OCTOBER, 1888.

The usual monthly meeting of this Society was held at the Museum on Monday, the 8th October, the president (His Excellency, Sir Robert G. C. Hamilton, K.C.B.) in the chair. There was a large attendance of Fellows of the Society.

List of additions to the Library during the months of August and September.

Annual report of the chief signal officer of the Army to the Secretary of War for the year 1887. (Washington, bound). In two parts, part 1.—From Brigadier-General A. W. Greely.

Abhandlungen der Mathematisch—Physikalischen classe der Königlich Bayerischen Akademie der Wissenschaften. 1887. — From the Department.

Anales del Museo Nacional Republica de Costa Rica Tomo I. Ano de 1887.—From the Department.

Annals and Magazines, Natural History.

Annual Report of the Board of the Smithsonian Institution, showing the operations, expenditures, and constitution of the Institution to July, 1887. Pts. 1. 2 (bound).—From the Institution.

Annual Report of the Candian Institute Session, 1886-7, being part of Appendix to the Report of the Minister of Education, Ontario, 1887.—From the Institute.

Annual Report of the Chief Signal Offices of the Army to the Secretary of War for the year 1885-1886, Washington, bound.—From the Department.

The *Athenæum*.

Bollettino della Societa Geografica Italiana. Serie III., Vol. I., Fascicolo VII. Luglio 1888, Roma.—From the Society.

Bollettino dei Musei di Zoologia ed Anatomia Comparata della R. Uuniversita di Tornio, N. 44 to 48. Vols. III. (pamphlets).—From the Society.

Bulletin of the Museum of Comparative Zoology at Harvard College. Vol. XIII. No. 9. The superior incisors and canine teeth of sheep, by Florence Mayo, with two plates. (Pamphlet).

Bulletin of the Museum of Comparative Zoology at Harvard College, vol. XIII., No. 10. "The Rattle of the Rattlesnake." By Samuel Garman.

Vol. XVII., No. 1.—Studies from the Newport Marine Laboratory.—Communicated by A. Agassiz. XX.—On the development of the calcareous plates of Asterias. By W. Fewkes.—From Professor A. Agassiz.

Bulletin de la Société Impériale des Naturalistes de Moscow, No. 2. Moscow, 1887.—From the Society.

Bulletin of the Californian Academy of Sciences, vol. 2, Nos. 6, 7, 8. January, June, and November, 1887.—From the Academy.

Bulletin of the American Museum of Natural History. Article I.—The West Indian Seal (Monachus tropicalis). By J. A. Allen. Article II.—Note on Squalodont remains from Charleston, S.C. By J. A. Allen. Vol. II., No. 1.—From the Department.

Bulletin de la Société de Géographie. Pts. 1 to 4, 1887. From the Society.

Bulletin of the Essex Institute, Salem. January to December, 1886. Vol. 18, Nos. 1 to 12. From the Institute.

Bulletin of the Buffalo Society of Natural Sciences. Vol. V., No. 2. The Gape Worm of Fowls (Syngamus trachealis). The Earth

Worm (Lumbricus terrestris), its original host. Also, on the prevention of the disease in fowls called gapes, which is caused by this parasite. By H. D. Walker, M.D. From the Society.

Catalogue of the Fishes in the collection of the Australian Museum, Sydney, Part 1. Recent Palæichthyan Fishes, (pamphlet), by J. Douglas Ogilby, F.L.S.—From the Trustees.

Contributions to the Natural History of Alaska, results of investigations made chiefly in the Yukon district, and the Aliutian Islands, conducted under the auspices of the signal service, United States army, extending from May 1874, to August 1881 (bound), by L. M. Turner.—From Brigadier General A. W. Greely.

Darwinism.—A lecture by Prof. F. W. Hutton, F.G.S. at the Philosophical Institute of Canterbury, September 12, 1887 (pamphlets).—From the author.

Department of the Interior.—No. 34, on the relation of the Laramie Molluscan Fauna to that of the succeeding Freshwater Eocene and other Groups. No. 35, Physical properties of the Iron-Carburets. No. 36, Subsidence of fine solid particles in Liquids. Washington, 1886. Bulletin of the United States Geological Survey No. 37. Types of the Laramie Flora, No. 38. Peridotite of Elliott county, Kentucky, No. 39. The upper beaches and Deltas of the glacial lake, Lake Agassiz. From the Department.

