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LOVE'S MEINIE.

Edgar A. Mearns

LECTURES

ON

GREEK AND ENGLISH BIRDS.

GIVEN BEFORE THE UNIVERSITY OF OXFORD.

BY

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ADVICE.

I PUBLISH these lectures at present roughly, in the form in which they were delivered,—(necessarily more brief and broken than that which may be permitted when time is not limited,)—because I know that some of their hearers wished to obtain them for immediate reference. Ultimately, I hope, they will be completed in an illustrated volume, containing at least six lectures, on the Robin, the Swallow, the Chough, the Lark, the Swan, and the Sea-gull. But months pass by me now, like days; and my work remains only in design. I think it better, therefore, to let the lectures appear separately, with provisional wood-cuts, afterwards to be bettered, or replaced by more finished engravings. The illustrated volume, if ever finished, will cost a guinea; but these separate lectures a shilling, or, if long, one shilling and sixpence each. The guinea's worth will, perhaps, be the cheaper book in the end; but I shall be glad if some of my hearers felt interest enough in the subject to prevent their waiting for it.

The modern vulgarization of the word “advertisement” renders, I think, the use of ‘advice’ as above, in the sense of the French ‘avis’ (passing into our old English verb ‘advise’) on the whole, preferable.

BRANTWOOD,

June, 1873.

LOVE'S MEINIE.

“Il etoit tout couvert d’oisiaux.”

ROMANCE OF THE ROSE.

LECTURE I.

THE ROBIN.

1. AMONG the more splendid pictures in the Exhibition of the Old Masters, this year, you cannot but remember the Vandyke portraits of the two sons of the Duke of Lennox. I think you cannot but remember it, because it would be difficult to find, even among the works of Vandyke, a more striking representation of the youth of our English noblesse; nor one in which the painter had more exerted himself, or with better success, in rendering the decorous pride and natural grace of honourable aristocracy.

Vandyke is, however, inferior to Titian and Velasquez, in that his effort to show this noblesse of air and persons may always be detected; also the aristocracy of Vandyke's day were already so far fearful of their own position as to feel anxiety that it should be immediately recognized. And the effect of the painter's conscious defer-

ence, and of the equally conscious pride of the boys, as they stood to be painted, has been somewhat to shorten the power of the one, and to abase the dignity of the other. And thus, in the midst of my admiration of the youths' beautiful faces, and natural quality of majesty, set off by all splendours of dress and courtesies of art, I could not forbear questioning with myself what the true value was, in the scales of creation, of these fair human beings who set so high a value on themselves; and,—as if the only answer,—the words kept repeating themselves in my ear, “Ye are of more value than many sparrows.”

2. *Passeres, στρουθοι*,—the things that open their wings, and are not otherwise noticeable; small birds of the land and wood; the food of the serpent, of man, or of the stronger creatures of their own kind,—that even these, though among the simplest and obscurest of beings, have yet price in the eyes of their Maker, and that the death of one of them cannot take place but by His permission, has long been the subject of declamation in our pulpits, and the ground of much sentiment in nursery education. But the declamation is so aimless, and the sentiment so hollow, that, practically, the chief interest of the leisure of mankind has been found in the destruction of the creatures which they professed to believe even the Most High would not see perish without pity; and, in recent days, it is fast becoming the only definition of aristocracy, that the principal business of its life is the killing of sparrows.

Sparrows, or pigeons, or partridges, what does it mat-

ter? "Centum mille perdrices plumbo confecit;" * that is, indeed, too often the sum of the life of an English lord; much questionable now, if *indeed* of more value than that of many sparrows.

3. Is it not a strange fact, that, interested in nothing so much for the last two hundred years, as in his horses, he yet left it to the farmers of Scotland to relieve draught horses from the bearing-rein; † is it not one equally strange that, master of the forests of England for a thousand years, and of its libraries for three hundred, he left the natural history of birds to be written by a card-printer's lad of Newcastle? Written, and not written, for indeed we have no natural history of birds written yet. It cannot be written but by a scholar and a gentleman; and no English gentleman in recent times has ever thought of birds except as flying targets, or flavoured dishes. The only piece of natural history worth the name in the English language, that I know of, is in the few lines of Milton on the Creation. The only example of a proper manner of contribution to natural history is in White's Letters from Selborne. You know I have always spoken of Bewick as pre-eminently a vulgar or boorish person, though of splendid honour and genius; his vulgarity shows in nothing so much as in the poverty of the details he has collected, with the best intentions, and the shrewdest

* The epitaph on Count Zachdarm, in "Sartor Resartus."

† Sir Arthur Helps. "Animals and their Masters," p. 67.

sense, for English ornithology. His imagination is not cultivated enough to enable him to choose, or arrange.

4. Nor can much more be said for the observations of modern science. It is vulgar in a far worse way, by its arrogance and materialism. In general, the scientific natural history of a bird consists of four articles,—first, the name and estate of the gentleman whose gamekeeper shot the last that was seen in England; secondly, two or three stories of doubtful origin, printed in every book on the subject of birds for the last fifty years; thirdly, an account of the feathers, from the comb to the rump, with enumeration of the colours which are never more to be seen on the living bird by English eyes; and, lastly, a discussion of the reasons why none of the twelve names which former naturalists have given to the bird are of any further use, and why the present author has given it a thirteenth, which is to be universally, and to the end of time, accepted.

5. You may fancy this is caricature; but the abyss of confusion produced by modern science in nomenclature, and the utter void of the abyss when you plunge into it after any one useful fact, surpass all caricature. I have in my hand thirteen plates of thirteen species of eagles; eagles all, or hawks all, or falcons all—whichever name you choose for the great race of the hook-headed birds of prey—some so like that you can't tell the one from the other, at the distance at which I show them to you, all absolutely alike in their eagle or falcon character, having,

every one, the falx for its beak, and every one, flesh for its prey. Do you suppose the unhappy student is to be allowed to call them all eagles, or all falcons, to begin with, as would be the first condition of a wise nomenclature, establishing resemblance by specific name, before marking variation by individual name? No such luck. I hold you up the plates of the thirteen birds one by one, and read you their names off the back:—

The first	is an <i>Aquila</i> .
The second,	a <i>Haliaetus</i> .
The third,	a <i>Milvus</i> .
The fourth,	a <i>Pandion</i> .
The fifth,	an <i>Astur</i> .
The sixth,	a <i>Falco</i> .
The seventh,	a <i>Pernis</i> .
The eighth,	a <i>Circus</i> .
The ninth,	a <i>Buteo</i> .
The tenth,	an <i>Archibuteo</i> .
The eleventh,	an <i>Accipiter</i> .
The twelfth,	an <i>Erythropus</i> .
And the thirteenth, a <i>Tinnunculus</i> .	

There's a nice little lesson to entertain a parish school-boy with, beginning his natural history of birds!

6. There are not so many varieties of robin as of hawk, but the scientific classifiers are not to be beaten. If they cannot find a number of similar birds to give different names to, they will give two names to the same one. Here are two pictures of your own redbreast, out of the

two best modern works on ornithology. In one, it is called "*Motacilla rubecula*;" in the other, "*Rubecula familiaris*."

7. It is indeed one of the most serious, as one of the most absurd, weaknesses, of modern naturalists to imagine that *any* presently invented nomenclature can stand, even were it adopted by the consent of nations, instead of the conceit of individuals. It will take fifty years' digestion before the recently ascertained elements of natural science can permit the arrangement of species in any permanently (even over a limited period) nameable order; nor then, unless a great man is born to perceive and exhibit such order. In the meantime, the simplest and most descriptive nomenclature is the best. Every one of these birds, for instance, might be called *falco* in Latin, hawk in English, some word being added to distinguish the genus, which should describe its principal aspect or habit. *Falco montium*, Mountain Hawk; *Falco silvarum*, Wood Hawk; *Falco procellarum*, Sea Hawk; and the like. Then, one descriptive epithet would mark species. *Falco montium, aureus*, Golden Eagle; *Falco silvarum, apivorus*, Honey Buzzard; and so on; and the naturalists of Vienna, Paris, and London should confirm the names of known creatures, in conclave, once every half century, and let them so stand for the next fifty years.

8. In the meantime, you yourselves, or, to speak more generally, the young rising scholars of England,—all of you who care for life as well as literature, and for

spirit,—even the poor souls of birds,—as well as lettering of their classes in books,—you, with all care, should cherish the old Saxon-English and Norman-French names of birds, and ascertain them with the most affectionate research—never despising even the rudest or most provincial forms: all of them will, some day or other, give you clue to historical points of interest. Take, for example, the common English name of this low-flying falcon, the most tameable and affectionate of his tribe, and therefore, I suppose, fastest vanishing from field and wood, the buzzard. That name comes from the Latin “buteo,” still retained by the ornithologists; but, in its original form, valueless, to you. But when you get it comfortably corrupted into Provençal “Busac,” (whence gradually the French busard, and our buzzard,) you get from it the delightful compound “busacador,” “adorer of buzzards”—meaning, generally, a sporting person; and then you have Dante’s Bertrand de Born, the first troubadour of war, bearing witness to you how the love of mere hunting and falconry was already, in his day, degrading the military classes, and, so far from being a necessary adjunct of the noble disposition of lover or soldier, was, even to contempt, showing itself separate from both.

“Le ric home, cassador,
 M’enneion, e’l buzacador.
 Parlan de volada, d’austor,
 Ne jamais d’armas, ni d’amor.”

The rich man, the chaser,
Tires me to death ; and the adorer of buzzards.
They talk of covey and hawk,
And never of arms, nor of love.

