. The connexion which he and his brother had established at Kelso with Sir Walter Scott, whose Border Minstrelsy was printed by them, continued in this more extensive scene, and accordingly during the earlier and more interesting period of his life some justice to all the Waverley, John Ballantyne acted as the confidant of that mysterious writer, and managed all the business of the communication of his works to the public. Some of these works were published by John Ballantyne, who also issued two different periodical works, written chiefly by Sir Walter Scott, entitled respectively the Visionary and the Sale-room, of which the latter had a reference to one branch of Mr Ballantyne's trade. It is also worthy of notice, that the large edition of the works of Beaumont and Fletcher, which appeared under the name of Sir Walter Scott, as editor, was rendered possible under thevigour and decision of this spirited publisher. Mr Ballantyne himself made one incursion into the field of letters; he was the author of a tolerably sprightly
BAILLIE—BALLOT.

novel in two thin duodecimos, titled, "The Widow's Lodgings," which reached a second edition. It was not, however, as an author, that Mr Ballantyne chiefly shone—his forte was story telling. As a conteur, he was allowed to be unrivalled by any known contemporary. Possessing an infinite fund of ludicrous and characteristic anecdote, which he could set off with humour endless in the variety of its shades and tones, it was a marvel to one of those beings who seem designed by nature for the task, now abrogated, of enlivening the formalities and alleviating the cares of a court: he was Yorick revived. After pursuing a laborious and successful business for several years, declining health obliged him to travel on the continent, and finally to retire to a seat in the neighbourhood of Melrose. In his Melrose rustication, he started the publication of a large and beautiful edition of the British Novelists, as an easy occupation to divert the languor of illness, and fill up those vacancies in time, which were apt to contrast disagreeably with the fortuitous habits of busy life. The works of the various novelists were here ammassed into large volumes, to which Sir Walter Scott furnished biographical prefaces. But the trial was brief. While flattering himself with the hope that his frame was invigorated by change of air and exercise, death stepped in, and closed the career of so august a spirit as ever brightened its sphere. He died on the 16th June, 1821, aged about 45.

BALLAST (from the Danish baglaf) is a load of sand or stones, deposited in ships, which have not freight enough to sink them to their proper depth in the water. They are, therefore, one of those being which should, if the vessel leaks, part of the ballast must often be thrown out, to make the vessel lighter. By the English navigation act, and by the laws of other commercial nations, formed by way of retaliation, vessels are often obliged to throw out the part of their ballast, as part, or return, instead of transporting, even at little profit, heavy and cheap goods of the country, to foreign countries.

BALLANTYNE, or BALLIENDE, John, a Scottish poet of the reign of James V, and the translator of Boece's Lawes. He is generally reckoned one of those being who seem characterized by English, for the vernacular language of his time, was a native of Lothian, and appears to have been born towards the close of the 15th century. He studied at the university of St Andrews, and afterwards at the university of Paris, where he took the degree of Doctor of Divinity. He was then employed at the court of France, and became attached to the establishment of that monarch as "Clerk of his Compsis." In 1530 and 1531, Ballantyne was employed, by command of the King, in translating Boece's History, which had been published at Paris in 1526. Ballantyne delivered a manuscript copy of his work to the King, in the summer of 1533, and about the same time he appears to have been engaged in a translation of Livy. His translation of Boece was printed in 1536, by Thomas Davidson, and had become in later times almost unique, till a new edition was published in a remarkably elegant style, in 1581, by Mears Tait, Edinburgh. At the same time appeared the translation of the first two books of Livy, which had never before been printed. The latter work seems to have been carried no further by the translator. Ballantyne seems to have lived happily in the sunshine of court favours to which he was entitled by his adoption into the house of James V. The opposition which he afterwards presented to the reformation, brought him into such odium, that he retired from his country in disgust, and died at Rome, about the year 1550. The translations of Ballantyne are no longer esteemed as striking instances, either of his genius, and also by a freedom that shows his profound acquaintance with the learned language upon which he wrought. Many of the works of Ballienden are lost—among others a treat on the Pythagorean Theories, and a discourse upon Virtue and Religion. He also wrote many political pieces, the most of which are lost. BALLLET (from bal; hence the French baller, and the Italian ballare, to dance); in its widest sense, the representation of a series of passionate actions and feelings, by means of gestures and dancing. According to this signification, we comprehend, under ballets, even representations of mental emotions, not connect ed with a regular train of action. In a more confined sense, we call ballets musical pieces, the object of which is to represent, by mimik movements and dances, actions, characters, sentiments, passions, feelings, in which several dancers perform together. According to the analogy of lyrical poetry, those which rather represent feelings may be called lyrical ballets; those which imitate actions, dramatic ballets. The lyrical and dramatic ballets, together, constitute the higher art of dancing, in opposition to the lower, the aim of which is only social pleasure. The dramatic ballets are divided into historical, the subject of which is a real event; the mythological, in which the subject is some fabulous action; and the poetical, which are founded on poetical fiction, to which belong, also, those allegorical and necessarily historic. A ballet is usually divided into several acts, each of which has several entrées. An entrée, in a ballet, consists of one or several quadrilles of dancers, who, by their steps, gestures, and attitudes, represent a certain part of the action. In criticising a ballet, we must consider, first, the choice of the subject, which must have unity of action or of passion, and must be capable of being represented in an intelligible manner by means of mimik movements and dancing; secondly, the plan and execution of the single parts, which must have a due proportion to each other; and, finally, the music and decorations, which must supply whatever dancing cannot bring before the eye. The ballet is an invention of modern times (the ingenious artist Bailtzannir, director of music to the princess Catharine de Medici, probably gavest form to the regular ballet), though pantomimie dances were not unknown to the ancients. (See Mime and Pantomime.) The ballet owes much to the French, and particularly to Noverre. (q. v.) The dances, which are frequently introduced into operas, seldom deserve the name ballet, as they usually do not represent any action, but are destined only to give the dancers an opportunity of displaying their art. (See Ballet.) BALLHORN, John; printer at Lukeb, who, between 1531 and 1599, published a spelling-book, on the last page of which he altered the usual picture of a cock with spurs, into that of a cock without spurs, leaving a couple of eggs at his side. As he printed in the title-page, on account of this trivial alteration, "Improved by John Ballhorn," the word Ballhornize is proverbially used in Germany, to signify stupid and useless alterations, or the making a thing worse instead of better.

BALLIST. See BALISTA.

BALLIST. See BALISTAE.

BALLISTAE. See AERONAUTICS.

BALLOT, voting by, signifies voting by means of little balls (called by the French balotés), usually of different colours, which are put into a box in such a manner as to enable the voter, if he chooses, to conceal for whom or for what he gives his suffrage. The method of ballot was invented by a certain Gaspard de la Vigerie, burgesses—a white ball indicating assent; a black ball, dissent. Hence, when an applicant is rejected, he is said to be blackball'd. It has long been the ardent wish of many, that secret voting of this kind were adopted, in all elections, without regard to the independence of the voter, and put a stop to bribery, private or public intimidation, and other corrupt in-
fluences. Hitherto, however, old prejudices have stood in the way of so reasonable a wish, although these are fast wearing away, and there is now little doubt of the ultimate adoption of the system.

BALLSTON-SPA: a village of New York, seven miles S. E. of Saratoga, and 12 miles N. of Albany. This place is noted for its mineral waters, which are similar, though inferior, to those of Saratoga springs. It is situated in a deep vale, on a branch of the Kayaderossus creek, and contains about a hundred houses, a court-house, an Episcopal church, a Baptist meeting-house, and a number of large boarding-houses and inns, for the accommodation of visitors.

Balm of Gilead is the dried juice of a low tree or shrub (amuria Gileadensis), which grows in several parts of Abyssinia and Syria. This tree has spreading, crooked branches; small bright-green leaves, growing in threes; and small, white flowers on separate footstalks. The petals are four in number, and the fruit is a small egg-shaped berry, containing a smooth nut.—By the inhabitants of Syria and Egypt, this balsam, as appears from the Scriptures, was in great esteem from the highest periods of antiquity.

We are informed by Josephus, the Jewish historian, that the balsam of Gilead was one of the trees which was given by the queen of Sheba to King Solomon. The Ishmaelitish merchants, who were the purchasers of Joseph, are said to have been travelling from Gilead, on the eastern side of Cuman, to Egypt, and to have had their camels laden with “spicery, balms, and myrrh.” It was then, and is still, considered one of the most valuable medicines that the inhabitants of those countries possess. The virtues, however, which have been ascribed to it exceed all rational bounds of credibility. The mode in which it is obtained is described by Mr. Bruce. The bark of the trees is cut with an axe, at a time when its juices are in their strongest circulation. These, as they ooze through the wound, are received into small earthen bottles; and every day’s produce is gathered and poured into a larger bottle, which is closely corked. When the juice first issues from the wound, it is of a light yellow colour, and a somewhat turbid appearance; but, as it settles, it becomes clear, has the colour of honey, and appears more fixed and heavy than at first. Its smell, when fresh, is exquisite, pleasant, strongly pungent, and unlike that of volatile spirits. If the bottle be left un corked, it soon loses this quality. Its taste is bitter, acid, aromatic, and astrignent. The quantity of balsam yielded by one tree never exceeds sixty drops in a day. Hence its scarcity is such, that the genuine balsam is seldom exported as an article of commerce. Even at Constantinople, the centre of trade of those countries, it cannot without great difficulty be procured. In Turkey, it is in high esteem as a medicine, an odoriferous unguent, and a cosmetic. But its stimulating properties upon the skin are such, that the use of a person unaccustomed to it becomes red and swollen after its application, and continues for so many days. The Turks also take it in small quantities, in water, to fortify the stomach, and excite the animal faculties.

Balnaves, Henry, of Halhill; an eminent lay reformer, and also a prose-writer of some eminence, was born in the town of Kirkcaldy, Fifeshire. After an academical course at St. Andrews, he travelled to the continent, and, having of a free school in Cologne, procured admission to it, and received a liberal education, together with instruction in protestant principles. After leaving the university, he applied himself to the study of law, and acted for a time as a procurator at St. Andrews. In the year 1538, he was appointed by James V. a senator of the college of justice, a court only instituted five years before. Notwithstanding the jealousy of the clergy, who hated him on account of his religious sentiments, he was employed on important embassies by James V., and subsequently by the governor Arran, during the first part of his reign, as his secretary of state. Having at length made an open profession of the Protestant religion, he was, at the instigation of Arran’s brother, the abbot of Paisley, dismissed from that situation. He appears now to have entered into the interests of the English party against the governor, and, associated with the earls of Rothsay and Lord Gray, was thrown into Blackness castle, (November, 1539,) where he probably remained till relieved next year, on the appearance of the English fleet in the Firth of Forth. He was privy to the conspiracy formed against the life of cardinal Beaton, and shared in the fate of the conspirators. He was conveyed to the castle of Roan in France, and there committed to close confinement. Here he employed himself, during his solitary hours, in composing a treatise on Justification, which was published at Edinburgh, in 1584, under the title of "The Confession of Faith, containing how one may seek refuge at his God, thereto led by Faith; &c., Compiled by M. Henrie Balnaves of Halhill, one of the lords of session and counsell of Scotland, being a prisoner within the old pallacie of Roane, in the year of our Lord, 1548. Direct to his faithful brethren being in like trouble or more, and to all true professors and favourers of the sincere word of God.” After his return from banishment, Balnaves took a bold and conspicuous part in the contest carried on by the lords of the congregation against the regent Mary. In 1563, he was re-appointed to the bench, and also set to work on one of the commissions for revising the Book of Discipline. He acted some years later, along with Buchanan and others, as counsellors to the earl of Murray, in the celebrated inquiry by English and Scottish commissioners into the alleged guilt of queen Mary. He died, according to Mackenzie, in 1579.

