ABSTRACT OF PROCEEDINGS,

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18th March, 1913.

The Annual General Meeting was held at the Museum at 8 p.m., Dr. Fritz Noetling in the chair.

The Secretary read the annual report (printed in the *Papers and Proceedings* for 1912), which was adopted on the motion of Mr. T. Stephens, seconded by Mr. A. O. Green.

The Honorary Treasurer (Mr. E. L. Piesse) presented the balance-sheet, which was adopted on the motion of Mr. A. O. Green.

The following nine gentlemen, having been duly nominated, and there being no other nominations, were declared elected as members of the Council for 1913:—Dr. G. H. Butler, Dr. A. H. Clarke, Mr. Samuel Clemes, Mr. J. A. Johnson, Dr. Fritz Noetling, Mr. E. L. Piesse, Dr. J. S. Purdy, Mr. Leonard Rodway, and Dr. Gregory Sprott.

Mr. H. W. W. Echlin was appointed Auditor for 1913.

The following were elected members:—Mr. C. H. D. Chepmell, Dr. J. L. Glasson, D.Sc., Mr. G. H. Hurlstone Hardy, Mr. P. H. Mitchell, M.A., and Mr. Walter Wright.

A special general meeting was held at the conclusion of the annual meeting.

Mr. E. L. Piesse moved the adoption of the following new rule:—"The Council may authorise persons not members of the Society to be present at any meeting without introduction by a member, and (notwithstanding Rule 45) to take part in the discussion of any papers."

After some discussion, it was decided to refer the rule back to the Council for re-drafting in the direction of limiting the meetings at which visitors might be asked to take part.

Monday, 14th April, 1913.

The Monthly General Meeting was held at the Museum

at 8 p.m., Dr. A. H. Clarke (Acting Chairman of the Council) in the chair.

Officers.

The Chairman announced that the Council at its last meeting had elected Dr. G. H. Butler to be Chairman during the current year, and had appointed himself to be Acting Chairman during the absence of Dr. Butler in Europe; and had appointed the following officers for the current year:—Mr. E. L. Piesse to be Honorary Acting Secretary, Mr. L. Rodway to be Honorary Treasurer, and Mr. J. Moore Robinson to be Honorary Librarian.

The Australasian Antarctic Expedition.

The Chairman announced that Captain J. K. Davis and Dr. Whetter, of the Australasian Antarctic Expedition, and Mr. Van der Gracht, who went to the Antarctic in the Aurora, had been invited to be present that evening, but they had been unable to remain in Hobart. Mr. C. T. Harrisson, the Tasmanian representative in the expedition, was present, however. They had heard a good deal of the risks and dangers which were incurred in the various sledging and other expeditions, and the continual risks and hardships undergone by those who were taking scientific observations. They were glad that Mr. Harrisson had returned safely, and on behalf of the Society he tendered Mr. Harrisson a hearty welcome.

Colonel Legge, as a member for Tasmania of the organising committee of the Expedition, welcomed Mr. Harrisson, and spoke of the hardihood and pluck of those who composed the Australian Expedition, and the good work they had done. Some were doubtful at the start whether Australian-born men, not accustomed to extreme cold, could stand the Antarctic climate, but they had proved that they could do so. They must give the members the highest credit for the good work they had done, but at the same time they must remember the sad deaths of those who had lost their lives in the pursuit of science. When they came to think of a young nation like Australia planning and sending out such an expedition, that alone was a wonderful thing, and a thing which had never been done before by any nation of the same age. Australia ought to be proud of what had been done. If nothing had been done but establishing a wireless station in the Antarctic, it would have gone a long way towards making the expedition a success. When the expedition was in its initial stages it was hard to get up any interest in it

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in Tasmania, but he was glad to say that after it left the sum of £500 had been voted, which had removed from the State the disgrace of not assisting the expedition. When its history was written, this expedition would stand as one of the most memorable ever undertaken to the Antarctic. He was familiar with the work of the German, French, Belgian, and English expeditions, but in no expedition, at any rate in the South, had he ever heard of such a feat being performed as that of Dr. Mawson. The loss of his two companions was bad enough for a man's nerves, but in spite of that, with a temperature 30 or 40 degrees below zero, and with winds which occasionally reached 90 miles an hour, he found his way back to his base with a sledge and two or three dogs, after 21 days over heavy and broken ice. It was one of the most wonderful feats ever done in Arctic or Antarctic exploration.

