

Societies and Academies.

LONDON.

The Institute of Metals (Autumn Meeting), September 8.—W. M. Corse (autumn lecture): Recent developments in non-ferrous metallurgy in the United States, with special reference to nickel and aluminium-bronze. Some account is given of nickel, its occurrence, and smelting, and of the Orford, Mond, and Hybinette processes of refining. The copper aluminium alloy known as aluminium bronze is next described. This series of alloys has found many important uses, such as for worm gear wheels for motor trucks, automobile parts and other structural pieces requiring resistance to vibratory stresses or fatigues. The addition of lead to the standard aluminium bronze has given a new alloy of good wear-resisting properties. The dream of many a foundryman to avoid the use of sand for moulding purposes may come true, if the new Holley "long life mould" process using these moulds made of cast iron proves to be the success that is at present indicated. This applies to mass production work. There are also references to Ambrac metal, Fray metal, and the nickel chromium iron alloys.

PARIS.

Academy of Sciences, August 25.—M. Guillaume Bigourdan in the chair.—MM. Bigourdan and Giacobini: Observation of the total eclipse of the moon of August 14, 1924, made at the Observatory of Paris.—F. E. Fournier: Safety manœuvres, guarding against risks of collisions of two squadrons, in line of file, having to cross routes during fog.—Giuseppe Belardinelli: The resolution of algebraic equations.—Michel Akimoff: The approximate expression of Fourier-Bessel transcendentals of several variables, which occur in Kepler's problem.—P. Appell: Remarks on the preceding communication.—G. Sagnac: Classification of double stars.—T. Batuecas: Revision of the weight of the normal litre of methyl oxide. The value found, 2.1097, is in close agreement with that obtained by G. Baume in 1908 (2.1096). The atomic weight of carbon deduced from this is too high (12.033) and hence either the data for the compressibility of the gas require revision or the law of limiting densities of Daniel Berthelot is not rigorous for a gas so easily liquefied as methyl ether.—Léon Moret and Georges Carrette: Discovery of the marine Lutetian at the Roc de Chère (Lac d'Annecy).

SYDNEY.

Linnean Society of New South Wales, July 30.—Mr. R. H. Cabbage, president, in the chair.—Marguerite Henry: (1) Notes on breeding Entomostraca from dried mud, and their habits in aquaria. The relative prevalence and persistency of the different species and their method of reproduction under artificial conditions are described. (2) Entomostraca collected in the vicinity of Auckland, N.Z. Of the ten species collected by Mr. T. Steel, one is new and is also the first of the genus *Brunella* to be recorded from New Zealand. Several of the species have hitherto only been recorded from the South Island.—J. R. Malloch: Notes on Australian Diptera. No. iii. Notes on some Diptera—Acalyptratae, in which two genera (one in Chloropidae and one in Agromyzidae) and eleven species (five in Chloropidae, two in Ephydriidae, three in Agromyzidae and one in Asteiidae) are described as new.—G. H. Hardy: A revision of the Australian Chiromyzini (Diptera). In 1920 the author published a paper revising the tribe Chiromyzini. The Australian species are here considered. The males of four species, hitherto only known from the female, are included, and another is described as a new species.

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Official Publications Received.