Balochistan. See Beloochistan.

Balsam. The term balsam was formerly applied to any strong-scented, natural, vegetable resin, of the nature of a fluid, inflammable, not miscible with water without addition, and supposed to be possessed of many medicinal virtues. These, the true balsams, copalins, &c., are examples of natural balsams. Many medicines, also, compounded of various resins or oils, have obtained the name of balsams: as Locatelli balsam, &c. Lately, the term has been restricted to those resins which contain benzoic acid. The most important balsams are those of Tolu and Peru—storares and benzoæm, as they are named: the latter is concrete, the former fluid, though becoming solid with age. They are odorous and pungent, and useful only as articles of the materia medica. The benzoic acid is extracted from them either by applying a gentle heat, which is volatilized, or by maceration in water, when it is dissolved.

Baltic Sea, of the East Sea; a large gulf, connected with the North sea. It washes the coasts of Denmark, Germany, and Prussia, of Courland, Livon, and other parts of Russia and of Sweden; extends to 65° 30 N. lat.; is above 600 miles long, from 75 to 150 broad, and its superficial extent, together with the contents of the gulfs of Bothnia and Finland, amounts to 120,000 square miles. Its small breadth, its depth amounting, on an average, to from fifteen to twenty fathoms, but in many places to hardly half so much, the difficult entrance of the Prussian shore, and the rugged nature of the Swedish coasts, but, above all, the sudden and frequent changes of the wind,
accompanied by violent storms, render this sea dangerous for navigators, although its waves are less terrible than those of the North sea. A chain of islands separates the southern part of this sea from the northern, or the gulf of Botnian. In the north-east, the gulf of Finland stretches far into Finland, and separates that province from Estonia. A third gulf is that of Riga or Livonia. The Curische Haff and the Frische Haff are inlets on the Prussian coast. The water of the Baltic is colder and clearer than that of the ocean: it contains a smaller proportion of salt, and the ice obstructs the navigation three or four months. The depth of the water is very variable; the tide are inconsiderable, as is the case in other inland seas, whose outlets are toward the west; yet the water rises and falls from time to time, although from other causes, particularly on account of the violent current, through the Sound and both the Belts, into the Cattegat. In stormy weather, amber is found on the coasts of Prussia and Courland, which the waves wash upon the shore. Forty streams empty themselves into the Baltic: among them are the Neva, Dvina, Warnow, Travé, Peene, Oder, Persante, Wipper, Vistula, Pregel, Niemen, and the smaller insignificant Swedish rivers. Besides Zealand and Fuhne, may be noticed the following islands: Samsoe, Mon, Bornholm, Langeland, Lolland, which belong to Denmark; the Swedish islands Gothland and Oeland, likewise Hveen in the Sound, with the ruins of omnienburg, the observatory built by Tycho Brahe; Rügen, now belonging to Prussia; lastly, the islands of Aland, at the entrance of the gulf of Botthim, and Dagoe, together with Oesel, on the coast of Livonia, which belong to the Russian empire. Three passages lead from the Cattegat into the Baltic sea—the Sound, the Great and the Little Belt. The Sound is the main entrance, and was, to the amount of 600,000 or 600,000 rix dollars yearly. From 4000 to 6000 ships enter yearly from the North sea into the Baltic.

Baltimore, a city and port in Baltimore county, Maryland, America, on the north side of the Patapsco, fourteen miles above its entrance into Chesapeake bay; 37 N. E. Washington, 100 S. W. Philadelphia. Lon. 76° 36' W.; Int. 30° 17' N. Pop. in 1790, 13,758; in 1800, 23,977; in 1810, 46,556, of whom 10,545 were blacks; in 1820, 62,738; in 1830, 80,519.—B. has had a remarkably rapid growth. It was a village in 1690, a town in 1715, and by 1765 it contained only about fifty houses. It was first erected in a city in 1797, and is now the third in size in the United States. It is admirably situated for commerce, and is a place of great wealth and trade. It possesses most of the trade of Maryland, about half of that of Pennsylvania, and a portion of that of the Western States. It is the best market for tobacco in the United States, and it is the greatest flour market in the world. Its vicinity affords great water privileges, and there are now in operation numerous flour-mills, cotton manufactories, and other water-works. The shipping owned here in 1790 amounted to only 12,654 tons; in 1810, to 101,960 tons. Baltimore, as laid out, is four miles square, and it is divided into twelve wards. It is built around a basin, which affords a spacious, secure, and commodious harbor for ships of the greatest burden, and is from nine to twelve feet of water. The principal part of the city is divided from the portions styled Old Town and Fell's Point by a small river, called Jones' falls, over which are erected three elegant stone bridges, and four wooden ones. Vessels of 500 or 6000 tons can lie at the foot of the city, but those of only 200 tons can come up to the town. The mouth of the harbour is a narrow strait, and is effectually commanded by fort M'Henry, which secures the city against a naval force. The situation of a part of the town is low, and it was formerly accounted unhealthy; but the various improvements which have been made, particularly the filling up of low and marshy grounds, have rendered it healthy. It is supplied with excellent water from four public fountains, which are fitted up in an ornamental style.

Baltimore contains a court-house, a penitentiary, a jail, an alms-house, an hospital, two theatres, a circus, an exchange, a museum and gallery of paintings, five market-houses, and about forty houses of public worship. The city contains the public library, 366 feet by 140, somewhat resembling an H, having four wings—one for the United States branch bank, one for the custom-house, and one for a coffee-house. The Roman Catholic cathedral and the Unitarian church are very conspicuous and handsome edifices. St. Paul's church, the court-house, and the Union bank are spacious and elegant. Several of the other public buildings are large and elegant. The Washington monument, a lofty structure of stone, is situated on an elevation just above the compact part of the city. The base is 140 feet in circumference, and the column stands 137 feet above the base; it is of granite, and is intersected at right angles, like those in Philadelphia. North and east of the city, the land rises to a considerable elevation, and affords a fine and variegated prospect. The town, the point, the shipping both in the bay and at Fell's point, the bay as far as the eye can reach, rising ground on the right and left of the harbour, a fine grove of trees on the declivity at the right, and a stream of water breaking over the rocks at the hill on the left, make a scene of much beauty. The two principal literary institutions of B. are St. Mary's college and a medical college. The former, which was founded in 1745, is a flourishing institution, well endowed, and has a library containing about 10,000 volumes. The medical college was founded in 1807, and, in 1812, it received a new charter with the title of university.

A formidable attack was made on this city during the war, on the 13th and 14th of September, 1814, by the British, under general Ross. On the 13th, the battle at North point was fought; and, on the 14th, fort M'Henry was bombarded. The enemy was repulsed, and general Ross slain. An elegant structure of marble, about thirty-five feet high, called the battle monument, has been erected to commemorate this event. On the column are inscribed the names of those who fell in defence of the city. (For the Baltimore and Ohio railroad, see Railroad.)

Baltimore Bird (icterus Baltimore; oriolo Baltimore, Wilson; called, also, hang-neck golden robin, free-bird, hanging-neck.) The Baltimore is a beautiful small bird, from the south, which arrives in Maryland about the beginning of May, and departs towards the last of August or first of September. It is most generally known by the name of Baltimore bird, so called, according to Catesby, from its black mark, called a 'nose,' and on the ear, which is the coloration of Calvert, Lord Baltimore, proprietary of the province of Maryland.—The bird is seven inches long, and
has a nearly straight, strong, black bill, tapering to a point. The head, throat, and upper part of the back and wings are black; the inferior part of the back, rump, and whole of the body beneath are of a bright ochreous-green. The tail is slightly forked. The legs are of a lead colour, and the iris hazel. The colours of the female are far less brilliant than those of the male. Beautiful figures of both sexes are given in Wilson's American Ornithology, whence this account is sketched. — The nest of the Baltimore bird is formed by fastening strong strings of hemp or flax round two forked twigs, corresponding to the intended width of the nest, on the high bending extremities of apple, willow, or tullip-tree branches, near farm-houses. With similar materials, together with loose tow, a strong sort of cloth is interwoven, resembling raw felt, forming a pouch six or seven inches deep. This is well lined with soft substances, which are worked into the outward netting, and, finally, with a layer of horse-hair; the whole being protected from sun and rain by the overhanging leaves. The nests, however, are not uniformly of the same shape, and some are preformed by the males than others. While making their nests, these birds will carry off any thread or strings left within their reach; they will even attempt to pull off the strings with which grafts are secured. All such materials are interwoven in the fabric with great ingenuity, and the strongest and best materials are used, and in general it is doubtless that they are by far the best supported. — The Baltimore bird feeds on bugs, caterpillars, beetles, &c. His song is a clear, mellow whistle, repeated at short intervals: when alarmed, a rapid chirping is uttered, but always followed by his peculiar mellow notes. The species inhabits North America, from Canada to Mexico, and is found even as far south as Brazil.

Bazac, Jean Louis Guej, de a member of the French academy, born at Angouleme, in 1694, lived in Rome as agent of the cardinal de Lavallette, after two years established himself in Paris, and, by his talents, attracted the favourable notice of the cardinal Richelieu, who conferred upon him a salary of 2000 livres, with the title of a counsellor of state. He was considered as one of the greatest scholars and most eloquent men of his age in France; yet his numerous writings found severe critics. Among these the treatise in five books, in which he gives the order, under the rule of St. Bernard, pushed his criticisms even to insult and abuse. This induced B. to leave Paris. He died in Angouleme, in 1654, and the 60th year of his age. Aiming at dignity of style, he fell into bombast, affectation, and exaggeration, so that his works have gradually lost their reputation as taste has improved in purity. Nevertheless, we must do justice to the harmony of his periods, and acknowledge that he has done much towards the improvement of the French prose. He had studied the ancients, and his Latin poems, although without remarkable poetical merit, are pure, and free from the faults of his French writings. The perfections of his works is, without doubt, a treatise upon Latin verse. The assertion of Voltaire and Laharpe, that he occupied himself more with words than with ideas, is too severe. A complete edition of his works appeared at Paris, in 1655, in two volumes, 4to.

Bammara; one of the largest and most powerful kingdoms of central Africa; bounded N. by the Great Desert, W. by Kaarta, Mandingo, and Ladamar, E. by Timbuctoo, and S. by Kong. It is traversed from W. to E. by the Niger, and is generally very fertile. There are two main tribes, the Mosc and Negroes. Among the towns are Serro, the capital, Jenne, and Sansanding.