“Cassador,” of course, afterwards becomes “chasseur,” and “austor” “vautour.” But after you have read this, and familiarized your ear with the old word, how differently Milton’s phrase will ring to you,—“Those who thought no better of the Living God than of a buzzard idol,”—and how literal it becomes, when we think of the actual difference between a member of Parliament in Milton’s time, and the Busacador of to-day ;—and all this freshness and value in the reading, observe, come of your keeping the word which great men have used for the bird, instead of letting the anatomists blunder out a new one from their Latin dictionaries.

9. There are not so many nameable varieties, I just now said, of robin as of falcon ; but this is somewhat inaccurately stated. Those thirteen birds represented a very large proportion of the entire group of the birds of prey, which in my sevenfold classification I recommended you to call universally, “hawks.” The robin is only one of the far greater multitude of small birds which live almost indiscriminately on grain or insects, and which I recommended you to call generally “sparrows ;” but of the robin itself, there are two important European varieties—one red-breasted, and the other blue-breasted.

10. You probably, some of you, never heard of the blue-breast; very few, certainly, have seen one alive, and, if alive, certainly not wild in England.

Here is a picture of it, daintily done,* and you can see the pretty blue shield on its breast, perhaps, at this distance. Vain shield, if ever the fair little thing is wretched enough to set foot on English ground! I find the last that was seen was shot at Margate so long ago as 1842,—and there seems to be no official record of any visit before that, since Mr. Thomas Embledon shot one on Newcastle town moor in 1816. But this rarity of visit to us is strange; other birds have no such clear objection to being shot, and really seem to come to England expressly for the purpose. And yet this blue-bird—(one can't say "blue robin"—I think we shall have to call him "bluet," like the cornflower)—stays in Sweden, where it sings so sweetly that it is called "a hundred tongues."

11. That, then, is the utmost which the lords of land, and masters of science, do for us in their watch upon our feathered suppliants. One kills them, the other writes classifying epitaphs.

We have next to ask what the poets, painters, and monks have done.

The poets—among whom I affectionately and reverently class the sweet singers of the nursery, mothers and

* Mr. Gould's, in his "Birds of Great Britain."

nurses—have done much ; very nearly all that I care for your thinking of. The painters and monks, the one being so greatly under the influence of the other, we may for the present class together ; and may almost sum their contributions to ornithology in saying that they have plucked the wings from birds, to make angels of men, and the claws from birds, to make devils of men.

If you were to take away from religious art these two great helps of its—I must say, on the whole, very feeble—imagination ; if you were to take from it, I say, the power of putting wings on shoulders, and claws on fingers and toes, how wonderfully the sphere of its angelic and diabolic characters would be contracted ! Reduced only to the sources of expression in face or movements, you might still find in good early sculpture very sufficient devils ; but the best angels would resolve themselves, I think, into little more than, and not often into so much as, the likenesses of pretty women, with that grave and (I do not say it ironically) majestic expression which they put on, when, being very fond of their husbands and children, they seriously think either the one or the other have misbehaved themselves.

12. And it is not a little discouraging for me, and may well make you doubtful of my right judgment in this endeavour to lead you into closer attention to the bird, with its wings and claws still in its own possession ;—it is discouraging, I say, to observe that the beginning of such more faithful and accurate observation in former art, is

exactly coeval with the commencement of its decline. The feverish and ungraceful natural history of Paul, called, "of the birds," Paolo degli Uccelli, produced, indeed, no harmful result on the minds of his contemporaries; they watched in him, with only contemptuous admiration, the fantasy of zoological instinct which filled his house with painted dogs, cats, and birds, because he was too poor to fill it with real ones. Their judgment of this morbidly naturalistic art was conclusively expressed by the sentence of Donatello, when going one morning into the Old Market, to buy fruit, and finding the animal painter uncovering a picture, which had cost him months of care, (curiously symbolic in its subject, the infidelity of St. Thomas, of the investigatory fingering of the natural historian,) "Paul, my friend," said Donatello, "thou art uncovering the picture just when thou shouldst be shutting it up."

13. No harm, therefore, I repeat, but, on the contrary, some wholesome stimulus to the fancy of men like Luca and Donatello themselves, came of the grotesque and impertinent zoology of Uccello.

But the fatallest institutor of proud modern anatomical and scientific art, and of all that has polluted the dignity, and darkened the charity, of the greater ages, was Antonio Pollajuolo of Florence. Antonio (that is to say) the Poulterer—so named from the trade of his grandfather, and with just so much of his grandfather's trade left in his own disposition, that being set by Lorenzo

Ghiberti to complete one of the ornamental festoons of the gates of the Florentine Baptistery, there, (says Vasari) "Antonio produced a quail, which may still be seen, and is so beautiful, nay, so perfect, that it wants nothing but the power of flight."

14. Here, the morbid tendency was as attractive as it was subtle. Ghiberti himself fell under the influence of it; allowed the borders of his gates, with their fluttering birds and bossy fruits, to dispute the spectators' favour with the religious subjects they enclosed; and, from that day forward, minuteness and muscularity were, with curious harmony of evil, delighted in together; and the lancet and the microscope, in the hands of fools, were supposed to be complete substitutes for imagination in the souls of wise men: so that even the best artists are gradually compelled, or beguiled, into compliance with the curiosity of their day; and Francia, in the city of Bologna, is held to be a "kind of god, more particularly" (again I quote Vasari) "after he had painted a set of caparisons for the Duke of Urbino, on which he depicted a great forest all on fire, and whence there rushes forth an immense number of every kind of animal, with several human figures. This terrific, yet truly beautiful representation, was all the more highly esteemed for the time that had been expended on it in the plumage of the birds, and other minutiae in the delineation of the different animals, and in the diversity of the branches and leaves of the various trees

seen therein;" and thenceforward the catastrophe is direct, to the ornithological museums which Breughel painted for gardens of Eden, and to the still life and dead game of Dutch celebrities.

15. And yet I am going to invite you to-day to examine, down to almost microscopic detail, the aspect of a small bird, and to invite you to do this, as a most expedient and sure step in your study of the greatest art.

But the difference in our motive of examination will entirely alter the result. To paint birds that we may show how minutely we can paint, is among the most contemptible occupations of art. To paint them, that we may show how beautiful they are, is not indeed one of its highest, but quite one of its pleasantest and most useful; it is a skill within the reach of every student of average capacity, and which, so far as acquired, will assuredly both make their hearts kinder, and their lives happier.

Without further preamble, I will ask you to look to-day, more carefully than usual, at your well-known favourite, and to think about him with some precision.

16. And first, Where does he come from? I stated that my lectures were to be on English and Greek birds; but we are apt to fancy the robin all our own. How exclusively, do you suppose, he really belongs to us? You would think this was the first point to be settled in any book about him. I have hunted all my books through,

and can't tell you how much he is our own, or how far he is a traveller.

And, indeed, are not all our ideas obscure about migration itself? You are broadly told that a bird travels, and how wonderful it is that it finds its way; but you are scarcely ever told, or led to think, what it really travels for—whether for food, for warmth, or for seclusion—and how the travelling is connected with its fixed home. Birds have not their town and country houses,—their villas in Italy, and shooting boxes in Scotland. The country in which they build their nests is their proper home,—the country, that is to say, in which they pass the spring and summer. Then they go south in the winter, for food and warmth; but in what lines, and by what stages? The general definition of a migrant in this hemisphere is a bird that goes north to build its nest, and south for the winter; but, then, the one essential point to know about it is the breadth and latitude of the zone it properly inhabits,—that is to say, in which it builds its nest; next, its habit of life, and extent and line of southing in the winter; and, finally, its manner of travelling.

17. Now, here is this entirely familiar bird, the robin. Quite the first thing that strikes me about it, looking at it as a painter, is the small effect it seems to have had on the minds of the southern nations. I trace nothing of it definitely, either in the art or literature of Greece or Italy. I find, even, no definite name for it; you don't know if *Lesbia's* "passer" had a red breast, or a blue, or

a brown. And yet Mr. Gould says it is abundant in all parts of Europe, in all the islands of the Mediterranean, and in Madeira and the Azores. And then he says—(now notice the puzzle of this), —“In many parts of the Continent it is a migrant, and, contrary to what obtains with us, is there treated as a vagrant, for there is scarcely a country across the water in which it is not shot down and eaten.”

“In many parts of the Continent it is a migrant.” In what parts—how far—in what manner?

18. In none of the old natural history books can I find any account of the robin as a traveller, but there is, for once, some sufficient reason for their reticence. He has a curious fancy in his manner of travelling. Of all birds, you would think he was likely to do it in the cheerfullest way, and he does it in the saddest. Do you chance to have read, in the *Life of Charles Dickens*, how fond he was of taking long walks in the night and alone? The robin, en voyage, is the Charles Dickens of birds. He always travels in the night, and alone; rests, in the day, wherever day chances to find him; sings a little, and pretends he hasn't been anywhere. He goes as far, in the winter, as the north-west of Africa; and in Lombardy, arrives from the south early in March; but does not stay long, going on into the Alps, where he prefers wooded and wild districts. So, at least, says my Lombard informant.

I do not find him named in the list of Cretan birds;

but even if often seen, his dim red breast was little likely to make much impression on the Greeks, who knew the flamingo, and had made it, under the name of Phoenix or Phœnicopterus, the centre of their myths of scarlet birds. They broadly embraced the general aspect of the smaller and more obscure species, under the term *ξουθος*, which, as I understand their use of it, exactly implies the indescribable silky brown, the groundwork of all other colour in so many small birds, which is indistinct among green leaves, and absolutely identifies itself with dead ones, or with mossy stems.