Eruption of Mount Tarawera.—Report on the Tarawera volcanic district. By Professor F. W. Hutton, F.G.S. (Two pamphlets.)—From the author.

Essex Institute.—Historical Collections, January to December, 1886. Vol. XXIII. Salem, Mass.—From the Institute.

"Faraday," a lecture by Chas Tomlinson, F.R.S. From Mrs. Davies.

French Colonies and their Resources, by James Bonwick, F.R.G.S. (bound), London, 1886.—From the hon. the Chief Secretary.

Fourth Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution, 1882-3. (Bound.) By J. W. Powell, Director.—From the Institution.

Gedächtnisrede auf Joseph von Fraunhofer zur Feier seines hundersten Geburtstags von Carl Max V. Bauerfeind.—From the Department.

History of Geological Magazine.

Howietown, containing a full description of the various hatching houses and ponds, and of experiments which have been undertaken there, from 1873 to the present time, and also of the Fish Cultural work and the magnificent results already obtained. (Bound). —By Sir James Ramsay Gibson Maitland, Bart.

Imperial Federation, current Nos.—From the Editor.

Inhaltsverzeichniss der Sitzung— sberichte der mathematisch—physikalischen classe dec k. b. Jahrgang 1871-1885. Munchen 1886.—From the Department.

Journal of the Linnean Society, London. "Botany," Vols. 22 to 24, Nos. 149 to 152. "Zoology," Vols. XX. to XXII., Nos. 117 to 140.—From the Society.

Journal of the Royal Statistical Society, London. Vol. L., Pts. II., III., IV., 1887, Vol. LI., Pts. I., II., 1888.—From the Society.

Journal of the Royal Microscopical Society, August, 1888.—From the Society.

Journal of the Royal Asiatic Society of Great Britain and Ireland (new series), Vol. XIX., Pts. III. and IX., 1887, Vol. XX., Pts. 1-2, 1888.—From the Society.

Journal of the Royal History and Archæological Association of Ireland. Vol. VIII., fourth series, April 1887, No. 70. Vol. VIII., July 1888, No. 75.—From the Society.

Journal of Comparative Medicine and Surgery, edited by W. A. Conklin, Ph., D.D.V.S., Director of the Zoological Gardens, New York.—From the Department.

Life and letters of Charles Darwin, including an autobiography chapter; edited by his son, Francis Darwin, in three volumes. Second edition (bound), London, 1887.

List of the Linnean Society of London. Session, 1887-1888.—From the Society.

List of the Geological Society of London, November 1, 1887.—From the Society.

List of members of the Royal Society of Edinburgh. November, 1887.—From the Society.

Minerals of New South Wales, etc., by A. Liversidge, M.A. F.R.S., Professor of Chemistry and Mineralogy in the University of Sydney. With map. (Bound). London, 1888. Purchased.

Memoirs of the Boston Society of Natural History. Vol. IV., No. 1. The significance of bone structure. By T. Dwight, M.D. No. 2. The development of the ostrich fern. No. 3. The introduction and spread of *Pieris rapae* in North America, 1860, 1865. by S. H. Scudder. No. 4. North American Geraniaceae. By W. Trelease. No. 5. The haconic of Georgia and the report on the geology of Vermont. By Jules Marcon. No. 6. The Entomophthoreae of the United States. By R. Thaxtor.—From the Society.

Memoirs of the Manchester Literary and Philosophic Society. Vol. X. Third series Vol. XXX. (old) (bound).—From the Society.

Memoirs of the Royal Astronomical Society, London, Vol 41, Pt. 1.—From the Society.

Memoirs of the National Academy of Sciences, Vol. III, Pt. 2, Washington. Ninth memoir contributions to meteorology.—From the Department.

Monthly notices of the Royal Astronomical Society, Vol. XLVIII, No. 8, June 1888.—From the Society.

Nature.

Naturhistorisches Museum, Zu, Hamburg. Bericht des Direktor, Professor Dr Pagenenstecheifür das Jahr 1887, abgestattet in dem Jahrbuch der wissenschaftlichen Anstalten, Zu, Hamburg, fur 1887.—From the Society.