Bambang. This town, formerly the capital and place of residence of a bishop, whose see contained 1375 square miles, and 200,000 inhabitants, now the seat of the provincial authorities of the Bavarian circle of the Upper Maine, and of an archbishop, has about 20,000 inhabitants. The prince of Neufchatel-Berthier left Bamberg, here threw himself from a window, in the palace of the latter, in 1815, on account of the new revolution in France. The cathedral church was built as early as 1110. The university there is also very ancient.

Bamboo cane. The bamboo cane (bambusa arundinacea) has a hollow, round, straight, and shining stem, and sometimes grows to the length of forty feet and upwards; has knots at the distance of ten or twelve inches from each other, with thick, rough, and hairy sheaths, alternate branches, and small, entire, and spear-shaped leaves. There is scarcely any plant so common in hot climates as this, and few are more extensively useful. It occurs within the tropical regions, both of the eastern and western hemispheres, throughout the East Indies and the greater part of China, in the West Indies, and America. In temperate climates, it can only be cultivated in a hot house; and when a little warm, strong shoot has been known to spring from the ground, and attain the height of twenty feet in six weeks. The inhabitants of many parts of India build their houses almost wholly of bamboo, and make all sorts of furniture with it, in a very ingeniously various manner. In China, they form kinds of utensils for their kitchens and tables; and from two pieces of bamboo, rubbed hard together, they produce fire. The masts of boats, boxes, baskets, and innumerable other articles, are made of bamboo. After having been braised, steeped in water, and formed into a pulp, paper is manufactured from the sheaths and leaves. The stems are frequently bored, and used as pipes for conveying water; and the strongest serve to make the sticks or poles with which the slaves or servants carry those litters, so common in the East, called palanquins. The stems of the bamboo serve as the usual defence for gardens and other enclosures; and the leaves are generally put round the tea exported from China to Europe and America. Some of the Malays preserve the small and tender shoots in vinegar and pepper, to be eaten with their food. Many of the species of bamboo are found in the United States are formed of young bamboo shoots.

Bamboo. The Chinese make a kind of frame-work of bamboo, by which they are enabled to float in water; and the Chinese merchants, when going on a voyage, always provide themselves with this simple apparatus to save their lives in case of shipwreck. It is formed by placing four bamboos horizontally across each other, so as to leave a square place in the middle for the body, and, when used, is slipped over the head, and secured by being tied to the waist.

Bamboo or Banche; a town in Africa, and capital of a kingdom of the same name, between the Falême and Senegal rivers; lat. 0° 50' W.; lat. 13° 25' N. The country is situated between 12° 30' and 14° 15' N. lat.; about 36 leagues from N. to S., and 28 in breadth, and said to contain about 60,000 inhabitants. It is composed chiefly of lofty, naked, and barren mountains, and its wealth consists entirely in its mineral productions. These are gold (which is abundant), silver, iron, tin, lead, and leadstone. The most remarkable animals are a species of ass, extremely white (which the inhabitants will not allow to be sent out of the country), white foxes, and some lizards and little whiptails. The name of the country is derived from a Frenchman named Comogoneus, who resided there a year and a half, in the beginning of the last century. (Lambt, Afrique Occidentale, iv. 5.)

Ban, in ancient jurisprudence; a declaration of
Ban, in political law, is equivalent to excommunication in ecclesiastical. The emperor of Germany had the right to declare a member of the empire under the ban and to deprive him of his revenues. The ban, like the excommunication, forbids every one to have intercourse with the person proscribed, or to give him food or shelter. Very often, however, the sentence was repealed, and the party restored to all his rights and privileges.—Ban, in military affairs, is an order, given by a superior officer, to the subordinate officer, requiring the strict observance of discipline, or announcing the appointment of an officer, &c.

Ban, or Bann, a large river of Ulster in Ireland, which takes its rise in a plain called the Deer's Meadow, and sometimes the King's Meadow, in the mountains of Mourne and county of Down. After flowing a distance of thirty-eight miles, it falls into Lough Neagh near the Banfoot ferry, in the county of Armagh. This part is called the Upper Ban. In its course it passes within two miles of Rathfriland, through McCay's Bridge and Banbridge, by Guilford and Portadown, to which last place it is joined by the Newry canal, and, from thence to Lough Neagh it is navigable by boats of fifty tons burden. The lower Ban (which is the outlet of Lough Neagh) passing by Toome, and winding through a rugged country, tumbles over several ledges of rock, washes Cobane, and falls into the sea five miles below that town. By means of the Newry navigation the Upper Ban is made subservient to the opening of a communication from Lough Neagh to the Irish sea; and, if the Lower Ban were made navigable, a safe communication would be opened from the Irish sea to the Atlantic, to the immense trade of six counties. The fishery of this river is extremely valuable.

BAN (bannus). This name is given to the governors of Dalmatia, Scylinia, Croatia, placed at the head of civil and military affairs in these countries. Ban signifies, in the Scylinian tongue, a master. A province, over which a ban was placed, is called bannat. At present, the only ban is that of Croatia, who has the third place among the secular nobles of Hungary. Before him come the palatins regni and the judes sin.

Banana. The banana is a valuable plant (musa sapientium) which grows in the West Indies and other tropical countries, and has leaves about six feet in length and a foot broad in the middle, and fruit four or five inches long, and about the shape of the cucumber. When ripe, the banana is a very agreeable fruit, with a soft and luscious pulp, and is frequently introduced in desserts in the West Indies, but never eaten green, like the plantain. The Spaniards have a superstitious dislike to cut this fruit across; they always slice it from end to end, because, in the former case, the section presents an imaginary resemblance to the instrument of our Saviour's crucifixion. The banana is sometimes fried in slices as fritters. If the pulp of this fruit be squeezed through a fine sieve, it may be formed into small loaves, which, after having been properly dried, may be kept for a great length of time.

Banbury, a borough and market town in the hundred of Banbury and county of Oxford, sixty-nine miles N. W. from London. It has long been celebrated for the excellence of its cheese, its cakes, and its ale. The population of the borough and parish in 1831 was 4,556.

Banda, an island belonging to the Netherlands, near Sumatra, one of the vassal states of Palembang, containing 60,000 inhabitants, among them 25,000

Chinese, is known on account of its tin mines, worked by the Dutch East India company, (the annual profit of which, to the Dutch, is estimated at £150,000), and its pearl fishery, which is also productive on the shores of the group of Solo islands, north-east from Borneo. The tin of Bauca is pure, and easily obtained. The south-easterly part of Banda has been examined by the Dutch, and found to contain the Banda islands, in 2° 22' S. lat., and 106° 41' E. long., afford shelter from S. W. by S. to N. W., with a good supply of water and fuel.

Banda Islands; a group of islands belonging to the Malay Archipelago, in the Eastern ocean, lying E. of the Celebes; and thence divided from Banda island by the channel of them; lon. 130° 37' E.; lat. 4° 12' S. They contain but 5763 inhabitants, though they are said formerly to have contained 15,000. Their chief produce is nutmegs, of which they are competent to supply the want of the rest of the world. The whole quantity produced on these islands cannot be accurately stated. The annual sales are said formerly to have amounted to 550,000 pounds of nutmegs and 100,000 pounds of mace. When, however, they were taken by the British, in 1786, the half year's crop was 18,000, or 36,000 pounds of nutmegs and about 24,000 pounds of mace. The trees in all the other islands were carefully extirpated by command of the Dutch; and the whole trade of those where the growth is cherished is a complete monopoly.—The names of the islands are Banda, or Lantur; Puloway, or Poolaway; Pulo Ram; or Poolaron; Neira, Gunon Assi, or Gunanepe Rosygen; Pulo Prampon, Pulo Sunyee Capal, and Nyulacky. The inhabitants are in alliance with the Dutch East India company.—These islands can never be expected to yield any advantage besides that derived from the nutmegs and mace. They are indigent, and to carry on their trade, save a trifling bartering with the indigent natives of the south-eastern and south-western islands, they are even destitute of the means of subsistence for their own inhabitants, and must be supplied with every necessary from abroad, as nature, which has lavishly bestowed upon them articles of luxury, has denied them those of immediate necessity. Banda is likewise accounted a most unhealthy place, especially at the chief settlement of Neira. Some attribute this circumstance to the neighbourhood of the dangerous islands of Banda and Sumbawa, and others to a deleterious quality in the water.

Banda Oriental. This tract of country has fixed public attention, as the subject of an obstinate war between Brazil and the United Provinces of La Plata, and seems destined, by its geographical position, to possess much importance hereafter. It is situated between the eastern bank of the river Uruguay and the ocean, and between the river La Plata on the south and the Sierra do Topas on the north (which separates it from Brazil), and receives its name from its position with respect to the Uruguay. It is fertile and healthy, and, although checked in its prosperity by political misfortunes, had gained a white population of 80,000 souls. Having been originally settled by a Spanish colony from Buenos Ayres, it fell under the authority of Spain, but came, at length, to be the occasion of contention with Portugal. Both nations prided it; Spain, as giving her control of both sides of the river La Plata; Portugal, as necessary to the free and secure navigation of the immense interior of Brazil; and each nation asserted a claim to a territory of so much consequence. During the long wars between Spain and Portugal, relative to the various boundaries of their vast possessions in South America, the Banda Oriental was overrun and wasted, sometimes by one and sometimes by the other,
and their respective pretensions were differently regulated by successive treaties. In 1777, Portugal was forced to consent to the line of the Sierra do Topázio, which formed the boundary of their Missions, which she consented to restore, in 1804, as the price of the Portuguese fortress of Olivenza, held by Spain.

When the revolution commenced, the Orientalists naturally sided with the governor of Buenos Ayres; but whether they maintained, in concert with the latter, or acknowledged a dependance, does not appear. Certain it is, that they soon made themselves independent of Buenos Ayres, under the guidance of Artigas, in consequence of a victory gained by him over the Buenos Ayreans, in 1815, at Gaujub. But, soon afterwards, the Brasilians, pretending to fear that Artigas would propagate his revolutionary doctrines in Brazil, attacked him, broke up his forces, and compelled him to fly into Paraguay.—Brazil continued to hold military possession of the country, although resisted by the inhabitants, until 1822, when they were induced, ostensibly by persuasion, but really by intimidation, to send delegations to the court of their capital, Monte Video, and to consent to be annexed to Brazil, by the name of the Cis-Platino province, which don Pedro claims as a voluntary union of the people with the empire of Brazil. When Brazil separated from Portugal, in 1822, the Orientalists joined a party of the army which declared for Portugal, and, on the submission of these troops, called upon Buenos Ayres for aid. Assistance was given them in arms, money, and men, but not ostensibly by the congress, until their leaders, Lavalleja and Fructuoso Rivera, had shut up the Brasilians in Monte Video, and a provisional government, organized in the town of Florida, formally declared the Banda Oriental to be reunited to Buenos Ayres. The standard of independence was raised by Fructuoso Rivera, April 27th, 1826; and, as he was immediately aided, by Lavalleja, with forces organized in Buenos Ayres, this may be considered as the actual commencement of the war. Oct. 12, Lavalleja gained the victory of Sarandi, and the republic no longer hesitated to assume a quarrel, which began to wear a prosperous aspect. But no formal declaration of war was issued until that of Pedro, dated Dec. 30th 1826, which entered into an elaborate explanation of the alleged rights of Brazil. The war has been alike prejudicial to both countries. While Pedro blocked Buenos Ayres, the cruisers of the latter cut up the commerce of Brazil; and while both parties contributed to waste the Banda Oriental, the Orientalists carried similar devastation into the Brazilian province of Rio Grande. But neither party possessed adequate resources to strike a decisive blow; and the solicitations of Great Britain, who, like other neutral nations, suffered by the war, at length brought about a peace, which was signed at Rio, Aug. 28th, 1828, and, in substance, provided that the Banda Oriental should become an independent state, under the mutual guarantee of the two contracting parties. Thus the war, after completely exhausting both Brazil and Buenos Ayres, ended in a drawn game as to the subject of the contest.