19. I think I show it you more accurately in the robin's back than I could in any other bird; its mode of transition into more brilliant colour is, in him, elementarily simple; and although there is nothing, or rather because there is nothing, in his plumage, of interest like that of tropical birds, or even of our own game-birds, I think it will be desirable for you to learn first from the breast of the robin what a feather is. Once knowing that, thoroughly, we can further learn from the swallow what a wing is; from the chough what a beak is; and from the falcon what a claw is.

I must take care, however, in neither of these last two particulars, to do injustice to our little English friend here; and before we come to his feathers, must ask you to look at his bill and his feet.

20. I do not think it is distinctly enough felt by us that the beak of a bird is not only its mouth, but its hand, or

rather its two hands. For, as its arms and hands are turned into wings, all it has to depend upon, in economical and practical life, is its beak. The beak, therefore, is at once its sword, its carpenter's tool-box, and its dressing-case; partly also its musical instrument; all this besides its function of seizing and preparing the food, in which functions alone it has to be a trap, carving-knife, and teeth, all in one.

21. It is this need of the beak's being a mechanical tool which chiefly regulates the form of a bird's face, as opposed to a four-footed animal's. If the question of food were the only one, we might wonder why there were not more four-footed creatures living on seeds than there are; or why those that do—field-mice and the like—have not beaks instead of teeth. But the fact is that a bird's beak is by no means a perfect eating or food-seizing instrument. A squirrel is far more dexterous with a nut than a cockatoo; and a dog manages a bone incomparably better than an eagle. But the beak has to do so much more! Pruning feathers, building nests, and the incessant discipline in military arts, are all to be thought of, as much as feeding.

Soldiership, especially, is a much more imperious necessity among birds than quadrupeds. Neither lions nor wolves habitually use claws or teeth in contest with their own species; but birds, for their partners, their nests, their hunting-grounds, and their personal dignity, are nearly always in contention; their courage is unequalled

by that of any other race of animals capable of comprehending danger; and their pertinacity and endurance have, in all ages, made them an example to the brave, and an amusement to the base, among mankind.

22. Nevertheless, since as sword, as trowel, or as pocket-comb, the beak of the bird has to be pointed, the collection of seeds may be conveniently entrusted to this otherwise penetrative instrument, and such food as can only be obtained by probing crevices, splitting open fissures, or neatly and minutely picking things up, is allotted, pre-eminently, to the bird species.

The food of the robin, as you know, is very miscellaneous. Linnæus says of the Swedish one, that it is "*delectatus euonymi baccis*,"—"delighted with dogwood berries,"—the dogwood growing abundantly in Sweden, as once in Forfarshire, where it grew, though only a bush usually in the south, with trunks a foot or eighteen inches in diameter, and the tree thirty feet high. But the Swedish robin's taste for its berries is to be noted by you, because, first, the dogwood berry is commonly said to be so bitter that it is not eaten by birds (London, "*Arboretum*," ii., 497, 1.); and, secondly, because it is a pretty coincidence that this most familiar of household birds should feed fondly from the tree which gives the housewife her spindle,—the proper name of the dogwood in English, French, and German being alike "*Spindle-tree*." It feeds, however, with us, certainly, most on worms and insects. I am not sure how far the following account of

its mode of dressing its dinners may be depended on : I take it from an old book on Natural History, but find it, more or less, confirmed by others : "It takes a worm by one extremity in its beak, and beats it on the ground till the inner part comes away. Then seizing it in a similar manner by the other end, it entirely cleanses the outer part, which alone it eats."

One's first impression is that this must be a singularly unpleasant operation for the worm, however fastidiously delicate and exemplary in the robin. But I suppose the real meaning is, that as a worm lives by passing earth through its body, the robin merely compels it to quit this—not ill-gotten, indeed, but now quite unnecessary—wealth. We human creatures, who have lived the lives of worms, collecting dust, are served by Death in exactly the same manner.

23. You will find that the robin's beak, then, is a very prettily representative one of general bird power. As a weapon, it is very formidable indeed ; he can kill an adversary of his own kind with one blow of it in the throat ; and is so pugnacious, "*valde pugnax*," says Linnæus, "*ut non una arbor duos capiat erithacos*,"—"no single tree can hold two cock-robins ;" and for precision of seizure, the little flat hook at the end of the upper mandible is one of the most delicately formed points of forceps which you can find among the grain eaters. But I pass to one of his more special perfections.

24. He is very notable in the exquisite silence and pre-

cision of his movements, as opposed to birds who either creak in flying, or waddle in walking. "Always quiet," says Gould, 'for the silkiness, of his plumage renders his movements noiseless, and the rustling of his wings is never heard, any more than his tread on earth, over which he bounds with amazing sprightliness.' You know how much importance I have always given, among the fine arts, to good dancing. If you think of it, you will find one of the robin's very chief ingratiatory faculties is his dainty and delicate movement,—his footing it featly here and there. Whatever prettiness there may be in his red breast, at his brightest he can always be outshone by a brickbat. But if he is rationally proud of anything about him, I should think a robin must be proud of his legs. Hundreds of birds have longer and more imposing ones—but for real neatness, finish, and precision of action, commend me to his fine little ankles, and fine little feet; this long stilted process, as you know, corresponding to our ankle-bone. Commend me, I say, to the robin for use of his ankles—he is, of all birds, the pre-eminent and characteristic Hopper; none other so light, so pert, or so swift.

25. We must not, however, give too much credit to his legs in this matter. A robin's hop is half a flight; he hops, very essentially, with wings and tail, as well as with his feet, and the exquisitely rapid opening and quivering of the tail-feathers certainly give half the force to his leap. It is in this action that he is put among the mota-

cillae, or wagtails; but the ornithologists have no real business to put him among them. The swing of the long tail-feathers in the true wagtail is entirely consequent on its motion, not impulsive of it—the tremulous shake is *after* alighting. But the robin leaps with wing, tail, and foot, all in time, and all helping each other. Leaps, I say; and you check at the word; and ought to check: you look at a bird hopping, and the motion is so much a matter of course, you never think how it is done. But do you think you would find it easy to hop like a robin if you had two—all but wooden—legs, like this?

26. I have looked wholly in vain through all my books on birds, to find some account of the muscles it uses in hopping, and of the part of the toes with which the spring is given. I must leave you to find out that for yourselves; it is a little bit of anatomy which I think it highly desirable for you to know, but which it is not my business to teach you. Only observe, this is the point to be made out. You leap yourselves, with the toe and ball of the foot; but, in that power of leaping, you lose the faculty of grasp; on the contrary, with your hands, you grasp as a bird with its feet. But you cannot hop on your hands. A cat, a leopard, and a monkey, leap or grasp with equal ease; but the action of their paws in leaping is, I imagine, from the fleshy ball of the foot; while in the bird, characteristically γαμψῶνυξ, this fleshy ball is reduced to a boss or series of bosses, and the nails are elongated into sickles or horns; nor does the springing power seem

to depend on the development of the bosses. They are far more developed in an eagle than a robin; but you know how unpardonably and preposterously awkward an eagle is when he hops. When they are most of all developed, the bird walks, runs, and digs well, but leaps badly.

27. I have no time to speak of the various forms of the ankle itself, or of the scales of armour, more apparent than real, by which the foot and ankle are protected. The use of this lecture is not either to describe or to exhibit these varieties to you, but so to awaken your attention to the real points of character, that, when you have a bird's foot to draw, you may do so with intelligence and pleasure, knowing whether you want to express force, grasp, or firm ground pressure, or dexterity and tact in motion. And as the actions of the foot and the hand in man are made by every great painter perfectly expressive of the character of mind, so the expressions of rapacity, cruelty, or force of seizure, in the harpy, the gryphon, and the hooked and clawed evil spirits of early religious art, can only be felt by extreme attention to the original form.

28. And now I return to our main question, for the robin's breast to answer, "What is a feather?" You know something about it already; that it is composed of a quill, with its lateral filaments, terminating generally, more or less, in a point; that these extremities of the quills, lying over each other like the tiles of a house, allow the wind and rain to pass over them with the least possible resistance, and form a protection alike from the

heat and the cold ; which, in structure much resembling the scale-armour assumed by man for very different objects, is, in fact, intermediate, exactly, between the fur of beasts and the scales of fishes ; having the minute division of the one, and the armour-like symmetry and succession of the other.

29. Not merely symmetry, observe, but extreme flatness. Feathers are smoothed down, as a field of corn by wind with rain ; only the swathes laid in beautiful order. They are fur, so structurally placed as to imply, and submit to, the perpetually swift forward motion. In fact, I have no doubt the Darwinian theory on the subject is that the feathers of birds once stuck up all erect, like the bristles of a brush, and have only been blown flat by continual flying.

Nay, we might even sufficiently represent the general manner of conclusion in the Darwinian system by the statement that if you fasten a hair-brush to a mill-wheel, with the handle forward, so as to develop itself into a neck by moving always in the same direction, and within continual hearing of a steam-whistle, after a certain number of revolutions the hair-brush will fall in love with the whistle ; they will marry, lay an egg, and the produce will be a nightingale.

30. Whether, however, a hog's bristle can turn into a feather or not, it is vital that you should know the present difference between them.

The scientific people will tell you that a feather is com-

posed of three parts—the down, the laminæ, and the shaft.

- But the common-sense method of stating the matter is that a feather is composed of two parts, a shaft with lateral filaments. For the greater part of the shaft's length, these filaments are strong and nearly straight, forming, by their attachment, a finely warped sail, like that of a windmill. But towards the root of the feather they suddenly become weak, and confusedly flexible, and form the close down which immediately protects the bird's body.

To show you the typical arrangement of these parts, I choose, as I have said, the robin ; because, both in his power of flying, and in his colour, he is a moderate and balanced

FIG. 1.