Mr. C. T. Harrisson, who was received with loud applause, returned thanks for the kindness which had been shown him, and said that he appreciated the honour of having been a representative of Tasmania in this expedition. Of the work done, he could only say that they were ambitious of carrying out more than they effected. The biological work was very disappointing, and they were six months before they saw a stone or a rock of any description, except some pebbles from the stomach of a penguin. They afterwards found that the nearest rock was 35 miles to the south-east, while in the other direction it was 60 miles away in a straight line. He could endorse all that Colonel Legge had said about the leader of the expedition, Dr. Mawson, and his organisation. They could not have had better men than Dr. Mawson, Captain Davis, and Mr. Wild, and the organisation was splendid. The food and the clothing were not only abundant, but they were the best of their kind. There was hardly a thing spoiled when the cases were opened. In regard to the ability of Australians to stand the cold, he said that two members of the expedition came from Queensland, one being from Rockhampton, and they not only stood the cold, but returned stouter and better men than when they left their homes run down by the heat.

Election of Members.

Mr. E. Morris Miller, M.A., Mr. P. R. Seager, LL.B, Mr. Hector Ross, Mr. G. M. Johnstone, LL.M., Mr. Edward Hawson, Mr. R. C. Stephens, B.A.,

Mr. W. Ashton Jones, Mr. L. F. Piesse, Professor J. H. Mackay, M.C.E., Mr. J. W. Green, Mr. Gordon Wood, Mr. C. E. Lord, Mr. J. C. E. Knight, and Mr. A. W. Adams, were elected members.

Exhibits.

Mr. L. Rodway exhibited a specimen of a stunted eucalyptus found by Mr. E. P. Harrison at the foot of Brown Mountain, at the entrance to Port Arthur. It is apparently a form of *Euc. globulus* Lab., rather close to the condition of that species as found in Gippsland, and differs from the type in the smaller, less falcate, leaves, the flowers smaller and in threes, and the fruit smaller, less rugose, with a rather sunk capsule. The tree appears to be rather close to the form recently described by R. T. Baker as *Euc. unialata*, but it may for the present very well be referred to as *Euc. globulus* var. *Harrisoni*. Some Eucalypts respond in a remarkable manner to change of environment, and it will be very interesting to note the result of growing this tree from seed on good garden soil.

Mr. Rodway also exhibited a specimen of bluegum timber, which had been taken from a beam in the old Barracks at Hobart, and had done duty for nearly a hundred years, and yet was perfectly sound and fresh.

A pair of large tumors from the stem of a small sassafras were also shown by Mr. Rodway. The cause of the enlargement in each case was a stump of dead branch about an inch long. Sassafras has the peculiar habit of shedding its dead branches with a clear line of demarcation, leaving a concave smooth scar, which readily becomes covered with advancing tissue. In these instances the branches appear to have been broken off at an inch from the base, and the stumps were not rejected. New tissues covering them were stimulated in some manner to excessive growth, with the result that these large galls were produced. The tissue of the galls was normal zylem.

Mr. C. T. Harrisson exhibited some sketches made in the Antarctic.

Papers.

The following papers were read:—

"A Rectification in the Cartography of North-East Tasmania." By Colonel W. V. Legge, F.R.G.S.

"The Height of Ben Lomond." By L. F. Giblin, B.A., E. L. Piesse, B.Sc., LL.B., and H. R. Hutchison, authorised surveyor.

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"On the Relation between the Loss of Energy of Cathode Rays and the Ionisation produced by them." By J. L. Glasson, B.A., D.Sc.

