

Early Science at Oxford.

December 21, 1683. Mr. Ballard was desir'd to try some experiments, in ye Holy daies, in order to the solution of the question: Whether cast-Iron will draw ye needle, as readily as that which is forg'd? Dr. Smith was pleased to shew us some observations, which he made in his voyage to Constantinople, año 1668; when among other things, ye Dr. observed a great number of Porcpisces, which almost covered a good part of ye Propontis, from ye Seraglio point, towards ye Islands, that lye over against the bay of Nicomedia; for which reason (as also because he never heard that any Dolphins are caught there by ye Greeks, the good fishermen; nor saw any sold in their Markets) He thinks, that Solinus, cap 12, is to be understood of Porcpisces, not of Dolphins; although he says (speaking of ye Bosphorus, and Hellespont) *hæc profunda Delphinus plurimos habent*. As for that vast quantity of water, which runs into ye Mediterranean, he conjectures that a great part of it may run out again, by an under-current, at ye Strait's mouth.

Wee then examin'd ye effects of a distillation of brine, from salt of Tartar, which Mr. Ballard at ye request of ye Company had performed; The brine was made of a pint of common water, and 3iij of white salt, which, after sufficient heating, was distilled from Salis Tart: 3i: we saw about ½ lb. of ye distilled water; it was not in ye least brackish, but rather like an emulsion of sweet almonds.

1686. A Letter from Dr. Bagley to Mr. Musgrave was read: it gave an account of the dissection of ye *Hedghog*, male and female.

An account of a *horn* growing on the head of one Mary Davies of Soughal, of Wyrehall Hundred in Cheshire, aged 71. in 1668. The compasse of the horn at the root was 3 inches and more than half; the length of the horn layd out straight 5 inches and a half. An account of the Duke of Tuscany's *Diamond*, which weighs 138 carats.—An account given by Dr. Plot of *ale* made with *Walnut leaves* instead of Hops in Staffordshire: there being great scarcity of these, last Summer; he says 'twas pleasant and kept very well.

The Society resolved that *Aristarchus* be printed in Greek and Latin at ye charge of this Society; Dr. Plot having promised to provide paper, and Mr. Deeds to collate the MSS.

A resolution of a question of compound *Interest*, at one operation of Logarithms, likewise a solution of this problem viz. from the different weights of the same heavie body in different fluids.

December 23, 1684. Mr. Musgrave acquainted ye Society concerning ye colour of ye liquor conveyed by ye Lacteals. In this letter he endeavors to prove, that a great part of ye Chyle passes *pellucid* through ye Lacteals, (contrary to ye opinion of those, who thought it to be *always white* in those vessells;) and that a pellucid Liquor *Refluus* does constantly fill *some* of them, when no flash of Chyle can be supposed to extend them. He then read Dr. Lister's answer to this Letter; The Dr. is willing to think that the *liquor Refluus* may be of ye nature of *Lympha* but he takes ye greatest part of what fills the Lacteals in sicklie and empty animals to be Pituita, and sometimes Bilis.

Mention was made of a proposall of Dr. Lister's, which was to try Kunckel's experiment [of coagulating milk, by adding spirit of wine to it,] both with a spirit, drawn from pure Nants-Brandy, and also with a spirit drawn from an eager wine: it being possible, as ye Doctor thinks, that ye experiment may succeed with ye one of them, and not with ye other.

Societies and Academies.

LONDON.

