REPORTS FROM THE SECTIONS.
(In Abstract.)

SECTION A.—ASTRONOMY AND PHYSICS.

PRELIMINARY MEETING—MONDAY, 19 JUNE, 1876.

In accordance with Rule XXIX of the Society's new Bye-laws, a meeting was held in the Society’s rooms, on Monday, 19th June, 1876, to organize a Section for Astronomy, Meteorology, Physics, Mathematics, and Mechanics, the following gentlemen being present:—

Mr. H. C. Russell, F.R.A.S., in the Chair.
Mr. Bolding.
Rev. W. B. Clarke, F.R.S., &c., Dr. Leibius,
Mr. J. U. C. Colyer, Prof. A. Liversidge,
Mr. J. V. Dalgarno, Mr. W. MacDonnell,
Hon. L. F. De Salis, M.L.C., Mr. W. J. MacDonnell, F.R.A.S.,
Mr. E. Du Faur, F.R.G.S., Mr. W. H. Maguire,
Mr. G. D. Hirst, Rev. W. Scott, M.A.
Mr. Voss.

It was resolved that the Section be formed, and the following office-bearers were appointed for the current session:—Chairman, Mr. H. C. Russell, B.A., F.R.A.S., &c.; Hon. Secy., Mr. W. J. MacDonnell, F.R.A.S.; Committee, Mr. G. D. Hirst, Mr. H. A. Lenehan, Rev. W. Scott, M.A., and Mr. H. G. A. Wright, M.R.C.S.

The CHAIRMAN, after stating that Astronomy was likely to prove the chief object of attraction, drew the attention of the Section to the requisition made by the Royal Astronomical Society of London, for co-operation of southern astronomers in the work of observing the planet Jupiter during his present favorable opposition, and Mr. Russell recommended the Section to take up this work as far as possible.

Mr. Hirst gave some particulars of his observations on Jupiter, remarking the great difference in the colours of the equatorial belt as seen in different classes of telescope. In the Observatory refractor of 11½ inches aperture the colour of the belt was pink, and in Mr. Colyer's 10½-inch Browning reflector used by him, it was ochreish-yellow.
Hon. L. F. De Salis, M.L.C., referred to a periodicity apparent in the recurrence of meteorological phenomena in this Colony, and promised to return to the subject at greater length at next meeting of the Section. Mr. E. Du Faur, in supporting Mr. De Salis’s view, instanced the remarkable changes that have been observed in Lake George, as an example of the periodicity theory advanced by Mr. De Salis. After further discussion the meeting terminated.

WEDNESDAY, 26 JULY, 1876.

Mr. H. C. Russell, F.R.A.S., in the Chair.

Hon. L. F. De Salis, M.L.C., read a paper on “Lunar Influence on the Weather and Periodicity of the Seasons.” He stated that scientific investigation into the causes which control the weather was one of high practical utility to the Colony, and was well deserving of the Section’s attention. Throughout recent scientific works there are several assertions that periodicity has been traced in important weather changes around the Mauritius, coincident with the periodic changes that take place in the sun. After suggesting that lunar influence was not a fable of olden times, and referring to Saxby’s theories, which however were not generally accepted by the late Admiral Fitzroy and men of his calibre, Mr. De Salis remarked from his own observations during a colonial lifetime that our winds veered round in direction contrary to the cyclonic rule, during a period equalling in time a quarter lunation. Mr. De Salis referred to several instances where this rule was apparently confirmed. He also noticed that besides this monthly influence there was one traceable to the lunar cycle of 19 years or its half period of 9½ years when the moon’s position was analogous to the changes at full and new in the ordinary lunation of 29 days. He pointed out that the floods on the Murrumbidgee in 1844, 1852–3, 1861–2, and 1870–1–2, were in strong confirmation of the existence of this period. A co-operation in the observation of Australian climatology was strongly urged, and the example of the United States expending £300,000 on Meteorology was quoted as being worthy of imitation. A proportionate sum for the united Australian Colonies would only amount to £20,000.

In the discussion which followed the reading of Mr. De Salis’s paper,—

Mr. Russell said he had given the matter great attention; he formerly advocated the 19 year period, and had afterwards abandoned it; but recent facts in confirmation had so pressed themselves upon him that he felt compelled to adopt the theory once more.

After further discussion the meeting terminated.

Eleven members were present.
WEDNESDAY, 30 AUGUST, 1876.

Mr. H. C. Russell, F.R.A.S., in the Chair.

In answer to a question made by one of the members present, Mr. Russell described some of the methods adopted in the manufacture of optical glass as noticed by him in his recent visit to Europe and America. He also explained the beautifully delicate apparatus invented by the Hamburgh optician, Mr. H. Schroeder, for testing the curves of telescope lenses with an accuracy previously unknown.

The Chairman then read some notes he had prepared on the planet Venus. The white patch visible during the transit of December, 1874, was again detected on 15th June, 1876. On several occasions part of the disc was visible in the telescope; the dark portion being apparently projected upon a lighter background of sky. On 30th June, Mr. Russell, in observing Jupiter's satellites with a power of 800, noticed that the third satellite was of a ruddy colour and sharply defined disc. A mean of 46 micrometrical measure gave a polar flattening to Jupiter of 1-17.3.

WEDNESDAY, 27 SEPTEMBER, 1876.

Mr. H. C. Russell, F.R.A.S., in the Chair.

Mr. G. D. Hirst exhibited a drawing of Saturn executed from a 10½-inch silvered glass equatorial with a power of 214. He remarked the square-shouldered appearance of the ball of the planet noticed by former observers. The most remarkable feature on the ball was a dark belt near the equator of a rich brown inclining to red; the black line in the centre of this belt, first noticed by Mr. Russell a couple of years ago, was not visible in the reflector. The poles of the planet exhibited a beautiful bluish-grey, shading off into a yellow towards the equator. Ball's division in the ring was only visible at the two extremities. The crape ring appears as a remarkably dark band crossing the disc of the planet.

Mr. Russell stated that the narrow black line indicating the shadow of the ring on the ball appeared a short time ago perfectly straight instead of following the outline of the ring; a micrometer laid along it showed no deviation.

A discussion followed relative to the gale of 10th September, as compared with tropical tornadoes, Mr. Du Faur remarking that from his experience within the tropics the velocity of the wind in the late gale, although very high, must have fallen far short of what it attained during West Indian hurricanes. The discussion then turned to some of the meteorological characteristics of this Colony. Messrs. De Salis and Du Faur gave some particulars of important changes produced in the configuration of the country by floods in the interior.

The meeting then closed.
Mr. H. C. Russell, F.R.A.S., in the Chair.

Mr. Colyer read a letter from Mr. J. Browning, the well-known London optician, relative to the variation in the colour of the equatorial belts of the planet Jupiter when observed through refracting or reflecting telescopes. The question as to which class of instruments gave the most correct results was a difficult one to decide; the Chairman wished that those members in possession of adequate means should take the matter in hand, so that if any law of variation exists it might be brought to light.

Mr. Du Faure informed the Chairman that he had been in correspondence with some gentlemen in the far interior who were willing to take meteorological observations if instruments for that purpose were supplied to them. Mr. Russell said he had also been taking steps in the same direction, so that regular observations of the climatology of the interior could be taken.

Mr. Russell then read a long paper from Mr. Jones, of Tamworth, on an extraordinary dry fog observed in the neighbourhood of Tamworth, on the morning of 12th October. Mr. De Salis had noticed a somewhat similar phenomenon in 1851, which was ascribed to the prevalence of extensive bush fires then raging in Victoria, but whether the Tamworth dry fog could be traced to a similar origin required further evidence before it could be decided.

