

## WELLINGTON PHILOSOPHICAL SOCIETY.

Since the 30th September, 1919, eight meetings of the society have been held, when papers were read as follow:—

22nd October, 1919 (annual meeting): Hon. G. M. Thomson, "Powdered Coal."

3rd December: Dr. R. J. Tillyard, "Neuropteroid Insects."

28th April, 1920: Professor D. M. Y. Sommerville, "Map Projections."

26th May: Dr. T. A. Jaggar, "The Study of Volcanoes."

23rd June: H. Rands, "Research in a Chemical Munition Factory, with Special Reference to the Ammonia-oxidation Process."

28th July: T. E. Perks and W. Donovan, "Some Notes on the Corrosion of Muntz Metal"; Dr. C. E. Adams, "New Zealand Observatories and American Co-operation."

28th August: J. H. Edmundson, "Liquid Air."

22nd September: E. K. Lomas, "The Geographical Foundations of the Peace Treaty Boundaries."

In addition the following papers were taken as read:—

22nd October, 1919: Dr. L. Cockayne, "Notes on New Zealand Floristic Botany, No. 4"; Miss M. K. Mestayer, "Notes on New Zealand Mollusca—No. 1, Three New Species of Polyplacophora, and other New Species"; G. C. Burton and W. Donovan, "Distillation Experiments with Waikaia Shale"; E. Bond, "A Note on Candle-nuts from Rarotonga"; W. Donovan, "A Note on Sting-ray-liver Oil"; Dr. J. A. Thomson, "The Notocene Geology of the Middle Waipara and Weka Pass District," "The Cretaceous Brachiopods of New Zealand," "Some Fossil Species of the Genus *Neothyris* (Brachiopoda)."

3rd December: G. V. Hudson, "Illustrated Life-histories of New Zealand Insects—No. 1, *Gnophomyia rufa*, *Limnophila sinistra*, *Melanostoma decessum*."

22nd September, 1920: E. Meyrick, "Notes and Descriptions of New Zealand Lepidoptera."

27th October, 1920: Miss M. K. Mestayer, "Notes on New Zealand Mollusca—No. 2, *Callochiton empleurus* (Hutton)"; P. G. Morgan, "Notes on the Geology of the Patea District"; G. H. Cunningham, "New Zealand *Cordyceps*," "The Rusts of New Zealand"; D. Miller, "Material for a Monograph on the Diptera Fauna of New Zealand—Part II, Syrphidae; Part III, Empididae"; J. G. Myers, "Supplement to Cicadidae of New Zealand," "Bionomic Notes on some New Zealand Spiders," "Life-history of some New Zealand Insects," "Notes on the Hemiptera of the Kermadec Islands."

17th November, 1920: W. R. B. Oliver, "Notes on Specimens of New Zealand Ferns and Flowering-plants in London Herbaria," "The Crab-eating Seal in New Zealand."

The average attendance at ordinary meetings has been thirty-eight.

*Council Meetings.*—Nine meetings of the Council have been held, and, in addition to the general management of the society, the following subjects have been considered :—

*Research Grants:* Consideration and favourable recommendation were given to an application from Professor Marsden for a grant of £125 for radium to be used in a research on the disintegration effect of the impact of  $\alpha$  particles on matter, and for another for £60 towards the expenses of a research into the relative efficiency of coal, gas, and electricity for domestic purposes in Wellington.

An application from Sir David Hutchins for a grant of £50 for research into the growth of native trees was also approved, and granted by the Government.

Dr. C. E. Adams made application for a grant of £250 for the purchase of a Henrici Harmonic Analyser for various researches. The Council has referred the matter to a sub-committee for report.

*Hobart Meeting of the Australasian Association for the Advancement of Science.*—Professor H. B. Kirk and Dr. C. A. Cotton were appointed as the society's delegates to the Australasian Association for the Advancement of Science meeting in Hobart in January, 1921.

*Pan-Pacific Science Conference at Honolulu in August, 1920.*—Dr. J. Allan Thomson was appointed as delegate to the Pan-Pacific Science Conference at Honolulu in August, 1920.

*Museum, Library, and Research Committee.*—A committee was set up to urge on the Government (1) the need for a new and fireproof building for the Dominion Museum, (2) for the establishment of a scientific and technological library, and (3) for the establishment of a Board of Science and Industry.

*Hamilton Memorial Prize.*—Rules have been drafted and forwarded to the Institute for controlling the award of the Hamilton Prize, which, when approved, will be gazetted.