(Twice the size of reality.)

bird ;—not turned into nothing but wings, like a swallow, or nothing but neck and tail, like a peacock. And first

for his flying power. There is one of the long feathers of robin's wing, and here (Fig. 1) the analysis of its form.

31. First, in pure outline (A), seen from above, it is very nearly a long oval, but with this peculiarity, that it has, as it were, projecting shoulders at a 1 and a 2. I merely desire you to observe this, in passing, because one usually thinks of the contour as sweeping unbroken from the root to the point. I have not time to-day to enter on any discussion of the reason for it, which will appear when we examine the placing of the wing-feathers for their stroke.

Now, I hope you are getting accustomed to the general method in which I give you the analysis of all forms—leaf, or feather, or shell, or limb. First, the plan; then the profile; then the cross-section.

I take next, the profile of my feather (B, Fig. 1), and find that it is twisted as the sail of a windmill is, but more distinctly, so that you can always see the upper surface of the feather at its root, and the under at its end. Every primary wing-feather, in the fine flyers, is thus twisted; and is best described as a sail striking with the power of a scymitar, but with the flat instead of the edge.

32. Further, you remember that on the edges of the broad side of feathers you find always a series of undulations, irregularly sequent, and lapping over each other like waves on sand. You might at first imagine that this

appearance was owing to a slight ruffling or disorder of the filaments; but it is entirely normal, and, I doubt not, so constructed, in order to ensure a redundancy of material in the plume, so that no accident or pressure from wind may leave a gap anywhere. How this redundancy is obtained you will see in a moment by bending any feather the wrong way. Bend, for instance, this plume, B,

FIG. 2.

A

B

Fig. 2, into the reversed curve, A, Fig. 2; then all the filaments of the plume become perfectly even, and there are no waves at the edge. But let the plume return into its proper form, B, and the tissue being now contracted into a smaller space, the edge waves are formed in it instantly.

Hitherto, I have been speaking only of the filaments arranged for the strength and continuity of the energetic plume; they are entirely different when they are set

together for decoration instead of force. After the feather of the robin's wing, let us examine one from his breast.

33. I said, just now, he might be at once outshone by a brickbat. Indeed, the day before yesterday, sleeping at Lichfield, and seeing, the first thing when I woke in the morning, (for I never put down the blinds of my bedroom windows,) the not uncommon sight in an English country town of an entire house-front of very neat, and very flat, and very red bricks, with very exactly squared square windows in it; and not feeling myself in anywise gratified or improved by the spectacle, I was thinking how in this, as in all other good, the too much destroyed all. The breadth of a robin's breast in brick-red is delicious, but a whole house-front of brick-red as vivid, is alarming. And yet one cannot generalize even that trite moral with any safety—for infinite breadth of green is delightful, however green; and of sea or sky, however blue.

You must note, however, that the robin's charm is greatly helped by the pretty space of grey plumage which separates the red from the brown back, and sets it off to its best advantage. There is no great brilliancy in it, even so relieved; only the finish of it is exquisite.

34. If you separate a single feather, you will find it more like a transparent hollow shell than a feather (so delicately rounded the surface of it),—grey at the root, where the down is,—tinged, and only tinged, with red at the part that overlaps and is visible; so that, when three

or four more feathers have overlapped it again, all together, with their joined red, are just enough to give the colour determined upon, each of them contributing a tinge. There are about thirty of these glowing filaments on each side, (the whole being no larger across than a well-grown currant,) and each of these is itself another exquisite feather, with central quill and lateral webs, whose filaments are not to be counted.

The extremity of these breast plumes parts slightly into two, as you see in the peacock's, and many other such decorative ones. The transition from the entirely leaf-like shape of the active plume, with its oblique point, to the more or less symmetrical dualism of the decorative plume, corresponds with the change from the pointed green leaf to the dual, or heart-shaped, petal of many flowers. I shall return to this part of our subject, having given you, I believe, enough of detail for the present.

35. I have said nothing to-day of the mythology of the bird, though I told you that would always be, for us, the most important part of its natural history. But I am obliged, sometimes, to take what we immediately want, rather than what, ultimately, we shall need chiefly. In the second place, you probably, most of you, know more of the mythology of the robin than I do, for the stories about it are all northern, and I know scarcely any myths but the Italian and Greek. You will find under the name "Robin," in Miss Yonge's exhaustive and admirable "History of Christian Names," the various titles of hon-

our and endearment connected with him, and with the general idea of redness,—from the bishop called “Bright Red Fame,” who founded the first great Christian church on the Rhine, (I am afraid of your thinking I mean a pun, in connection with robins, if I tell you the locality of it,) down through the Hoods, and Roys, and Grays, to Robin Goodfellow, and Spenser’s “Hobbinol,” and our modern “Hob,”—joining on to the “goblin,” which comes from the old Greek *Κόβαλος*. But I cannot let you go without asking you to compare the English and French feeling about small birds, in Chaucer’s time, with our own on the same subject. I say English and French, because the original French of the Romance of the Rose shows more affection for birds than even Chaucer’s translation, passionate as he is, always, in love for any one of his little winged brothers or sisters. Look, however, either in the French or English, at the description of the coming of the God of Love, leading his carol-dance, in the garden of the Rose.

His dress is embroidered with figures of flowers and of beasts ; but about him fly the *living* birds. The French is :

Il etoit tout couvert d’oisiaux
 De rossignols et de papegaux
 De calendre, et de mesangel.
 Il sembloit que ce fut une angle
 Qui fuz tout droit venuz du ciel

36. There are several points of philology in this transitional French, and in Chaucer’s translation, which it is

well worth your patience to observe. The monkish Latin "angelus," you see, is passing through the very unpoetical form "angle," into "ange;" but, in order to get a rhyme with it in that angular form, the French troubadour expands the bird's name, "mesange," quite arbitrarily, into "mesangel." Then Chaucer, not liking the "mes" at the beginning of the word, changes that unscrupulously into "arch;" and gathers in, though too shortly, a lovely bit from another place about the nightingales flying so close round Love's head that they strike some of the leaves off his crown of roses; so that the English runs thus:

But nightingales, a full great rout
That flien over his head about,
The leaves felden as they flien
And he was all with birds wrien,
With popinjay, with nightingale,
With chelaundre, and with wodewale,
With finch, with lark, and with archangel.
He seemed as he were an angell,
That down were comen from Heaven clear.

Now, when I first read this bit of Chaucer, without referring to the original, I was greatly delighted to find that there was a bird in his time called an archangel, and set to work, with brightly hopeful industry, to find out what it was. I was a little discomfited by finding that in old botany the word only meant "dead-nettle," but was still sanguine about my bird, till I found the French form descend, as you have seen, into a mesangel, and finally into mesange, which is a provincialism from *μειον*

and means, the smallest of birds—or, specially here,—a titmouse. I have seldom had a less expected or more ignominious fall from the clouds.

37. The other birds, named here and in the previous description of the garden, are introduced, as far as I can judge, nearly at random, and with no precision of imagination like that of Aristophanes; but with a sweet childish delight in crowding as many birds as possible into the smallest space. The popinjay is always prominent; and I want some of you to help me (for I have not time at present for the chase) in hunting the parrot down on his first appearance in Europe. Just at this particular time he contested favour even with the falcon; and I think it a piece of good fortune that I chanced to draw for you, thinking only of its brilliant colour, the popinjay, which Carpaccio allows to be present on the grave occasion of St. George's baptizing the princess and her father.

38. And, indeed, as soon as the Christian poets begin to speak of the singing of the birds, they show themselves in quite a different mood from any that ever occurs to a Greek. Aristophanes, with infinitely more skill, describes, and partly imitates, the singing of the nightingale; but simply as beautiful sound. It "fills the thickets with honey;" and if in the often-quoted—just because it is *not* characteristic of Greek literature—passage of the Coloneus, a deeper sentiment is shown, that feeling is dependent on association of the bird-voices with deeply pathetic circumstances. But this troubadour

finds his heart in heaven by the power of the singing only :—

Trop parfoisaient beau service
Ciz oiselles que je vous devise.
Il chantaient un chant ytel
Com fussent angle esperitel.

We want a moment more of word-chasing to enjoy this. “Oiseau,” as you know, comes from “avis ;” but it had at this time got “oisel” for its singular number, of which the terminating “sel” confused itself with the “selle,” from “ancilla” in domisella and demoiselle ; and the feminine form “oiselle” thus snatched for itself some of the delightfulness belonging to the title of a young lady. Then note that “esperitel” does not here mean merely spiritual, (because all angels are spiritual,) but an “angle esperitel” is an angel of the air. So that, in English, we could only express the meaning in some such fashion as this :—

They perfected all their service of Love,
These maiden birds that I tell you of.
They sang such a song, so finished-fair,
As if they were angels, born of the air.

39. Such were the fancies, then, and the scenes, in which Englishmen took delight in Chaucer's time. England was then a simple country ; we boasted, for the best kind of riches, our birds and trees, and our wives and children. We have now grown to be a rich one ; and our first pleasure is in shooting our birds ; but it has become too expensive for us to keep our trees. Lord Derby,

whose crest is the eagle and child—you will find the northern name for it, the bird and bantling, made classical by Scott—is the first to propose that wood-birds should have no more nests. We must cut down all our trees, he says, that we may effectively use the steam-plough; and the effect of the steam-plough, I find by a recent article in the “Cornhill Magazine,” is that an English labourer must not any more have a nest, nor bantlings, neither; but may only expect to get on prosperously in life, if he be perfectly skilful, sober, and honest, and dispenses, at least until he is forty-five, with the “luxury of marriage.”

