

Societies and Academies.

LONDON.

Royal Society, June 16.—F. W. Aston: A new mass-spectrograph and the whole-number rule (Bakerian Lecture). By means of the first mass-spectrograph, built in 1919, the masses of all atoms, with the exception of hydrogen, were shown to be whole numbers on the oxygen scale, to one or two parts in 1000. In order to measure their divergence a more powerful instrument was necessary. This has been made, with a resolving power of 1 in 600, more than sufficient to separate the mass lines of the isotopes of any known element, and with an accuracy of measurement as high as 1 in 10,000. By means of this instrument the isotopic constitution of mercury has been decided, new isotopes discovered in sulphur and tin, and the two doubtful isotopes of xenon confirmed. 51 types of atom contained in 18 different elements, ranging from hydrogen to mercury, have been examined. Their masses and packing fractions, *i.e.* their percentage divergence from the whole numbers expressed in parts per 10,000, are tabulated on the oxygen scale; *e.g.*, the atom of phosphorus of mass number 31 has a packing fraction -5.6 ± 1.5 and a mass 30.9825. The relations of tin and xenon have been re-examined and found not to show the striking abnormality previously suggested. The values for Li^6 and Li^7 are obtained by a recalculation of Costa's results. When the packing fractions of the atoms are plotted against their mass numbers, for all atoms above mass number 20 these lie roughly on a single curve. From mercury, packing fraction +0.8, the curve descends to -9 in the region of bromine. It then ascends, and in the case of atoms of odd atomic number continues to do so, in a roughly hyperbolic manner, right up to hydrogen +77.8. The light atoms of even atomic number have packing fractions well below this curve, and approximate to a branch rising much less steeply to helium +5.4. This suggests that the light atoms of odd atomic number have a common loosely packed, and therefore heavy, outside structure, which is not present in the denser and more stable nuclei of helium, carbon, and oxygen.

Linnean Society, May 12.—James Groves: Charophyta from Madagascar. Early in 1924, Mr. T. B. Blow made an extensive collection of Charophyta from Madagascar. Seven species of Chara were collected, all belonging to known and fairly distinct types. The representatives of the more intricate genus *Nitella* have proved difficult to discriminate. The new species described are probably mostly endemic to the island. None of the smaller genera is represented.—T. B. Blow: Observations on the alleged larvicidal qualities of Charophyta. Species of Charophyta were cultivated in large glass jars and mosquito larvæ were introduced; the effect of the glucoside from dried *Chara zeylanica* was also tried. In every case the larvæ enjoyed a vigorous life, and a large percentage attained to the winged condition.—T. A. Sprague and V. S. Summerhayes: The geographical distribution of some Santalaceæ. An investigation into the taxonomic status of the Australasian genus commonly known as *Fusanus* "R. Br." (non Murr.) led to its being divided into two genera—*Eucarya* T. L. Mitch. (Australia) and *Mida* A. Cunn. (New Zealand). It was then discovered that the now extinct *Santalum fernandezianum* F. Phil. (Juan Fernandez) should be transferred to the genus *Mida*. The distribution of *Mida* is of exceptional interest, one species occurring

in New Zealand (North Island) and the other in Juan Fernandez. If it is monophyletic, the distribution may be interpreted as an extreme example of the well-known New Zealand-Chile (or South America) type, which is generally explained as the result of northward migration from the Antarctic continent. Possibly *Mida* had a diphyletic origin from *Santalum*, the ancestors of the New Zealand species having migrated from Australia and those of the Juan Fernandez species from Hawaii. The geographical distribution of *Santalum album* affords a problem of a different nature. *S. album* is known only from (1) southern India and (2) the eastern part of the Malay Archipelago, from eastern Java to Timor. This discontinuity may conceivably be due to extirpation by disease in the intervening area. A second hypothesis—that the species was introduced into India from eastern Malaya—is brought forward by Mr. C. E. C. Fischer.

CAMBRIDGE.