Rev. Geo. Martin read a long and interesting paper on the performance of his "Cooke" telescope of 5 inches clear aperture, 6 feet 3 inches focal length. He succeeded in resolving the globular cluster ω. Centauri, with the exception of the central condensation, also the clusters 47 Toucani and 13 M. Herculis. In the resolution of these objects, Mr. Martin found that the light-grasping power of his instrument approached very nearly to its theoretical value. For definition he had tried the capacity of his object glass on Antares, Nu (ν) Scorpii, η Orionis, γ Centauri, all of which difficult doubles he succeeded well in resolving. After referring to other work performed by his telescope, Mr. Martin spoke of the example of Mr. Burnham, of Chicago, in reaping a harvest in fields where Herschel, Struve, and other eminent observers had been working, and he stated that our southern heavens present a splendid field for investigation for any competent observer armed with moderate means and a little patience, in which he would meet with a rich and ample reward.

A short discussion ensued on Mr. Martin's paper.
SECTION B.—CHEMISTRY, MINERALOGY, and by amalgamation with SECTION C., GEOLOGY and PALÆONTOLOGY.

PRELIMINARY MEETING—20 JUNE, 1876.

The preliminary meeting of this Section was held on 20th June, 1876, when Prof. Liversidge was appointed Chairman of the Section, W. A. Dixon Hon. Secretary, and Messrs. Bensusan, M'Cutchon, Sleepe, and Tulloh a Committee; and the meeting night for the Section was fixed for the second Wednesday of each month.

WEDNESDAY, 12 JULY, 1876.

Professor Liversidge in the Chair.

The proposal to temporarily amalgamate Section C. with this Committee was agreed to at this meeting.

Mr. Dixon read a note on some analysis of mud from George and Pitt Streets, showing that the amount of organic matter varied from 18 to 55 per cent. of the dried mud, and that the proportion of inorganic matter (i.e. abraded stone and iron) to organic matter rose in proportion to the wetness of the streets. He said that although little reliance could be placed on results obtained from three or four analyses, the numbers he had obtained showed that, taking 100 parts of organic matter (horse-dung) to represent a certain amount of traffic, 407 parts of stone were ground up when the streets were kept copiously watered, whilst 66 parts only of stone were pulverized by that traffic when the streets were only slightly sprinkled with water. The results approximated to those obtained by Dr. Letheby from London street mud, which showed that wet weather largely increased the quantity of abraded stone and wear of the streets.

Mr. Bensusan introduced to the notice of the meeting the new work on Pyrology, by Major Ross, containing new methods of blowpipe analysis. The Chairman exhibited a case containing specimens of the rare metal, Thallium, and a number of its salts.

WEDNESDAY, 9 AUGUST, 1876.

Professor Liversidge in the Chair.

Mr. Bensusan exhibited a specimen of the new alloy, composed of copper 88 per cent., tin 10 per cent., and manganese 2 per cent., proposed to be used for armour-plating and other purposes. The specimen he had himself prepared, and he explained that its peculiar excellence consisted in its superior toughness, and to the fact that a shot punched a hole in the plates without rending them.

An interesting conversational discussion upon Chemical matters was maintained for some time.
REPORTS FROM THE SECTIONS.

WEDNESDAY, 13 SEPTEMBER, 1876.

Mr. M'CUTCHEON in the Chair.

Mr. Bensusan exhibited specimens of native bismuth from New England; a mineral from near Rockhampton containing gold, nickel, and copper; an earthy mineral containing cobalt; elaterite from near Nattai; also carbonate and native copper. He also read his paper on recent copper-extracting processes, which was afterwards read before the Society.

WEDNESDAY, 8 NOVEMBER, 1876.

Professor Liversidge in the Chair:

Mr. Sleep exhibited specimens of *Anycloceras gigas* and *Scaphites*, from the Flinders River, Queensland.

Professor Liversidge laid on the table specimens of tin ore in a “cement” matrix sent to him by Mr. Cadell, from Vegetable Creek, New England, accompanied by a letter, in which Mr. Cadell said, “I think the difference between ‘black’ and ‘ruby’ tin ore can now be accounted for, the discovery having been made accidentally on our claim. You are aware that all our deep lead carries black tin, the surface claims only producing ‘ruby.’ Over some portions of our deposit (deep lead) we have found quantities of ore cemented into one compact mass by oxide of iron. This Mr. O’Daly tried to reduce by burning, and while hot throwing cold water over the heap thus burnt. A large quantity became in this way pulverized, but the process changes the ‘black’ into ‘ruby’ tin. I send you specimens showing the cemented deposit before and after being calcined.” The Chairman (Prof. Liversidge) pointed out that there were many essential differences between the more or less transparent native “ruby” tin and the brick-coloured calcined mineral. The members present, after examining the specimens, came to the conclusion that the red colour produced was not a conversion of “black” into true “ruby” tin, but merely the change of the ferrous oxide present into anhydrous ferric oxide.

Mr. Dixon laid on the table a specimen of a white earthy mineral sent to him by Mr. Chambers, of Maitland, who informed him that it occurred in a large bed on the side of a deep gully near the head of the Manilla River, New South Wales, and that in it a small cave had been excavated, partly by the action of the weather, partly by kangaroos, wallaroos, and wallabies, who were continually licking it. On these animals the mineral evidently excited a purgative action. This action, Mr. Dixon considers,
must be mechanical, as the mineral contains no constituent soluble in water. It yielded him the following results by analysis:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>9.64%</td>
</tr>
<tr>
<td>Ferric Oxide</td>
<td>2.92%</td>
</tr>
<tr>
<td>Alumina</td>
<td>6.36%</td>
</tr>
<tr>
<td>Lime</td>
<td>6.77%</td>
</tr>
<tr>
<td>Magnesia</td>
<td>5.2%</td>
</tr>
<tr>
<td>Soluble in acid</td>
<td>13.87%</td>
</tr>
<tr>
<td>Alumina</td>
<td>6.36%</td>
</tr>
<tr>
<td>Lime</td>
<td>1.38%</td>
</tr>
<tr>
<td>Insoluble in acid</td>
<td>75.76%</td>
</tr>
<tr>
<td>Silica</td>
<td>68.02%</td>
</tr>
</tbody>
</table>

Total: 100.27%

Hardness 1.—Specific gravity of powder 2.1, of mass dry about 1. It is infusible before the blowpipe, but contracts greatly by heat; adheres slightly to the tongue, and is devoid of plasticity.

Professor Liversidge mentioned that specimens of a very similar mineral had been sent to him as meerschaum from the Richmond and Clarence Rivers.

---

SECTION C.—GEOLOGY AND PALAEOONTOLOGY.

At the preliminary meeting of this Section, it was resolved to amalgamate it for the present with the Chemical Section.

---

SECTION D.—ZOOLOGY AND BOTANY, INCLUDING ENTOMOLOGY.

No meetings of this Section were held.

---

SECTION E.—MICROSCOPICAL SCIENCE.

PRELIMINARY MEETING—23 JUNE, 1876.

The first meeting of this Section was held on the 23rd June, 1876.

Professor Liversidge, as General Secretary, opened the proceedings by drawing attention to the circular summoning the meeting. The election of officers was then proceeded with, with the following results:—Alfred Roberts, M.R.C.S., Chairman. Committee: Mr. Wm. MacDonnell, Mr. H. Paterson, Dr. Milford, Dr. Belgrave. Secretary, Mr. G. D. Hirst.