*Natural History and Field Club Section.*—On the 3rd December, 1919, a new section, the Natural History and Field Club Section, was formed, and in connection therewith the society agreed to the introduction of associate members, at a subscription of 5s., who may belong to any one section, but shall not receive the annual volume of the *Transactions*. During the year twenty-six persons were elected associates, and meetings and field excursions have been held on several occasions.

*Fellows of the New Zealand Institute.*—Since the last annual report was compiled the election of original Fellows of the New Zealand Institute has been announced, and the following five members of the society have received Fellowships: B. C. Aston, G. Hogben, G. V. Hudson, H. B. Kirk, and J. Allan Thomson.

*Yale Observatory Committee.*—On the 28th July a committee was set up to further the project of the Yale University to establish an astronomical observatory in New Zealand. A strong committee was formed, and met on the 5th August. It is now communicating with the Director of the Yale Observatory.

*Membership.*—During the year the membership has slightly increased, there being now 206 on the roll. Forty-one new members were elected, nine resigned, and four were removed from the roll; as their letters were returned. Six ordinary members and one life member died, and one member was elected a life member. The associates number twenty-nine.

*Library.*—The periodicals have been received regularly by the Librarian. Some back numbers have been written for to complete the files.

The sum of £62 7s. 10d. was allocated to the library, which, added to last year's balance, makes a total of £174 9s. 7d. Of this sum £48 18s. was spent, leaving a balance of £125 11s. 7d. to be expended.

*Committee and Officers for 1921.*—*President*—C. E. Adams, D.Sc., F.R.A.S. *Vice-Presidents*—P. G. Morgan, M.A., F.G.S.; J. Allan Thomson, M.A., D.Sc., F.G.S., F.N.Z.Inst. *Council*—C. G. G. Berry; Elsdon Best, F.N.Z.Inst.; L. Birks, B.Sc., M.I.E.E.; C. A. Cotton, D.Sc., F.G.S., F.N.Z.Inst.; H. T. Ferrar, M.A., F.G.S.; A. C. Gifford, M.A., F.R.A.S., R. W. Holmes, I.S.O., M.Inst.C.E.; Captain Hooper, F.R.A.S.; G. V. Hudson, F.E.S., F.N.Z.Inst.; H. B. Kirk, M.A., F.N.Z.Inst.; J. S. Maclaurin, D.Sc., F.C.S.; E. Marsden, D.Sc., F.R.A.S., M.C.; P. W. Robertson, M.A., M.Sc., D.Ph. *Secretary and Treasurer*—H. Hamilton, A.O.S.M. *Auditor*—E. R. Dymock, F.I.A.N.Z. *Representatives to the New Zealand Institute*—T. H. Easterfield, M.A., Ph.D., F.N.Z.Inst.; H. B. Kirk, M.A., F.N.Z.Inst.

#### ASTRONOMICAL SECTION.

Three meetings of the committee and five of the section have been held, at the latter of which an average attendance of twenty was maintained.

The society having introduced a rule admitting associates to any one section at a small subscription, advantage has been taken of this, and two associates have joined. This form of membership when it becomes more widely known may tend towards an increase of interest in astronomy.

The bad weather conditions prevailing during the session, and the lack of leisure, were factors in reducing the work done at the Observatory. Predictions were calculated and observations made of a few occultations of stars by planets and by the moon. In one case valuable observations were made at Lick of an occultation by Jupiter of an eighth-magnitude star as the result of data supplied by Dr. Adams and Mr. Westland.

Papers were read as follow:—

1st October, 1919: Professor E. Marsden, "Some Recent Work on the Constitution of Matter."

3rd June, 1920: A. C. Gifford, "The Initial Radiation of a Nova," "The High Velocities of the Planetary Nebulae"; Dr. C. E. Adams and Professor E. Marsden, "The Samoan Observatory."

7th July: Mr. C. J. Westland, "The Prediction of Eclipses"; Dr. C. E. Adams, "Notes on Time Observations."

4th August: Professor E. Marsden and Professor D. M. Y. Sommerville, "A Symposium on Relativity."

1st September: "An Evening at the Observatories."

*Observatory and Instrument.*—The building is in fair repair, but requires painting, and the dome dressing. The instrument is in good order; electric lights have been fitted to the circles and the cross-wires. The lighting has been rearranged, and a sander, beating seconds from the clock, has been added. A micrometer eye-piece has been obtained, but so far no systematic work has been done with it.