In introducing his paper, Dr. Glasson said that Tasmania exported last season between one and two hundred million apples. The number seemed enormous, but spread them uniformly over the whole of Tasmania, and they would be 50ft. apart. Now, imagine the whole of Tasmania covered with apples packed as tightly as they could be packed. Imagine, not a single layer only, but a pile a million miles high. If she exported a million cases a day all the year round, it would take her at least a hundred thousand years to get rid of them all. The number would be represented by a figure with sixteen noughts at the end of it. This is approximately the number of atoms there are in a pin's head. And yet we have not reached the limit of smallness. Each of these tiny atoms has a structure as complex as the solar system. Inside it there are still smaller bodies, known as electrons, whirling round in their orbits at inconceivable speed. If we could enlarge the atom to the size of a cathedral the electrons would be represented by a few particles the size of an ordinary full stop. So that the atom is really a very empty thing, and the idea suggests itself that by suitable means it should be possible to penetrate right through it. This has actually been accomplished. The discovery of radium has furnished us with a projectile which can actually pass through solid matter without making a hole. The alpha rays of radium consist of very fast moving atoms of a gas known as helium. These can actually pass through a sheet of paper, say, just as one solar system might be imagined to sweep through another such system without a single planet suffering a collision. Dr. Glasson then went on to explain that occasionally collisions do occur between atoms, and an electron is knocked off one of them, just as we can imagine a body coming from outside the solar system and knocking the earth right out of the system into free space. This process is known as ionisation. The rays shot out by radium are moving with such great velocity that they can penetrate a great distance through a gas, occasionally colliding with the atoms which they pass through. If the collisions are sufficiently severe, there is a large amount of heat and light developed. So that in a gas we can trace the path of one of these ionising rays by the trail of glowing, mangled atoms which are left behind, something like the trail of a shooting star.

19th May, 1913.

The Monthly General Meeting was held at the Museum at 8 p.m., Mr. L. Rodway in the chair.

Election of Members.

The following were elected members:—Mr. J. H. Butters, Mr. H. D. Erwin, M.A., Mr. A. D. Harrison, Mr. J. F. Mather, Mrs. A. J. Moore-Robinson, Mr. A. C. Officer, Mr. T. C. Simpson, Mr. John Smithies, Mrs. Sorell, Mr. E. C. Tregear, Mr. John Wardman, Mr. J. Newham Waterworth, Miss Lucy Wayn.

Papers.

The following papers were read:—

"Notes on Hymenophyllum peltatum in Tasmania." By L. Rodway.

"A Bibliography of Proportional Representation in Tasmania." By E. L. Piesse.

"The Theory of the Quota in Proportional Representation." By E. L. Piesse.

A discussion followed the reading of Mr. Piesse's papers, in which Mr. L. F. Giblin, M.H.A., Mr. E. Morris Miller, and Dr. W. E. Bottrill took part. During the discussion Mr. Giblin suggested that the method of the uniform quota, described in the third paper as one of the party-list systems, could be used with the single transferable vote system in Tasmania.

10th June, 1913.

The Monthly General Meeting was held at the Museum at 8 p.m., His Excellency the President, Sir William Ellison-Macartney, P.C., K.C.M.G., in the chair.

Welcome to the President.

Dr. A. H. Clarke, Acting Chairman of the Council, announced that Sir William Ellison-Macartney, Governor of Tasmania, had accepted the Presidency of the Society. On behalf of the Society, Dr. Clarke welcomed His Excellency.

His Excellency said: I desire to express my grateful thanks to the members of the Royal Society for their election of me to the office of President, an office which, I believe, has been almost invariably held by my predecessors. It is therefore my duty, as well as my pleasure, to come to this meeting, and so follow their excellent example. I had the pleasure of meeting Bishop Montgomery, who was a well-known member of your Society,

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shortly before I left London, and he told me something about the Royal Society. I am glad that it was within my power, in these early days of my residence within the State, to come to the Society, and I hope that I shall often be able to do so. I trust also that Lady Macartney will be able to accompany me, and share the benefits and good work of the Society. I thank you all most heartily for your kind welcome.

Election of Members.

The following were elected members:—Dr. W. E. Bottrill, LL.D., Mr. R. L. Richmond, Mr. Maurice Susman, Mr. W. J. P. Burton.

Exhibits.

Mr. J. W. Beattie exhibited a Tasmanian aboriginal skull found on Tasman Island by the lighthouse-keeper, and presented to the Tasmanian Museum by the Master Warden of the Marine Board of Hobart. The skull was probably that of a woman of about 50 years, and was remarkable for an almost complete set of teeth.

Paper.

The following paper was read:—"A List of Native Words of the Oyster Bay Tribe, Van Diemen's Land." By J. W. Beattie.

Dredging in the Aurora.

Professor T. Thomson Flynn gave an account, illustrated by lantern views, of five weeks' dredging in the Aurora, of the Australasian Antarctic Expedition, in November and December, 1912.

14th July, 1913.

The Monthly General Meeting was held at the Museum at 8 p.m., Mr. L. Rodway in the chair.

Assistance to Scientific Research.

The Honorary Acting Secretary drew attention to a circular which had been received from the Royal Society of South Australia, stating that it had funds available for scientific research, and inviting applications from persons requiring assistance for that object.