- Imperial Earthquake Investigation Committee. *Seismological Notes* No. 6, July. Preliminary Note on the Great Earthquake of S.E. Japan on Sept. 1, 1923. By A. Imamura. (Tokyo: Department of Education.)
- Illustrated Catalogue of Specimens from Prehistoric Interments found in the North-East of Scotland and preserved in the Anthropological Museum, Marischal College, University of Aberdeen. By Prof. R. W. Reid. Pp. 50+2 maps. (Aberdeen: The University Press, 1924.)
- Report on Tests of Miners' Flame Safety Lamps fitted with Open Mesh Gauzes, carried out at the Mines Department Lamp Testing Station, Eskmeals. (London: H.M. Stationery Office, 1924.) 3d. net.
- National Physical Laboratory. Report of the Advisory Committee for the William Froude National Tank for the Year ending December 31, 1923. (London: H.M. Stationery Office, 1924.) 6d. net.
- Report of the Aeronautical Research Committee for the Year 1923-24. Pp. 50. (London: H.M. Stationery Office, 1924.) 2s. 6d. net.
- Ministry of Agriculture and Fisheries. Fisheries Investigations. Series II. Vol. VI., No. 4. 1924. An Account of Investigations into the Cause or Causes of the unusual Mortality among Oysters in English Oyster Beds during 1920 and 1921. Part II. Chemical Reports (1) by George Stubbs, Andrew More and John Ralph Nicholls, and (2) by Dr. O. L. Brady. Bacteriological Reports by Prof. J. Eyre. Report on Field Work by F. S. Wright. Biological Investigations by Dr. J. H. Orton. Recommendations as to Further Research by Dr. J. H. Orton. Pp. 69. (London: H.M. Stationery Office, 1924.) 7s. 6d. net.
- Apia Observatory, Samoa. Report for 1921. Pp. 62. Report for 1922. Pp. 63. (Wellington: W. A. G. Skinner, 1923.)
- A Summary of the Meteorological Observations of the Samoa Observatory (1890-1920). By G. Angenheister. Pp. 56. (Wellington: W. A. G. Skinner, 1924.)
- Kungl. Svenska Vetenskapsakademiens Handlingar, Tredje Serien. Band 3, No. 2: Researches on the Distribution of the Absolute Magnitudes of the Stars. By K. G. Malmquist. Pp. 77. Band 18, No. 23: A Study of the Properties of Globular Distribution. By S. D. Wicksell. Pp. 16. On the Dissection of Frequency Functions. By C. V. Charlier and S. D. Wicksell. Pp. 64. (Stockholm: Almqvist & Wiksell.)
- L'Eclipse totale de soleil des 20-21 août 1914. By H. G. Block. Pp. 15. (Stockholm: Almqvist & Wiksell.)
- Ordnance Survey Map of Roman Britain. Scale 16 miles to 1". Pp. 8 +map. (Southampton: Ordnance Survey.) 4s.
- Records of the Botanical Survey of India. Vol. 10, No. 1: The Botany of the Abor Expedition. By I. H. Burkill. Pp. 154. (Calcutta: Supt. Government Printing, India.) Rs. 4, As. 4.
- Annals of the Transvaal Museum. Vol. 10. Part 4. Pp. 197-252. (Cambridge: At the University Press.)
- Ministry of Agriculture and Fisheries. Fisheries Investigations. Series 2, Vol. 7, No. 2. 1924. Report on Exploratory Voyages to Lousy Bank and Adjacent Areas. By Lt. E. L. Pawsey and F. M. Davis. Pp. 22+2 charts. (London: H.M.S.O.) 3s. net.
- Australasian Antarctic Expedition 1911-14. Scientific Reports. Series C. Zoology and Botany. Vol. 6, Part 6. Polyzoa. By W. Thorneby. Pp. 22+five text figures. (Sydney: A. J. Kent.) 2s.
- Astronomical and Magnetical and Meteorological Observations made at the Royal Observatory, Greenwich, in the year 1921 under the direction of Sir Frank Dyson. (London: H.M.S.O.) 1l. 15s. net.
- Cape Astrographic Zones. Vol. 10. Catalogue of Rectangular Coordinates and Diameters of Star Images. Derived from Photographs taken at the Royal Observatory, Cape of Good Hope. Commenced under the direction of Sir David Gill, and completed by S. S. Hough. Zone 50°. (London: H.M.S.O.) 4l. 10s.
- Report of the Aeronautical Research Committee for the year 1923-4. Pp. 50. (London: H.M.S.O.) 2s. 6d. net.
- Department of Agricultural and Technical Instruction for Ireland. Memoirs of the Geological Survey of Ireland. The Geology of the Ballycastle Coalfield, Co. Antrim. By W. B. Wright, with chapters on the Palaeontology of the field by E. A. Arber and L. B. Smyth. Pp. 187. (Dublin: The Stationery Office.) 7s. 6d.

Diary of Societies.

TUESDAY, SEPTEMBER 23.

- INSTITUTE OF MARINE ENGINEERS, at 6.30.—E. B. Seymour Norton: An Engineer's Life in Eastern Oilfields.
- ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, at 7.—Capt. P. P. Eskersley: The Development of Broadcasting in Great Britain.

WEDNESDAY, SEPTEMBER 24.

- RADIO SOCIETY OF GREAT BRITAIN (at Institution of Electrical Engineers), at 6.—Prof. W. H. Eccles: The Latest Developments of the Position of the Scientific Amateur under the Wireless Telegraphy Regulations. (Autumn Presidential Address.)

THURSDAY, SEPTEMBER 25.

- INSTITUTION OF LOCOMOTIVE ENGINEERS (at Engineers' Club, Coventry Street), at 7.—Lt.-Col. E. O'Brien: The Future of Main Line Electrification of British Railways.

FRIDAY, SEPTEMBER 26.

- ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, at 7.—O. Brockbank: The Wilderness of the Wanderings.

SATURDAY, SEPTEMBER 27.

- SCHOOL NATURE STUDY UNION (Anniversary Meeting) (at London Day Training College), at 3.—G. H. Gater: Address.