40. Gentlemen, you may perhaps have heard me blamed for making no effort here to teach in the artizans' schools. But I can only say that, since the future life of the English labourer or artizan (summing the benefits to him of recent philosophy and economy) is to be passed in a country without angels and without birds, without prayers and without songs, without trees and without flowers, in a state of exemplary sobriety, and (extending the Catholic celibacy of the clergy into celibacy of the laity) in a state of dispensation with the luxury of marriage, I do not believe he will derive either profit or entertainment from lectures on the Fine Arts.

LECTURE II.

THE SWALLOW.

41. WE are to-day to take note of the form of a creature which gives us a singular example of the unity of what artists call beauty, with the fineness of mechanical structure, often mistaken for it. You cannot but have noticed how little, during the years of my past professorship, I have introduced any questions as to the nature of beauty. I avoided them, partly because they are treated of at length in my books ; and partly because they are, in the last degree, unpractical. We are born to like or dislike certain aspects of things ; nor could I, by any arguments, alter the defined tastes which you received at your birth, and which the surrounding circumstances of life have enforced, without any possibility of your voluntary resistance to them. And the result of those surrounding circumstances, to-day, is that most English youths would have more pleasure in looking at a locomotive than at a swallow ; and that many English philosophers would suppose the pleasure so received to be through a new sense of beauty. But the meaning of the word "beauty" in the fine arts, and in classical literature, is properly restricted to those very qualities in which

the locomotion of a swallow differs from that of an engine.

42. Not only from that of an engine; but also from that of animals in whose members the mechanism is so complex as to give them a resemblance to engines. The dart of the common house-fly, for instance, in full strength, is a more wonderful movement than that of a swallow. The mechanism of it is not only more minute, but the swiftness of the action so much greater, that the vibration of the wing is invisible. But though a school-boy might prefer the locomotive to the swallow, he would not carry his admiration of finely mechanical velocity into unqualified sympathy with the workmanship of the God of Ekron; and would generally suppose that flies were made only to be food for the more graceful fly-catcher,—whose finer grace you will discover, upon reflection, to be owing to the very moderation and simplicity of its structure, and to the subduing of that infinitude of joints, claws, tissues, veins, and fibres which inconceivably vibrate in the microscopic * creature's motion, to a quite intelligible and simple balance of rounded body upon edged plume, maintained not without visible, and sometimes fatigued, exertion, and raising the lower creature into fellowship with the volition and the virtue of humanity.

* I call it so because the members and action of it cannot be seen with the unaided eye.

43. With the virtue, I say, in an exceedingly qualified sense ; meaning rather the strength and art displayed in overcoming difficulties, than any distinct morality of disposition. The bird has kindly and homely qualities ; but its principal "virtue," for *us*, is its being an incarnate voracity, and that it moves as a consuming and cleansing power. You sometimes hear it said of a humane person that he would not kill a fly : from 700 to 1000 flies a day are a moderate allowance for a baby swallow.

44. Perhaps, as I say this, it may occur to some of you to think, for the first time, of the reason of the bird's name. For it is very interesting, as a piece of language study, to consider the different power on our minds,—nay the different sweetness to the ear,—which, from association, these same two syllables receive, when we read them as a noun, or as a verb. Also, the word is a curious instance of the traps which are continually open for rash etymologists. At first, nothing would appear more natural than that the name should have been given to the bird from its reckless function of devouring. But if you look to your Johnson, you will find, to your better satisfaction, that the name means "bird of porticos," or porches, from the Gothic "swale ;" "subdivale,"—so that it goes back in thought as far as Virgil's, "*Et nunc porticibus vacuis, nunc humida circum, stagna sonat.*" Notice, in passing, how a simile of Virgil's, or any other great master's, will probably tell in two or more ways at once. Juturna is compared to the swallow, not merely as

winding and turning swiftly in her chariot, but as being a water-nymph by birth,—“*Stagnis quae, fluminibusque sonoris, praesidet.*” How many different creatures in one the swallow is by birth, as a Virgilian simile is many thoughts in one, it would take many more lectures than one to show you clearly; but I will indicate them with such rough sketch as is possible.

45. It belongs, as most of you know, to a family of birds called *Fissi-rostres*, or, literally, split-beaks. Split heads would be a better term, for it is the enormous width of mouth and power of gaping which the epithet is meant to express. A dull sermon, for instance, makes half the congregation “*fissi-rostres.*” The bird, however, is most vigilant when its mouth is widest, for it opens as a net to catch whatever comes in its way,—hence the French, giving the whole family the more literal name, “Gobble-fly”—*Gobe-mouche*, extend the term to the open-mouthed and too acceptant appearance of a simpleton.

46. Partly in order to provide for this width of mouth, but more for the advantage in flight, the head of the swallow is rounded into a bullet shape, and sunk down on the shoulders, with no neck whatever between, so as to give nearly the aspect of a conical rifle bullet to the entire front of the body; and, indeed, the bird moves more like a bullet than an arrow—dependent on a certain impetus of weight rather than on sharp penetration of the air. I say dependent on, but I have not yet been able to trace

distinct relation between the shapes of birds and their powers of flight. I suppose the form of the body is first determined by the general habits and food, and that nature can make any form she chooses volatile ; only one point I think is always notable, that a complete master of the art of flight must be short-necked, so that he turns altogether, if he turns at all. You don't expect a swallow to look round a corner before he goes round it ; he must take his chance. The main point is, that he may be able to stop himself, and turn, in a moment.

47. The stopping, on any terms, is difficult enough to understand ; nor less so, the original gaining of the pace. We always think of flight as if the main difficulty of it were only in keeping up in the air ;—but the buoyancy is conceivable enough, the far more wonderful matter is the getting along. You find it hard work to row yourself at anything like speed, though your impulse-stroke is given in a heavy element, and your return-stroke in a light one. But both in birds and fishes, the impelling stroke and its return are in the same element ; and if, for the bird, that medium yields easily to its impulse, it secedes as easily from the blow that gives it. And if you think what an effort you make to leap six feet, with the earth for a fulcrum, the dart either of a trout or a swallow, with no fulcrum but the water and air they penetrate, will seem to you, I think, greatly marvellous. Yet of the mode in which it is accomplished you will as yet find no undisputed account in any book on natural history, and

scarcely, as far as I know, definite notice even of the rate of flight. What do you suppose it is? We are apt to think of the migration of a swallow, as we should ourselves of a serious journey. How long, do you think, it would take him, if he flew uninterruptedly, to get from here to Africa?

48. Michelet gives the rate of his flight (at full speed, of course,) as eighty leagues an hour. I find no more sound authority; but do not doubt his approximate accuracy;* still how curious and how provoking it is that neither White of Selborne, Bewick, Yarrell, nor Gould, says a word about this, one should have thought the most interesting, power of the bird.†

Taking Michelet's estimate—eighty French leagues, roughly two hundred and fifty miles, an hour—we have a thousand miles in four hours. That is to say, leaving Devonshire after an early breakfast, he could be in Africa to lunch.

49. He could, I say, if his flight were constant; but though there is much inconsistency in the accounts, the sum of testimony seems definite that the swallow is among the most fatiguable of birds. "When the weather is

* I wrote this some time ago, and the endeavour I have since made to verify statements on points of natural history which I had taken on trust have given me reason to doubt everybody's accuracy. The ordinary flight of the swallow does not, assuredly, even in the dashes, reach anything like this speed.

† Incidentally suggestive sentences occur in the history of Selborne, but its author never comes to the point, in this case.

hazy," (I quote Yarrell) "they will alight on fishing-boats a league or two from land, so tired that when any one tries to catch them, they can scarcely fly from one end of the boat to the other."

I have no time to read to you the interesting evidence on this point given by Yarrell, but only that of the brother of White of Selborne, at Gibraltar. "My brother has always found," he himself writes, "that some of his birds, and particularly the swallow kind, are very sparing of their pains in crossing the Mediterranean; for when arrived at Gibraltar, they do not 'set forth their airy caravan, high over seas,' but scout and hurry along in little detached parties of six or seven in a company; and sweeping low, just over the surface of the land and water, direct their course to the opposite continent at the narrowest passage they can find."

50. You will observe, however, that it remains an open question whether this fear of the sea may not be, in the swallow, like ours of the desert. The commissariat department is a serious one for birds that eat a thousand flies a day when just out of the egg; and it is possible that the weariness of swallows at sea may depend much more on fasting than flying. Captain (or Admiral?) Sir Charles Wager says that "one spring-time, as he came into soundings in the English Channel, a great flock of swallows came and settled on all his rigging; every rope was covered; they hung on one another like a swarm of bees; even the decks were filled with them. They seemed

almost famished and spent, and were only feathers and bone ; but, being recruited with a night's rest, took their flight in the morning."

51. Now I detain you on this point somewhat, because it is intimately connected with a more important one. I told you we should learn from the swallow what a wing was. Few other birds approach him in the beauty of it, or apparent power. And yet, after all this care taken about it, he gets tired ; and instead of flying, as we should do in his place, all over the world, and tasting the flavour of the midges in every marsh which the infinitude of human folly has left to breed gnats instead of growing corn,—he is of all birds, characteristically, except when he absolutely can't help it, the stayer at home ; and contentedly lodges himself and his family in an old chimney, when he might be flying all over the world.

At least you would think, if he built in an English chimney this year, he would build in a French one next. But no. Michelet prettily says of him, "He is the bird of return." If you will only treat him kindly, year after year, he comes back to the same niche, and to the same hearth, for his nest.

To the same niche ; and builds himself an opaque walled house within that. Think of this a little, as if you heard of it for the first time.

