

he would read to the Fellows, in doing so he was of opinion that among the Fellows of the Society were many close observers of the habits, etc., of the birds of Tasmania, and the co-operation of those gentlemen would materially assist the object that the Vienna Society were desirous of carrying out. The letter was as follows :—

Sir,—The first International Ornithological Congress at Vienna has resolved upon creating an International Permanent Ornithological Committee, whose task it is to establish a net of ornithological observation stations, embracing the whole inhabited world. Extremely difficult as this task appears to be, we, however, think to realise a happy solution, encouraged by the exceedingly kind favours bestowed on us by most of the Governments, and relying upon the mighty protection of our High Protector. But such a solution is, however, only possible, if everybody, who has the progress of science at heart, will energetically assist the committee in their assiduous exertions of completing this great work worthy of the working together of all mankind. We therefore confidently think to do no false step by applying to you with the kind request to look for men in your circles, who have the mind and intelligence of undertaking this meritorious task by regularly observing all the birds of their surrounding countries, referring to their occurrence, trains, hatchings, and ways of life, and sending those observations annually (every first quarter of the calendar-year) to the secretary of the committee. DR. R. BLASIUS, President I.P.O.C. Vienna.

The CHAIRMAN said that Colonel Legge, Mr. Swan, and other ornithologists, would, no doubt, give the writer the benefit of their researches and observations, and bestow attention on the very interesting questions raised by it. The letter would appear in the report of the proceedings, and would receive the attention it deserved from the Fellows.

VOTE OF THANKS.

On the motion of Mr. C. H. GRANT, seconded by Mr. J. B. WALKER, a vote of thanks was passed to the readers of papers and donors of contributions to the Museum.

OCTOBER, 1885.

The usual monthly meeting of the Royal Society of Tasmania, was held at the Museum on Monday evening, October 12th. Mr. James Barnard, Vice-President, occupied the chair, and about 20 Fellows were present.

The following gentlemen, who had been previously nominated as Fellows, were balloted for and duly elected as Fellows of the Society, viz., Messrs. J. T. Triffet and T. A. Tabart.

RETURNS.

The Hon. Secretary (Hon. Dr. Agnew, M.L.C.), brought forward the usual returns, viz.:—

1. Number of visitors to the Museum during the month of September :—Week days, 1,414 ; Sunday, 850 ; total, 2,264.

Number of visitors to Royal Society's Garden during the month of September, 4,767.

Plants and seeds received at and sent from the Royal Society's Gardens during the month of September, 1885 :—

To the Botanic Gardens, Cape Town, South Africa—Collection seeds.
To the Chamber Agriculture, Washington, United States—Collection seeds.

To Messrs. Smith and Adamson, Melbourne—Seeds.

To Mr. L. Bachmer, Yokohama, Japan—Seeds.

To Miss Owen, Ireland—Collection seeds.

To the Conservator Forests, Punjaub, India—Collection seeds.

To Mrs. Oliver, New Plymouth, New Zealand—Seeds.

To C. Moore, Esq., Botanic Gardens, Sydney—Sphagnum.

To Messrs. Shepherd Co., Sydney—Case plants.

To B. F. Wellington Co., San Francisco—Seeds.

From Mr. J. Latham, Hobart—24 plants.

From Mr. S. Purchase, Parramatta, N.S.W.—Small case plants.

From Messrs. Shepherd Co., Sydney—Small case plants.

From Mrs. Archer, Hobart—Seeds.

From C. Sprent, Esq., Hobart—Seeds.

Time of leafing, flowering, and fruiting of a few standard plants in the Royal Society's Gardens during September, 1885:—

6th. *Acacia pycnantha* commencing to flower.

15th. Moutan pœony commencing to flower.

15th. Horse-chestnuts commencing to flower.

27th. Sycamore commencing to break leaf.

28th. Grape vines commencing to break leaf.

30th. Common ash commencing to break into flower.

30th. Common plane commencing to break into leaf.

METEOROLOGICAL RETURNS.

From the Government Observer, Captain Shortt, R.N.—Table of observations for September.

ADDITIONS TO THE LIBRARY DURING THE MONTH OF SEPTEMBER.

Agricultural Gazette, August 3, 10, 17, 24.

Annals and magazine of Natural History, August.

Athenæum, The July.