Faraday Society, November 16.—E. D. Campbell: A study of the correlation of the permanent magnetism and specific resistance of some pure iron-carbon alloys.—J. A. V. Butler: Co-ordination and co-valency. The formation of co-ordinated complexes cannot be due in general to the tendency of the central atom to attain the configuration of the next higher inert gas. The electrons contributed by co-ordinated groups form a distinct group round the central ion. A distinction is drawn between (a) *Co-valency*: the mutual sharing of electrons by two atoms so as to complete already existent groups, therefore involving negative valences, and (b) *Co-ordination*: the formation of a new group of electrons outside the last group represented in the ion. It is proposed to use the specific term *co-ordination valency* for the number of co-ordinated groups. It is assumed that the co-ordination electrons enter the main "quantum group" next to that represented in the central ion.—J. R. Partington and N. L. Anflogoff: An improved form of electric vacuum furnace. A vacuum furnace of the Ruff type was used for studying reactions at high temperatures. The reacting substances, if solids, are contained in a graphite crucible turned from the same material as the hot tube and maintainable either in a high vacuum or in an atmosphere of an inert or reacting gas. The issuing gas is capable of analysis.—J. R. H. Coutts and E. M. Crowther: A source of error in the mechanical analysis of sediments by continuous weighing. The low density of suspension immediately below the balance pan after the sedimentation has proceeded for a few minutes inevitably sets up a flow of liquid which interferes with the free vertical fall of the particles. With the large narrow-rimmed pans hitherto used, the observed yields are appreciably below the theoretical values. With the pan close to the base there is a very rapid change of yield with very small changes in the position of the pan.—Donovan Werner: A simple method of obtaining the size distribution of particles in soils and precipitates. The method has been developed in researches on the reaction mechanism during the formation of precipitates. It has been necessary to know the total surface of a precipitate as a function of time while the precipitate is forming. At first the particles can be measured by an ocular micrometer, but just as the particles become larger and more irregular in size during the precipitating process, at the same time forming aggregates, it becomes correspondingly difficult to get values sufficiently exact. The measuring of the velocity of the sedimentation gives an "accumulation curve," and from this curve the size distribution can be calculated according to the mathematical theory developed by Odén.—F. G. Tryhorn and W. F. Wyatt: Adsorption by coco-nut charcoal from alcohol-benzene and acetone-benzene mixtures. Adsorption isotherms for each component of such mixtures have been determined at 20°. By an analogous method, measurements have been made of the composition of the vapours in equilibrium with mixtures of the above liquids at 20°. A comparison of the results of adsorption by charcoal from the liquid and the vapour phases supports the conclusion that an adsorbed film in equilibrium with a saturated vapour must be also in equilibrium with the liquid in contact with that vapour. Alcohol is selectively adsorbed from all mixtures of alcohol and benzene. From acetone-benzene mixtures, acetone is selectively adsorbed from mixtures containing up to 72 molar percentage

of acetone in the vapour phase. Above that value benzene is selectively adsorbed to a slight extent.—F. L. Usher: The nature of the interfacial layer between an aqueous and a non-aqueous phase. Experiments were undertaken to obtain information on the question whether the ions bearing a charge of opposite sign to that of the non-aqueous phase are movable only as a complete layer, or whether some or all of them are independent; and secondly, on the extent to which the observed behaviour of aqueous suspensions is in agreement with the consequences deduced from the answer to the former question. They deal (1) with the determination of the total charge on the particles of a suspension by neutralising it with a measured quantity of ions bearing a charge of opposite sign, and (2) with the effect of electrolytes in modifying the surface charge.

Geological Society, November 18.—W. L. F. Nuttall: A revision of the Orbitoides of Christmas Island (Indian Ocean). A complete revision has been made of Jones's and Chapman's species. Six species of *Lepidocyclina*, one species of *Miogypsina*, and one of *Spiroclypeus* were identified. The lepidocyclines possess no pillars in the lateral chamber-layer, and the two megalospheric forms have the embracing type of primordial chamber restricted to the subgenus *Eulepidina*. These species are found in Limestone C, as defined in the Christmas Island monograph (British Museum, 1900), which is classified as Lower Miocene. A *Discocyclina* has been found in Limestone B as well as in A, no orbitoides having been hitherto discovered in the former. This indicates that these beds are both of Eocene age.—W. Campbell Smith: The volcanic rocks of Christmas Island (Indian Ocean), with chemical analyses by E. D. Mountain. There were two periods of vulcanicity in Christmas Island. The older lavas are overlain by a limestone now proved by Mr. W. L. F. Nuttall to be Eocene. These upper lavas are overlain by a limestone with Orbitoides referred by Mr. Nuttall to the "older Miocene" of Rütten. All the lavas, both Eocene and Miocene, are considered to belong to a single petrological series. The rocks resemble very closely certain Tertiary and Permo-Carboniferous lavas from New South Wales. On the other hand, no analyses of rocks from Java and Sumatra are found to compare with those of the Christmas Island rocks.