Bandana; the name applied to a peculiar species of handkerchief, the fabric of which may be either silk or cotton, having a dark ground of Turkey red, blue, or purple, variegated with patterns of white, or bright yellow. These handkerchiefs were formerly manufactured in the East Indies, and thence imported into Europe by the Dutch East-India Company. The different colours caused such a demand for this commodity in England and the nations of the continent, as to stimulate our British manufacturers, not only to imitate, but even surpass the Eastern Bandana. At first, the imitations were made by the common process of printing with blocks, which never produced such durability of colour or clean outline of pattern. About the beginning of the present century, the proper method of producing the desired effect in manufacturing Bandanas was discovered, but so many claimants have come forward for the honour of originality, that it is difficult, if not impossible, to determine to whom it is due. Glasgow was the first place in this country where the manufacture of this kind of goods was practised. The extensive establishment of Messrs Henry Monteith, & Co., in that city, is still the largest in the kingdom, or perhaps, in the world, and the observations which follow are drawn principally from the mode of procedure followed there in the manufacture of Bandanas.

It is to be observed, in the outset, that the process for the formation of bandanas is the converse of calico printing, the cloth being first dyed of a uniform dark colour, and the pattern being afterwards formed by the application of a chemical agent to those parts where the spots or figures are meant to appear, which discharges or extracts the colour from these parts only. The cloth employed is usually cotton, sometimes woven plain, but more frequently tweed; and the dye for the ground is most commonly Turkey red (for which, see Dyeing.) An idea of this will be conveyed by this cut, the dark part representing the ground, the white figure having been discharged by the action of the chemical agent.

In the establishment of Messrs H. Monteith & Co., before alluded to, about fourteen pieces of cloth having been dyed Turkey red, are, by means of machinery, stretched over one another, as nearly as possible parallel, and then rolled round a wooden cylinder, which is placed at the back of the press where the discharging is to be effected. Until 1818, common screw presses were used; but since that time the hydrostatic presses of Bramah have been introduced (see Bramah's Press). In each press there is fixed a pair of plates, fashioned after the following manner. As the solid ground-work of the plate, a trellis frame of iron, one inch thick, with turned up edges, and a little larger than the intended plate, is employed. This frame forms a trough for a plate of lead about half an inch in thickness, which is fastened into it by means of screws. The edges of a piece of sheet-lead, which covers all the outer surfaces of the frame, and the plate itself, are turned up, and the plate itself, are turned up, and the plate is placed on the plate, and soldered round the edges, both plates being previ-
ously hammered smooth on a marble table, and finished with the plane. The thin sheet of lead having been fastened, is to be covered with the paper or leather in which is drawn the pattern which, being fastened firmly with paste, and dried, is then shown to the cutter, who fixes down with brass pins all the parts to be left solid, and with the tools commonly used by block cutters, he follows the lines of the drawing, cutting perpendicularly through the thin sheet. The design is then lifted off, and thus the channels for the discharging liquor are formed, which determines the white figures on the cloth. That the liquor may be freely admitted and drawn away, a number of small holes are perforated in the thick plate of lead at the bottom of the channels, and thus one sheet is finished. But among private concerns of the former is required to constitute what is called a set. This second plate is fashioned in the same way as the first, with this difference, that no new drawing requires to be executed for it, as a piece of drawing-paper is fastened on the second plate, and an impression taken off the first, by means of printers' ink, on a hydrostatic press. These plates may be put into, or removed from, the press at pleasure. One of these plates is fixed to the upper block of the press, so contrived, that, by means of a kind of universal joint, the upper plate may be made to apply to the under plate which is fastened to the opposite part of the press, so that when the under block of the press is forced up, the two plates come together with the greatest precision, by means of guide-pins at the corners. The hydrostatic discharging press is worked by two cylinders, called prime cylinders, of peculiar formation. The piston of the large prime cylinder is eight inches in diameter, that of the small, only one inch. Both pistons are stuffed, and thin rods move through stuffed collars, being each loaded by a top weight of five tons, and capable of being raised two feet; and they are both worked by a single pump, the steam being supplied to the pump and the engine by the steam engine. These pumps being put in action, a sufficient quantity of water will, in a short time, be introduced into the bottom of the cylinders as will raise the pistons up to their highest points; and thus they are prepared for working the discharging press. The upper plate thus raised raises the upper blocks so as not to come into contact with the upper. The second valve opens the passage of the water from the small prime cylinder to the cylinder of the press, and the pressure thus introduced is employed to give the requisite compression to the cloth between the blocks. The function of the third valve is merely to allow the water in the press cylinder to escape, so as to slacken the pressure when the operation of discharging has been accomplished.—Having now described the apparatus, let us attend to the process of discharging. The wooden cylinder, with a roll of cloth, formerly spoken of, is placed at the back of the press, and as much of the fourteen plies of cloth drawn off as will cover the area of the lower pattern plate, on which it is then placed. The valve guarding the communication between the press and large prime cylinder is next opened, and the pressure of the water forces the under blocks together with its plate and cloth, so as to come into close contact with the upper plate. This valve is now shut, and that which guards the communication between the press and the small prime cylinder is opened; and it will be recollected that the diameter of this cylinder is only one inch, the piston being loaded with a pressure of five tons, which is now brought to bear on the piston of the press, and the cloth is by this pressure compressed, not beyond the power of calculation, but to a degree such as, for it may be easily shown (see Bramah’s Press), that if the cylinder of the press be eight inches in diameter, the pressure which compresses the cloth between the plates is not less than 716,400 lbs. When things are in this state, the discharging liquor is let in, and is to remain limited by the narrow channel of the chloride of lime, commonly called bleaching powder, and a small quantity of sulphuric acid. It is contained in a small lead cistern attached to the press, which is supplied from a large cistern in another chamber. This small cistern is furnished with a graduated glass tube for regulating the quantity of liquor given to the cloth, and the stop-cocks connected with this department of the apparatus are likewise of glass. The liquor is now admitted through the upper plate, and passes through the fourteen layers of cloth, and through the under plate. The evaporated water is led away by the waste-pipe, its passage through the cloth being frequently accelerated by pressure derived from a pneumatic apparatus, somewhat resembling a gasometer. When the cloth has been acted upon by the liquor sufficiently, water is introduced in a similar manner, and the press is worked on all the other layers. This process is now repeated, and more of the cloth introduced between the plates, and the process is repeated. In the establishment before alluded to, one set of workmen manage sixteen presses, passing from the one to the other; so that when the sixth is cleared, it is time to open the first, and to work 20,000 yards of cloth are, by four workmen, converted into bandanas in ten hours. For further particulars, see Calico Printing.

Bandello, Matteo, a novelist, born, about 1480, at Castelnuovo di Scrivia, studied at Rome and Naples, and afterwards lived at Grasse; was distinguished in his time as a partisan of France. Upon this he went first to Ludovico Gonzaga, then to Cesare Fregoso, who had left the Venetian for the French service, and lived with the latter, in Piedmont, till the conclusion of the truce between the belligerent powers, and then followed him to France. After the death of his protector, he resided at Agen, with the family of the deceased, and, in 1550, was appointed bishop of that city. He left the administration of his diocese to the bishop of Grasse, and employed himself, at the advanced age of 70, in the completion of his novels, of which he published three volumes in 1554; a fourth was published in 1573, after his death. Camillo Franceschini also published his novels at Venice, in 1566, 4to. B. published, at Agen, in 1545, Cant i XI delle Lodi della S. Lucrèzia Gonzaga di Gonzavela e del Verona Amore, et Tempio di Pudicizia, and also two other poems; altogether of but little value. Other poems of his, found in manuscript at Turin, were printed by Costa, in 1816, under the title of Rime di Matteo Bandello. The novels of B. are distinguished by a natural simplicity, a rapid narration, and periods at once short and harmonious; but their language is, at times, superfluous; and it supplies more to him than to Boccaccio, that he loves to dwell in wanton scenes, and to paint them in lively colours to the imagination.
and resident nobility, by the abolition of trusts and entails, and by the equal division of property among the children of these families, nothing was more natural than that, with the increase of population, society should also be divided into tribes. The fear of capital punishment is ineffectual to deter them from these crimes. Peter the Calabrian, the most terrible among these robbers, in 1812, named himself, in imitation of the titles of Napoleon, "emperor of the mountains," "king of the woods," "protector of the conquered," and "mediator of the highways from Florence to Naples." The government of Ferdinand I. was compelled to make a compact with this bandit. One of the robbers entered the royal service, as a captain, in 1818, and engaged to take captive his former comrades. More lately, adventurers of all kinds have joined them. These bandits are to be distinguished from other robbers, who are called malaventri; and the Austrian troops, which occupied Naples, were obliged to send large detachments to repress them. It is remarkable, in these robbers, that they only attack travellers on the highways. This also is true of those who exact from strangers and natives a sum of money for protection, and give them in return a letter of security; which, a short time ago, was the case in Sicily, where the bandits dwell in the greatest numbers in the Val Demone. Here the prince of Villa France declared himself, from police and other viewpoints, to be, among other things, a livery, and treated them with much confidence, which they never abused; for even among them there is a certain romantic sense of honour derived from the middle ages. They keep their promises inviolate, and often take better care of the security of a place intrusted to them than the public authorities. Baner also Baneur, John (in English, always written Bauer), a Swedish general in the thirty years' war, descended from an old noble family of Sweden, was born in 1596. When a child, he fell from the castle of Hornings-holm, four stories high, without being injured. Gustavus Adolphus, who valued him very much, early prophesied that he was destined for greatness. He made his first campaigns in Poland and Russia, and accompanied his king to Germany. After the death of Gustavus, in 1632, he had the chief command over 16,000 men, and was soon an enemy. He obtained the greatest glory by his victory at Wittstock, in 1636, over the imperial and Saxo troops; and it was also owing to his activity, that, after the battle of Nordingen, the affairs of Sweden gradually improved. He died at Halberstadt, in 1641, under 45 years of age and was suspected to have been poisoned. In him Sweden lost her ablest general, and the imperial troops their most dangerous enemy. B. was careful to engage in no enterprise without a reasonable probability of success. He knew how to avoid danger with dexterity, and to escape from a superior force. During his command, 30,000 of the enemy were killed, and 600 standards were taken, on different occasions. He was always found at the head of his men, and maintained good discipline. He wanted patience for sieges. He has been accused of pride and severity. The pleasures of the table and of love occupied all the leisure time which his employments allowed him, and probably improper indulgence in them was the real poison which brought on his death. He was three times married. Banff, the capital of Banffshire, is pleasantly situated on the side of a hill, at the mouth of the river Deveron, and at 20° 13' latitude west of the meridian of Greenwich, and 55° 16' and 165 N. from Edinburgh. Tradition assigns its foundation to Malcolm Canmore, and it received the same privileges as Aberdeen by a charter granted by Robert II. The town has several handsome streets,
and is deemed the most fashionable residence north of Aberdeen. The town-house, which was built in 1798, is a very handsome building, with an elegant spire. The ancient castle, which occupies the summit of a mound within the town, exhibits many signs of its former strength, although used at present as a mansion by the earl of Seafield, once heritable sheriff of the county. The buildings of the town, which was very defective, has been recently much improved. Manufacturers of thread, cotton, stockings, rope, and sail cloth are carried on here, and many of the inhabitants are occupied in the salmon and white fisheries.