52. Suppose you had never seen a swallow ; but that its general habit of life had been described to you, and you had been asked, how you thought such a bird would build

its nest. A creature, observe, whose life is to be passed in the air; whose beak and throat are shaped with the fineness of a net for the catching of gnats; and whose feet, in the most perfect of the species, are so feeble that it is called the Footless Swallow, and cannot stand a moment on the ground with comfort. Of all land birds, the one that has least to do with the earth; of all, the least disposed, and the least able, to stop to pick anything up. What will it build with? Gossamer, we should say,—thistledown,—anything it can catch floating, like flies.

But it builds with stiff clay.

53. And observe its chosen place for building also. You would think, by its play in the air, that not only of all birds, but of all creatures, it most delighted in space and freedom. You would fancy its notion of the place for a nest would be the openest field it could find; that anything like confinement would be an agony to it; that it would almost expire of horror at the sight of a black hole.

And its favourite home is down a chimney.

54. Not for your hearth's sake, nor for your company's. Do not think it. The bird will love you if you treat it kindly; is as frank and friendly as bird can be; but it does not, more than others, seek your society. It comes to your house because in no wild wood, nor rough rock, can it find a cavity close enough to please it. It comes for the blessedness of imprisonment, and the solemnity

of an unbroken and constant shadow, in the tower, or under the eaves.

Do you suppose that this is part of its necessary economy, and that a swallow could not catch flies unless it lived in a hole?

Not so. This instinct is part of its brotherhood with another race of creatures. It is given to complete a mesh in the reticulation of the orders of life.

55. I have already given you several reasons for my wish that you should retain, in classifying birds, the now rejected order of *Picæ*. I am going to read you a passage from Humboldt, which shows you what difficulties one may get into for want of it.

You will find in the second volume of his personal narrative, an account of the cave of Caripe in New Andalusia, which is inhabited by entirely nocturnal birds, having the gaping mouths of the goat-sucker and the swallow, and yet feeding on fruit.

Unless, which Mr. Humboldt does not tell us, they sit under the trees outside, in the night time, and hold their mouths open, for the berries to drop into, there is not the smallest occasion for their having wide mouths, like swallows. Still less is there any need, since they are fruit eaters, for their living in a cavern 1,500 feet out of daylight. They have only, in consequence, the trouble of carrying in the seeds to feed their young, and the floor of the cave is thus covered, by the seeds they let fall, with a growth of unfortunate pale plants, which have never seen

day. Nay, they are not even content with the darkness of their cave; but build their nests in the funnels with which the roof of the grotto is pierced like a sieve; live actually in the chimney, not of a house, but of an Egyptian sepulchre! The colour of this bird, of so remarkable taste in lodging, Humboldt tells us, is "of dark bluish-grey, mixed with streaks and specks of black. Large white spots, which have the form of a heart, and which are bordered with black, mark the head, the wings, and the tail. The spread of the wings, which are composed of seventeen or eighteen quill feathers, is three feet and a half. Suppressing, with Mr. Cuvier, the order of Picae, we must refer this extraordinary bird to the *Sparrows*."

56. We can only suppose that it must be, to our popular sparrows, what the swallow of the cinnamon country is to our subordinate swallow. Do you recollect the cinnamon swallows of Herodotus, who build their mud nests in the faces of the cliffs where Dionusos was brought up, and where nobody can get near them; and how the cinnamon merchants fetch them joints of meat, which the unadvised birds, flying up to their nests with, instead of cinnamon,—nest and all come down together,—the original of Sindbad's valley-of-diamond story?

57. Well, Humboldt is reduced, by necessities of recent classification, to call a bird three feet and a half across the wings, a sparrow. I have no right to laugh at him, for I am just going, myself, to call the cheerfullest and bright-

est of birds of the air, an owl. All these architectural and sepulchral habits, these Egyptian manners of the sand-martin, digging caves in the sand, and border-trooper's habits of the chimney swallow, living in round towers instead of open air, belong to them as connected with the tribe of the falcons through the owls! and not only so, but with the mammalia through the bats! A swallow is an emancipated owl, and a glorified bat; but it never forgets its fellowship with night.

58. Its *ancient* fellowship, I had nearly written; so natural is it to think of these similarly-minded creatures, when the feelings that both show are evidently useless to one of them, as if the inferior had changed into the higher. The doctrine of development seems at first to explain all so pleasantly, that the scream of consent with which it has been accepted by men of science, and the shriller vociferation of the public's gregarious applause, scarcely permit you the power of antagonist reflection. I must justify to-day, in graver tone than usual, the terms in which I have hitherto spoken,—it may have been thought with less than the due respect to my audience,—of the popular theory.

59. Supposing that the octohedrons of galena, of gold, and of oxide of iron, were endowed with powers of reproduction, and perished at appointed dates of dissolution or solution, you would without any doubt have heard it by this time asserted that the octohedric form, which was common to all, indicated their descent from a common

progenitor; and it would have been ingeniously explained to you how the angular offspring of this eight-sided ancestor had developed themselves, by force of circumstances, into their distinct metallic perfections; how the galena had become grey and brittle under prolonged subterranean heat, and the gold yellow and ductile, as it was rolled among the pebbles of amber-coloured streams.

60. By the denial to these structures of any individually reproductive energy, you are forced to accept the inexplicable (and why expect it to be otherwise than inexplicable?) fact, of the formation of a series of bodies having very similar aspects, qualities, and chemical relations to other substances, which yet have no connection whatever with each other, and are governed, in their relation with their native rocks, by entirely arbitrary laws. It has been the pride of modern chemistry to extricate herself from the vanity of the alchemist, and to admit, with resignation, the independent, though apparently fraternal, natures, of silver, of lead, of platinum,—aluminium,—potassium. Hence, a rational philosophy would deduce the probability that when the arborescence of dead crystallization rose into the radiation of the living tree, and sentient plume, the splendour of nature in her more exalted power would not be restricted to a less variety of design; and the beautiful caprice in which she gave to the silver its frost, and to the opal its fire, would not be subdued under the slow influences of accident and

time, when she wreathed the swan with snow, and bathed the dove in iridescence. That the infinitely more exalted powers of life must exercise more intimate influence over matter than the reckless forces of cohesion;—and that the loves and hatreds of the now conscious creatures would modify their forms into parallel beauty and degradation, we might have anticipated by reason, and we ought long since to have known by observation. But this law of its spirit over the substance of the creature involves, necessarily, the indistinctness of its type, and the existence of inferior and of higher conditions, which whole æras of heroism and affection—whole æras of misery and misconduct, confirm into glory, or confuse into shame. Collecting the causes of changed form, in lower creatures, by distress, or by adaptation,—by the disturbance or intensifying of the parental strength, and the native fortune—the wonder is, not that species should sometimes be confused, but that the greater number of them remain so splendidly, so manifestly, so eternally distinct; and that the vile industries and vicious curiosities of modern science, while they have robbed the fields of England of a thousand living creatures, have not created in them one.

61. But even in the paltry knowledge we have obtained, what unanimity have we?—what security? Suppose any man of ordinary sense, knowing the value of time, and the relative importance of subjects of thought, and that the whole scientific world was agog concerning

the origin of species, desired to know first of all—what was meant by a species.

He would naturally look for the definition of species first among the higher animals, and expect it to be best defined in those which were best known. And being referred for satisfaction to the 226th page of the first volume of Mr. Darwin's "Descent of Man," he would find this passage:—

"Man has been studied more carefully than any other organic being, and yet there is the greatest possible diversity among capable judges, whether he should be classed as a single species or race, or as two (Virey), as three (Jacquinot), as four (Kant), five (Blumenbach), six (Buffon), seven (Hunter), eight (Agassiz), eleven (Pickering), fifteen (Bory St. Vincent), sixteen (Desmoulins), twenty-two (Morton), sixty (Crawford), or as sixty-three according to Burke."

And in the meantime, while your men of science are thus vacillating, in the definition of the species of the only animal they have the opportunity of studying inside and out, between one and sixty-three; and disputing about the origin, in past ages, of what they cannot define in the present one; and deciphering the filthy heraldries which record the relation of humanity to the ascidian and the crocodile, you have ceased utterly to distinguish between the two species of man, evermore separate by infinite separation: of whom the one, capable of loyalty and of love, can at least conceive spiritual natures which have no

taint from their own, and leave behind them, diffused among thousands on earth, the happiness they never hoped, for themselves, in the skies; and the other, capable only of avarice, hatred, and shame, who in their lives are the companions of the swine, and leave in death nothing but food for the worm and the vulture.

62. Now I have first traced for you the relations of the creature we are examining to those beneath it and above, to the bat and to the falcon. But you will find that it has still others to entirely another world. As you watch it glance and skim over the surface of the waters, has it never struck you what relation it bears to the creatures that glance and glide *under* their surface? Fly-catchers, some of them, also,—fly-catchers in the same manner, with wide mouth; while in motion the bird almost exactly combines the dart of the trout with the dash of the dolphin, to the rounded forehead and projecting muzzle of which its own bullet head and bill exactly correspond. In its plunge, if you watch it bathing, you may see it dip its breast just as much under the water as a porpoise shows its back above. You can only rightly describe the bird by the resemblances, and images of what it seems to have changed from,—then adding the fantastic and beautiful contrast of the unimaginable change. It is an owl that has been trained by the Graces. It is a bat that loves the morning light. It is the aërial reflection of a dolphin. It is the tender domestication of a trout.

63. And yet be assured, as it cannot have been all these creatures, so it has never, in truth, been any of them. The transformations believed in by the mythologists are at least spiritually true ; you cannot too carefully trace or too accurately consider them. But the transformations believed in by the anatomist are as yet proved true in no single instance, and in no substance, spiritual or material ; and I cannot too often, or too earnestly, urge you not to waste your time in guessing what animals may once have been, while you remain in nearly total ignorance of what they are.