It was resolved that the Council should be applied to for a specimen cabinet for the reception of microscopic slides.

It was decided that the future meetings of this Section should be held on the third Wednesday in each month.
REPORTS FROM THE SECTIONS.

WEDNESDAY, 19 JULY, 1876.

ALFRED ROBERTS, M.R.C.S., in the Chair.

After arrangements had been made as to the future conduct of business brought before the Section, the Chairman presented a collection of slides of diatoms, mounted and named by Dr. Smith of Edinburgh.

Mr. Roberts then exhibited a very convenient arrangement for mounting with despatch and freedom from air-bubbles objects in Canada balsam. It consists of a tin stand constructed to hold water, which is kept hot by a spirit lamp underneath, the balsam contained in a small glass tube being retained in a fluid state by the steam which is confined in an outer chamber. The top of the stand forms a table on which the slides are laid during the operation of mounting, and by which they are kept warm as long as is desired. Mr. Wm. MacDonnell exhibited a large microscope by Powell and Lealand, with a quantity of accessory apparatus. This instrument was lent for the occasion by Mr. Cathcart of Newtown. Mr. H. Paterson exhibited an injection of the dentinal pulp of a kitten. This slide possessed special interest, having been prepared by the late Professor Queckett. Mr. George Hirst, a slide showing the formation at a very early date of striated muscular fibre in the human embryo. Dr. Milford, some scolices of Eccinococcus from the human subject. Some German objectives, on the immersion principle, by Siebert, were also exhibited by Mr. MacDonnell. These lenses possess remarkable defining and penetrating power, and work through considerable thickness of covering glass.

WEDNESDAY, 16 AUGUST, 1876.

ALFRED ROBERTS, M.R.C.S., in the Chair.

There was a good attendance of members. The Secretary reported that, in response to the request of the Committee, the Council of the Society had sent to London for a substantial microscope stand and necessary addenda for the use of this and the other sections.

Mr. H. Paterson presented a slide containing a section of the dentinal tubes and enamel of the adult human tooth.

Mr. G. D. Hirst read a paper on the action of alkali on wool fibres.

Dr. Milford read a paper on the starch of the *Macrozamia spiralis*.

The following objects were exhibited:—By Mr. Alfred Roberts, duodena of toad and black snake injected, and ova of frog; Mr. H. Paterson, sections of teeth; Mr. Toohoe, *Torula* or yeast plant; Mr. Wm. MacDonnell, scales of *Morpho menalaus*. 
WEDNESDAY, 20 SEPTEMBER, 1876.

ALFRED ROBERTS, M.R.C.S., in the Chair.

The CHAIRMAN presented several well-mounted slides of foraminifera, mounted by Möller of Hamburgh.

Mr. W. MACDONNELL presented a series of twelve slides of foraminifera procured from soundings in different parts of the globe.

Mr. HUGH PATRICK presented a slide showing a case of exostosis of the human tooth, and accompanied his gift with some remarks on the nature of this disease.

Mr. G. D. HIRST presented a slide of a species of polyzoa common in Port Jackson; also a slide containing a section of schirrhus cancer mounted in glycerine.

Mr. E. WOODGATE presented a slide of crystals of salicine; also a section of pith of elder.

The CHAIRMAN presented a number of papers by Mr. Greville on new diatoms.

Mr. G. D. HIRST read a note on a species of chelifer found near Sydney, and common in dry wood and old lumber rooms, or in out-houses near scrub.

The CHAIRMAN exhibited specimens of the fangs of the death-adder and cobra, and explained their structure.

Mr. W. MACDONNELL exhibited a series of slides illustrative of human anatomy, and showing great skill in their preparation; Mr. H. PATRICK, sections of human bone; Dr. MILFORD, specimens of different types of cancer; Rev. GEORGE MARTIN, a series of well-prepared slides in dammar varnish, sections of wood fibre mixed with coal from below a coal seam at Newcastle, foraminifera, also antennae and palpi of tarantula.

Resolved:—That the subject for the next meeting should be diatoms in reference to their power as test objects.

WEDNESDAY, 18 OCTOBER, 1876.

ALFRED ROBERTS, M.R.C.S., in the Chair.

Resolved that the following proposal be submitted to the Committee of the Section:—That the Secretary be instructed to communicate with the London Monthly Microscopical Journal, with a report of the formation of the Section; and stating that, in the event of the proprietors being willing, monthly reports of the meetings would be forwarded to them for publication.

Mr. G. D. HIRST exhibited a rare and curious old publication, lent for the occasion, being a series of copper plates of microscopic objects, published by the celebrated Dr. Hooke 210 years ago, and entitled "Micrographia." He drew attention to the excellence of these plates, which are the more remarkable when there are taken into consideration the rude and inefficient optical instruments at the disposal of microscopists at that early date.
The **Chairman** made some remarks upon the work, and stated that much had been done of infinite value to science by earnest observers using what would appear to us with our modern advantages totally inadequate instruments; and he wished, while speaking on the subject, to pay a tribute of respect to the memory of the late Mr. Wm. Sharp M'Leay, who, with only a simple dissecting microscope, rendered vast service to microscopic science by his researches, more particularly in those relating to the minute anatomy of insects.

Mr. Wm. MacDonnell exhibited a new hand magnifier by Browning, and called by him the Platyscopic lens. This is a triple achromatic combination, in which the spherical and chromatic aberrations were corrected by a central lens of dense glass. It is remarkable for its large and flat field and excellent definition.

A competitive trial of objectives of $\frac{5}{6}$ in. focus took place, and a committee was appointed to report upon the merits of the glasses. The following makers were represented:—Messrs. Ross, Powell and Lealand, Smith and Beck, Crouch, Swift, Pillisher, and Gundlach. After careful examination, it was unanimously decided that Swift bore the palm for excellence of definition and resolving power, Ross and Powell and Lealand following very closely.

The Rev. Geo. Martin exhibited some very beautiful forms of discoidal diatoms, and some specimens of diatoms from Port Jackson were exhibited by the Chairman.

**THURSDAY, 24 NOVEMBER, 1876.**

**ALFRED ROBERTS, M.R.C.S.,** in the Chair.

This meeting was postponed from the 15th inst.

A paper was read by Mr. J. U. C. Colyer on two species of insectivorous plants, *Drosera binata* and *Drosea spathulata*, indigenous to the Colony, and found in marshy ground near Sydney. The paper was accompanied by specimens of the plants in their natural state, and also by slides showing their microscopical structure.

Mr. G. D. Hirst made some remarks upon the paper read by Mr. Colyer, and exhibited some coloured drawings of the *Drosera binata* illustrative of the anatomy of the tentacles; these drawings he presented to the Section.

The **Chairman** stated that he hoped Mr. Colyer would make the paper delivered only the first of a series on the subject. Mr. Colyer undertook to prosecute the matter further and place the results before the Section.