In 1851, the population of the town and parish amounted to 11,251.

Banffshire; a county in the north of Scotland, bounded on the N. by the ocean, on the W. by the shires of Moray and part of Inverness; on the S. by Inverness, and on the E. by the shire of Aberdeen. The southern part of this county is very mountainous; but the northern part, although agreeably diversified with hill and dale, is comparatively level, and very fertile. The soil is, for the most part, a rich loam, or deep clay, very retentive of moisture. The principal rivers are the Spey and Deveron, the Isla, the Conglass, Avon, and the Fiflicke; besides which, there is a number of tributary streams, which, although occasionally miscible by their overflow, add materially to the fertility and ornament of the county. There are several mountains, which rise in altitude as they recede from the coast, the most celebrated being that of Cairngorm, which attains an elevation of 4020 feet above the level of the sea. The climate partakes of the general character of that of the eastern coast of North Britain, with greater severity as the distance increases from the sea. Agriculture is, notwithstanding, carried on with great spirit, although but little wheat is raised in the interior parishes. The chief crops are bear, oats, flax, turnips, potatoes, and peas. Black cattle are reared in great numbers, and with grain, especially oats, constitutes the principal articles of export. The salmon caught in the Spey and Deveron also constitute a considerable article of trade. The great quantities of salt cod, ling, skite, and haddock, are disposed of on the coast south of Aberdeen. The imports are hemp, corn, wool, wood, with wine, and other articles of luxury and fashion. The chief employment of the inhabitants of a manufacturing description consists in spinning flax. Wools, and dyed threads, are manufactured to a great extent; and on a small scale, woolen and cotton goods, linen, and hose. Among the natural productions of this county, limestone is the most prevalent, being diffused over the whole country; marble also abounds in several places, especially at Portsoy, where a species is found, which possesses a brilliancy like the Labrador spar, and in a particular light shows a purple and bluish tint. When polished it exhibits figures which have a remote resemblance to Arabic characters, a quality first remarked in Arabia, where it is also found, and which induced the Arabs to give it the name of "Close's Tablets," supposing they had found pieces of the tablet, on which the decalogue was originally written. Two chimney-pieces were formed of it for the palace at Versailles, and it is still wrought into chimney-pieces, monuments, and toys. Free-stone, marl, slate, and various kinds of granite are also productions of this county, and rock crystals, and the topazes called, from the mountain of that name, Cairngourds, are found in various districts. The principal land proprietors in Banffshire are the Duke of Gordon, the earl of Fife, and of Seafield, all of whom have fine seats therein. The two royal burghs are Banff and Buckie. The population of Banffshire was as follows. - Families 10,955, miles 22,743, females 25,861, total 48,601.

Bangor; a city of North Wales, in Caernarvonshire, 257 miles from London, situated at the foot of a steep rock, in a narrow and fertile vale, near the northern entrance of the Menai Strait, and adjacent to the mouth of the river Ogwen. It consists of one principal street, nearly a mile in length, with several small streets opening into it from the water side. The principal public buildings include an old castle, which, was completed in 1538, the bishop's palace, deanery house, free school, market house, assembly rooms, &c. Since the construction of that admirable work of art, the Menai bridge, Bangor has risen into some importance, being visited by upwards of 50,000 persons annually, who remain for longer or shorter periods. Its proximity to the sea has given Bangor the advantage of becoming a favourite bathing place; and the views of Beaumaris Bay and the Caernarvon mountains from Garth Point, the promenade of the inhabitants, are of the most picturesque, bold, and sublime character. Population in 1831, 4,751.

Bangor; a post town of the United States and capital of the county of Penobscot, in Maine, on the W. side of Penobscot river, at the head of the tide and of navigation; 32 miles N. of Owls'-head, at the mouth of the river Penobscot; int. 44° 45' N.; lon. 68° 45 W.; pop. increased in 1820, 1219; in 1835, 2374; in 2002. Its situation is pleasant, and very advantageous for commerce. It is a flourishing town, and contains a theological seminary with two professors, a court house, and other public buildings. The river is navigable, as far as this town, for vessels of 300 or 400 tons.

Bangor; a kind of opiate, much used throughout the East as a means of intoxication. The Persians call it bang. It is made of the leaf of a kind of wild hemp, in different ways.

Bank; a name formerly given by Europeans to almost all the Hindoos, because baniga, the term whence it is derived, signifies a banker, the class with which Europeans had most frequent intercourse. It is one of the mixed classes, sprung from a father of the medical and mother of the commercial class. The English sailors call banian days those days in which they have no flesh meat. Probably the name has a reference to the habits of this class; because, before people were acquainted with the abstinence of all the Hindoos, it was thought to be confined to the Banians.

Bank. See Exchequer.

Bank. The term bank, in reference to commerce, implies a place of deposit of money. Banks, like most commercial institutions, originated in Italy, where, in the infancy of European commerce, the Jews were wont to assemble in the market-places of the principal towns, seated on benches, ready to lend money; and the term "bank" is derived from the Italian word "bancu" (bench). Banks are of three kinds, viz., of deposit, of discount, and of circulation. In some cases, all these functions are exercised by the same establishment; sometimes two of them, and, in other instances, each one only. A bank of deposit receives money to keep for the depositor, until he draws it out. This is the first and most obvious purpose of these institutions. The goldsmiths of London were formerly bankers of this description; they took the money, bullion, plate, &c. of depositors, merely for safe keeping. 2. Another branch of banking business is the discounting of promissory notes and bills of exchange, or the lending of money on mortgage, pawn, or other security. 3. A bank of circulation issues bills or notes of its own, intended to be the circulating currency or medium of exchanges, instead of gold or silver. Of gold and silver, the population of Bangor was as follows. - Families 10,955, miles 22,743, females 25,861, total 48,601.
The Bank of Amsterdam was established in 1609, and owed its origin to the clipped and worn currency, which, being of uncertain and fluctuating value, subjected the exchange to a corresponding fluctuation and uncertainty. The object of the institution was, to give a certain and unquestionable value to a bill on Amsterdam; and, for this purpose, the various coins were received in deposit at the bank at a certain rate of interest, and a small deduction of seigniorage being made, equivalent to the supposed expense of coining into money of the proper weight and fineness, and the depositor was also required to pay a small amount for the privilege of having an account at the bank. As the money received, is not, in fact, received, these charges, with a distinct charge for deposits of bullion, and a fee for every new deposit, and five stivers for every transfer, constitute the income of the establishment, and, being more than sufficient to defray the expenses, a net revenue accrues to the city, though the acquisition of revenue was not contemplated in forming the institution. A profit has also occasionally been made by purchasing the current coin whenever it could be converted into bank money at an expense less than the agio. The deposits made and credited are denominated bank money, which is at a discount below the worth thereof, according to the fineness and weight of the current coin; and since the currency has been well regulated, this agio is steady and inconsiderable, never exceeding five per cent. In order to produce the intended effect on the exchange, it was provided, by law, that all payments of 500 guilders and upwards, should be made in bank money; and payments are made by transfers on deposits in the books of the bank, as formerly at Venice.

The Bank of Hamburg was established in 1619, ten years after that of Amsterdam, and, like this latter, is a mere bank of deposit and transfer, the deposits being made in coin or bullion, at a certain fixed rate, and liable to be withdrawn by the depositors any one having a credit at the bank may draw on the amount of his credit. The bank has not properly, therefore, any capital of its own, the whole funds being liable to be withdrawn at any moment. The expenses of the institution are defrayed by a charge of a certain rate per page of transfers in the bank book to every depositor. The amount of deposits varies from ten to fifteen million dollars. This bank was plundered by Davoust, when he was in possession of Hamburg, in 1813; but many of the depositors, anticipating this event, had withdrawn their deposits, and remitted them to Copenhagen or England; and, to those who remitted to England, it proved quite a fortunate event, for, by the subsequent rise of exchange, they nearly doubled their capital. The depositors who were thus plundered of their property received a partial indemnity of thirty-six per cent. from the French government, after the restoration of the Bourbons. The directors of this bank, five in number, are chosen annually by the whole body of the citizens of Hamburg, having a right to vote for municipal officers. They receive no salary.

The Bank of England is one of deposit, discount, and circulation. It was chartered in the reign of William and Mary, 1695, seventy or eighty years after those of Amsterdam and Hamburg, by an act which, among other things, secured certain compensations and advantages to such persons as should advance the sum of £1,500,000 towards carrying on the war against France. The sum of £1,500,000 was subscribed for the interest of the stockholders, and the subscribers became, under the act, stockholders, to the amount of their respective subscriptions, in the capital stock of a corporation, denominated the Governor and Company of the Bank of England. This charter was granted for eleven years, and the company advanced to the government £1,500,000, at an interest of eight per cent.; and the government made an additional bonus, or allowance to the bank, of £4000 annually, for the management of this loan (which, in fact, constituted the capital of the bank,) and for settling the interest and making transfers, &c. among the various stockholders. This bank, like that of Venice, and unlike those of Amsterdam and Hamburg, was originally an engine of the government, and not a mere commercial establishment. The management of the institution is in the hands of a governor, lieutenant-governor, and twenty directors, each of whom holds a certificate for £500 of stock for six months previous to the election. A director is required to hold £2000, a deputy governor £3000, and a governor £4000, of the capital stock. Its capital has been increased, from time to time, so as to stand at different periods as follows: 3
The rates of dividends have been as follows:

From 1694 to 1696, 3 yrs., 8 per cent.
1707, 11
1729, 9 1/2
1746, 6
1752, 6
1753, 5 1/2
1763 to 1765
1778, 6
1805, 6
1825, 3

The bank has, besides, at different times, made dividends under the name of bonuses, viz.:

June, 1799, 10 per cent.
May, 1804, 5
Nov., 1805, 5
Oct., 1804, 5
1805, 5
1806, 5

The amount of loans to the government has increased with the capital of the bank. In 1787, the permanent loan to government was £13,000,000; in 1797, £10,672,490—an amount approaching very near to that of the whole capital. In 1817, the loan to government arose to £28,300,209, and, in 1823, it was £15,261,100. Ever since its establishment, the bank has been closely allied with the government, the fate of the institution having always been directly involved in that of the government; and, for twenty-six years, from 1797 to 1823, as we shall see, the existence of the government, and fate of the kingdom, must depend upon maintaining the credit of the bank, and the circulation of its paper. Besides being a creditor of the government to the immense amount already mentioned, the institution is an important agent in the management of the public debt, and the collection of the revenue, the whole of which, amounting to about £20,000,000 per annum, passes through the bank.