Linnean Society, December 3.—F. J. Lewis: Preliminary account of a fungus in the tissues of Coniferæ. The results refer particularly to *Picea canadensis*, which has been collected from many habitats and varying in age from small seedlings to trees more than two hundred years old. The cortex of the youngest rootlets is penetrated in every direction by fine hyphæ, which not only enter the living cells, but grow through the middle lamellæ of the walls. They also penetrate the endodermal cells, and in some cases almost fill the lumen. Older rootlets from which the primary cortex has been cast off show the cells of the broad pericycle filled with fine branched hyphæ. In the unopened bud the fungus is localised in certain enlarged cells irregularly distributed above the crown near the base of the embryonic leaves. As the meristematic cone bearing the embryonic leaves elongates, the fungus spreads upwards from the region of the crown forming a network of infested cells.—Papers on the collections made during the expedition of H.M.S. *Sealark*.—Hugh Scott: The Ciidæ (Coleoptera) of the Seychelles. Ciidæ are small or minute beetles, usually of almost cylindrical shape, which are found boring in fungi, often in very large numbers. The present report enumerates 20 species, 18 of which were found in the Seychelles proper,

while one was found both in the Seychelles and Aldabra, and one in Aldabra only. Taking the Seychelles species as a whole, more than half were found exclusively in the endemic forests at high elevations, and these insects are probably endemic; among the few species taken in cultivated places are the only forms (three in number) known to occur outside the islands.—D. J. Matthews: Physical oceanography of the Indian Ocean. A well-marked discontinuity layer occurs at nearly all the serial positions, and its presence appears to be independent of whether the station lies in the south equatorial current or not. At one position the current impinging on the bank north of the Farquhar Group at about 800 fathoms causes mixing at all depths, which lowers the temperature near the surface and increases it on the bottom by one degree Centigrade. The surface salinities are intimately connected with the currents and winds. The low salinity water which lies across the eastern entrance to the Gulf of Aden is present at all times, and is partly due to the current northwards along the east coast of Africa.—S. T. Burfield and E. J. W. Harvey: Four genera of Chaetognatha were found. Of Sagitta, which contains 22 or 23 species generally considered valid, 14 species are represented. Of the 32 valid species of the phylum, 18 occur. The limitation of the number of species in the group is thus amply confirmed by this large collection.—C. J. van der Horst: The collections contain 18 species of the Eupsammidæ.—R. Douglas Laurie: Anomura from the West Indian Ocean. The Anomura were taken from localities between 3° and 21° S. Lat., and between 51° and 73° E. Long. They comprise 48 species distributed among the tribes Hippidea (1), Galatheidea (24), and Paguridea (23). The collection presents a typical Indo-Pacific faunas. A fair proportion of the species are, however, now recorded for the first time from localities so far west in the Indo-Pacific Ocean. The three species of the present collection which reach the western coast of America, namely, *Petrolisthes lamarchi* (Leach), the deep-sea form *Parapagurus pilosimanus* Smith, and the land form *Cænobita rugosus* H. M.-Edw., are three of the four which spread also to the Atlantic.—H. Britten: Coleoptera, Ptiliidæ of the Seychelles. The Ptiliidæ (or Trichopterygidæ) are the smallest of all beetles, and the various species found in the Seychelles range in length from 0.5 to 0.9 mm. Thirteen species are enumerated from these islands.

PARIS.

Academy of Sciences, November 9.—J. Costantin: An experiment with mountain-grown potatoes. It appeared probable that seed potatoes grown in the mountains and sown in the plains would be more proof against disease than ordinary potatoes. Some experiments made in 1925, although perhaps on too small a scale, confirmed this view.—Charles Richet, Oxner, and J. Richard: Raw meat and cooked meat diet for fish. Experiments showing that for fish as for mammals, cooking meat diminishes its nutritive value.—Léon Guillet: The influence of deformations on the transformations of certain light aluminium alloys. Study of the changes brought about in duralumin and in aluminium-copper-manganese alloy by wire drawing.—de Sparre: Calculation of the maximum ram stroke in a pipe feeding a turbine with strong reaction for a constant velocity of closing.—Jean Tilho: The probable area of the maximum extension of the Aleatchadian sea.—J. Schokalsky: An oceanographic expedition to the Black Sea. Observations were made during 1924 and 1925 at 72 stations, the data obtained including depth, specimens taken on the sea floor, and determinations