Philosophical Society, May 2.—E. G. Dymond: Excitation by high velocity electrons. With the velocity of the exciting electrons ranging from 100 volts to 1800 volts, the lines of the par- and ortho-helium series are reduced in intensity with increasing velocity, in roughly the same manner, and the intensities of the two series are of the same order of magnitude. This is in complete disagreement with work on the efficiency of excitation of the two series, made by an electron impact method. Excitation by fast electrons seems to proceed in two stages, the first being the excitation of the atom to any of a continuous series of states, and the second, the falling back into one of the normal series with emission of continuous radiation. The electron may lose any amount of energy greater than the lowest excitation energy. The process is similar to that put forward by Kramers and Heisenberg to explain the scattering of light.—A. Caress: Synthesis of ammonia by electrons.—P. A. Taylor: The light intensity of the calcium chromosphere. Prof. Milne's theory of the equilibrium of the calcium chromosphere is modified to take account of the curvature of the sun and the proper inverse square law of gravity. A method is developed for the calculation of the intensity of *H* and *K* radiation as observed in a telescope pointed near the limb of the sun in terms of the height above the limb of the point towards which the telescope is directed. Comparison of the calculated intensities with eclipse observations indicates that the co-efficient of partial support is probably of order of magnitude 10^{-4} .—F. H. Constable: On the effect of the addition of successive small quantities of poisonous substances on the velocity of catalytic gas reactions in closed vessels. A homogeneous distribution of centres of activity is more sensitive to the initial small quantities of poison than to the increments following. The experimental results of Pease and Stewart are used to show that there is a considerable change in the mean life of the carbon monoxide molecule on the most active, and least active, centres in the hydrogenation of ethylene by a reduced copper catalyst, showing that a distribution of centres does exist in this case, and that once the most active centres are poisoned the catalyst behaves as if it were homogeneous.—H. Jeffreys: Wave propagation in strings with continuous and concentrated loads. The nature of wave-propagation in a light string loaded with equal particles at regular intervals is discussed. There is no phenomenon similar to conduction of heat, but only dispersion. It appears probable, however, that irregularity of structure, if any, would introduce conduction.—S. Goldstein: On Mathieu functions.—M. E. Grimshaw: A case of distinction between Fourier integrals and Fourier series.

DUBLIN.

Royal Dublin Society, May 24.—Report of the Irish Radium Committee for the year 1926. Details are given of the treatment of more than two hundred cases with radium emanation supplied by the committee during the year.—P. O'Connor: A universal growth inhibitor in living tissue. The fluids of each species of plant or animal contain a simple diffusible substance of a specific character which is toxic to the protoplasm of all other species. This substance is not destroyed by boiling.—W. H. Fordham: The Eötvös torsion balance and vertical magnetometer.

EDINBURGH.

Royal Society, June 6.—Ethel D. Currie: Jurassic and Eocene Echinoidea from Somaliland. The collection, which belongs to the British Museum, comprises 14 Jurassic and 18 Eocene species. The Jurassic specimens, which are apparently all Bathonian, are from Bihendula and Ida Kabeitah in north central Somaliland and Biyo Dader in western Somaliland. New species of *Acrosalenia* and *Echino-diadema* are described and also a new genus, *Farquharsonia*, which has certain resemblances to *Archæodiadema*, *Hemipedina*, and *Orthopsis*. The fauna is European in affinities and implies a connexion between the Somaliland sea and the European sea of that time. The Eocene echinoids, collected in north central and eastern Somaliland, are from a lower cherty limestone and an upper white chalky limestone. The 11 species from the cherty limestone include a new species of *Pericosmus*, and are Lower Eocene. The 7 species from the upper white limestone, which include a new *Linthia* and a new *Opissaster*, are Middle Eocene. The author correlates the lower cherty and upper chalky limestone with the Auradli and Allahkajid limestones of Somaliland, thus reversing the supposed order of these two limestones.—A. Calder: A case of partial sex-transformation in cattle. A cow, following cystic degeneration of both ovaries, assumed the secondary sexual characteristics of the male.—W. O. Kermack and W. T. H. Williamson: The stability of suspensions (ii.). The rate of sedimentation of kaolin suspensions containing colloidal silicon dioxide. When kaolin suspensions contain a small quantity of colloidal silicon dioxide, the normal effect is one of weak protection, but under certain conditions an abnormally rapid rate of sedimentation occurs owing to the precipitation of a film of insoluble material over the surface of the particles. Under other conditions the abnormal rate of sedimentation, due to the formation of a film of this kind in the absence of silicon dioxide, disappears in its presence.—Amy M. Fleming: The peripheral innervation of the uterus. The work is a study of the part played in directing the activities of the uterus by the nerve structures which lie outside the central nervous system. It involved an anatomical study of the distribution of these nerve structures in lower animals and a physiological and pharmacological investigation of their mode of action. No evidence was obtained that the ganglia lying beside the cervix have any direct action, and the interaction of antagonistic drugs, while indicating the evidence of an intra-uterine control, failed to afford clear evidence of separate augmentory and inhibitory mechanisms.—W. L. Ferrar: On the consistency of cardinal function interpolation. A function $f(x)$ is obtained by interpolating from a set of values at $x=n$. The values $f(n-\lambda)$ are used to build up a new interpolation function $\phi(x)$. Under appropriate conditions $\phi(x)=f(x)$. The work is related to Titchmarsh's series inversion formulæ.—W. H. Lang:

Contributions to the study of the Old Red Sandstone flora of Scotland. (vi.) On *Zosterophyllum Myretonianum*, Penh., and some other plant remains from the Carmyllie Beds of the Lower Old Red Sandstone; (vii.) On a specimen of *Pseudosporochnus* from the Stromness Beds. *Zosterophyllum* is characterised by peculiar branchings with a backwardly directed division, giving the appearance of an anastomosis of two parallel stems, and axes with radially arranged, stalked, reniform appendages. The appendages suggests that they may be rather flat sporangia, but no spores have been demonstrated. The plant had a thick cuticle and an epidermis, possibly with stomata. There is a central vascular strand, composed of tracheides with annular thickening bands, traversing the linear axes. *Zosterophyllum* is the most ancient vascular plant known from British rocks. The indications are that it can be placed in the Rhyniaceæ. Certain branched linear axes of a wholly different structure are described. Linear spore-masses are enclosed in some cases by an investment of this construction. A specimen recently added to the Stromness Museum provides a record of the occurrence of *Pseudosporochnus Krejčíi*, known from the Middle Devonian of central Europe, in the Middle Old Red Sandstone of Scotland.—Sir Thomas Muir: The theory of orthogonants and latent roots from 1881 to 1918.

PARIS.

Academy of Sciences, May 16.—The president announced the deaths of Gustave André and of M. Tschermak.—A. Lacroix and F. Blondel: The existence in the south of Annam of a peperite resulting from the intrusion of a basalt into a diatomaceous sediment. There are two current views as to the origin of peperites, one (Julien) regarding them as formed by materials projected from basaltic volcanoes falling into lakes and cemented by calcite, the other (A. Michel-Levy) as resulting from the intrusion of a basaltic magma into limestone deposits. A detailed study of the Annam peperites is in agreement with the latter view.—Maurice Hamy: An empirical rule concerning the magnification of a telescope. A proof of the empirical rule that twice the aperture of the objective measured in millimetres gives the maximum useful magnification.—A. Bigot: The conditions of deposit of the upper Bathonian in the region of Caen.—Henry F. Osborn was elected *correspondant* for the section of mineralogy.—L. Leau: Method of recurrence or of complete induction applicable to space.—A. Kovanko: Suites of functions of class 1.—Louis Breguet: The maximum flying distances possible without descent and the transport capacity of aeroplanes of the future on long flights.—Thadée Peczkowski: The action of salts on metals. The phenomena described explain various facts observed in the thermo-ionic emission of incandescent metals covered with a layer of salts, especially the known fragility after long heating and the increase of the electronic emission.—F. Bedeau and J. de Mare: The direct standardisation of a wavemeter as a function of the harmonics of a tuning-fork.—St. Procopiu: The influence of mechanical actions and of alternating currents on the discontinuities of the magnetisation of iron.—D. Chalonge and M. Lambrey: The structure of the ultra-violet absorption band of ozone.—G. Colange: The influence of temperature on photographic impressions. Researches on the optical properties of the upper atmosphere necessitated a knowledge of the influence of low temperatures on photographic plates. Experiments have been carried out on the law relating photographic density and temperature between 15° C. and -60° C.