The Observatory has been open during the year on the second and fourth Tuesdays in each month, and a good attendance has been the rule. The public are learning to take advantage of the combined tramway and Observatory tickets. A special evening was arranged for the Brooklyn School, when twenty scholars and a teacher were shown some of the wonders of the sky. An invitation was sent to the Workers' Educational

Association to visit the Observatory, but advantage of it was not taken. The work of keeping the telescope in order and opening the Observatory to the public has devolved mainly on Dr. Adams, Mr. C. J. Westland, and the Honorary Secretary, and it is hoped that other members of the section will come forward and help in this direction.

*Committee.*—The following subjects have come before the committee: Astronomical Union at Brussels; determination of longitude 129° E.; eclipse of the sun, September, 1922; the Yale offer of telescopes, &c.

The section wrote urging the Government to send an expedition to Australia to observe the eclipse of September, 1922, the only total eclipse observable from any point as near as Australia for many years to come. In connection therewith valuable information was obtained from the Commonwealth Meteorologist, Melbourne, concerning the climatic conditions and the best site for an observing-station.

The section notes with pleasure that a Bill is before Parliament defining New Zealand mean time as twelve hours ahead of Greenwich mean time.

*Proctor Library Fund.*—A proposal to use part of the interest on the Proctor Library Fund for purchasing books for the Observatory library is in abeyance, pending a reply from Miss Proctor.

*Officers.*—The following officers for the year were elected at the annual meeting on the 1st October, 1919: *Honorary Member*—Miss Mary Proctor. *Chairman*—Dr. C. E. Adams, D.Sc., F.R.A.S. *Vice-Chairmen*—Mr. A. C. Gifford, M.A., F.R.A.S.; Professor D. M. Y. Sommerville, M.A., D.Sc. *Committee*—Professor E. Marsden, D.Sc., F.R.A.S., M.C.; Mr. C. P. Powles; Mr. C. J. Westland, F.R.A.S.; Mr. R. D. Thompson, M.A.; Mr. J. Darling; Mr. D. J. Kerr; Captain G. S. Hooper. *Director and Curator of Instruments*—Dr. C. Monro Hector, M.D., B.Sc., F.R.A.S. *Hon. Treasurer*—Dr. C. E. Adams, D.Sc., F.R.A.S. *Hon. Secretary*—C. G. G. Berry.

#### TECHNOLOGICAL SECTION.

Six meetings have been held, the August meeting having to be deferred until September owing to the restriction in the tram service and electric lighting. The meetings have been well attended.

The thanks of the society are due to the various contributors of papers, and in particular to Mr. L. M. Sandston, who came from Christchurch to read his paper on "Highway Engineering." The following papers have been read:—

12th May, 1920: W. S. La Trobe, inaugural address, "Technological Education."

16th June: G. B. Bradshaw, "The Cement-gun."

21st July: L. M. Sandston, "Highway Engineering."

9th September: Professor E. Marsden, "A Simple Method for the Determination of Peak Voltages"; "The Interference of Transmission-lines with Telephone-lines."

15th September: W. S. La Trobe, "Notes on the General Theory of Mechanism."

20th October: R. Roberts, "Ring Problems peculiar to Electrical Machinery."

Owing to his leaving Wellington during the year, it was unfortunately necessary for Mr. Owen to resign from the position of Secretary, and Mr. G. B. Bradshaw has been appointed in his place for the remainder of the year.

*Committee and Officers for 1921.*—*Chairman*—L. Birks, B.Sc., M.I.E.E. *Vice-Chairmen*—J. S. Maclaurin, D.Sc., F.C.S.; W. S. La Trobe, M.A. *Committee*—R. W. Holmes, I.S.O., M.Inst.C.E.; F. W. Furkert, Assoc.M.Inst.C.E., A.M.I.M.E.; H. Sladden, member of Board of Surveyors; E. Marsden, D.Sc.; J. E. L. Cull, B.Sc. *Hon. Secretary*—G. B. Bradshaw.

#### GEOLOGICAL SECTION.

Six ordinary meetings have been held. A number of exhibits have been brought by members to the meetings, and these have aroused considerable interest and given matter for discussion.

Eleven papers have been read and discussed. The titles and authors of these are as follow:—

20th August, 1919: Dr. J. Allan Thomson and Miss Mestayer, "A Study of a New Zealand Limpet"; E. K. Lomas, "Some Geological Observations in the Hatuma District, Hawke's Bay."