Besides its importance to the government as a public creditor, and as an agent in managing the finances and public debt, collecting taxes, and paying interest and annuities, this institution is, in its character of a bank of deposit, discount, and circulation, a powerful auxiliary to commerce and industry. As a bank of deposit, it offers the advantages of those of Hamburg and Amsterdam. Transfers or assignments of deposits, being made by means of checks, are attended with less trouble than the writing off and transferring of credits at Amsterdam and Hamburg. Besides permanent loans to the government, the bank makes extensive discounts of paper, or, in other words, loans to a great amount on promissory notes and bills of exchange. It is apparent, from the statement already made, that, if the actual capital is not greater than its estimated nominal amount, namely, £11,642,400 it had, in 1787, but a comparatively small amount of capital to loan to individuals; for, £10,672,490 of its capital being loaned permanently to the public, only the sum of £5,699,816 of the capital remained for private loans. This amount might then have been loaned, if the institution were merely a loaning or discounting one, and received no deposits, and circulated no bills. But all the means of additional loans must have been derived from deposits and circulation; and the means derived from these sources, for this purpose, must obviously be very ample; for the payment of the revenue of the kingdom through the bank, if we suppose the money to remain in the bank, on an average, one day, will give a fund of £1,066,000. The deposits by individuals and companies will add immensely to this fund. It is true, that the bank is liable to be called upon at any moment for these deposits, and, where no interest is allowed upon them by the bank, the depositors will generally withdraw them as soon as they can make an investment; but, still, experienced bankers will estimate, with some precision, the average of deposits on which they may venture to discount. Besides this fund for discount or loan, the bank has the additional one of the amount of the excess of the circulation over that of the specie necessary to be kept in the vaults of the bank. For this purpose the bills presented for payment to a bank with the resources and advantages of that of England for collecting specie, it is quite an ample provision for its circulating notes and bills, to keep on hand 20 or 25 per cent. of the amount of such circulation, where its discounts are for short periods of two or three months. The circulation of this bank has varied at different times, but, on the whole, gradually increased. From 1792 to 1800, it arose from about £11,000,000 to about £12,000,000; from 1800 to 1810, it increased to above £18,000,000; and, in 1820, there was at the maximum, being, in Aug., 1817, as high as £20,000,000, and, generally, during this period, ranging from £25,000,000 to £28,000,000; from 1820 to 1826, it ranged from £18,000,000 to £22,000,000, and, on the 26th of February, 1826, was £32,673,576. It thus appears that the circulation of notes gives the bank an effective loaning capital of from £15,000,000 to £20,000,000. It appears, further, that the actual capital of the institution is greater than its nominal stock, or the amount on which dividends are made. In March, 1819, the actual capital exceeded the nominal by £2,861,190; but this excess must vary with the periods of making dividends, and also with the good or ill success of the business of the institution. From all these sources the bank has an available loaning capital of over £20,000,000, besides the loan of £10,672,490 to the government. Thus, on a capital stock of 11 millions, the bank receives interest on between 30 and 40 millions, including the interest on the government loan, besides the bonus annually paid to the bank, for its agency in the financial concerns. This accounts for the high rate of dividends made on the capital stock, as above stated, being between 5 and 6 times the current rate of interest in Great Britain. Since 1800, the circulation of the notes of this bank under £5 has varied exceedingly, being, in 1800, £2,000,000; in 1816, £9,036,574; in 1824, as low as £19,497,500; and, in 1828, when the law was enacted prohibiting the circulation of notes below £5. After the 5th of Feb. 1829, standing at £1,559,750.

The most important event in the history of this institution we have reserved for a distinct consideration, viz., the stopping of specie payment, in 1797. On the 26th of February of that year, being Sunday, an order of council was transmitted to the bank towards evening, prohibiting the further pay-
ment of specie until the pleasure of parliament should be made known. The parliament took the subject into consideration, by an act of the 27th of February, 1799, and approved of the order of the privy council. The suspension of specie payment was originally intended to be only a temporary measure, and the strongest assurances were given to this effect on the part of the bank and the government. It was, however, continued, from time to time, but always as a temporary measure, until, in 1819, twenty-two years after the suspension of payment, an act was introduced by Mr. Peel, for resuming specie payments, which were, in fact, resumed, on the 1st of May, 1823.

The bank thus presents the singular example of Investors of such funds, and the nation, for six years, and even the eventual redemption of its paper and its credit; and this return to specie payments was not attended by any sudden revulsion or commercial shock: preparations were made for it long beforehand. The amount of the notes of the bank in circulation was reduced from about £24,000,000 to about £18,000,000. In the meantime, a new coinage of gold had been issued, in 1821-1822, to the amount of £14,877,547, which supplied the chasm made in the circulation of the country by the reduction of the amount of bank of England notes, and also went to replenish thevaults of the bank, in order that it might be made on the resumption of payment; but the danger was passed with the greatest facility.

The bank-notes had depreciated, or, as the phrase was at the time, the price of bullion had gradually risen, so as to be, at one period, at the rate of 14 or 15 per cent.; and, if the bank had then stopped suddenly, and, if we may imagine it, possible, had redeemed the whole of its paper, £25,000,000 or more, with specie, it would have been a gain to the then holders of the notes, in the whole, of £3,500,000, and a loss to the then debtors to the bank of the same amount, assuming the depreciation to be 14 per cent.; while the bank itself would have lost only the amount of bad debts, which would have been made by such a sudden and tremendous revulsion; for, the moment of the bank’s resuming to pay specie itself, by this very operation, it reduced the payments to the bank, by its debtors, to specie; for the bank had a right to demand payment of notes and bills discounted in specie, or, what would have been equivalent, its own notes. Such a measure would evidently have shaken the kingdom to its foundations, and probably have brought down its commercial, financial, and economical systems in ruins. Of such a measure the nation could not run the risk, and the bank wisely determined to continue or renewing payments of specie, each of which was equally difficult and hazardous, the transition in the depreciation of the paper was gradual, and almost imperceptible, and, after the overthrow of Napoleon, its rise in value was again, for the most part, as gradual, until it arrived at a par with gold, before the resumption of specie payments. In a political, financial, and commercial view, this institution, from the suspension to the resumption of specie payments, presents a stupendous phenomenon, unparalleled in history. The suspension of payment, in 1727, was one of those bold measures, which are justified only by extreme cases, and which, in such cases, are, in fact, the only prudent measures. The whole system of financial administration, and all the commercial combinations and connexions of the kingdom, were involved in the affairs of the institution at that time. The holders of the notes, and the depositors, were pressing to the bank for specie, of which there remained in the vaults only £1,278,000, while the notes and claims outstanding, and which might be demanded, were £5,090,290, and the demands were pouring in with a still increasing tide. It seemed probable that the bank must stop payment after paying out this specie; but it was so completely anticipated, that the encounter, and it was very justly supposed that it would be, in a measure, broken, by anticipating the necessity, and stopping with more than a million in its vaults, instead of waiting until they should have been emptied. The reasons given in parliament in favour of this suspension of payment, and of its continuance from time to time were, 1. that the bank could not continue its discounts, and its payments in specie; and, if its discounts were stopped, or greatly reduced, the commerce of the country would be destroyed: 2. that the credit of the government would be shaken, if the bank should not have the means; and, 3. that it has always been the practice of the bank, on being drawn from the bank, went abroad: 4. that it was more important that the bank should exist, than that it should meet its payments at the expense of its existence: 5. that the commercial arrangements, combinations, and relations, existing in the kingdom, would be broken up by the dissolution of this institution, and, being once broken up, could never be renewed; and, 6. that it was better to stop specie payments while some specie and bullion could be saved by that means, than the circulation of the kingdom could be restored by the imports of specie, which had been and are given in favour of the measure, and though it has been censured by some, who have pretended to discover in it the cause of much financial and commercial derangement, yet they do not show by what other course Great Britain could have struggled through the terrible conflicts of that period.

_Banks in Scotland._ The act of 1708, which prevented more than six individuals from entering into a partnership for carrying on the business of banking in England, did not extend to Scotland. In consequence of this exemption, several banking companies, with numerous bodies of partners, have always existed in that part of the empire. The bank of Scotland was established by act of parliament in 1695. It enjoyed, by the terms of its charter, for twenty-one years, the exclusive privilege of issuing notes in Scotland. Its original capital was only £100,000. It was increased to £200,000 in 1744; and now amounts to £1,500,000.

The partners are liable only to the amount of the shares they respectively hold. The royal bank of Scotland was established in 1777. Its original capital was £165,000. At present it amounts to 1,500,000. The British linen company was incorporated in 1746, for the purpose, as its name implies. It consists of several bodies of partners, and views in which it originated were speedily abandoned; and it became a banking company only. Its capital amounts to 600,000. None of the other banking companies established in Scotland are chartered associations; and the partners are jointly and individually liable, in the whole extent of their fortunes, for the debts of the firms. Some of them, such as the national bank, the commercial banking company, the Dundee commercial bank, the Perth banking company, &c., have very numerous bodies of partners. Their affairs are uniformly conducted by a board of directors, annually chosen by the shareholders. The bank of Scotland began to issue one pound notes so early as 1704; and their issue has since been continued without interruption. In Scotland, the issue of promissory notes payable to the bearer on demand, for a sum of not less than twenty shillings, has been at all times permitted, by law; but this permission has been passed, limiting the period for which such issue shall continue legal in that country. In England, the issue of promissory notes for a less sum than five pounds was prohibited by law from the year 1777 to the period of the bank restriction in 1797. It was per-
mitten from 1797 till April, 1829, when the permission ceased. There have been comparatively few bankruptcies of Scottish banks, when so many of the English provincial banks were swept off, there was not a single establishment in Scotland that gave way. This superior stability seems to be attributable partly to the formation of so many banks with numerous bodies of partners, which tends to give much more security with only a few partners, unless they are known to possess considerable fortunes, from getting paper into circulation; partly to the less risk attending the business of banking in Scotland; and partly to the facility afforded by the law of Scotland of attaching a debtor's property, whether it consists of land or moveables, and making it available to the payment of his debts. All the Scottish banks receive deposits of so low a value as £10, and sometimes lower, and allow interest upon them. The interest allowed by the bank upon deposits varies from time to time according to the current rate of interest which money generally bears. At present, the interest allowed on deposits is only two or two and a half per cent. It has been calculated that the aggregate amount of the sums deposited with the Scottish banks amounts to between 20 to 24 millions. The loans or advances made by the Scottish banks are either in the shape of discounts or upon bills of exchange and are called, in the common term, cash accounts. This species of account does not differ in principle from an over-drawing account at a private banker's in England. A cash credit is a credit given to an individual by a banking company for a limited sum, seldom under £100 or £200, upon his own security, and that of two or three individuals approved by the bank, who become sureties for its payment. The individual who has obtained such a credit is enabled to draw the whole sum, or any part of it, when he pleases; replacing it, or portions of it, according as it finds it convenient; interest being charged upon such part only as he draws out. If a man borrows five thousand pounds from a private bank, besides that it is not always to be found when required, he pays interest for it whether he be using it or not. His bank credit costs him nothing, except during the moment it is of service to him; and this circumstance gives him unusual advantage, if he had borrowed money at a much lower rate of interest.