Exhibit.

Mr. Rodway showed some specimens of *Cyttaria gunnii*, a peculiar fungus that is found on the Tasmanian beech

(*Fagus Cunninghami*), and stated that a similar fungus was found on a closely allied species of beech in South America, and in no other part of the world.

Vacancies in the Council.

The Honorary Acting Secretary announced that Dr. J. S. Purdy and Mr. Samuel Clemes had resigned their seats in the Council, and that an election to fill the vacancies would be held at the August meeting of the Society.

Paper.

Dr. F. Noetling read a paper entitled, "Notes on the Section at One Tree Point, near Hobart."

A discussion followed, in which Mr. Rodway referred to Ettingshausen's identifications of the plant remains in the One Tree Point beds. Mr. Rodway said that nowadays plant palæontologists hesitated to identify fossil leaves by their similarity to the leaves of existing species. The leaves of plants were essentially plastic organs, of little phylogenetic value. There were three plants living to-day in Tasmania—one a composite, one a heath, and one a stylidium—whose leaves could not be distinguished from one another. The fruits found in the One Tree Point leaf beds led one to suppose that the plants that formed them belonged to the proteaceous family. They certainly did not belong to any European family of plants.

11th August, 1913.

The Monthly General Meeting was held at the Museum at 8 p.m., Mr. L. Rodway in the chair.

Election of Members of Council.

Professor T. Thomson Flynn and Dr. J. L. Glasson, being the only members nominated to fill the vacancies in the Council caused by the retirement of Dr. J. S. Purdy and Mr. Samuel Clemes, were declared elected.

Election of Members.

The following were elected members:—Mr. T. C. Brammall, M.A., Mr. W. C. Annells, M.A.

Paper—Educational Experiments.

Mr. J. A. Johnson, Principal of the Philip Smith Training College, read a paper, entitled "Recent Developments in Experimental Pedagogy."

In the course of his paper, Mr. Johnson observed that,

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30 years ago, a competent observer would have hesitated to claim for education the dignity of being even the beginnings of a science, but to-day he would speak with the voice of hopefulness. Science now seemed to have claimed for itself the field of education, and was using therein with success the instruments of observation and experiment. The practical man was looking forward to a greater degree of certainty in co-ordinating the work of the schoolroom with that of everyday life, and hoped the day was close at hand when Bernard Shaw's epigram, "My education was interrupted by my schooling," would cease to be applicable. The educationalist, seeing the transformation that had taken place in the world as a result of science, was hopeful that the same means would produce no less brilliant transformations in his own particular department. The age of mere speculation was passing away, and the time was close at hand when vague impressions would be replaced by the emphatic utterances of positive science. On the one hand they saw a keen interest in the raw material of education. A class of men, not teachers, but mostly doctors, were establishing a separate department of work, and were tabulating the results of thousands of experiments in well-defined directions. On the other hand, the practical men were more or less dissatisfied with the present conditions of working. Between the two stood the child, the object of the experiment and the one to be taught. It must be recognised at the outset that the function of the experimenter was subject to much limitation, but this would not prevent him from taking a permanent place in solving problems which often blocked the road to reform. The movement that was known as experimental pedagogy had its commencement towards the close of last century in what was known as child-study. As chemistry had its origin in alchemy, and astronomy in astrology, so the new science of education had begun in simple experiments. One of the results of the movement had been the advent of the medical officer in the school, and another had been the introduction of humane methods of treating defectives. Another significant feature was the abandonment of the old method of repression, and everywhere spontaneity was encouraged. There was no worse sign in a child than the attitude of doing nothing at all, and there was no worse sign in the teacher than the neglect to develop the child's powers of self-activity and originality. The author then dealt at some length with the various means by which the physical and mental qualities of children were studied, and the

information which had been thus derived. He said that one discovery was that the endurance of boys was greater than that of girls, at all ages, and this difference became very striking during adolescence. In generalising on the results of experiments of this nature, the first question that faced the experimenter was how far did the physical and mental developments influence one another? Did the admission of children of an early age to school tend to hinder their physical development? In regard to this latter question, very accurate measurements could be taken by even unskilled persons. It had been found that the relative growth of the various parts of the body varied very considerably during normal growth, and in some years was quicker than others. An authority on the subject had said that anthropometry had been able to lay down very few universal laws. The present paper only touched the fringe of the subject, which was one of vast importance, and required years of study. Why should not the University of Tasmania take up this work, if only in a small way? One of the promising graduates might be chosen and sent to Germany, England, and America to study the subject, and on his return work with the lecturers on education and mental science. Such a scheme would be in keeping with the splendid forward movement that was taking place in our University. A laboratory for work of this nature could be equipped at a cost of £70, and all that was wanted was a man to do the work. In Tasmania we had only small numbers for work of this kind, and there must be large numbers for comparative purposes, but even here we could do something in the way of experimental education.