On some effects of Lightning by Chas. Tomlinson, F.R.S.—From Mrs. Davies.

On the colour correction of Achromatic Telescopes: a reply to Prof. Chas. S. Hastings. By Wm. Harkness, Washington, 1888. (Pamphlet).—From the author.

On the Progress of Science, as exemplified in the Art of Weighing and Measuring, being the Presidential Address delivered before the Washington Philosophical Society. December 10, 1887. By Wm. Harkness, in which are appended some Historical Notes and a Bibliography. (Washington, 1888.) Pamphlet.—From the Author.

Observations made during the year 1883 at the United States Naval Observatory. Rear-Admiral R. W. Shufeldt, U.S.N. (Bound).—From the Department.

Pioneering in New Guinea. By Rev. James Chalmers. London, 1887. (Bound.)

Proceedings of the Royal Colonial Institute. Vol. XVIII., 1886-7. Vol. XIX., 1887-8. (Bound).—From the Institute.

Proceedings of the Royal Institution of Great Britain. Vol. XII. Pt. 1. List of the Members, Officers, and Professors, etc., for 1887.—From the Society.

Proceedings of the Royal Geographical Society and monthly record of Geography. Vol. IX. Nos. 6 to 12, 1887. Vol. X. Nos. 2 to 8, 1888.—From the Society.

Proceedings of the Scientific Meetings of the Zoological Society of London, Pts. I., January and February; II., March and April; III., May and June; IV., November and December, 1887. Pt. I., January and February, 1888.—From the Society.

Proceedings of the Manchester Literary and Philosophical Society. Vols. XXV., VI. Sessions 1885 6-7.—From the Society.

Proceedings of the Royal Society of Edinburgh. Sessions 1883-4, 1884-5, 1885, 1886, 1886-7. Vol. XIV.—From the Society.

Proceedings of the Linnean Society of London, July, 1888. From November, 1886, to June, 1887.—From the Society.

Proceedings of the Linnean Society of New South Wales (second series, vol. III., pt.) the second. April, May, and June, 1888. —From the Society.

Proceedings of the Canadian Institute, Toronto. Third series, vol. V. Fasiculus No. 2, April 1888.—From the Society.

Proceedings of the American Academy of Arts and Sciences (new series). Vol. XIV., whole series. Vol. XXII., Pt. I, from May, 1886, to December, 1886, selected from the records, Pt. II, from December, 1886, to May, 1887.—From the Society.

Proceedings of the American Association for the Advancement of Science, thirty-fifth and sixth held at New York, August, 1886-7. Vol. XXXV., XXXVI.—From the Association.

Proceedings of the American Association for the Advancement of Science, thirty-fourth meeting, held at Ann Arbor, Mich., August, 1885.—From the Society.

Proceedings of the American Philosophical Society held at Philadelphia for promoting useful knowledge. Vols. XXIV., XXV., Nos. 125 6-7.—From the Society.

Proceedings of the Academy of Natural Sciences of Philadelphia, Pts. I., II., III., January to December, 1888.—From the Society.

Queensland Post and Telegraph Department.—Weather Chart of Australasia at 9 a.m., August 31, 1888.—From Clement L. Wragge, Government Meteorologist.

Quarterly Journal of the Geological Society, Vol. XLIII., Pts. 3, 4, Nos. 171, 172; Vol. XLIV., Pts. 1, 2, Nos. 173-4.—From the Society.

Refraction in the principal Meridians of a Triaxial Ellipsoid, with remarks on the correction of Astigmatism by Cylindrical Glasses; and an Historical Note on Corneal Astigmatism by Swan M. Burnett, M.D., with a communication on the Monochromatic aberration of the human eye in aphakia, by Professor W. Harkness (pamphlet), Washington, 1888.—From Professor W. Harkness.

Report of the Trustees of the Australian Museum, Sydney, for 1887. — From the Trustees.

Raising Diatoms in the Laboratory, by Prof. Samuel Lockwood, Pt. 10. Read before the New York Microscopical Society, December 19, 1886. From the Author.