The **Secretary** read a paper received by him from Mr. H. J. Brown, of Newcastle, on the milky juice of the climbing fig. The paper was accompanied by a specimen slide forming a good polariscopical object. He also, on behalf of Mr. Brown, presented to the Society's Cabinet several slides, being chiefly spiculae of marine animals found on the coast near Newcastle.
In the first number of the second volume of the New South Wales Medical Gazette is a paper on the Macrozamia spiralis, from the pen of Dr. G. Bennett, F.L.S. F.G.S., &c., &c. It was called forth by the fact that a child was taken seriously ill after partaking of the uncooked and unprepared nuts. Mr. W. C. Brown, M.L.A., wrote to Dr. Bennett on the subject, who in consequence indited the paper referred to, from which I cull a portion of the following brief notice:—"The Macrozamia, of the order Cycadaeae or Cycads, are trees or shrubs having the appearance of palms and in some particulars of ferns. The flowers are dioecious (the male and female flowers being on separate plants). Both the male and female flowers are borne in cones composed of woody scales with a truncated six-sided summit, and the male flowers are arranged in tesselated catkins, the scales peltate; fruit, two at the under side of each scale. The stem beneath the surface of the earth and at a slight elevation above is in shape conical, but when it attains a greater elevation, which in New South Wales it does to the height of six or eight feet, it becomes cylindrical. The cone is about the size of a man's head, and composed of drupes about the size of a chestnut. Abundant fossil remains show that the plant formerly composed a large portion of the foliage of the British Isles." The plant is abundant about Sydney, and numbers may be seen near Bondi at present. If any one should have the desire of viewing the plant in its native habitat, he may do so at the foot of the hill near Bondi on the Old South Head Road. He should turn to the right down a track that leads to Bondi beach, and there numerous plants may be seen occupying an area of about two acres on the bank of a water-course about one hundred yards from the main road. The plants usually occupy a limited space in the way thus indicated, and are found in sandy or rocky soil. The fronds of the plant have a very elegant appearance, resembling palms, and are used in Catholic Churches on Palm Sunday and for other decorative purposes in New South Wales. I remember when a youth of thirteen or fourteen years old procuring some of the nuts and taking them home for the purpose of eating them. I had not been long in the Colony at that time and had a distinct recollection of the flavour of English chestnuts, which these nuts so much resemble, so that I anticipated a great treat in eating them. I had three; one I
ate myself uncooked, and two I gave to my French governess. The effect upon me I shall not readily forget; it was as if I were suffering from a severe attack of sea sickness, accompanied by diarrhea and cramps in the abdomen. However, I was perfectly recovered next day; not so, however, with the French lady, who was of rather a bilious temperament, and partaking of more of the nut than I did, she was laid up in bed for the space of a week, but eventually recovered under medical treatment. Before the colonisation of this country, the aborigines made use of the nuts; and the starch procured from the nuts and the roots was one of the chief supplies of their farinaceous food; but in order to get rid of the deleterious qualities of the contents of the nut, they were exposed to a constant stream of water on a sheet of bark for some days, and afterwards thoroughly roasted. Being desirous of ascertaining the nature of the poisonous material contained in the nut and tuber, I requested Mr. Norrie, chemist, of William-street, some time ago to make an analysis, and report upon it. He wrote to me afterwards as follows:—"I have the pleasure now to give you some account of my examination of the nuts of the Macrozamia spiralis. In the first place, the seeds were perfectly dry. On removing the shell and epidermis and pulping the seed, I obtained a large quantity of starch and gluten; testing the soluble portion, it was found to have a decided acid re-action; lime-water throws down oxalic acid in the shape of oxalate of lime; continuing my investigations further, I find a potash salt and isolate binoxalate of potash, which is the poisonous substance contained in these nuts. There is also every appearance of an alkaloid crystallizing in prisms, but the quantity operated on was so small that I could only get a microscopic specimen, it therefore requires further examination upon a larger quantity of material to test its particular properties. These seeds contain also vegetable albumen, gum, and sugar; and consequently as an article of food, as used by the blacks, they are of no mean value; for it must be remembered that in the roasting of these nuts, the binoxalate of potash would be converted at a low red heat into carbonate, modifying or completely destroying the poisonous properties."

Mr. Henry Moss, of Shoalhaven, has been for some time past engaged in manufacturing an edible starch from the nuts and tuber of the Macrozamia. The means he uses are these: he has the shells broken away from the nuts, then placed in tubs of cold water, and pounded quite soft with a wooden rammer, then roughly strained to get all the debris away, than strained through fine cloth and the liquid allowed to stand for forty-eight hours in a long cask; spill holes are made in the cask, a few inches from the bottom, so that the water can be drawn off without disturbing the sediment. After draining and adding fresh water, the
starch forms a cake at the bottom, the water is then all drawn off, the cake of starch cut out, and dried in the sun, and afterwards rolled. He calls the starch arrowroot, and says it is "as fine as any commercial arrowroot." He states that an infant child in the Shoalhaven district was reared upon it and nothing else. He sent me some pounds of it, and I gave samples to many of my friends. I also had some prepared for myself for breakfast, in spite of my previous unpleasant experience of it, and I was much pleased with its flavour, and as an article of diet I can recommend it to those who prefer light and nutritious food to beefsteaks and porter. I consider Mr. Henry Moss deserves the thanks of the community for thus inaugurating a valuable article of food, and I consider that they should take a substantial form, thus giving a material guarantee of our appreciation of his efforts to benefit mankind. It has been said "that the man who makes two blades of grass grow where one only grew before is a benefactor to his species"; how much more is he who gives us an abundant supply of a perfectly new, nutritious, and palatable article of food. I have brought with me this evening a specimen of the starch granules of the Macrozamia mounted dry. The smaller grains are chiefly round, rarely oval, the larger are perfect ovoids, resembling so many small birds' eggs. They differ from the other varieties of starch, as depicted in the second part of the second volume of the third edition of Pereira's "Materia Medica," and are "sui generis." I have also brought a specimen frond of the plant for your inspection.

References to Engravings:—

No. 2. Female cone. No. 5. Seed (nat. size).
TRANSVERSE SECTION OF FANG OF HUMAN TOOTH, SHOWING CASE OF EXOSTOSIS.

By Mr. Hugh Paterson.

[Read before the Microscopical Section of the Royal Society of N. S. W., 20 September, 1876.]

The fangs of the teeth are, under ordinary circumstances, covered on the external surface with a thin layer of cementum, but when, whether from caries or any other cause, irritation of the dental periosteum takes place, it gives rise—in some constitutions—to the morbid growth termed exostosis, if the word may be allowed to pass muster, as strictly speaking it is the cementum, a modified form of bone, which is here enlarged.

"Mr. Jones, who has made careful microscopical examinations of this substance, describes it as being similar to osseous tissue, its structure being composed of minute granules closely united, the individual granules being about the 1/10,000 of an inch in diameter. Scattered through the so-formed tissue are cells from which numerous tortuous tubes proceed, the tubes themselves freely anastomosing with each other and with those sent from neighbouring cells; by this arrangement a network of cells and tubes, permeable by fluids, is carried throughout the whole mass. When the cement exists in any quantity it is traversed by canals for blood-vessels."

The interest attached to this disease is mainly due to the derangement it may cause to the nervous system. In my younger days, when in London, I had occasion to remove some eighteen teeth and stumps, all more or less affected by exostosis, before permanent relief was afforded.

Another case which may be of interest to this Section, on account of the name of the sufferer, was that of the late Rev. Wm. Quekett, brother of the late Professor John Quekett, whose labours as a pioneer in microscopical research are well known and respected. The offending tooth in this case was an upper molar; it caused great and long continued suffering, and the exostosis was of a very extensive nature.

This tooth is in the Hunterian Museum of the Royal College of Surgeons of London. I remember that at the time it impressed me as bearing some distant resemblance to a rustic garden stool, so nodulated and distorted were the fangs by the hypertrophy of the cementum.
NOTES ON TWO SPECIES OF INSECTIVOROUS PLANTS INDIGENOUS TO THIS COLONY.