The paper was illustrated by a number of lantern slides of the apparatus used in the study of the physical and mental characteristics of children.

A discussion followed, in which Mr. L. F. Giblin, M.H.A., and Messrs. J. A. McElroy, S. R. Dickinson, L. Dechaineux, G. V. Brooks, and Newham Waterworth joined.

8th September, 1913.

The Monthly General Meeting was held at the Museum at 8 p.m., Dr. A. H. Clarke in the chair.

Election of Member.

Mr. C. E. Masterman was elected a member.

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Papers.

The following papers were read:—

"Some Australian Brachiopods." By Professor Friedrich Blochmann, of Tübingen (communicated by Mr. W. L. May).

"Notes on the List of Native Words of the Oyster Bay Tribe presented by Mr. J. W. Beattie at the June meeting." By H. B. Ritz, M.A.

Monday, 13th October, 1913.

The Monthly Meeting of the Society, falling on 13th October, was made the occasion of a celebration of the Seventieth Anniversary of the Society, which was founded on 14th October, 1843.

His Excellency the President, Sir William Ellison-Macartney, was in the chair, and the Society's room was crowded with members and their friends.

Mr. Thomas Stephens, the senior member of the Society, sent a letter regretting that he was not able to be present. Apologies were also received from Dr. A. H. Clarke and Colonel W. V. Legge.

Exhibits and Presentations.

Professor T. Thomson Flynn exhibited some *Pycnogonida* (sea spiders) collected by the Australasian Antarctic Expedition.

Mr. J. R. Chapman exhibited a specimen of Milparinka sandstone, some handsome specimens of petrified wood, opal, and gypsum, from New South Wales; and a fossil jawbone form Cheltenham, Victoria—which he was about to present to the Tasmanian Museum.

Mr. J. C. E. Knight presented a set of E. J. Lowe's "Ferns, British and Exotic," 8 volumes. (London, 1856-1860.)

Mrs. Russell Young presented a portrait of the late Mr. Russell Young, for many years a member of the Society.

Mr. T. W. Fowler presented to the Society—

1. A facsimile of "Chart of Terra Australis, by M. "Flinders, Comm. of H.M. Sloop Investigator, South Coast, "Sheet V., 1798, 1802 & 3," published with Flinders' "Voyage to Terra Australis" in 1814. This shows the coast-lines bounding Bass' Strait, and the islands in it, as laid down by Flinders from his own and other surveys available to him; and his own work on the coast-line, and his soundings, are distinguished from the work of others.

Later editions do not discriminate between the work of the various explorers.

2. A photograph of "A Chart of Basses Strait between "New South Wales and Van Diemen's Land surveyed by "Lieut. Flinders of His Majesty's Ship Reliance by order "of His Excellency Governor Hunter, 1798-9," published by A. Arrowsmith of London, 16th June, 1801; from the copy in the Petherick collection in the Commonwealth Library. This chart, Mr. Fowler remarked, "clearly shows "that the Hunter Islands were laid down by Flinders with "considerable accuracy long before the Baudin expedition "left France, and hence that an attempt made to alter "Flinders' names is unwarranted."

3. A photograph of a later copy of the same in the Public Library of New South Wales.

4. A photograph of four charts on one sheet, published by Arrowsmith; from a copy in the Public Library of New South Wales. These include plans of Twofold Bay, Western Port (from Bass' eye-sketch, of which, according to Bladen, no copy was known to exist), and Port Dalrymple (River Tamar)—the latter being of interest as showing Flinders' survey of that river.

Seventieth Anniversary of the Society.

In commemoration of the foundation of the Society on 14th October, 1843, the Honorary Acting Secretary (Mr. E. L. Piesse) read a paper on the "Foundation and Early Work of the Society."