(Hume's Essay on the Balance of Trade.) This, then, is plainly one of the most commodious forms in which advances can be made. Cash credits are not, however, intended to be a dead loan; the main object of the bank in granting them is to keep the notes circulating, and they do not grant them except to persons in business, or to those who are frequently drawing out and paying in money. The expense of a bond for a cash credit of £500 is £4 stamp duty, and a charge of 10s. 6d. per cent. for filling it up. According to their official return given in the Commercial report, the total number of notes in circulation in Scotland, in the early part of 1826, amounted to 3,509,092, of which 2,079,544 were under £5, and 1,429,548 £5 and upwards. The Scottish banks draw on London at twenty days' date. This is denominated the par of exchange between London and Edinburgh. Most of the great Scottish banks, such as the bank of Scotland, the Royal bank, &c. have established branches in other towns besides that where the head office is kept.

By the act 9 Geo. IV. c. 65, to restrain the negotiation of the circulated of Scottish or Irish promissory notes and bills under £5, it is enacted, that if any body politic or corporate, or person, shall, after the 5th of April, 1829, publish, utter, negotiate, or transfer, in any part of England, any promissory or other note, draft, engagement or undertaking, payable on demand to the bearer, for any sum less than £5, purporting to have been made or issued in Scotland or Ireland, every such body politic or corporate, or person, shall forfeit for every such offence not more than £5 nor less than £5. Nothing contained in this act applies to any draft or order drawn by any person on his or her banker, or on any person acting as such banker, for the payment of money held by such banker, or for the use of the person by whom such draft or order shall be drawn. The following Table contains an account of the names or firms of the present banks in Scotland (in number 30); the dates of their establishment; places of the head offices; number of branches; number of partners; and the names of their London agents.

**PRIVATE BANKING COMPANIES IN EDINBURGH WHO DO NOT ISSUE NOTES.**

<table>
<thead>
<tr>
<th>Name of Firm or Bank</th>
<th>Date of Establishment</th>
<th>Head Office</th>
<th>No. of Branches</th>
<th>No. of Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>M. Kennedy, Smith &amp; Co.</td>
<td>1824</td>
<td>Edinburgh</td>
<td>None</td>
<td>2</td>
</tr>
<tr>
<td>Robert Allan and Co.</td>
<td>1784</td>
<td>Edinburgh</td>
<td>None</td>
<td>3</td>
</tr>
<tr>
<td>James England and Son</td>
<td>None</td>
<td>Edinburgh</td>
<td>None</td>
<td>2</td>
</tr>
<tr>
<td>Aitken, Allen, and Co.</td>
<td>None</td>
<td>Edinburgh</td>
<td>None</td>
<td>3</td>
</tr>
</tbody>
</table>

**Banks in Ireland.** "In no country, perhaps," says Sir Henry Parnell, "has the issuing of paper money been carried to such an injurious excess as in Ireland. A national bank was established in 1783, with similar privileges to those of the Bank of England, in respect to the restriction of more than six persons in a bank; and it is undeniable that Ireland has sustained from the repeated failure of banks may be mainly attributed to this defective legislative regulation. Had the trade of banking been left as free in Ireland as it is in Scotland, the want of paper money that would have arisen with the progress of trade would, in all probability, have been supplied by joint-stock companies, supported with large capitals, and governed by wise and effectual rules. In 1797, when the Bank of England suspended its payments, the same privilege was extended to Ireland; and after this period the issues of the Bank of Ireland were rapidly increased. In 1797, the amount of the notes of the Bank of Ireland in circulation was £621,017; in 1810, £2,206,471; and in 1814, £2,986,999. These increased issues led to corresponding increased issues by the private banks, of which the number was fifty in the year 1804. The consequence of this increase of paper was a great depreciation of it; the price of bullion and guineas rose to ten per cent. above the mint price; and the exchange with London became as high as 18 per cent., the par being 8s. This unfavourable exchange was afterwards corrected; not by any reduction in the issues of the Bank of Ireland, but by the depreciation of the
British currency in the year 1810, when the exchange between London and Dublin settled again at about par. The loss that Ireland has sustained by the failure of banks may be described in a few words. It appears by the report of the committee on Irish Exchanges, in 1804, that there were at that time in Ireland and the remaining British provinces, with the exception of the Channel Islands and the Isle of Man, many more banks than at present. In 1810 there were the Bank of Ireland, the Bank of England, the Bank of Ireland, and the Bank of England; all of which were established, the former in the year 1783, the latter in 1734. These banks, with the new provincial bank, and the bank of Ireland, are the only banks now existing in Ireland. In 1821, in consequence of eleven banks having failed at nearly the same time, in the preceding year, in the south of Ireland, government succeeded in making an arrangement with the bank of Ireland, by which joint stock companies were allowed to be established at a distance of fifty miles (Irish) from Dublin, and the bank was permitted to increase its capital £500,000. The act of 1 and 2 Geo. IV. c. 72. was founded on this agreement. But this act was so far repealed as to enable the bank to raise a new amount of credit, by the sale of shares, and to make certain modifications in the trade of banking that had been established by the 33 Geo. II. c. 13., no new company was formed. In 1824, a party of merchants of Belfast, wishing to establish a joint stock company, petitioned parliament for the repeal of this act of Geo. II.; and an act was accordingly passed in that session, repealing some of the most objectionable restrictions of it (the 5 Geo. IV. c. 73.) In consequence of this act, the northern bank of Belfast, was converted into a joint stock company, with a capital of half a million, and commenced business on the 1st of January, 1825. But the act was again repealed in 1828, and certain provisions contained in the new acts of 1 and 2 Geo. III. and 5 Geo. IV. obstructed the progress of this company, and they found it necessary to apply to government to remove them; and a bill was accordingly introduced, which would have repealed all the obnoxious clauses of the 33 Geo. II., had it not been so altered in the committee as to leave several of them in force. In 1825, the provincial bank of Ireland commenced business, with a capital of two millions; and the bank of Ireland has of late established branches in all the principal towns in Ireland. The capital of the bank of Ireland at its establishment in 1783 was £2,350,000; in 1800, £2,519,492; in 1828, £2,519,492; and the bank is now increased at various periods; and has, since 1821, amounted to £9,300,000. At present no bank having more than six partners can be established any where within 50 Irish miles of Dublin; nor is any such bank allowed to draw bills upon Dublin for less than £50, or any shorter note than six months. This enactment seems to amount to a virtual prohibition of the drawing of such bills. The bank of Ireland draws on London at twenty days' date. She neither grants cash credits, nor allows any interest on deposits. She discounts at the rate of £5 per cent. The provincial bank and the northern banking company grant cash credits, and allow interest on deposits. It appears from the statements given in the report of the commons' committee of 1826, that the average value of the notes and post bills of the bank of Ireland of £5 and upwards in circulation during the five years ending in 1826 was £1,000,000, and that the average value of the notes and post bills under £5 in circulation during the same period amounted to £1,043,828 Irish currency. The average value of the notes of all descriptions issued by the other banking establishments in Ireland, in 1826, amounted to £1,003,858. During the same period Ireland was assimilated to that of Great Britain, previously to that period, the currency of the former was 84 per cent. less valuable than that of the latter.

Bank of France. The bank of France was established, in 1803, by the union of three private banking institutions of Paris, with a capital of 45,600,000 francs, with the successive issue of bank notes payable to the bearer for fifteen years. In 1808, the bank was invested with the right to establish provincial branches, some of which have been established in the commercial towns of the kingdom. This, like the bank of England, is a bank of deposit, discount, and currency. It divides its power of emission among three responsible parties. Like the bank of Stockholm, it makes loans upon pawns; and, like that of England, it discounts, or, in other words, makes advances upon, the public taxes. It is strictly a public institution, as the government appoints the governor, with a salary of 50,000 francs, who is required to be a stockholder to the amount of 50,000 francs, and the two deputy-governors, with a salary of 30,000 francs each, who must each own stock to the amount of 25,000 francs. These officers appoint the inferior officers of the institution. In 1807, the capital was doubled, being then 90,000,000 francs, and the charter extended to forty years. The original charter provided for a reserved fund of all the surplus profits for the year over eight per cent. on the capital, and there remained, after the expiration of the first year of its operation, a surplus of 4,185,937, making, with the eight per cent. dividend, due to the stockholders, a profit of about twelve per cent. The excess over eight per cent., the second year, was a little larger still. This bank is, like that of England, closely allied to the government, to which it made immense advances in 1806, for the prosecution of the war against Austria: this caused it to be placed under a heavy embargo, which spread temporary distrust, and occasioned numerous bankruptcies. But, on the fortunate termination of that war, the resources of the bank were replenished, and its credit was re-established. Its affairs were now administered with great success, and with a powerful influence upon the industry of the kingdom, until, in 1814, the large advances again required by the government brought the institution anew into temporary difficulty, and occasioned an order of the government, limiting its specie payments to 500,000 francs per day, and prohibiting the payment of more than 1,000 francs in specie on a day. But this measure was not put into circulation, and a great part of the currency of the kingdom is specie, the bank was soon enabled to resume specie payments in full, and its affairs have, since that time, been conducted with uninterrupted success. It appears, from an account of this institution, published in the Moniteur, that, in 1828, the discounts were 407,262,391 francs, yielding an interest of 2,519,492 francs, being about 947,200 francs less than those of the preceding year. The loans on pledge of bullion produced an interest of about 94,720 francs. The bank has coined, from 1820 to 1828, about 11,846,000 francs. The greatest amount of bank-notes out at any one time was 210,000,000 francs. The amount of bullion and coin in the coffers of the bank, at the same time, was 210,000,000 francs. The number of shares was 69,000, on each of which 1000 francs were originally paid into the bank, and a half per cent. dividend was paid in 1825. The bullion and coin in the market was 1810 francs. The number of shareholders, Jan. 1, 1827, was 3536. The reserved profits were, in 1828, 8,480,598.—Of the other banks of Europe, that of Genoa was formerly one of the most important. Among the principal banks of the present time, are the following: those of Alton, Berlin, Copenhagen, Madrid,
BANK.