By J. U. C. Colyer.

[Read before the Microscopical Section of the Royal Society of N.S.W., 24 November, 1876.]

On August 28th, 1874, a most interesting address was delivered by Dr. Hooker at the British Association in Belfast, Ireland, on the subject of Insectivorous Plants, and more especially with reference to that known as Dionaea muscipula (Venus’s Fly-trap). So great was the interest taken at the time on this subject of vegetable carnivora, that illustrations appeared in the Graphic of plants possessing this peculiar property, and grown in the Royal Botanic Gardens, Kew. Since then my attention has been directed towards certain plants indigenous to this country, belonging to the order of Droserace or “Sun-dews” and more particularly to the Drosera spathulata, and Drosera binata, specimens of which I now beg to place before this meeting.

They are both found in marshy or swampy ground near Sydney, and are attractive to the eye by the numerous sparkling minute drops of clear fluid, like dew, adhering to the long slender filaments by which the edge and upper surface of the leaves are surrounded.

On warm days this peculiarity seems to be greater, or in no way decreased, as might naturally be supposed, by the extreme heat of a mid-day sun.

This fluid is of a glutinous nature, forming an attraction to flies and other insects, all of which find certain death, when once they alight on either the mid-rib of the frond of Drosera binata, or are entangled in the viscous globules exuded by either plants on the outer ends of their filaments.

The order to which these plants belong have not only been considered insectivorous in their habits, but also carnivorous, and as many of you may be aware, have been subjected to minute and careful examination with various experiments, by such eminent men as Professor Darwin, Dr. Klein, Dr. Hooker, Dr. Burdon Sanderson, and others, all of whom concur in the one opinion, viz.: that they are beyond doubt vegetable carnivora.

The Drosera spathulata, so called from the resemblance of its leaves to the spathula used by chemists, has a remarkable starry appearance, and is of a dun-red colour, each leaf fringed round with numerous filaments or tentacles. I have never noticed the plant to exceed two (2) inches in diameter.
The flowers are racemed, or borne in bunches on a stem rising from the centre to a height of about five (5) inches, and are pure white.

The *Drosera binata* is a much larger plant, and of an entirely different appearance, though, like the former, the sides and upper surface of the leaves are armed with tentacles of considerable length, some extending half an inch, and the points of each bearing small pear-shaped knobs or glands, from which issue the clear viscid fluid.

It attains a height sometimes in favourable localities of twenty (20) inches; each stalk is of a rush-like character, and bearing two blade-leaves of almost an eighth of an inch in width—bifurated once always, and sometimes more. These not infrequently attain a length of seven and a half (7½) inches from its junction with the stalk; the mid-rib of each being hollowed out on both sides, but more on the inner, giving the appearance of grooves. The apex of the blades is extremely fine, terminating in very long tentacles.

The flowers are similar in many respects to *Drosera spathulata* with the exception that the stalk issues immediately from the root and is of a chocolate colour, differing in that particular from the stalks of the leaves, which are green.

Seen under a microscope with a low power, the leaf presents a curious and most interesting appearance; the whole of the mid-rib often completely covered with the remains of insects caught, and apparently dissolved or digested, and upon examination these are found to be but the mere shells or cases of the former flies, all of which are found longitudinally placed on the mid-rib of the blade, and their natural hue changed to black. Even bush ants half an inch in length I have seen unable to extricate themselves from the tentacles, the marginal rows possessing the marvellous power of closing over their victims and gluing them firmly to the smaller and shorter glands rising from the centre of the blade.

When insects are thus entrapped, their struggles to become free excite the glands to such an extent that they immediately inflect on the irritating object, and the glutinous matter (which, by the way, has been proved to be albumen), heretofore possessing little or no acidity, now appears by the inflected action of the tentacles to have changed its nature and become most acrid, litmus paper being immediately tinged with it. Mr. Darwin states, in his work on "Insectivorous Plants" (page 86), referring to an experiment on the leaves of *Drosera rotundifolia* (a plant resembling *Drosera spathulata*) that "The secretion of many glands on thirty leaves, which had not in any way been excited, was tested with litmus paper; and the secretion of twenty-two of these leaves did not in the least affect the colour, whereas
that of eight caused an exceedingly feeble and sometimes doubtful tinge of red. Two other old leaves, however, which appeared to have been inflected several times, acted much more decidedly on the paper. Particles of clean glass were then placed on five of the leaves, cubes of albumen on six, and bits of raw meat on three, on none of which was the secretion at this time in the least acid. After an interval of twenty-four hours, when almost all the tentacles on these fourteen leaves had become more or less inflected, I again tested the secretion, selecting glands which had not as yet reached the centre or touched any object, and it was now plainly acid. The degree of acidity of the secretion varied somewhat on the glands of the same leaf.

The secretion so discharged has been examined by Dr. Darwin, in order to ascertain whether this acid matter approaches to the gastric juice or digestive material found in the stomachs of animals, and the experiment showed that "the acid belongs to the acetic or fatty series" (see page of "Insectivorous Plants" 88.)

Professor Frankland observed of the fluid taken from the filaments of Drosera rotundifolia that "when acidified with sulphuric acid it emitted a powerful odour like that of pepsin."

By the kindness of Mr. Hirst, the Secretary of this Section of the Royal Society, I have been enabled to examine with his microscope the structure of these plants, more especially Drosera binata. On placing one of the tentacles of the latter under a low magnifying power its structure is fairly displayed. It consists of a straight, pale green hair, carrying at the end a balloon or pear-shaped gland, of a red or scarlet hue, in some cases more brilliant than others; but on increasing the power to 1,400 diameters, by a sixteenth inch immersion lens, the character of the gland is more clearly defined. We see that the spiral vesicle which traverses the centre of the pedicel increases in breadth as it approaches the gland, and divides into two branches, each branch of which, as it reaches the centre of the gland, doubling backwards and forwards on itself several times, the whole at first sight having the appearance of pistil of a poppy. The spiral vesicle passes from the gland down the pedicel to the mid-rib of the frond, and in that also, upon further investigation, can this spiral arrangement of cells be found.

The pedicel bearing the gland is apparently divided lengthwise into rows of elongated cells; those contiguous to the spiral formation being filled with a fluid containing granules of matter, frequently found in an aggregated condition, but having an ever-changeful irregular motion. This matter is frequently understood by the word "protoplasm." In Drosera rotundifolia, Darwin states that in the course of a few minutes he has noticed these germs undergo many changes, and that they pass up and
down the walls of the cells through the fluid, uniting, separating, and reuniting, being never at rest, "presenting a wonderful scene of vital activity." Referring to *Drosera binata*, I would again remark that I have noticed this action is entirely confined to the cells next the spiral column or duct.

It has been surmised that the inflection of the tentacle is produced by the contraction of the cells, caused by the pressure of the irritating or exciting object, and consequent increased aggregation of the germs against the walls in the cells, sending its motor impulse down the tentacle to the base, at which part it seems to bend, but considerable difference of opinion has been expressed on this point. Mr. Darwin says:—"On the whole, the belief that the walls of certain cells contract, some of their contained fluid being at the same time forced outwards, perhaps accords best with the observed facts. If this view is rejected, the next most probable one is that the fluid contents of the cells shrink, owing to a change in their molecular state, with the consequent closing in of the walls. Anyhow, the movement can hardly be attributed to the elasticity of the walls, together with a previous state of tension."