of temperature, salinity, density, dissolved oxygen, sulphuretted hydrogen, hydrogen ion concentration, colour and transparency, as well as biological observations. The Black Sea can be considered as being divided into two layers, a superficial one of 200 metres containing water diluted by the inflow of numerous rivers, whilst from 200 metres to 2000 metres, the whole mass of water has a higher salinity and density than the upper portion.—**Gunther**: A lemma of M. Poincaré.—**Mandelbrojt**: Remark on the mode of generation of functional isogenes.—**Const. Parvulesco**: The dynamics of spiral nebulae.—**B. Nikitine**: The distribution of the plankton of the Black Sea. The lower limit of appearance of the plankton is 200 to 225 metres. The principal influence on the vertical distribution of zooplankton is the temperature. In the case of the phytoplankton, besides the temperature there are the effects of variations in the quantities of inorganic nitrogen, phosphates, and silicates.—**Paul Pascal**: The magneto chemistry of closed chains. The experimental values for the molecular magnetic susceptibility for eight types of homocyclic and heterocyclic chains are compared with the figures calculated from the ordinary rules of additivity. In the polymethylene rings, the effect of non-saturation varies with the number of carbon atoms in the ring and is zero for the pentamethylene series. It is pointed out that the reductions in the molecular diamagnetism are in agreement with the predictions of Baeyer's strain theory.—**E. Jouguet**: Waves of shock and irreversible residual combustion.—**J. Cournot and K. Sasagawa**: The viscosity of some alloys at high temperatures.—**H. Perpérot**: The action of gaseous ammonia upon phosphorus chlorides. An attempt to prove that the primary action of ammonia upon the chloride PCl_5 is $\text{P}(\text{NH}_3)_3$.—**V. Auger and T. Karantassis**: Complex salts of stannous iodide with the iodides of rubidium and caesium. Preparation and analyses of the compounds RbSnI_3 , RbSn_2I_5 , CsSnI_3 , and CsSn_2I_5 .—**B. Bogitch**: The refining of mattes. The action of sodium sulphate.—**A. Mailhe**: A new method of bleaching petrols produced by cracking or by catalysis. Yellow petrols containing unsaturated hydrocarbons can be refined by digestion at the boiling point with stannous chloride.—**Er. Toporescu**: The cracking of ozokerite. Details of cracking experiments in which anhydrous aluminium chloride was used as a catalyst.—**Albert Kirmann**: The action of metallic sodium on bromoethylene derivatives. The bromoethylenes $\text{R} \cdot \text{CH} : \text{CHBr}$ and $\text{R} \cdot \text{CBr} : \text{CH}_2$ react with sodium giving the hydrocarbon $\text{R} \cdot \text{CH} : \text{CH}_2$, the acetylene derivative $\text{R} \cdot \text{C} : \text{CH}$, and small quantities of higher boiling point condensation products. The yields of the various types of hydrocarbon do not admit of a simple theoretical explanation.—**A. Demolon**: The clay material of the quaternary muds.—**A. Demay**: Two new forms of quartz in petrosiliceous porphyrys; lamellar quartz and spheroliths with granular quartz.—**P. Lejay**: Storm disturbances of the electric field and their propagation at a great distance.—**Jean Piveteau**: The signification of the sternum of the vertebrates. From three examples studied (*Feylinia*, *Sphenodon*, *Tangasaurus*) it is concluded that it is not possible to consider the sternum as a morphological entity, and that it can only be defined from a physiological point of view.—**R. Anthony**: A brain of the foetus of *Megaptera boops*.—**Raymond Poisson**: Some observations on *Anisops producta*. The adult *Anisops* may prove to be a useful auxiliary in the battle against *Anopheles*.—**Emile F. Terroine, R. Bonnet, and A. Héé**: The energy yield in the development of various plant organisms as a function of the amount of oxygen in the surrounding medium.—**Henri Piéron**: Is the Bunsen-Roscoe law applicable

to the luminous stimulation of the invertebrates? Experiments made on the effect of light on *Mya* (movement of retraction of the siphons) proved that the Bunsen-Roscoe law does not hold.—**Robert Lévy**: The hæmolytic properties of the pedicellular processes of certain urchins.—**Mme. Anna Drzewina and Georges Bohn**: The acidification of the medium by cellular cytolysis.