His Excellency said they must all be extremely grateful to their secretary for his paper. They had now attained a very respectable age, and since they had made so few mistakes in the past they could look forward to the future with confidence. Though they were only 70 years old as the Royal Society of Tasmania, he could not dissociate the Society from the earlier Van Diemen's Land Scientific Society of 1829, which was founded in the good old British way, with a very solid dinner and a very long toast list. A thing worth noting was the alacrity with which the early settlers supported a society which could not advance their purely material interests. It showed they had a very considerable conception of the future of the island, and a desire to widen the bounds of knowledge. The Society had certainly done much for Tasmania. In proof of that they had only to point to the Botanical Gardens. What would have been the fate of the Gardens if the Society had not taken up the responsibility of them in Sir Eardley Wilmot's days? The origin of the Society was a curious

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one; it began with a revolutionary coup, carried out by the Governor of the day, a coup as bold and daring in its way as that by which Louis Napoleon founded the Third Empire. There were some curious human touches in the history Mr. Piesse had put before them. For instance, there was the curious rule that no lady member should change her proxy within 12 months. He wondered if the secretary had discreetly concealed from them what the records of the Society contained on this point. Was it that the male members of the Society felt they could not possibly deserve the confidence of the lady members for more than 12 months, or did they have their doubts about the stability of the female mind? On behalf of all the members he tendered their most grateful thanks to Mr. Piesse for presenting to them such a clear, concise, and interesting narrative of the Society's early history.

A number of books, documents, and portraits connected with the early years of the Society were shown. Among these were the Minute Book of the Tasmanian Society for 1841; a list of the original Fellows of the Society; the first book purchased for the Society's library (Loudon's "Encyclopædia of Plants," purchased in 1846); a book presented by the University of Cambridge in 1847 (the first presentation to the library); the visitors' books of the Society's Museum from 1852 to 1860, and of the Gardens from 1856 to 1859; a microscope by Andrew Ross, formerly the property of Mr. J. E. Bicheno, F.R.S., F.L.S., purchased for the Society by direction of Sir William Denison in 1851, and afterwards the subject of a debate in the Legislative Council on 28th January, 1852; and portraits of early Presidents and members.

Other Papers.

The following papers were taken as read:—

"Tasmanian Bryophyta" (continued). By L. Rodway.

"Some New Australian Asilidæ (Diptera)." By Arthur White.

"Notes on a Fossil Whale from Wynyard." By H. H. Scott (communicated by R. N. Atkinson).

11th November, 1913.

The Monthly General Meeting was held at the Museum at 8 p.m., Mr. L. Rodway in the chair.

Election of Members.

The Honorary Acting Secretary read a notification from

the Council that it had nominated Dr. Douglas Mawson, leader of the Australasian Antarctic Expedition for election as an honorary member, under Rule 17. Dr. Mawson, being balloted for, was duly elected.

Mr. Loftus Hills, M.Sc., and Mr. G. W. K. Ife, LL.B., were elected ordinary members.

Exhibit.

Mr. H. M. Nicholls showed a microscope by Ross and Co. of the most recent pattern, lent for exhibition by the Government Bacteriologist, Dr. Nairn Butler. With this microscope were placed two others of older patterns by the same firm belonging to the Society, and Mr. Nicholls illustrated several features in the development of the microscope by reference to these instruments. The oldest instrument, formerly the property of Mr. J. E. Bicheno, Colonial Secretary, and acquired by the Society in 1851 (see page 293), was of the earliest pattern made by Andrew Ross, the founder of the firm of Ross and Co., of London, and dated from the thirties of the last century. Ross, working on Lister's computations, found that when an objective was corrected for an uncovered object, the correction was disturbed by the introduction of a cover glass. After much experiment he found that this error could be removed by altering the positions of the component lenses of the combination, and he devised for this purpose a sliding cap, which moved up and down upon the barrel of the objective. This sliding cap—the first attempt at cover-glass correction ever made—was fitted to the objectives of Mr. Bicheno's microscope. The microscope was in good order, and capable of doing excellent work. It possessed a remarkably efficient fine adjustment of the micrometer screw order. The second instrument—formerly the property of the late Mr. W. Valentine, of Campbell Town—was of the last type made by Andrew Ross; it dated from about the fifties. The third instrument, by the present firm of Ross and Co., had the most recent improvements used by that firm. The three together formed an interesting illustration of the development of the microscope.

Papers.

The paper by Mr. Ritz read in title at the September meeting, and the papers by Messrs. Scott and White, read in title at the October meeting, were discussed.