No comparison can be made with the action of the "Sensitive Plant" (*Mimosa pudica*) in the closing of its leaflets when irritated, this being merely mechanical and assumed nightly by the plant as if in repose, whereas the secretion from the inflected tentacles continues without interruption until the whole of the juices of the exciting object have been absorbed. The effect of a shower of rain on the Sensitive Plant would immediately close the leaflets, whereas heavy rain or water falling in large drops from a considerable height do not in the least move the tentacles of the *Drosera*.

On observing some of the inflected tentacles after the capture of an insect, one cannot but be struck with the change effected in them, compared with those taken from the plant in its normal condition. The red colouring matter, heretofore confined to the gland, has now descended the green pedicel as far as the base, and apparently granulated into cakes, also on the outside of the gland towards the head may be seen numerous black nuclei, possibly the mouths of channels leading into the spiriferous cells of the same, nevertheless the protoplasm in the pedicel is still moving, though slowly, and slightly agglomerated. This would in a measure show a tendency of the fluid to flow towards the mid-rib of the frond caused by the action of absorption.

Placing small pieces of raw meat on a healthy full-grown plant, I found that within three hours the marginal tentacles were inflected, and in twenty-four hours the meat was completely enveloped in their folds—the leaves as well as the tentacles of *Drosera spatulata* being entirely curled over it. On separating
some of the tentacles from this plant they presented the same granulated appearance.

The effect of the application of heat by boiling is to produce coagulation of the albumen, and render the whole of the glands opaque, and of a brilliant white porcelain appearance,—the tentacles are immediately bowed back, and the whole of the frond rendered flaccid; but on submitting another portion of the frond to either the fumes of strong ammonia, or immersion in a very slight solution of liquid ammonia and water, the result obtained was the instant inversion of the marginal tentacles, the total disappearance of the red colour from the whole of the glands, and the matter in them agglomerated into black nuclei.

But upon boiling a section of the frond in a solution of caustic potash and distilled water, to obtain a better view of the structure of the spiral cells, I discovered that the back of the mid-rib of the frond was studded with a number of stomata or breathing-vessels, which heretofore have apparently not been observed.

On repeating the same experiment on some of the inflected tentacles which had enveloped a common house-fly, the black spots which before were seen arranged around the head of the gland now vanished, proving in a negative manner that they consisted of nitrogenous matter absorbed into the orifices by the plant.

One other remarkable feature deserving especial notice are a number of dorsal tentacles, having no power of movement, yet capable of absorbing nutritive juices.

I have noted with some curiosity the occasional presence of a small insect or fly on the fronds of the *Drosera binata*, from about a quarter to half an inch in length, smooth and glossy, of a red colour, with black and white spots on the backs of the bodies, and long clean legs, devoid of hairs. It possesses the remarkable power of walking all over the fronds without in any way being impeded, or entrapped (as all other insects are) by the treacherous drops of viscid fluid exuded from and adhering to the glands. Most plants have their insect enemies, such as worms, &c., which draw their nutriment from the leaves which they devour; but strange to say, this particular fly does not seem to destroy the blades of the *D. binata* in the least, and only lives on the dead insects captured by the closing of the tentacles—also in one instance when fragments of raw meat were placed on the blades, the fly seemed to be attracted towards them.

There are many other points too numerous to mention in a paper of this length connected with these truly wonderful plants, and which would amply reward careful study. Several eminent authorities—Dr. Darwin especially—have given them much attention, and have written apparently exhaustively on the subject, but a careful observer will note much that has been left
unexplained, and many phenomena connected with their structure and habits, as yet untouched upon. There is a large field here that would amply repay a little perseverance, and even the few facts already observed and which I have endeavoured to put before you to-night, cannot but strike with wonder when viewed for the first time.

That the animal and vegetable kingdoms are in many respects closely allied none I think will be disposed to deny. Vegetable food is we know the means of subsistence to the bulk of animal life on the globe, but here we have an example actually of the reverse; for it has been proved that if these plants be deprived of the means of obtaining sustenance through the insects caught by them, as for example by enclosing them in a glass shade, they quickly become sickly and die, their roots not being formed for extracting nitrogenous or organic matter from the ground.

SECTION F. — GEOGRAPHY AND ETHNOLOGY.

At the preliminary meeting of this Section the following Committee was appointed:—

CHAIRMAN.—Mr. E. Du Faur, F.R.G.S.

COMMITTEE.—J. Manning, C. L. Sahl, A. S. Webster, The Hon. L. Fane De Salis, M.L.C.

HON. SECRETARY.—Wm. Forde.

Owing to the absence of some of the Committee from Sydney, it was not thought advisable to call the Section together until the September meeting, at which arrangements were made for the preparation of lists from the Public Libraries of this and the neighbouring Colonies, and from other sources, of all works bearing on Exploration in Australasia and the Islands of the Pacific, also for collating all information published on the Aborigines.

These matters are proceeding.

Tracings of Ice Charts showing the track of ships running down easting have been promised to this Section from the original belonging to Commodore Hoskins, R.N.

Commander Hoskins, R.N., of H.M.S. "Pearl," and Lieutenant Penn, of H.M.S. "Sappho," have kindly promised charts showing the recent alterations in surveys, and also discoveries made by the Admiralty in the Pacific.

The Free Librarian of Tasmania has forwarded a list of works on Exploration and the Aborigines. The Librarian Melbourne, and the Secretary of the South Australian Institute, have promised similar contributions.
The meetings of the Section have been so sparsely attended by members hitherto that no steps have been taken beyond making the preliminary arrangements above referred to.

E. Du FAUR,
Chairman.

Wm. Forde,
Hon. Secretary, Section F.

SECTION G.—LITERATURE AND FINE ARTS, INCLUDING ARCHITECTURE.

There have been six meetings of this Section, at three of which quorums have not been formed.

PRELIMINARY MEETING, TUESDAY, 27 JUNE, 1876.

Fourteen members joined, and the following elected office-bearers:

CHAIRMAN.—E. L. Montefiore.
HON. SEC.—H. A. Lenehan.

Business meetings arranged for fourth Monday of each month during session, and that the subject for first business meeting should be "Processes of Photographic Reproduction."

MONDAY, 24 JULY, 1876.

Mr. E. L. Montefiore in the Chair.

Several members were present. A considerable number of examples of the various photographic reproductions were exhibited by members of the Section, also some of the pellicle patented by Mr. Kennett, of London, for his dry plate process. Mr. Russell submitted, for the information of the members, the cost of obtaining the use of Woodbury’s patent, obtained by him from that gentleman during his recent visit to Europe. The plates exhibited printed by the process obtained from Mr. Woodbury himself were exceedingly beautiful. This process was considered to give not only much greater detail in the pictures, but greater rapidity in reproduction than other processes. After a lengthened discussion as to the various processes, it was resolved,—“That a letter be prepared, and submitted for the approval and signatures of the members, at the next general meeting of the Society, asking the Government to procure, for the use of the Government Printing Office, the process invented and patented by Mr. Woodbury, by which photographs taken direct from natural objects could be printed with all the truth-
fulness and detail of an ordinary silver print." In illustrating works of the natural history of the Colony, its buildings, public works, &c., it was considered that the process would be very valuable, and might very soon be made reproductive. It was resolved,—"That Count de Zaba be invited to attend the next meeting of the Section, to be held on the 28th proximo, for the purpose of explaining to the members his method for facilitating the study of universal history and literature."