The results already obtained are sufficient to show the necessity of working at a constant temperature when making measurements of photographic photometry. A temperature variation of 5° C. introduces an error of $\frac{1}{5}$ in the comparison of the intensities of two sources of light.—A. Grumbach: Photovoltaic elements containing glycerol.—Mlle. Suzanne Veil: The magnetic behaviour of the modified hydroxides in the presence of hydrogen peroxide. From the observations given both from the magnetic and chemical point of view, treatment with warm water appears to paralyse the activity of nickel hydroxide. Experiments with ferric hydroxide lead to similar conclusions.—J. Cournot, J. Bary, and E. Perot: Coating aluminium, magnesium, light alloys, and ultralight alloys.—J. B. Fournier and Fritsch-Lang: The inalterability of commercial iron, copper, and zinc by liquid hydrogen sulphide. These metals are unchanged by prolonged immersion in liquid hydrogen sulphide and show no trace of corrosion or alteration.—Pariselle and Laude: The manganese hydrate carried down by alumina from an ammoniacal solution.—Albert Kirrman: The ethylenic organo-magnesium compounds.—Ch. Courtot and G. Vignati: Researches in the fluorene series.—P. Blanchet: A new layer carrying many fossils of the intra-Alpine Tithonic.—J. MacLaughlin: Measurements of the large ions at Paris. After discovering the large ions, Langevin put forward a theory concerning them of great importance in the physics of the earth. Two series of measurements of the large ions, carried out at Paris since 1925, confirm generally the views of Langevin. The present paper gives some of the first results of these measurements.—Malmgrön and Běhounek: Measurements of the electrical conductivity of the atmosphere in the region of the North Pole. An account of experiments carried out during the voyage of the dirigible *Norge* from Kingsbay (Spitsbergen) to Teller (Alaska) in the course of the Amundsen-Ellsworth-Nobile polar expedition.—E. Chemin: The development of the spores and the parasitism of *Harveyella mirabilis*.—A. Guilliermond: The cytology and sexuality of *Spermophthora Gossypii*.—St. Karasiewicz: The influence of sodium carbonate and calcium chloride on the acidity of the juice of *Zea Mais*.—L. Maume and J. Dulac: The variation of antitoxic power as a function of ionisation.—René Souèges: The embryogeny of the Leguminosæ. The last stages of the development of the embryo in *Trifolium minus*.—Maurice Fontaine: The influence of high pressures on the imbibition of the tissues.—Ch. Oberling: The existence of a neuro-muscular *housse* at the level of the glomerular arteries in man.—E. Lacroix: The texture of the shell of *Textularia sagittula*.—P. Nottin: The hydrolysis of starch by sulphuric acid. The experimental results given accord best with the view that sulphuric acid directly decomposes the amylaceous material into several products, glucose, maltose, other reducing substances and non-reducing glucides. The theory of successive reactions passing through a series of intermediate products is not confirmed.—Marc Romieu: A new histochemical reaction for the lecithines. The iodophil reaction. Lecithin gives a strong brown coloration when treated with a solution of iodine in potassium iodide. This resembles the brown colour produced by glycogen. It is probable that glycogen and lecithin may have been confused in earlier work.—L. Meunier, P. Chambard, and H. Comte: The pancreatic digestion of wool.—E. Wollman and Achille Urbain: Bacteriophagy and filtrable tumours. The fixation reaction in the Rous sarcoma.—C. Levaditi and A. Klarenbeek: The prophylaxy of the trypanosomiasis by ingestion of moranyl (309

Fourneau or 205 Bayer). Moranyl administered to the rabbit *per os*, exercises a profound and lasting prophylactic action with regard to *Trypanosoma Nagana*. Comparative traits made with *T. gambiense* have furnished analogous results.

SYDNEY.