64. Do you even know distinctly from each other,—(for that is the real naturalist's business ; instead of confounding them with each other),—do you know distinctly the five great species of this familiar bird?—the swallow, the house-martin, the sand-martin, the swift, and the Alpine swift?—or can you so much as answer the first question which would suggest itself to any careful observer of the form of its most familiar species,—yet which I do not find proposed, far less answered, in any scientific book,—namely, why a swallow has a swallow-tail ?

It is true that the tail feathers in many birds appear to be entirely,—even cumbrously, decorative ; as in the peacock, and birds of paradise. But I am confident that it is not so in the swallow, and that the forked tail, so defined in form and strong in plume, has indeed important functions in guiding the flight ; yet notice how surrounded

one is on all sides with pitfalls for the theorists. The forked tail reminds you at once of a fish's; and yet, the action of the two creatures is wholly contrary. A fish lashes himself forward with his tail, and steers with his fins; a swallow lashes himself forward with his fins, and steers with his tail; partly, not necessarily, because in the most dashing of the swallows, the swift, the fork of the tail is the least developed. And I never watch the bird for a moment without finding myself in some fresh puzzle out of which there is no clue in the scientific books. I want to know, for instance, how the bird turns. What does it do with one wing, what with the other? Fancy the pace that has to be stopped; the force of bridle-hand put out in an instant. Fancy how the wings must bend with the strain; what need there must be for the perfect aid and work of every feather in them. There is a problem for you, students of mechanics,—How does a swallow turn?

You shall see, at all events, to begin with, to-day, how it gets along.

65. I say you shall see; but indeed you have often seen, and felt,—at least with your hands, if not with your shoulders,—when you chanced to be holding the sheet of a sail.

I have said that I never got into scrapes by blaming people wrongly; but I often do by praising them wrongly. I never praised, without qualification, but one scientific book in my life (that I remember)—this of Dr. Petti-

grew's on the Wing; *—and now I must qualify my praise considerably, discovering, when I examined the book farther, that the good doctor had described the motion of a bird as resembling that of a kite, without ever inquiring what, in a bird, represented that somewhat important part of a kite, the string. You will, however, find the book full of important observations, and illustrated by valuable drawings. But the point in question you must settle for your-

* "On the Physiology of Wings." Transactions of the Royal Society of Edinburgh. Vol. xxvi., Part ii. I cannot sufficiently express either my wonder or regret at the petulance in which men of science are continually tempted into immature publicity, by their rivalry with each other. Page after page of this book, which, slowly digested and taken counsel upon, might have been a noble contribution to natural history, is occupied with dispute utterly useless to the reader, on the question of the priority of the author, by some months, to a French savant, in the statement of a principle which neither has yet proved; while page after page is rendered worse than useless to the reader by the author's passionate endeavour to contradict the ideas of unquestionably previous investigators. The problem of flight was, to all serious purpose, solved by Borelli in 1680, and the following passage is very notable as an example of the way in which the endeavour to obscure the light of former ages too fatally dims and distorts that by which modern men of science walk, themselves. "Borelli, and all who have written since his time, are unanimous in affirming that the horizontal transference of the body of the bird is due to the perpendicular vibration of the wings, and to the yielding of the posterior or flexible margins of the wings in an upward direction, as the wings descend. I" (Dr. Pettigrew) "am, however, disposed to attribute it to the fact (1st), that *the wings*, both when elevated and depressed, *leap forwards* in curves, those curves uniting to form a continuous waved track; (2nd), *to the tendency which the body of the bird has to swing forwards*, in a more or less horizontal direction, *when once set in motion*; (3rd), to the construction of the wings; they are elastic helices or screws, which twist and untwist while they vibrate, *and tend to bear upwards and on wards any weight suspended from them*; (4th), *to the reaction of the air on the under sur-*

selves, and you easily may. Some of you, perhaps, knew, in your time, better than the doctor, how a kite stopped ; but I do not doubt that a great many of you also know, now, what is much more to the purpose, how a ship gets along. I will take the simplest, the most natural, the most beautiful of sails,—the lateen sail of the Mediterranean.

66. I draw it rudely in outline, as it would be set for a side-wind on the boat you probably know best,—the boat

faces of the wings ; (5th), to the ever-varying power with which the wings are urged, this being greatest at the beginning of the down-stroke, and least at the end of the up one ; (6th), to the contraction of the voluntary muscles and elastic ligaments, and to the effect produced by the various inclined surfaces formed by the wings during their oscillations ; (7th), to the weight of the bird—weight itself, when acting upon wings, becoming a propelling power, and so contributing to horizontal motion."

I will collect these seven reasons for the forward motion, in the gist of them, which I have marked by italics, that the reader may better judge of their collective value. The bird is carried forward, according to Dr. Pettigrew—

1. Because its wings leap forward.
2. Because its body has a tendency to swing forward.
3. Because the wings are screws so constructed as to screw upwards and onwards any body suspended from them.
4. Because the air reacts on the under surfaces of the wings.
5. Because the wings are urged with ever-varying power.
6. Because the voluntary muscles contract.
7. Because the bird is heavy.

What must be the general conditions of modern science, when it is possible for a man of great experimental knowledge and practical ingenuity, to publish nonsense such as this, becoming, to all intents and purposes, insane, in the passion of his endeavour to overthrow the statements of his rival ? Had he merely taken patience to consult any elementary scholar in dynamics, he would have been enabled to understand his own machines, and develope, with credit to himself, what had been rightly judged or noticed by others.

of burden on the Lake of Geneva (Fig. 3), not confusing the drawing by adding the mast, which, you know, rakes a little, carrying the yard across it. (*a*). Then, with your permission, I will load my boat thus, with a few casks of

FIG. 3.

Vevay vintage—and, to keep them cool, we will put an awning over them, so (*b*). Next, as we are classical scholars, instead of this rustic stem of the boat, meant only to run easily on a flat shore, we will give it an Attic *εμβολον* (*c*). (We have no business, indeed, yet, to put an

εμβολον on a boat of burden, but I hope some day to see all our ships of war loaded with bread and wine, instead of artillery.) Then I shade the entire form (*c*); and, lastly, reflect it in the water (*d*)—and you have seen something like that before, besides a boat, haven't you?

There is the gist of the whole business for you, put in very small space; with these only differences: in a boat, the air strikes the sail; in a bird, the sail strikes the air: in a boat, the force is lateral, and in a bird downwards; and it has its sail on both sides. I shall leave you to follow out the mechanical problem for yourselves, as far as the mere resolution of force is concerned. My business, as a painter, is only with the exquisite organic weapon that deals with it.

67. Of which you are now to note farther, that a bird is required to manage his wing so as to obtain two results with one blow:—he has to keep himself up, as well as to get along.

But observe, he only requires to keep himself up *because* he has to get along. The buoyancy might have been given at once, if nature had wanted *that* only; she might have blown the feathers up with the hot air of the breath, till the bird rose in air like a cork in water. But it has to be, not a buoyant cork, but a buoyant *bullet*. And therefore that it may have momentum for pace, it must have weight to carry; and to carry that weight, the wings must deliver their blow with effective vertical, as well as oblique, force.

Here, again, you may take the matter in brief sum. Whatever is the ship's loss, is the bird's gain; whatever tendency the ship has to leeway, is all given to the bird's support, so that every atom* of force in the blow is of service.

68. Therefore you have to construct your organic weapon, so that this absolutely and perfectly economized force may be distributed as the bird chooses at any moment. That, if it wants to rise, it may be able to strike vertically more than obliquely;—if the order is, go a-head, that it may put the oblique screw on. If it wants to stop in an instant, that it may be able to throw its wings up full to the wind; if it wants to hover, that it may be able to lay itself quietly on the wind with its wings and tail, or, in calm air, to regulate their vibration and expansion into tranquillity of gliding, or of pausing power. Given the various proportions of weight and wing; the conditions of possible increase of muscular force and quill-strength in proportion to size; and the different objects and circumstances of flight,—you have a series of exquisitely complex problems, and exquisitely perfect solutions, which the life of the youngest among you cannot be long enough to read through so much as once, and of which the future infinitudes of human life, however granted or extended, never will be fatigued in admiration.

* I don't know what word to use for an infinitesimal degree or divided portion of force: one can't properly speak of a force being cut into pieces; but I can think of no other word than atom.

69. I take the rude outline of sail in Fig. 3, and now considering it as a jib of one of our own sailing vessels, slightly exaggerate the loops at the edge, and draw curved lines from them to the opposite point, Fig. 4; and

FIG. 4.

I have a reptilian or dragon's wing, which would, with some ramification of the supporting ribs, become a bat's or moth's; that is to say, an extension of membrane between the ribs (as in an umbrella), which will catch the wind, and flutter upon it, like a leaf; but cannot strike it to any purpose. The flying squirrel drifts like a falling leaf; the bat flits like a black rag torn at the edge. To give power, we must have plumes that can strike, as with the flat of a sword-blade; and to give *perfect* power, these must be laid over each other, so that each may support the one below it. I use the word below advisedly: we have to strike *down*. The lowest feather is the one that

first meets the adverse force. It is the one to be supported.

Now for the manner of the support. You must all know well the look of the machicolated parapets in mediæval castles. You know they are carried on rows of small projecting buttresses constructed so that, though the uppermost stone, far-projecting, would break easily under any shock, it is supported by the next below, and so on, down to the wall. Now in this figure I am obliged to separate the feathers by white spaces, to show you them distinctly. In reality they are set as close to each other as can be, but putting them as close as I can, you get *a* or *b*, Fig. 5, for the rough section of the wing, thick towards the bird's head, and curved like a sickle, so that in striking down it catches the air, like a reaping-hook, and in rising up, it throws off the air like a pent-house.