The letter to the Government was signed by twenty-one members at general meeting.

MONDAY, 28 AUGUST, 1876.

COUNT DE ZABA was present by invitation, and in a conversational way gave a description of his method of historical teaching.

MONDAY, 25 SEPTEMBER, 1876.

No quorum.

MONDAY, 23 OCTOBER, 1876.

No quorum.

MONDAY, 27 NOVEMBER, 1876.

The last meeting of the session. Mr. E. L. Montefiore read a very interesting paper on Etching and Etchers, illustrated by etchings by Rembrandt and others.
He commenced by alluding to the common error of styling pen and ink drawings etchings, explaining that an etching was a drawing produced on a metal plate, by means of lines or strokes bitten in or corroded by the action of acid, from which impressions were afterwards taken through the medium of a printing-press—the artist's ideas being thus capable of reproduction; and that whilst it required a certain amount of skill in the use of pen or pencil to produce a good etching, a person might produce any charming pen and ink drawings although utterly ignorant of the art of etching. Mr. Montefiore then proceeded to show the difference between etching and engraving, the latter being more of a mechanical process, the effect being produced by a series of regular lines and dots, executed on metal with the "burin" without the aid of acid, and necessarily not possessing the freedom of the etching, in the execution of which the artist allows his needle to wander freely over the plate, as though he were drawing with pen or pencil, leaving it to the acid to give the necessary gradations of light and shade. Quoting from Gilbert Hammerton, himself an experienced etcher, he remarked that the central idea of etching was the free expression of purely artistic thought, and that of all the arts known it was the best fitted for that especial purpose. The ideal of an etching, said that writer, is that it should be free and spontaneous. When a plate has been laboriously corrected it always showed signs of fatigue, and so lost in freshness what it might have gained in delicacy and force. A certain kind of self-reliance, almost approaching a conviction of his own personal value, was necessary to an aquafortist. The needful elements of success in direct work of any kind was absolute sincerity and simplicity. Good etching, like good manners, did not hesitate about what is to be said or done, and though highly sensitive, was not painfully self-conscious. Above all, it casts away affectation, the vice of the inferior arts. Etching does not condescend, and therefore really need not be at the trouble to polish its phrases and explain. The truth of these remarks he considered abundantly exemplified in the works of Rembrandt, the great representative master of the art of etching.
Mr. Montefiore then proceeded to describe the various processes used by the etcher—viz., pure etching, dry point, aqua-tint, and soft ground etching. That these processes might be more clearly understood by the members present, he exhibited the various tools used in the different processes, and explained their uses, showing the plates in different states of progress. He also gave a lengthened and interesting account of the method of preparing the copper plates used in etching. As showing the necessity of reversing the drawing where accuracy was required, he instanced a curious error in an etching of the Life School of the Royal Academy, by Cope, the Royal Academician, in which the whole of the students are seen drawing with their left hands, whilst the model is drawing a sword from his right side.

Mr. Montefiore proceeded to observe that etching was believed to have been invented about forty years later than engraving, and was commonly practised in Germany in 1512; but that the great master of etching, whose name would always be associated with the art, was Rembrandt, who flourished in the early part of the 17th century. He then expatiated at some length on Rembrandt's marvellous skill as an etcher, the great apparent negligence of his etchings, their remarkable boldness and freedom, and wonderful distribution of light and shade. He stated that essays had been written on them in France, Holland, Germany, and England, and that Adam Bartsch, himself an engraver, keeper of the print room in the Vienna Museum, writing of him in 1797, said—"However great may be the reputation Rembrandt has acquired by his paintings, he is no less celebrated by his etchings, which have at all times excited the admiration of connoisseurs; a vagabond liberty, a picturesque disorder, an easy touch, the rarest perception of chiaroscuro, and the talent of expressing the character of the different ages and subjects he was treating, by touches thrown in as it were by chance. Such are some of the elements, and there are many others, which constitute the merit of Rembrandt as an engraver, which give such an inexpressible charm to his prints." Rembrandt, it was said, would never etch in any person's presence, so that many of his processes are unknown. As showing Rembrandt's wonderful rapidity, Mr. Montefiore related the following anecdote:—That being at table with his great friend and patron Burgomaster Six, the mustard-pot was asked for, and not being on the table, the servant was sent to fetch it. Rembrandt, knowing the tardiness of the domestic, laid a wager with his friend that he would commence and finish an etching before he returned, a feat he actually accomplished, the plate being known as "Six's Bridge, or the Mustard Pot." Requiring on the large sums given for Rembrandt's etchings, Mr. Montefiore stated that an impression of his portrait of the Burgomaster alluded to, which was generally
considered one of the most finished and perfect of Rembrandt's etchings, was sold in London in June last for £270, one of his celebrated portraits of Von Tolling for £500, and one of Ephraim Bonus, the Jewish physician, for £160. At this sale about 200 of his etchings realized £1,293. "Christ healing the Sick," better known as the 100-guilder piece, from the fact that Rembrandt would never sell an impression under 100 guilders (about eight guineas), was considered as Rembrandt's masterpiece. At a sale in London, in 1867, of Sir C. Price's collection, a copy of this in the first state of the plate realized the enormous sum of £1,180. The British Museum was supposed to contain one of the finest collections of Rembrandt's etchings. Mr. Montefiore then alluded to other celebrated painters of the 17th century who were skilful etchers, enumerating amongst others, Claud, Annibal Carraci, Rubens, Van Dyck, Ostade, Teniers, Salvator Rosa, Berghem, Paul Potter, &c.; he also dwelt on the works of Callot and Della Bella, two very prolific etchers who flourished during the same period.

Mr. Montefiore remarked that the art of etching had not been much practised or appreciated in England, although England had produced some very good etchers. Some years back a few artists had formed themselves into an Etching Club, and had published some of their etchings from time to time, which had been much sought after. Amongst English etchers might be mentioned—Turner, who, however, merely employed the needle for outline, filling in with mezzotint; Landseer in his early days had published a series of etchings; Wikie, David Roberts, Cope, Ansdell, Hunt, Millais, Creswick, Redgrave, &c., also etched. At the present day he considered that there was no English etcher equal to Seymour Haden, of wicker coffin celebrity, an amateur, and surgeon by profession. There was a boldness and free handling about his work not approached by any other etcher of the English school, and indeed there were few contemporary etchers equal to him elsewhere. Mr. Montefiore submitted for the inspection of the members a very fine example of Haden's, called the "Breaking-up of the Old Agamemnon" to which, at the time of its publication, the Times devoted a column and a half. He stated that there had been a great revival of the art of etching in France of late years, owing in great measure to the exertions of the well-known and enterprising publisher, Monsieur Cadart, who had made the printing and publication of etchings a speciality—his prints were, as a rule, much superior to those produced in England. Having already alluded to some of the old masters of the French school of etchers, such as Claude, Callot, &c., he would not occupy their time further by dwelling at length on the modern school, but would in conclusion, merely allude to one who might with justice be considered at its head,
viz., Maxime Lalanne, of whom it had been said that whilst there were etchers of greater power and more striking originality, there was never one equal to him in a certain delicate elegance from the earliest times till now. Maxime Lalanne was the first artist who ever received knighthood for his skill as an etcher, that honor having been conferred on him by the King of Portugal, himself an etcher. Mr. Montefiore illustrated his paper by a very interesting collection of etchings by ancient and modern artists, including works by Rembrandt, Berghem, Paul Potter, Hollar, Callot, Della Bella, Landseer, Lalanne, Haden, Millais, Jaquemart, Appian, Otto Weber, &c.