ROME.

Royal Academy of the Lincei, Communications received during the vacation, 1925.—**F. Zambonini and R. G. Levi**: Investigations on the isomorphism of the molybdates of the rare earth metals with those of calcium, strontium, barium, and lead.—**Mineo Chini**: Determination of the isogonal trajectories of a system of lines in certain surfaces.—**Bruno Finzi**: Considerations on the irrational motions of liquid laminae.—**E. Raimondi**: Dynamic effect of a current flowing between a plate and an indefinite plane wall.—**U. Crudeli**: Method of resolving a fundamental problem in the theory of the stationary slow motion of viscous liquids.—**Rita Brunetti**: Continuous absorption along an optical series and the structure of the discontinuity of absorption at high frequency.—**V. Ronchi**: Measurement of double stars with a grating interferometer.—**G. Bargellini**: α -Phenyl- β -methylcoumarins. Descriptions are given of a series of products obtained by condensing various ortho-hydroxy-substituted acetophenones with sodium phenylacetate and acetic anhydride.—**Remo de Fazi**: Syntheses in organic chemistry by means of radiant energy. (i.) Photosynthesis of $\alpha\beta$ -triphenylactic acid. This acid is formed by the addition of a molecule of benzophenone to one of phenylacetic acid under the influence of light.—**G. Scagliarini and E. Brasi**: Additive compounds of tin and titanium halides with organic bases.—**G. Checchia-Rispoli**: Vertical diffusion of *Orbitoides s. str.*—**Tullio Carpanese**: The epidote of Monte Rosso di Verra (Monte Rosa group).—**A. Clementi**: The osmotic pressure of the hæmo-lymph and tissues of *Helix A.* during lethargy.—**Giuseppe Russo**: The curve of development of a xylophagous coleoptera, *Chetopelius vestitus*.

VIENNA.

Academy of Sciences, October 22.—Papers on electrolytic conductivity in molten metal alloys.—**XI. R. Kremann, H. Krieghammer and P. G. Rehenburg**: Na-Hg alloys of various composition.—**XII. R. Kremann, H. Krieghammer and A. Trostek**: Bismuth-tin alloys.—**XIII. R. Kremann and O. Baukovac**: Tin-cadmium alloys.—**XIV. R. Kremann and J. Dellacher**: Attempts at electrolysis of alloys of aluminium with magnesium, antimony, zinc and silver.—**XV. R. Kremann and O. Baukovac**: Attempted electrolysis of metallic sulphides and of phosphides.—**XVI. R. Kremann and K. Bayer**: Electrolysis of alloys of silver with Sn, Sb, Bi and Pb.—**E. Steinach, H. Heinlein and B. P. Wiesner**: Release of the sexual cycle, development of sex characters, rejuvenating effect on the senile organism of extracts of ovary and placenta. Experiments on rats and guinea-pigs. In the last two years experiments have been carried out with extracts of gonads and other organs, and in testing the effect of these extracts the criteria chosen have been the development of sexual characteristics in animals castrated in infancy, the rejuvenating effect on senile females and also the release of the sexual cycle. A stable substance has been obtained from the ovary and from the placenta which on injection produces these effects.—**A. Smekal**: On the constitution of the mono-crystalline state of aggregation. The ideal crystal lattice

differs greatly in its properties from those of the actual single crystal. It is assumed that real crystals have numerous pores and zones of disturbance. Complexes of some thousands of molecules seem to form higher units in crystallised bodies. (See also a lecture at the Danzig Physics Congress.)

Official Publications Received.