10th September: Dr. J. Henderson, "The Geology of the South-western King-country."

8th October : W. Donovan, "The Natural-gas Resources of New Zealand"; G. L. Adkin, "Examples of Readjustment of Drainage in the Tararua Western Foothills"; G. H. Uttley, "Tertiary Geology of the Wharekuri-Kurow Area," and "Notes on Geological Survey Bulletin No. 20."

12th May, 1920 : G. H. Uttley, "Notes on the Geology of the Oamaru District."

5th June : P. G. Morgan, "Fossils of the Mount Radiant Subdivision, Karamea," and "Notes on the Stratigraphy and Palaeontology of the Greymouth and Westport Districts."

14th July : J. Henderson, "The Geology of the Raglan District."

*Committee and Officers for 1921.*—*Chairman*—H. T. Ferrar. *Vice-Chairman*—G. H. Uttley, M.A., M.Sc., F.G.S. *Committee*—Dr. J. Henderson, M.A., D.Sc., B.Sc. in Eng. (Metall.); R. W. Holmes, I.S.O., M.Inst.C.E.; E. K. Lomas, M.A., M.Sc.; P. G. Morgan, M.A., F.G.S.; Dr. J. Allan Thomson, M.A., D.Sc., F.G.S., F.N.Z.Inst. *Hon. Secretary*—Dr. C. A. Cotton, D.Sc., F.G.S.

#### HISTORICAL SECTION.

The annual and five general meetings have been held, when papers were read as follow :—

18th May, 1920 : Elsdon Best, "The Maori Genius for Personification."

15th June : Miss Hetherington, "The Discovery and Opening-up of the Goldfields in the Hauraki Peninsula."

20th July : Johannes C. Andersen, "Further Maori String Games."

17th August : F. P. Wilson, "Early Days in Wellington."

21st September (annual meeting) : Elsdon Best, "Old Redoubts, Blockhouses, and Stockades of the Wellington District."

19th October : H. Baillie, "New Zealand and Naval Protection"; P. Beckett, "Some Notes on Shell-middens at Paraparaumu Beach."

About the middle of the season the section lost the services of Mr. E. N. Hogben, owing to his removal to Palmerston North. His resignation from the committee was accepted with regret, as he was a good and enthusiastic worker.

*Officers for 1921.*—*Chairman*—Elsdon Best, F.N.Z.Inst. *Vice-Chairman*—Colonel T. W. Porter, C.B. *Committee*—Miss Hetherington, M.A.; Dr. C. Prendergast Knight; Messrs. H. Baillie, F. P. Wilson, M.A., J. Cowan, E. G. Pilcher. *Hon. Secretary*—Johannes C. Andersen.

#### NATURAL HISTORY AND FIELD CLUB SECTION.

Since the formation of this branch on the 3rd December, 1919, a series of field excursions and indoor meetings have been held, and the attendances have been very satisfactory. Twenty-six associate members have joined the Philosophical Society through the medium of this section. Seven field excursions were successfully held, and four indoor meetings followed in the winter months. Botany, geology, entomology, and marine zoology formed the chief subjects for discussion.

The following papers and addresses were given at the indoor meetings :—

1st June, 1920 : J. G. Myers, "New Zealand Cicadas."

6th July : D. Miller, "Mosquito Investigations in North Auckland"; Professor T. H. Johnston, "Some of Australia's Insect Pests."

3rd August : G. H. Cunningham, "Fungi."

7th September : D. Miller, "Hover-flies and their Economic Importance"; W. J. Philipps, "Notes on the Edible Fishes of New Zealand"; G. E. Mason (communicated by H. Hamilton), "Observations on Parasites found on the Huia Bird and not previously recorded."

*Officers for 1920-21.*—*Chairman*—G. V. Hudson, F.N.Z.Inst., F.E.S. *Vice-Chairmen*—Professor H. B. Kirk, M.A., F.N.Z.Inst.; Dr. J. Allan Thomson, M.A., D.Sc., F.G.S., F.N.Z.Inst. *Committee*—T. Ralph; E. K. Lomas, M.A., M.Sc., F.R.G.S.; C. A. Cotton, D.Sc., F.G.S.; H. Baillie; D. Miller. *Hon. Secretary*—H. Hamilton, A.O.S.M.