Bulletin of the Museum of Comparative Zoology at Harvard College, vol. XI., No. 11; Studies from the Newport Marine Laboratory, communicated by Alexander Agassiz, XV.; on the development of *Agalma*, by J. Walter Fewkes, vol. XII., No. 1; *Chlamydoselachus anguineus*, *Garm.*, a living species of Cladodont shark.—By L. Garmon.—From Alexander Agassiz.

Bulletin de la Societe Royale de Botanique de Belgique, June, 1862, 1885.—From the Society.

Catalogue of the Echinodermata in the Australian Museum, part 1, "Echini;" Desmosticha and Petalosticha.—By E. P. Ramsay, F.R.S.E.—From the author.

Catalogue des Livres de Fonds et en Nombre, Histoire, Archeologie, Ethnographie, et Linguiistique De L'Europe, De L'Asie, De L'Afrique, De L'Amerique et de L'Oceanie.—From the Society.

China and the Roman Orient, researches into their ancient and mediæval relations as represented in old Chinese records.—By F. Hirth, Ph. D.—From the author.

Chart of Java, by S. H. Lerne. From Mr. J. Wemyss Syme.

Gardeners' Chronicle, Aug. 1, 8.

Geological Magazine, Aug.

Indian Meteorological Memoirs, being occasional discussions and compilations of meteorological data, relating to India and the neighbouring countries under the direction of H. Blandford, F.R.S., vol. IV., Part 4-6. Account of the S.W. Monsoon Storms generated in the Bay of Bengal during the years 1877 to 1881.—From the Meteor. Office, India.

Journal of Science, August.

Journal of the Society of Arts, July 3, 10, 17, 24, 31.

Map showing the site of Melbourne and the position of the Huts and Buildings previous to the foundation of the Township, by Sir Richard Bourke, in 1837.—From the Government.

Maps to accompany Report of Progress, 1882-3-4.—From the Society.

Mémoires de la Société Royale des Sciences de Liège. Le tome xi., Mai, 1885.—From the Society.

Mineral Statistics of Victoria for the Year 1884, with Report of the Secretary of Mines.—From the Mines Department.

Monthly Record Meteorological Observations, April 1885, Melbourne.—From the Meteorological Department.

Monthly Notices of the Royal Astronomical Society. June.

Provincial Medical Journal, vol. IV., No. 44.—From the Editor.

Proceedings of the Royal Society of London, vols. 27—38, Nos. 232 to 237.—From the Society.

Proceedings of the Canadian Institute, Toronto, July, 1885, 3rd series, vol. 3.

Records of the Geological Survey of India, vol. 18, part III., 1885.—From the Geological Department.

Registers of Original Observations in 1885, reduced and corrected, January 18, India.—From the Department.

Statistics of the Colony of New Zealand for the year 1884, part IV., Finance, Accumulation, and Production.—From the Government.

Systematic Census of Australian Plants, with Chronologic, Literary, and Geographic Annotations.—By Baron Von Mieller. Second Annual Supplement for 1884.—From the Author.

Transactions of the Asiatic Society of Japan, vol. XII., part 4, vol. XIII., part 1, July, 1885.—From the Society.

Victorian Naturalist, Vol. XI, No. 5, September, 1885. From the Field Naturalist Club of Victoria.

Vital and Meteorological Statistics of the Registration districts of Hobart and Launceston for August, 1885. From the Government Statistician.

PRESENTATIONS TO THE MUSEUM.

Mammals.

Tasmanian Porcupine (*Echidna setosa*), Mr. Archer.

Birds.

New Holland Goshawk (*Astur novæ hollandiæ*), Mr. Street.

Wedge-tailed Eagle (*Aquila audax*), Mr. J. N. Whitehead.

Lewins Rail (*Rallus lewini*), Mr. A. Flexmore.

Fishes.

A Parrot Fish (*Labrichthy mortoni*), Mr. W. L. Boyes.

Blenny (*Cristiceps* sp.), Mr. Self.

A Young Ray, Herr Schott.

Native bread, *Myliitta Australis*. Mr. P. S. Seager.

Rocks, Etc.

1. Yellow Copper Ore and Pyrites, from the Tasmanian Mine. 2. Quartz, New Native Youth Gold Mining Co., Lefroy, 800 feet level, 470 feet below sea level. 3. Outcrop of Quartz-conglomerate, Ophir Township, Beaconsfield. 4. Outcrop, "Gossan," Tasmanian Mine, Beaconsfield. 5. Sandstone, from the Lefroy Mine, Beaconsfield, 400 feet level, and 260 feet below sea level. From Mr. Joseph Davies, Beaconsfield.