70. The stroke would therefore be vigorous, and the recovery almost effortless, were even the direction of both actually vertical. But they are vertical only with relation to the bird's body. In space they follow the forward flight, in a softly curved line; the downward stroke being as effective as the bird chooses, the recovery scarcely encounters resistance in the softly gliding ascent. Thus, in Fig. 5, (I can only explain this to readers a little versed in the elements of mechanics,) if *B* is the locus of the centre of gravity of the bird, moving in slow flight in the direction of the arrow, *w* is the locus of the leading feather of its wing, and *a* and *b*, roughly, the succes-

sive positions of the wing in the down-stroke and recovery.

FIG. 5.

71. I say the down-stroke is as effective as the bird chooses; that is to say, it can be given with exactly the quantity of impulse, and exactly the quantity of supporting power, required at the moment. Thus, when the bird wants to fly slowly, the wings are fluttered fast, giving vertical blows; if it wants to pause absolutely in still air, (this large birds cannot do, not being able to move their wings fast enough,) the velocity becomes vibration, as in the humming-bird: but if there is wind, any of the larger birds can lay themselves on it like a kite, their own weight answering the purpose of the string, while they keep the wings and tail in an inclined plane, giving them as much gliding ascent as counteracts the fall. They nearly all, however, use some slightly gliding force at the same time; a single stroke of the wing, with forward intent, seeming enough to enable them to glide on for half a minute or more without stirring a plume. A circling eagle floats an inconceivable time without visible stroke: (fancy the pretty action of the inner wing, *backing* air instead of water, which

gives exactly the breadth of circle he chooses). But for exhibition of the complete art of flight, a swallow on rough water is the master of masters. A seagull, with all its splendid power, generally has its work cut out for it, and is visibly fighting; but the swallow plays with wind and wave as a girl plays with her fan, and there are no words to say how many things it does with its wings in any ten seconds, and does consummately. The mystery of its dart remains always inexplicable to me; no eye can trace the bending of bow that sends that living arrow.

But the main structure of the noble weapon we may with little pains understand.

72. In the sections *a* and *b* of Fig. 5, I have only represented the quills of the outer part of the wing. The relation of these, and of the inner quills, to the bird's body may be very simply shown.

Fig. 6 is a rude sketch, typically representing the wing of any bird, but actually founded chiefly on the seagull's.

It is broadly composed of two fans, *A* and *B*. The outmost fan, *A*, is carried by the bird's hand; of which I rudely sketch the contour of the bones at *a*. The innermost fan, *B*, is carried by the bird's fore-arm, from wrist to elbow, *b*.

The strong humerus, *c*, corresponding to our arm from shoulder to elbow, has command of the whole instrument. No feathers are attached to this bone; but covering and protecting ones are set in the skin of it, completely filling,

when the active wing is open, the space between it and the body. But the plumes of the two great fans, A and B, are set into the bones; in Fig. 8, farther on, are

FIG. 6.

shown the projecting knobs on the main arm bone, set for the reception of the quills, which make it look like the

club of Hercules. The connection of the still more powerful quills of the outer fan with the bones of the hand is quite beyond all my poor anatomical perceptions, and, happily for me, also beyond needs of artistic investigation.

73. The feathers of the fan A are called the primaries. Those of the fan B, secondaries. Effective actions of flight, whether for support or forward motion, are, I believe, all executed with the primaries, every one of which may be briefly described as the strongest scymitar that can be made of quill substance; flexible within limits, and elastic at its edges—carried by an elastic central shaft—twisted like a windmill sail—striking with the flat, and recovering with the edge.

The secondary feathers are more rounded at the ends, and frequently notched; their curvature is reversed to that of the primaries; they are arranged, when expanded, somewhat in the shape of a shallow cup, with the hollow of it downwards, holding the air therefore, and aiding in all the pause and buoyancy of flight, but little in the activity of it. Essentially they are the brooding and covering feathers of the wing; exquisitely beautiful—as far as I have yet seen, *most* beautiful—in the bird whose brooding is of most use to us; and which has become the image of all tenderness. “How often would I have gathered thy children . . . and ye would not.”

74. Over these two chief masses of the plume are set others which partly complete their power, partly adorn

and protect them ; but of these I can take no notice at present. All that I want you to understand is the action of the two main masses, as the wing is opened and closed.

FIG. 7.

Fig. 7 roughly represents the upper surface of the main feathers of the wing closed. The secondaries are folded over the primaries ; and the primaries shut up close, with their outer edges parallel, or nearly so. Fig. 8 roughly shows the outline of the bones, in this position, of one of the larger pigeons.*

75. Then Fig. 9 is (always sketched in the roughest way) the outer, Fig. 10 the inner, surface of a seagull's wing in this position. Next, Fig. 11 shows the tops of the four lowest feathers in Fig. 9, in mere outline ; A separate (pulled off, so that they can be set side by side), B shut up close in the folded wing, C opened in the spread wing.

* I find even this mere outline of anatomical structure so interfere with the temper in which I wish my readers to think, that I shall withdraw it in my complete edition.

76. And now, if you will yourselves watch a few birds in flight, or opening and closing their wings to prune them, you will soon know as much as is needful for our

FIG. 8.

art purposes ; and, which is far more desirable, feel how very little we know, to any purpose, of even the familiar creatures that are our companions.

Even what we have seen to-day * is more than appears to have been noticed by the most careful painters of the great schools; and you will continually fancy that I am inconsistent with myself in pressing you to learn, better than they, the anatomy of birds, while I violently and constantly urge you to refuse the knowledge of the anatomy of men. But you will find, as my system develops itself, that it is absolutely consistent throughout. I don't

FIG. 9.

mean, by telling you not to study human anatomy, that you are not to know how many fingers and toes you have, nor how you can grasp and walk with them; and, simi-

* Large and somewhat carefully painted diagrams were shown at the lecture, which I cannot engrave but for my complete edition.

larly, when you look at a bird, I wish you to know how many claws and wing-feathers it has, and how it grips and flies with them. Of the bones, in either, I shall show you little ; and of the muscles, nothing but what can be seen in the living creature, nor, often, even so much.

77. And accordingly, when I now show you this sketch of my favourite Holbein, and tell you that it is entirely disgraceful he should not know what a wing was, better, —I don't mean that it is disgraceful he should not know the anatomy of it, but that he should never have looked at it to see how the feathers lie.

FIG. 10.

Now Holbein paints men gloriously, but never looks at birds ; Gibbons, the woodcutter, carves birds, but

can't men;—of the two faults the last is the worst; but

FIG. 11.

the right is in looking at the whole of nature in due comparison, and with universal candour and tenderness.

78. At the whole of nature, I say, not at *super-nature*—at what you suppose to be above the visible nature about you. If you are not inclined to look at the wings of birds, which God has given you to handle and to see, much less are you to contemplate, or draw imaginations of, the wings of angels, which you can't see. Know your own world first—not denying any other, but being quite sure that the place in which you are now put is the place with which you are now concerned; and that it will be wiser in you to think the gods themselves may appear in the form of a dove, or a swallow, than that, by false theft from the form of dove or swallow, you can represent the aspect of gods.

79. One sweet instance of such simple conception, in the end of the *Odyssey*, must surely recur to your minds in connection with our subject of to-day, but you may not have noticed the recurrent manner in which Homer insists on the thought. When Ulysses first bends and strings his bow, the vibration of the chord is shrill, “like the note of a swallow.” A poor and unwarlike simile, it seems! But in the next book, when Ulysses stands with his bow lifted, and Telemachus has brought the lances, and laid them at his feet, and Athena comes to his side to encourage him,—do you recollect the gist of her speech? “You fought,” she says, “nine years for the sake of Helen, and for another’s house:—now, returned, after all those wanderings, and under your own roof, for it, and its treasures, will you not fight, then?” And she herself

flies up to the house-roof, and thence, *in the form of the swallow*, guides the arrows of vengeance for the violation of the sanctities of home.

80. To-day, then, I believe verily for the first time, I have been able to put before you some means of guidance to understand the beauty of the bird which lives with you in your own houses, and which purifies for you, from its insect pestilence, the air that you breathe. Thus the sweet domestic thing has done, for men, at least these four thousand years. She has been their companion, not of the home merely, but of the hearth, and the threshold; companion only endeared by departure, and showing better her loving-kindness by her faithful return. Type sometimes of the stranger, she has softened us to hospitality; type always of the suppliant, she has enchanted us to mercy; and in her feeble presence, the cowardice, or the wrath, of sacrilege has changed into the fidelities of sanctuary. Herald of our summer, she glances through our days of gladness; numberer of our years, she would teach us to apply our hearts to wisdom;—and yet, so little have we regarded her, that this very day, scarcely able to gather from all I can find told of her enough to explain so much as the unfolding of her wings, I can tell you nothing of her life—nothing of her journeying: I cannot learn how she builds, nor how she chooses the place of her wandering, nor how she traces the path of her return. Remaining thus blind and careless to the true ministries of the humble creature whom God has really

sent to serve us, we in our pride, thinking ourselves surrounded by the pursuivants of the sky, can yet only invest them with majesty by giving them the calm of the bird's motion, and shade of the bird's plume:—and after all, it is well for us, if, when even for God's best mercies, and in His temples marble-built, we think that, “with angels and archangels, and all the company of Heaven, we laud and magnify His glorious name”—well for us, if our attempt be not only an insult, and His ears open rather to the inarticulate and unintended praise, of “the Swallow, twittering from her straw-built shed.”

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