Report of the Superintendent of the U.S. Coast and Geodetic Survey, showing the progress of the work during the fiscal year ending with June, 1886. Pt. I. Text. From the Department.

Resultados del Observatorio Nacional Agentino. Vol. VI., 1887. From the Department.

Summary and Review of International Meteorological Observations for the month May, 1888, with charts. Published by order of the Secretary of War, A. W. Greely (pamphlet).—Washington, 1888.

Statistics of the Colony of New Zealand for the year 1887. Part I, Blue Book. Part II, Population and Vital Statistics. Part III, Trade and Interchange (unbound).—From the Registrar.

Scottish Geographical Magazine. The Vol. IV., No. 8. From the Society.

Scientific Writings of Joseph Henry. Vols. 1, 2. Published by the Smithsonian Institution, Washington, 1886 (bound). From the Institute.

Sixth annual report of the United States Geographical Survey to the Secretary of the Interior, 1884-5. By J. W. Powell. (Bound.) —From the Department.

Sitzungsberichte der Mathematisch-Physikalischen Classe der k.b. Akademie der Wissenschaften zu München, Heft III, 1876.—From the Department.

Sketch of the Geology of New Zealand. By Professor F. W. Hutton, F.G.S. (Pamphlet.)—From the Author.

Smithsonian Miscellaneous Collections, Vol. XXVII. Meteorological and Physical Tables, by Arnold Guyot, Vol. XXX. Catalogue of Scientific Periodicals, by H. C. Bolton, Vol. XXX. Scientific Writings, by Joseph Henry, Vol. XXXI. Synoptical Flora of North America, by Asa Gray.—From the Institution.

Smithsonian Institution, Bureau of Ethnology, J. W. Powell, director. Bibliography of the Siouan Languages. Bibliography of the Eskimo Languages. By J. C. Pilling.

Work in Mound Exploration of the Bureau of Ethnology. By C. Thomas.

The Use of Gold and Other Metals among the Ancient Inhabitants of Chiriqui, Isthmus of Darien. By W. H. Holmes.—From the Department.

Societè de Géographic, Compte Rendu, Nos. 10 to 16, 1887 ; Nos. 1 to 13. 1888.—From the Society.

Société Royale Malacologique de Belgique. Process—Verbal de l'Assemblé généralé annulle du 3 Juillet, 1887 (pamphlets).—From the Society.

Transactions of the Seismological Society of Japan. Vol. XII.—From the Society.

Transactions of the Institution of Engineers and Shipbuilders in Scotland, Vol. X.X.X., 30th session, 1886-7 (bound).—From the society.

United States of America War Department.—Monthly Weather Review, general weather service of the United States.—From the department.

United States of America War Department, office of the Chief Signal Officer.—Tri-daily Meteorological Records for 1878.—From the department.

United States Geological Survey, J. W. Powell, director. "Dinocerata," a monograph of an extinct order of gigantic mammals. (Bound.) By O. C. Marsh.—From the Department.

United States Geological Survey, J. W. Powell. Mineral Resources of the United States Calendar Year 1886. David T. Day, Chief of Division of Mining Statistics and Technology. (Bound.)—From the Department.

University of Cincinnati. Publications of the Cincinnati Observatory of Zone Catalogue of 4,050 Stars, 1887.—From the University.

War Department, Office of the Chief Signal Officer of the Army of the United States. Summary and Review of International Meteorological Observations July to December, 1885.—From the Department.

CORRESPONDENCE.

Letter from His Excellency's private secretary :—"I am directed by His Excellency Sir Robert Hamilton to acquaint you that by the last mail he received a despatch from the Secretary of State for the Colonies, in which he was requested to inform you 'that the address of congratu-

lation from the Royal Society of Tasmania to Her Majesty on the occasion of the 50th anniversary of Her reign, was duly laid at the foot of the throne, and that Her Majesty has commanded us to convey Her thanks for the dutiful and loyal sentiments expressed in the address. The Secretary of State reports that owing to an oversight the acknowledgment of this address has been delayed."