Linnean Society of New South Wales, Mar. 30.—E. W. Ferguson: Medical and veterinary entomology in Australia (Presidential address). Only certain groups of insects are concerned in the transmission of disease, insects whose life-history comes into close association with man or animals. These insects nearly all belong to the orders Diptera, Siphonaptera, Hemiptera, and Anoplura. (a) Diptera (Flies). The mosquitoes carry in Australia three distinct diseases, malaria, dengue fever, and filariasis. Tabanidae: no disease has been definitely traced to this family, but owing to their biting habits they are suspect. Muscidae: the common house-fly is responsible for the spread of typhoid, infantile diarrhoea, and dysentery. All flies are not enemies, for many are useful in destroying other insects. (b) Siphonaptera (Fleas). The Indian rat flea, an introduced species, is the vector of plague from rat to rat and from rat to man. The stickfast flea has been the cause of economic loss in poultry in Western Australia. (c) Hemiptera (Bugs). The common bed bug has been introduced but is not known to carry any disease in Australia, which is fortunately free from other blood-sucking species. (d) Anoplura (Lice). The three louse-borne infections of man do not now exist in Australia. Hymenoptera (bees, wasps, and ants) though not disease-carrying insects, are of interest from two points of view: (1) many will attack human beings, inflicting severe stings, and (2) several are parasitic on flies of economic importance.—J. R. Malloch: Notes on Australian Diptera. No. x. A new subgenus of *Sapromyza* is described, and also new species of *Mycodrosophila* (1), *Leucophenga* (1), *Drosophila* (6), *Gitonides* (1), *Desmomelepa* (1), *Sapromyza* (5), *Homoneura* (3), and *Tapeigaster* (1).—Miss May M. Williams: The anatomy of *Cheilanthes vellea*. *Cheilanthes vellea* is one of the few xerophytic ferns. The stem stele is a dictyostele. The petiolar stele, as it leaves the stem stele, is a simple adaxially curved anarchy structure, but later three protoxylem groups appear. The pinnule has a reduced lacunar system, but a well-developed palisade. The stomata are confined to the lower surface of the pinnule and are protected by the inrolled margin of the pinnule together with a covering of hairs which grow out from the lower epidermis. The root is diarch. The apices of stem, leaf and root, and also the development of the sporangia, conform with those typical for leptosporangiate ferns. The sori are superficial and continuous, with a false indusium which is simply the inrolled margin of the pinnule. The number of spores does not exceed twenty.—John Mitchell: A new *Deltopecten* from the Illawarra district, N.S.W. The new species resembles *D. obliquatus*. It occurs in the Upper Marine beds, Permo-Carboniferous.—John Mitchell: The fossil *Esterhæia* of Australia. Part I. Only two species of *Esterhæia* have previously been recorded from Australia, namely, *E. Coghlani* Cox from Sydney, and *E. mangaliensis* Eth. Junr. from Ipswich. Eleven new species are described, and a new name is given to the species hitherto recorded as *E. mangaliensis*. These forms range back to the Upper Permian, when the species were of larger size than those obtained from the later Triassic formations.—G. D. Osborne: The geology of the country between Lamb's Valley and the Paterson River. The main portion of the area consists of a somewhat dissected plateau.—

C. Barnard: Note on a dicotyledonous fossil wood from Uladulla, N.S.W. The specimen was obtained from the 'Silica' beds (Lower Tertiary) at Bannister Head, near Uladulla, and is a piece of silicified wood. In structure the wood is that of a typical dicotyledon, and shows a very close agreement with that of the Saxifragaceæ, in which it is tentatively placed.—C. T. Musson and the late J. J. Fletcher: On a case of natural hybridism in the genus *Grevillea* (Proteaceæ). The flora of the higher portion of the Blue Mountains includes two species, *G. laurifolia* Sieb. and *G. acanthifolia* A.C., the plants of which differ markedly in many respects. Though belonging to different plant associations they frequently grow quite near each other under conditions that are often ideal for tempting birds to pass directly from the flowers of one species to those of the other. When these conditions prevail, certain rare and little known forms possessing intermediate characters are sometimes found.

Official Publications Received.

BRITISH.