Bank of the United States of America. The old bank of the United States was incorporated by an act of congress, approved February, 1791. By the limitations of the charter, it was to expire on the 4th of March, 1801, unless renewed by the legislatures of the states of Pennsylvania, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and the state of the United States in Europe. At the time of its establishment, there were banks of deposit in France, and Sweden, was a bank of deposit, discount, and circulation, with a capital of 10,000,000 dollars. Those European writers, both British and French, who have eulogized this institution as being purely commercial, and distinguished from those of England and France by its connection with the government, or an engine of finance, cannot have read the charter, the preamble to which begins thus:—

"Whereas the establishment of a bank will be very conducive to the conducting of the national finances, will tend to give facility to the obtaining of loans for the use of the government in sudden emergencies, and will be productive of considerable advantages to trade and industry in general," &c. Instead of being a merely commercial establishment, therefore, it was, essentially and mainly, of a financial and political character, and it was on this ground that its constitution was adopted; the right of congress to grant such a charter being claimed mostly upon the strength of that clause of the constitution, which gives to congress the power necessary for carrying into execution the powers enumerated, and expressly vested in that body. The origin of this establishment was, therefore, similar to that of the bank of England, and the resemblance is not limited to the general purposes of its institution, for, as the bank of England originated in a loan to the British government, so the act by which the old bank of the United States was chartered, provided that the sums subscribed and contributed by the corporation should be "payable, one-fourth in gold and silver, and three-fourths in the public debt" certificates. The president of the United States was authorized to subscribe for two millions of the stock in behalf of the United States. The directors, being twenty-five, were chosen by the stockholders, without any interference, on the part of the government, in the election; but the government reserved the right of inspecting the affairs of the bank, and, for this purpose, the secretary of the treasury was authorized to demand of the president and directors a statement of its concerns as often and in such manner as he might require. The corporation was authorized to establish branches in any part of the United States. The only restriction, as to circulation, was, that the amount of debts due from the corporation, by bond, bill, note, or otherwise, besides the debts due for deposits, should never exceed 10,000,000 dollars; and, in case of excess, the directors, by whose agency such debt should be incurred, were made personally answerable. This bank went into operation, and had a most powerful agency in establishing the credit of the government, facilitating its financial operations, and promoting the interests of industry and commerce. Congress having refused to renew the charter, it expired, by its own limitation, in 1811. But, during the war which ensued, the want of a national bank was severely felt, not only as an agent for collecting the revenues, but more especially for transmitting funds from one part of the country to another; and then it might have been a useful auxiliary to the public credit, by supplying temporary means in cases of emergency. So thoroughly convinced were the public of the necessity of such an institution, that the members of the same political party from which the constitutional objections had been made to the old bank, and who hesitated in its charter, passed an act of congress, which was approved by the president, April 10, 1816, chartering the present bank of the United States, with a capital of 35,000,000 dollars, upon principles, and with provisions, very similar to those contained in the former charter. For this charter the government demanded and received a bonus of 1,500,000 dollars from the stockholders. The government became the stockholder for 500,000 dollars, one fifth, or 7,000,000 dollars of the stock. The direction of the institution was left to the stockholders, as in the old bank, except that the government reserved the right of appointment and removal at pleasure, by the president, of five directors, one being elected by the stockholders. The government also reserved the right to demand a statement of the concerns of the institution by committees of either branch of the legislature. One quarter of the subscriptions to the stock were payable either in gold or silver, or United States stock, at the option of subscribers. The seven millions to be subscribed by the government was payable either in gold and silver, or public stock at an interest of five per cent., at the option of the government. The transactions of the corporation were limited to making loans and discounts, and trading in the circulating medium of goods or proceeds of such lands as should be pledged. Branches may be established in any parts of the United States or their territories. No other similar corporations are to be chartered by the government, except banks in the district of Columbia, with a capital, in the whole, not exceeding 6,000,000 dollars, during the period for which the charter was granted, namely, to the 3d of March, 1836. The bank is prohibited from purchasing any part of the public debt, taking interest over six per cent., or loaning to the government over 500,000 dollars, or to any state over 60,000 dollars, or to any stockholder of the institution are in no case to exceed the amount of deposits by more than 35,000,000 dollars. And, in case of refusing payment of its notes or deposits in specie, the bank is made liable to pay interest at the rate of twelve per cent. per annum. The bank is also obliged, by its charter, to give the government the necessary facilities for transferring the public funds from place to place within the United States, without charging commissions, or claiming any allowance on account of the difference of exchange, and to transact all the business of commissioners of the public debt. To the amount of 500,000 dollars required six to ten per cent. prohibited from issuing bills under the denomination of five dollars.

It is an object proposed by the charter, as appears from some of the provisions already noticed, to make the institution independent of the fortunes, and place it beyond the exigencies of the government, by limiting the amount of loans that may be made to the government, and prohibiting the purchase of the public debt. It is not in the power of congress to exonerate the bank from the liability to pay, in specie, its deposits made, or notes put into circulation, previously to the passing of any act for that purpose; so that the depositors and holders of its notes are entirely secure from any interposition of the government between themselves and the bank, in violation of the contract held by them. The institution is thus essentially commercial in its character, being directly auxiliary to the government, and subject to the control of the government, but it has an important influence upon the industry and commerce of the country, and the credit of the government; and has been of immense utility in the management of its finances. But its greatest and most important influence has been the operation of the currency to a sound state; for, at the time of its going into operation, many of the state
banks had an immense amount of irredeemable paper in circulation, purporting, it is true, to be payable to the bearer, in specie, on presentation for that purpose, but which was not, in fact, so paid. Immediately on the bank of the United States going into operation, with its various branches in the principal cities of the Union, it was necessary for all the other banks, within the circle of its operations, to resume specie payments, or discontinue their operations. Those which had not resources to resume specie payments necessarily stopped; and the consequence of the influence of this institution is, a complete revolution in Charleston, Savannah, and other places of equal importance. In fine, whether we consider the extent of the capital of the institution, that of its operations, or its commercial and financial utility and influence, it may justly be considered the second institution of the kind in the world, ranking, in all these respects, next after that of England. The stock was made the subject of speculation soon after its establishment, and rose, at one time, to the enormous advance of 50 per cent. upon the original subscription; but the great losses incurred by some of the branches, especially those of the new states, and other causes, subsequently brought the stock down to a price equivalent to only 37,812; the amount deposited, $12,387,606; of the depositors, 187,770 deposited under twenty pounds, and 102,621 under fifty pounds. In Wales, there are twenty-five institutions of this kind, with 10,924 depositors, and an amount invested of $100,500. In Ireland, there are eighty-three, returns from sixty-two of which give 34,201 depositors, and an amount invested of $306,505. (See Pratt’s History of Savings Banks.)

The first savings bank in America was opened in Philadelphia, in November, 1816. In Boston, an institution was incorporated in December of the same year; but its action did not begin until February following. Since that time, these societies have become quite numerous, and, with hardly an exception, have been exceedingly prosperous. That of New York has the largest funds in magnitude; that of the institution at Boston; then those of Philadelphia, Baltimore, Salem, New Bedford. Perhaps the number may amount to forty or fifty; for most of the northern maritime cities, and the larger manufacturing towns, afford strong encouragement to such projects. In Boston, the number of depositors exceeds ten thousand, and the amount of funds cannot be short of a million and a half of dollars.

Bankrupt is derived, generally, from bancus, a bench, and ruptus, broken; in allusion to the benches formerly used by the money-lenders in Italy, which were broken in case of their failure. This word signifies, in its most general sense, an insolvent person, but, more strictly, an insolvent merchant. There is, perhaps, no branch of legislation more difficult, and at the same time more important, than that which defines the relations of debtors and creditors. One of the first objects of all laws, after the protection of the person, is, the enforcement of the obligation of contracts, and, among all the contracts made in a community, those imposing the obligation to pay money constitute the most numerous class. Some of the first questions in legislation arising with measures shall the obligation be enforced? and by what penalties shall the breach of it be punished? In many communities, especially in the earlier stages of civilization, the breach of such a contract or obligation is regarded as a crime, and the insolvent debtor treated as a criminal. The ancient laws upon this subject, in England, regard the insolvent trader in this light. The early laws of the Romans and Athenians authorized the most rigorous measures for procuring satisfaction of a debt, even permitting the sale of the debtor into slavery for this purpose. And the Britons and Saxons are said to sell, not only the debtor, but also his family, for the benefit of the creditor. But as civilization advances, the laws put a more mild construction upon the debtor’s failure to fulfill his contract, and, with certain qualifications, and under certain restrictions, attribute it to misfortune, and, on that account, prescribe certain penalties, and discharge him from all further liability. Both by the French code and the English statutes, the persons capable of becoming bankrupts are such as fall under the general description of merchants: the French code describes them as commerçants; the English statutes, as merchants, &c. 2, embodying the previous acts and judicial decisions on this subject, enumerates particularly the descriptions of persons who are to be considered mer-
BANKRUPT.

Bankrupt, and capable of becoming bankrupts; and the statute of 33 Geo. III., relating to bankrupts in Scotland, describes a person capable of becoming such to be one who, "either for himself, or as agent for others, seeks his living by buying and selling, or by the workmanship of goods or commodities."

By the French mercantile law, a bankrupt may be declared within three days after stopping payment, give notice of it to the tribunal of commerce, which, even if the notice is not given immediately, proceeds, at the request of the creditors, or by virtue of its own authority without any petition, or on motion of the king's procureurs to whom the debtor's trade, house, effects, books, and papers under seal, also to appoint a commissioner from its own body, and several sworn agents, who give security for the faithful discharge of their trust, and to put the bankrupt in prison or under arrest and surveillance, from which, however, after an investigation of his affairs, he may be released, either unconditionally, or on giving bail. From the day of his failure, the bankrupt is divested of all his interest and title in his property, and, during the ten days preceding, no one can acquire any right in it, by purchase or donation; and any grant made to him during that time is void, and any transfer made for consideration may be annulled, if attended with circumstances indicating fraud. And all acts done or contracts made by him, in fraud of his creditors, are void. An advertisement of the bankruptcy must be posted up in public places, and inserted in the gazette. The agents above-mentioned continue to manage the affairs of the bankrupt only fourteen days, or until the appointment of the provisional syndics (trustees). The commissioner, within three days after the bankrupt's leger has been put into his hands, causes a catalogue of the creditors, and convenes them by means of letters and the public papers. The creditors assemble at the fixed time and place, in the presence of the commissioner, to whom they deliver a list containing three times as many names, as, in their opinion, there should be persons appointed provisional trustees (syndics provisoires) of the property. From this list the requisite number is appointed by the tribunal of commerce. Within twenty-four hours after the appointment of trustees, the functions of the agents cease, and they render their account to the trustees, who, under the superintendence of the commissioner, manage all the affairs of the bankrupt. They immediately remove the seals, and take an inventory of the bankrupt's effects, in the presence of a justice of the peace, with the aid of the bankrupt. Within eight days from entering upon office, they render to the king's procureur a report of the state of the bankrupt's affairs, and take charge of, and administer upon, his estate. The monies received are placed in a chest with a double lock, of which the oldest trustee has one key, and the other is given to a creditor selected by the commissioner. Every week the commissioner is furnished with the cash account of the trustees, and may, upon their suggestion and that of the creditors, if he thinks it advisable, put the money already received at interest. It is the duty of the trustees to call in the debts of the bankrupt, and to have every object made to be rendered, if he has not had it done himself; likewise to summon, without delay, all the creditors, by letter or the public papers, to appear before them within forty days, personally or by attorney, to prove their claims, present their vouchers, or deposit them with the trustees. The examination of claims, if not made within fourteen days after the expiration of the forty days, and every creditor, whose claims have been allowed, is at liberty to be present at the dis-