The SECRETARY, Mr. Morton, read a letter from the curator of the Technological Museum, Sydney, respecting a cutting from the *Pharmaceutical Journal* to the effect that a M. Guilmeth had discovered in Tasmania a mammoth deposit of honey, the work of native bees, and asking for information as to the probabilities of the story contained in the paragraph, which spoke of M. Guilmeth having come upon a grove of gigantic Eucalyptus trees, from 260ft. to 390ft. high. The largest individual store of honey weighed as much as 11,000lb. (The tale, which is utterly without foundation, was published in the columns of *The Mercury* some 18 months ago.) The writer stated that he had received a small quantity of the honey from Paris and had analysed it, proving it to be an artifical compound of common honey with 20 per cent. of Eucalyptus oil.

AQUATIC SHELLS OF TASMANIA.

THE SECRETARY, in the absence of Mr. W. F. Petterd, F.Z.S., read a paper entitled "Contributions for a systematic catalogue of the aquatic shells of Tasmania, in which the author expressed his intention, in a series of papers, of revising the somewhat large amount of work already done, recording omissions and describing newly discovered species and varieties of the fresh water shell-bearing mollusca of the island, preparatory to the compilation of a systematic catalogue in which the groups would be defined, the specific characteristics explained, and geographical distinction recorded. Such a catalogue, carefully criticised with the necessary bibliography, would in his opinion supply a desideratum much required by the general collector, and might also be of service to the more philosophical student. It was now a well established truth that examination of shell coverings was an almost infallible guide for the determination of species, so that it was necessary to undertake an extensive series of comparisons from as many localities as were accessible, before a systematic catalogue could be so worked out as to become of scientific value and service. The primary reason for his recent investigations was to endeavour to discover the correct genus in the system of classification in which to place the many species of minute paludinous aquatic shells so abundant in streams and pools. With this end in view he had selected the most abundant widely dispersed and characteristic form for special examination. The older conchological writers were satisfied in placing those in what, to our modern eyes, mixed genus *Paludina*, which then included a heterogeneous assortment of small shells of a conical form, without reference to their habitat being fluviatile or marine. More recent scientists had annexed them to a numerous variety of genera of more or less staple definition, but unfortunately almost all writers simply devoted their attention to the outline of the shell, and structure of the operculum, few, if any, devoting the amount of attention to the malacological characters that the more modern and elaborate system of classification demands. After further remarks on the system of classification, the writer said his investigations had led him to place without any hesitation our most prominent species in a genus quite new to Tasmania or even Australia — that of *Potamopyrgus*, established by Dr. Stimpson in a volume of the American Journal of Conchology for the analogous minute aquatic pulmonate mollusca of New Zealand. The paper then went on to

enumerate species already described by several authorities, and forming others into new genuses and species.

Mr. R. M. JOHNSTON read a paper entitled "Critical observations on recent contributions to knowledge of the fresh water shell of Tasmania," in which he gave the Rev. J. E. Tenison Woods the distinction of having been the first to make a systematic attempt to arrange the fresh water shells of the island. He dealt in an elaborate manner with the general classification of the fresh water shells, showing that they present many difficulties, and accompanying the paper was an exhaustive tabular history of the classification of the Tasmanian fresh water shells, quoting the Rev. Tenison Woods and Professor Hutton.

DAPHNIADÆ.

Mr. C. J. ATKINS read some interesting notes on the genus *Daphniadæ* allied to the water flea of Europe, and after reading the paper examples of these water insects were shown in living form by the aid of the microscope and a powerful lantern.

NOTES AND EXHIBITS.

In the absence of Mr. T. Stephens, F.G.S., Mr. MORTON read some notes from that gentleman on the rare *Eucalyptus cordata*, which had been sent to the author by the Rev. C. J. Brammall from Nelson's Tier, where he found it growing abundantly over a range of from 6 to 10 miles from Sorell. This species of Eucalypt was noted in the transactions of the Royal Society for 1881, and had been described as named by Labillardiere in 1793. It was not again met with until 1842, when Sir Joseph Hooker and the late Mr. Ronald Gunn met with it near the Huon district. It was then lost sight of for nearly 40 years, till again in 1880 the author obtained a specimen at Recherche Bay, and another from near Leslie in 1881, and in the same year he, with Mr. Abbott found it growing abundantly near the Huon-road, about four miles from Hobart.