Old Documents, Etc.

Memorial Tablet of Lord Nelson, from engraved plate, demy. Miss Burgess.

Passport, granted to J. Wemyss Syme to Canton, 1885. From Mr. J. Wemyss Syme.

Ethnology.

Two Malay creeses or daggers, used for executions, one Malay Peninsula creese, one Malay knife for cutting timber, one Malay knife for ordinary purposes, one quiver containing poisoned arrows, one Malay native dress, "sula," or native ladies' dress, one Malay head-dress, "Tappa," or native cloth used by the jungle tribes, Malay Peninsula. Volcanic dust from the late eruption, Straits of Sunda.—From Mr. J. Wemyss Syme.

"Sampitan," or blowpipe, used by the natives of the Malay Peninsula for hunting, etc. Two swords worn by Malay gentlemen.—From Mr. Brian Gaynor, of Kwaldkhangsar, State of Perak (through Mr. J. Wemyss Syme.)

In reference to the poisoned arrows,

Dr. AGNEW said there was a considerable amount of discussion as to whether they maintained their poisonous qualities, and the Curator had told him that day that he had tried an experiment on a cat with a South Sea Island arrow by introducing the tip of one of the so-called poisoned arrows under the skin, and the cat received no damage or injury from it. Some years ago the death of Commodore Goodenough was supposed to be caused by one of these poisoned arrows, but, on the whole, it was afterwards believed he died from tetanus, brought on by the season and by the nature of the wounds. A punctured wound was more apt to produce tetanus, and probably that was the cause of his death.

Dr. PERKINS said the poison used by the natives of South Africa to tip their arrows with was a fluid obtained from the bark of a tree. It acted very speedily, and some of it which had been recently analysed in Great Britain contained an alkaloid called Strephanthine which had a paralyzing effect on the heart. Arrows tipped with such a fluid would kill almost instantaneously if the poison was fresh.

Mr. E. D. SWAN said the arrow by which Commodore Goodenough was killed was a very formidable weapon. These would have no such effect.

Mr. C. T. BELSTEAD: Was it an arrow or a spear?

Mr. E. D. SWAN: An arrow I believe, but the wound was a terrific one.

On examining the native ladies' dress, several members questioned if it were made on the Malay Peninsula, and

Mr. E. D. SWAN said that Wallace, in his "Malay Archipelago," said that such materials as these were sold cheaper there than in England.

Mr. J. Mc C. BROWNE related how, when at Guam, in 1850, he had seen the native women wearing such fabrics on Corpus Christi Day. Probably they were supplied from Manilla, who in turn got them from English and Scotch houses in Liverpool and Glasgow.

Mr. CHARPENTIER said one specimen was evidently block-printed. Some of the South Africans sent their native cloths to England to be printed.

Dr. AGNEW described the dresses of the native women in Ceylon as being similarly varied in hue to these specimens.

PAPERS.

An interesting paper was read, entitled, "Shells of the Group Polycystina, illustrated by the microscope," by Mr. C. J. Atkins.—The living animalculæ of this family of microscopic shells belong to a type that ranks lowest in the scale of creation. They are Protozoa, the

first or earliest form of animal life that is known to us. The floating scum of the tepid tropical ocean ceases under the microscope to be one gelatinous mass, and resolves itself into minute, but distinct globules of this rudimentary life. Though the Protozoa are unendowed with the organs that according to our ideas usually accompany animal life, we find that Providence redeems them from insignificance by the splendours of colouring that they possess, and by the variety and complex beauty of the shell framework that supports them. The Polycystinæ are classified by Dr. Carpenter (who is followed by Dr. Wallich) as Rhizopodal (*i.e.*, root-footed Protozoa). The shells are thus associated with those of the many-chambered Foraminifera, and mingling with that larger family they are often found, both as fossils, and in more recent deposits. The shells of the Polycystinæ, however, are composed of pure siliceous, and to this they owe their brilliant and ivory-like appearance under the microscope; in this particular differing from those of the Foraminifera, which are built up of limestone (*i.e.*, carbonate of lime). The shells are further distinguished by their perforations, and by their being pronged into spines and other projections, which are frequently arranged in symmetrical devices of striking design, as in the species *Haliomma Humboldtii* and *Podocyrtis Schomburgkii*. A slide placed under the microscope this evening shows these two species from Barbadoes with black-ground illumination. Another slide shows the *Haliomma* separately, and mixed groupings of several other species are also on the table. Dr. Carpenter, who is always a safe guide, says of these objects:—"Few microscopic objects are more beautiful than an assemblage of the most remarkable forms of the Barbadian polycystina, especially when seen brightly illuminated upon a black ground, since their solid forms become much more apparent than they are when these objects are examined by light transmitted through them. . . . No class of objects is more suitable than these to the binocular microscope, the stereoscopic projection of which causes them to be presented to the mind's eye in complete relief, so as to bring out with the most marvellous and beautiful effect all their delicate sculpture, reminding the observer—to compare small things with great—of the finest specimens of the hollow ivory balls carved by the Chinese."—(Dr. Carpenter: *The Microscope*, cap. x.) In conclusion, I cannot do better than ask you, on the recommendation of this high authority, to spend a few moments in examining the Polycystina before the close of the meeting.