An interesting discussion then followed on the merits of the various processes: and before the meeting dispersed, a very cordial vote of thanks was accorded to Mr. Montefiore for his very interesting paper, with the request that he would allow it to be published.

The Chairman stated that, at a future meeting, he hoped, through the kindness of Messrs. J. Fairfax and Sons, that the members of the section would have an opportunity afforded them of seeing specimens of the process of electrotyping which was now largely used in printing.

SECTION H.—MEDICAL SCIENCE.

Dec. 2, 1876.

To the Honorary Secretaries of the Royal Society of New South Wales.

GENTLEMEN,

In pursuance of By-law No. XXX, we have the honor to forward a report of the proceedings of the Medical Section during the past session. The first meeting of the Section took place on June 28th. Alfred Roberts, Esq., was elected Chairman, and Drs. Cox, Cosby, Morgan, and Milford, and G. A. Wright, Esq., were elected Members of Committee. Dr. P. Sydney Jones was elected Honorary Secretary. At a subsequent meeting Dr. MacLaurin was associated with Dr. Jones in the Secretaryship. The monthly meetings have been fairly attended; pathological and other specimens have been exhibited, and interesting papers have been read. Rules for the guidance of the members of the Section have been drawn up, printed, and adopted. Donations have been made by Drs. Cox, Schuette, Ward, and Sydney Jones.

ALFRED ROBERTS, Chairman.

P. SYDNEY JONES, Honorary
H. W. MACLAURIN, M.D., Secretaries.
SECTION I.—SANITARY SCIENCE.

Report of the Social and Sanitary Science Section of the Royal Society for the session of 1876.

To the President of the Royal Society.

Sir,

I have the honor to submit the following report:—

The Social Science and Statistics Section held a preliminary meeting on the 29th June, when it was unanimously resolved that a proposition be submitted to the Council that Section H. Sanitary Science be joined to Section I, Social Science and Statistics. The proposal having been agreed to, the Section has since that date met as the Social and Sanitary Section.

At its first meeting, held on the 10th July, Mr. Roberts, M.R.C.S., was chosen as Chairman; Dr. Morgan, and Messrs. Bedford, M.R.C.S., Voss, and Tarleton were elected a Committee; and Mr. Harrie Wood was appointed Honorary Secretary.

The Section then decided that its ordinary meetings be held on the second Tuesday in each month.

Steps were taken to procure all the papers, etc., published by the Sydney and Suburban Sewage and Health Board, by the Victorian Central Board of Health, and by the English Board of Health, but the publications of the last-named Board have not yet been received.

At the meeting held on the 8th August, Dr. Belgrave called attention to the Vital Statistics published by the Registrar General, and pointed out certain defects therein. After careful consideration, it was generally admitted that in many cases the cause of death as stated rendered the statistics of comparatively small value as a basis for sanitary legislation. The defects appeared to be mainly due to want of care or want of skill on the part of the persons by whom certificates of death are granted; and in order to ascertain the facts a series of questions were submitted to the Honorable the Colonial Secretary. These questions elicited the following replies:—1. That the primary cause of death is given in all cases where specified in the certificate. 2. That the certificate of death is required principally for the purpose of statistics upon which sanitary legislation may be based. 3. That the Nosological table used here is the same as that used by the Registrar General of England. 4. That the statistics include deaths certified by persons other than legally qualified medical practitioners, but in what proportion is not at present known. These replies having been discussed, it was resolved that the papers be referred to the Medical Section, with a request that the members will consider the matter and favour this Section with the result of their deliberations.
On the 12th September Dr. Belgrave read a paper on "Preventable Disease and Sanitary Organization." The consideration of this paper engaged the attention of the Section at an ordinary and three special meetings. The subject was divided under three heads, and dealt with as follows:—1. That the poisons of cholera and typhoid fever are communicable by filtered water, and that there is danger of the Botany water supply becoming contaminated by organic poison. 2. That an efficient system of registration of infectious and contagious diseases, with a view to arresting their further development, would be beneficial to the community. 3. That the decomposition of filth can give rise to specific fevers. 4. That venereal disease is prejudicial to public health, and is more or less reducible under the combined influence of education and legislation. 5. That a State sanitary organization is urgently required in New South Wales. It was then resolved that the Royal Society be invited by this Section to wait upon the Government by deputation, and urge it to introduce during the next Session an efficient General Public Health Act and to appoint a Central Board with ample powers to see its provisions enforced.

On the 26th September Dr. Belgrave drew attention to the statistics of the mortality in the principal cities of Continental Europe recently published in the Journal of the British Medical Association, from which Sydney, in spite of its almost unrivalled natural hygienic advantages, is shown to be at present one of the most unhealthy cities in Christendom.

On the 10th October Mr. Roberts, M.R.C.S., laid on the table a memorandum which he had prepared at the request of the Colonial Secretary upon hygiene, especially in its bearings upon epidemics. Mr. Roberts also read some remarks on the measures adopted by him under the Government to prevent the spread of erysipelas. A communication was received from M. Jules Joubert forwarding a photograph of an apparatus for cleaning water-pipes, and asking the Section to move the Royal Society to offer a prize for the best display of exhibits in the Sanitary Department of the Agricultural Society's next Exhibition. The Section at a subsequent meeting adopted the following resolution:—That, in the opinion of the Social and Sanitary Science Section, the Royal Society might with advantage to the community co-operate with the Committee of the Agricultural Society in promoting the exhibition of all articles tending to advance sanitary science and improve sanitary appliances.

Dr. Belgrave called attention to the prevalence of small-pox in San Francisco, and the danger of the disease being brought to this Colony by means of the mail steamers from that port. It was generally admitted that the danger is great, and that precautionary measures should as far as practicable be taken,
and that the strongest reason for vaccination exists. At the same meeting a Committee was appointed to collect and prepare for publication and distribution useful information on domestic sanitation suited to general use.

On the 14th November, a paper by Miss Chase, containing a few practical remarks upon the ventilation and management of emigrant ships, communicated by Mr. Roberts, was read. At the same meeting, Dr. Spencer read a paper upon "A scheme for supplying Sydney with water from the Erskine Valley." Considerable interest in the subject was evinced by the members, some twenty-five of whom were present; and it is to be regretted that, owing to the lateness of the hour when the reading of the paper was concluded, it was impossible to devote much time to its discussion. The importance of the subject, however, and the substantial value of information contained in Dr. Spencer's paper, recommend it for publication in the Society's Transactions. The short paper by Miss Chase is of an essentially practical character; and I would suggest that it might with advantage be forwarded to the Government, with a recommendation to the effect that it should be transmitted to the Agent General of the Colony for his consideration.

In conclusion, I would recommend that the Committee appointed to collect and prepare for publication information on domestic sanitation be permitted to sit during the Society's recess.

I have the honor to be,

Sir,

Your most obedient servant,

ALFRED ROBERTS,

Chairman.

View This Item Online: https://www.biodiversitylibrary.org/item/112017
DOI: https://doi.org/10.5962/p.358789
Permalink: https://www.biodiversitylibrary.org/partpdf/358789

Holding Institution
Smithsonian Libraries and Archives

Sponsored by
Biodiversity Heritage Library

Copyright & Reuse
Copyright Status: Public domain. The BHL considers that this work is no longer under copyright protection.

This document was created from content at the Biodiversity Heritage Library, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at https://www.biodiversitylibrary.org.