Mr. R. M. JOHNSTON said the variability of all forms of eucalypti was so great that the final classification of various descriptions was not yet made, nor could it be until a representative collection of them in their different forms throughout Australia was got together for determination.

The CHIEF JUSTICE remarked that one thing he found with regard to the foliage of Eucalyptus cordata, was that while in its young state it closely resembled *E. Risdoni* the latter in its more advanced state was more lanceolated, and not glaucus as in *E. cordata*. So difficult was it to classify many of the eucalypti, that Baron Von Mueller had found it necessary to make sections of the anthers for purposes of determining the several species.

Mr. MORTON exhibited a bird new to Tasmania, *Gralina picata*, a female, the specimen being shot at Stanley, and kindly forwarded to him by Dr. Holden.

Mr. A. J. TAYLOR exhibited two specimens of abnormal growths on trees, which he said were obtained at Mount Heemskirk, the one from a sassafras, and the other from a manuka.

AN ART EXHIBITION.

The Hon. W. H. BURGESS, M.H.A., brought forward the question of an exhibition of pictures from the British Art Society in Tasmania. He wished for some help in inducing the Society of British Artists to send an exhibition of pictures, which were being sent to Sydney, to Tasmania after they left that city. While he was in London he met the President of the Society on the subject, and told him a wing had been added to the Society's building in Hobart, and that it was

intended to form the nucleus of an art gallery for Tasmania, asking whether there would be any likelihood of the pictures being sent on to Tasmania after the Sydney Exhibition closed. The President replied that the proposal might be entertained if a guarantee was given to cover the expense. Eventually he obtained from the President his views in writing, and the note in which they were embodied specified, among other things, the provision of galleries for the Society, and a guarantee that the sum of £500 would be raised in the event of the exhibition not realising that sum from entrance money. He felt confident that a large proportion of the sum would be realised by the charge for admission. In return, the president would give his large picture, "Helpless," painted by himself and J. C. Goteh, R.A., for presentation to the trustees of the National Gallery. The picture was 14ft. x 8ft., and its price was 1,000gns. A photograph of the picture was laid on the table. If a committee were appointed to take up the matter and wait on the Government for assistance, there would be no doubt whatever the pictures would come here for exhibition. In addition to other works it was more than probable Firth's celebrated pictures, entitled "The Road to Ruin," which created such a *furore* when they were first exhibited, would be sent to Sydney, and Mr. Ingram, the president, promised him that if they went there they should come on to Hobart, provided the arrangements were made.

Mr. Russell Young thought great credit was due to Mr. Burgess for taking such an interest in the subject. It would be a good opportunity to raise the status of artistic ability in Tasmania, and as it appeared to him simply a matter of guaranteeing the difference between the sum taken at the doors and £500, he thought there would not be much difficulty in obtaining the requisite guarantee.

Mr. Charpentier said he had pupils in the Technical School who would, if they could only see something to stimulate their ambition, produce work which would be astonishing. We had nothing whatever here whereby any person attempting to learn anything of art could see any technical methods by which certain results were arrived at, or any high standard of art.

Mr. Curzon Allport thought the matter had best be referred to a committee. He doubted whether the room in the Museum was altogether suitable for an art exhibition, on account of the arrangement of the lights.

Bishop Sandford thought it would be as well to give Launceston the benefit of such an exhibition if possible, as well as Hobart.

The Chief Justice would be very glad to see all the assistance possible given to such an exhibition as this, but was afraid the best of the pictures would never reach Hobart, as they would be sold in Sydney or perhaps Melbourne.

After further discussion, Mr. Allport moved the appointment of a committee, consisting of Bishop Sandford, the Chief Justice, Hon. W. H. Burgess, Messrs. Russell Young, R. M. Johnston, W. Benson, A. Morton, Colonel Legge, and the mover, to arrange preliminaries. This was seconded and carried.

His Excellency then proposed a vote of thanks to the gentlemen who had prepared papers, those who had taken part in the discussions, and to Mr. J. F. Echlin and Mr. C. J. Atkins for the lantern exhibition. He was sorry Mr. Petterd was not present, but he had contributed a very valuable paper. Mr. Johnston's paper was also very valuable.

The vote was carried, and those present then examined several natural history specimens under the microscope, after which the meeting terminated.