- British Museum (Natural History). Picture Postcards. Set E49: Mimicry in Insects, Series No. 1. 5 cards in colour. 1s. Set E50: Mimicry in Insects, Series No. 2. 5 cards in colour. 1s. (London: British Museum (Natural History).)
- Experimental Researches and Reports published by the Department of Glass Technology, the University, Sheffield. Vol. 9, 1926. Pp. iii+324. (Sheffield.)
- Transactions of the Royal Society of Edinburgh. Vol. 55, Part 2, No. 12: The Structure of the Disturbed Deposits of Møges Klint, Denmark. By Dr. George Slater. Pp. 289-302+1 plate. 2s. Vol. 55, Part 2, No. 13: The Disturbed Glacial Deposits in the neighbourhood of Loustrup, near Hjørring, North Denmark. By Dr. George Slater. Pp. 303-305+2 plates. 2s. 6d. (Edinburgh: Robert Grant and Son; London: Williams and Norgate, Ltd.)
- Journal of the Institute of Actuaries Students' Society. Vol. 3, No. 1. Pp. 72. (London: C. and E. Layton.) 3s.
- The Opening of the Safety in Mines Research Station, Buxton, by the Viscount Chelmsford, 14th June 1927. Pp. 4+12 plates+32. (London: Safety in Mines Research Board.)
- The Kent Incorporated Society for Promoting Experiments in Horticulture. Annual Report (Thirteenth Year) 1925. 2: Supplement. East Malling Research Station. Pp. 160+20 plates. (East Malling.) 5s. 6d.
- Discovery Expedition. First Annual Report, 1926. Pp. 10+3 plates. (London: H.M. Stationery Office.) 1s. 6d. net.
- Norman Lockyer Observatory. Director's Annual Report, April 1, 1926-March 31, 1927. Pp. 8. (Sidmouth.)
- The Official Guide to Twickenham. Fourth edition. Issued by Authority of the Twickenham Corporation and the Twickenham and St. Margaret's Chamber of Commerce. Pp. 72. (London and Cheltenham: Ed. J. Burrow and Co., Ltd.)
- Annual Report of the Calcutta School of Tropical Medicine, Institute of Hygiene and the Carmichael Hospital for Tropical Diseases, 1926; also a Brief History of the School and a Report for the Years 1920-1926. Pp. vi+152+27 plates. (Calcutta: Bengal Government Press.)
- Memoirs of the Queensland Museum. Vol. 9, Part 1, April 28th. Pp. 126+17 plates. (Brisbane: Anthony James Cumming.)
- Review of Agricultural Operations in India, 1925-26. By Dr. D. Clouston. Pp. v+152+10 plates. (Calcutta: Government of India Central Publications Branch.) 2.6 rupees; 4s. 3d.
- Union of South Africa: Department of Agriculture. Bulletin No. 12: The Financial Side of Dairy Farming. By E. W. Sampson. Parts 1-5. Pp. 43. 6d. Bulletin No. 15: A Simple and Successful Septic Tank. By E. J. Van Meerten. Pp. 11. (Pretoria: Government Printing and Stationery Office.)
- The Ross Institute and Hospital for Tropical Diseases (Incorporated), Putney Heath, London, S.W.15. Annual Report and Accounts for 1926. Pp. 36. (London.)
- Malaria-Control in Malaya and Assam: a Visit of Inspection, 1926-27. By Sir Ronald Ross. Pp. 31. (London: Ross Institute and Hospital for Tropical Diseases.)
- Empire Cotton Growing Corporation. Report of the Sixth Annual General Meeting. Pp. 18. (London.)
- The Journal of the Institution of Electrical Engineers. Edited by P. F. Rowell. Vol. 65, No. 366, June. Pp. 553-652+xxx. (London: E. and F. N. Spon, Ltd.) 10s. 6d.
- Quarterly Journal of the Royal Meteorological Society. Vol. 53, No. 222, April. Pp. 97-200. 7s. 6d. Supplement to Vol. 53: The Meteorology of Solar Eclipses. By E. W. Barlow. Pp. 24. 2s. 6d. (London: Edward Stanford, Ltd.)
- British Museum (Natural History). Picture Postcards. Set F18: British Orchids, Series No. 3. 5 cards in colour. 1s. Set F19: British Orchids, Series No. 4. 5 cards in colour. 1s. Set F20: British Orchids, Series No. 5. 5 cards in colour. 1s. Set F21: British Orchids, Series No. 6. 5 cards in colour. 1s. (London: British Museum (Natural History).)
- Journal of the Royal Microscopical Society. Series 3, Vol. 47, Part 2, June. Pp. 14+97-207. (London.) 10s. net.

Natural Science in Adult Education. Paper No. 8 of the Adult Education Committee. Pp. vi+54. (London: H.M. Stationery Office.) 6d. net.

Committee on Bird Sanctuaries, Royal Parks, England. Report for 1926. Pp. 15. (London: H.M. Office of Works.)

FOREIGN.

U.S. Department of Agriculture. Farmers' Bulletin No. 1521: Propagation of Game Birds. By W. L. McAtee. Pp. ii+57. (Washington, D.C.: Government Printing Office.) 10 cents.

Department of Commerce: U.S. Coast and Geodetic Survey. Serial No. 376: Geodetic Level and Rod. By D. L. Parkhurst. (Special Publication No. 129.) Pp. 12. (Washington, D.C.: Government Printing Office.)

Proceedings of the American Academy of Arts and Sciences. Vol. 62, No. 3: The Ants of the Canary Islands. By William Morton Wheeler. Pp. 93-120+3 plates. 75 cents. Vol. 62, No. 4: The Ants of Lord Howe Island and Norfolk Island. By William Morton Wheeler. Pp. 121-153. 50 cents. (Boston, Mass.)

Ministry of Public Works, Egypt: Physical Department. Meteorological Report for the year 1921. Pp. xv+162. (Cairo: Government Publications Office.) 40 P.T.