Mr. R. A. BASTOW read a paper on the mosses of Tasmania in continuation of former papers, illustrated by his own drawings and photographs, and by the microscope.

The following letter from Mr. A. B. Biggs, of Launceston, was read by the Honorary Secretary:—

"In my paper on our earth tremors (read 9th June last) I referred to indications of change in the general direction of the shocks, from time to time. In connection with this branch of the subject, it is interesting to note that the direction of the shock felt in Victoria on 8th inst. (as per telegram) was supposed to be from the south-west. This, so far as it may be relied on, accords approximately with the indications as per time reports, of our shock of 11th ult., which would appear to have passed through the island, beginning at Hobart (as the first noticed) and leaving at the N.E. Coast. This is almost in the reverse direction of the generality of our tremors. I have recently had the pleasure of two or three interviews with Professor Malno Milne, of Japan, who, I think, holds premier position in seismology. There was one sentence at the end of my paper of June 9, which I now regret was sacrificed for brevity's sake in

printing. I there stated that, on examination, I was unable to discover any connection between our tremors and lunar positions. This deduction accords with that of Professor Milne, both as conveyed to me verbally by himself and as intimated in his latest pamphlet."

Dr. AGNEW asked if any Fellow present had felt a shock of earthquake on Friday last in the forenoon.

Captain SHORTT, who was referred to, said he had not felt it.

Dr. AGNEW said some people in his house had felt a slight shock, but he had seen nothing about it in the newspapers.

Mr. BERNARD SHAW said one of the gentlemen in his office had felt a shock on Friday morning, and had gone in and asked him if he had not felt it also.

THE LONGFORD COAL DEPOSITS.

Mr. BRAIN, who is in charge of the coal mines at Longford, gave some information respecting them at the request of the Hon. Secretary. He said it was hardly fair to judge the mine yet, though, as far as he had been able to prove it up to the present time, it looked very well. The seam varied from 3ft. to 4ft. 6in. in width. It had a fine sandstone top and bottom, and the inclination or dip was from N.E. to S.W., and was very slight indeed. It would, he thought, be an excellent household coal, but not fit for steam purposes.

Dr. PERKINS said perhaps Mr. Brain would be able to send them some fossils.

Mr. BRAIN said he had some very fine leaf impressions which he would be glad to send. He had already forwarded some to Mr. Johnston, but would be glad to make a collection for the society.

The CHAIRMAN: They will be very acceptable.

VOTE OF THANKS.

On the motion of Dr. AGNEW, seconded by Mr. BELSTEAD, a vote of thanks was accorded by acclamation to donors of contributions and readers of papers.

After inspection of the microscopes the meeting terminated.

NOVEMBER, 1885.

The monthly meeting of the Royal Society of Tasmania, the last of the session of 1885, was held on Monday evening, Nov. 16, at the Museum, James Barnard, Esq., V.P., in the chair. The Bishop of Tasmania, several ladies, and a large number of Fellows were present.

RETURNS.

The HON. SECRETARY (Hon. J. W. Agnew, M.D.) brought forward the usual returns, viz:—

Number of visitors to the Museum during the month of October:—
Week days, 1,557; Sundays, 550. Total, 2,107.

Number of visitors to Royal Society's Gardens during the month of October, 6,500.

Plants and seeds received at and sent from the Royal Society's Gardens during the month of October, 1885:—

From Mr. Wm. Bull, new plant merchant, London. Case containing 103 new chrysanthemums.

From the Botanic Gardens, Christchurch, New Zealand. Case plants, various.

From Baron Ferd. Von Mueller. Bulbs of a new crinum, and package seeds.