Statens Meteorologisk-Hydrografiska Anstalt. Årsbok, 8, 1926. ii: Nederbörden i Sverige. Pp. 159. (Stockholm.) 5 kr.

CATALOGUES.

Planetable Surveying Equipment. Pp. 12. (London: Cooke, Troughton and Sims, Ltd.)

Mathematical Models according to the Collection of Messrs. Weiner and Treutlein. Pp. 20. (Manchester and London: G. Cussons, Ltd.)

Clinical Pathology and the Use of Stains: with Price List of Standard Microscopic Stains. Second Impression. Pp. 16. (London: The British Drug Houses, Ltd.)

Diary of Societies.

MONDAY, JUNE 27.

ROYAL IRISH ACADEMY, at 4.15.

TUESDAY, JUNE 28.

ROYAL DUBLIN SOCIETY, at 4.15.—J. Wilson: Lord Morton's Quagga-Horse Hybrid: Was it a Hybrid?—J. Reilly and G. Fyne: A Modified Micro-method for Molecular Weight Determination.

ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.30.—Prof. V. Gordon Childe: The Egean and the Danube Valley in the Second Millennium B.C.

WEDNESDAY, JUNE 29.

INSTITUTION OF MINING ENGINEERS (in Lecture Theatre of the North of England Institute of Mining and Mechanical Engineers, Newcastle-upon-Tyne), at 10.30 A.M.—G. Raw: Notes on the Overhead Keop Wind-Plant at the Murton Colliery of the South Hetton Coal Company, Ltd.—K. C. Appleyard: The Cleaning of Coal by Means of Pneumatic Separators, with Special Reference to the Sutton Steele and Steele Process.—W. D. Lloyd and Dr. J. N. Williamson: Experiments on the Reversal of Mine Ventilation.—Prof. H. Briggs, with an Appendix by Dr. J. Morrow: An Attempt at the Rationale of Faulting and Subsidence.—S. Walton-Brown: The Driving of Narrow Places.—J. I. Graham and A. Shaw: The Composition of Firedamp.—The following papers will be submitted for further discussion:—Miners' Nystagmus, Dr. F. Ferguson; Miners' Nystagmus, Dr. J. S. Haldane and Dr. T. L. Llewellyn; The Construction of Flame Safety-lamps, Dr. R. V. Wheeler and D. W. Woodhead.

ROYAL SOCIETY OF ARTS (Annual General Meeting), at 4.

THURSDAY, JUNE 30.

ROYAL SOCIETY, at 4.30.—A. V. Hill, K. Furusawa, and J. L. Parkinson: The Dynamics of 'Sprint' Running.—A. V. Hill, K. Furusawa, and J. L. Parkinson: The Energy used in 'Sprint' Running.—T. S. P. Strangeways and Honor B. Fell: A Study of the Direct and Indirect Action of X-Rays upon the Tissues of the Embryonic Fowl (communicated by Sir William Hardy).—R. G. Canti and F. G. Spear: The Effect of Gamma Irradiation on Cell Division in Tissue Culture *in vitro* (communicated by Sir Frederick Andrews).—And other papers.

RÖNTGEN SOCIETY (at Royal Society of Medicine), at 8.—Sir Humphry Rolleston, Bart.: Protection and Other Radiological Problems (Mackenzie Davidson Memorial Lecture).

INSTITUTION OF MINING ENGINEERS (in Lecture Theatre of the North of England Institute of Mining and Mechanical Engineers, Newcastle-upon-Tyne), at 9.45 A.M.

FRIDAY, JULY 1.

GEOLOGISTS' ASSOCIATION (at University College, Gower Street, W.C.1), at 7.30.—Sir John S. Flett: The Geology of the Edinburgh District (Lecture).

INSTITUTION OF MINING ENGINEERS (at Newcastle-upon-Tyne).

SATURDAY, JULY 2.

INSTITUTION OF MUNICIPAL AND COUNTY ENGINEERS (North-Western District Meeting) (at Town Hall, St. Anne's on Sea), at 10.30 A.M.

PHYSIOLOGICAL SOCIETY (at Oxford).

ROYAL SOCIETY OF MEDICINE (Disease in Children Section) (Provincial Meeting at Royal Alexandra Hospital for Sick Children, Dyke Road, Brighton).

CONFERENCE.

JUNE 30 TO JULY 2.

NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS (at British Medical Association House, Tavistock Square, W.C.1).