- Forest Bulletin No. 66 (Economy Series): A Note on the Working Qualities of some Common Indian Timbers. By H. E. Kins. Pp. iv +43. (Calcutta: Government of India Central Publication Branch.) 10 annas; 1s.
- Memoirs of the Department of Agriculture in India. Chemical Series, Vol. 8, Nos. 2, 3, 4: Investigations on Indian Opium, Nos. 4, 5, 6. No. 2: Further Experiments on the Influence of Manures on the Yield and Morphine Content of the Latex from the Opium Poppy, by Dr. Harold E. Annett and Har Dayal Singh; No. 3: Experiments on Oil-Content of the Seed of the Opium Poppy; and No. 4: Studies on the Ash Constituents of Indian Opium, by Dr. Harold E. Annett and M. N. Bose. Pp. 25-51. (Calcutta: Government of India Central Publication Branch.) 8 annas; 10d.
- Commonwealth of Australia: Bureau of Meteorology, Melbourne. Bulletin No. 16: Australian Hurricanes and related Storms, with an Appendix on Hurricanes in the South Pacific. Prepared by Dr. Stephen S. Visher and D. Hodge. Pp. 54+3 charts. (Melbourne: H. J. Green.)
- Government of India: Department of Industries and Labour, Public Works Branch. Triennial Review of Irrigation in India, 1921-1924. Pp. ii+43. (Calcutta: Government of India Central Publication Branch.) 1 rupee; 1s. 9d.
- Glass Research Association. Bulletin No. 14, August: A Review of the Work of the Association, 1920-1925. Pp. 106. (London: Wilfrid C. Smith, Liquidator, 48 Copthall Avenue.)
- Department of the Interior: North West Territories and Yukon Branch. Canada's Arctic Islands: Log of Canadian Expedition 1922. By J. D. Craig; with an Appendix, Avlation in the Arctic, by Major R. A. Logan. Pp. 27. Canada's Wild Buffalo: Observations in the Wood Buffalo Park. By Maxwell Graham; with an Appendix, A Reconnaissance in the Home of the Wood Buffalo, by F. W. Seibert. Pp. 17+2 maps. Local Conditions in the Mackenzie District 1922. By J. T. Moran. Pp. 19+1 map. (Ottawa: F. A. Acland.)
- Tide Tables for the Pacific Coast of Canada for the Year 1926: including Fuca Strait, the Strait of Georgia, and the Northern Coast; with Data for Slack Water in the Navigable Passes and Narrows and Information on Currents. (Twenty-sixth Year of Issue.) Pp. 72. (Ottawa: F. A. Acland.) Free.
- Tide Tables for the Eastern Coasts of Canada for the Year 1926: including the River and Gulf of St. Lawrence, the Atlantic Coast, the Bay of Fundy, Northumberland and Cabot Straits; and Information on Currents. (Thirtieth Year of Issue.) Pp. 76. (Ottawa: F. A. Acland.) Free.
- Report on Norwegian Fishery and Marine Investigations. Vol. 3, No. 5: Merking av Sei i Nordland sommeren 1921 beretning avgt til Fiskeridirektøren. (Summary in English.) Av Oscar Sund. Pp. 24+3 plates. (Bergen: A.S. John Greigs Boktrykkeri.)
- Queensland Department of Mines: Queensland Geological Survey. Publication No. 275: Index to Publications No. 267 to 274 (Vol. 8 of New Series). By Miss M. G. Wood. Pp. 39. (Brisbane: Anthony James Cumming.)
- Memoirs of the Department of Agriculture in India. Veterinary Series, Vol. 3, No. 6: Nasal Granuloma in Cattle. By Prof. V. Krishnamurti Ayyar. Pp. 169-166+9 plates. (Calcutta: Thacker, Spink and Co.; London: W. Thacker and Co.) 1 rupee; 1s. 6d.
- Department of Agriculture, Straits Settlements and Federated Malay States. Bulletin No. 37: The "Mouldy Rot" Disease of Hevea Brasiliensis in Malaya. By F. W. South and A. Sharples. Pp. ii+31+4 plates. (Kuala Lumpur.) 50 cents.
- Memoirs of the Department of Agriculture in India. Entomological Series, Vol. 9, Nos. 1, 2 and 3. No. 1: A Contribution towards a Monograph of the Indian Coniopterygidae (Neuroptera), by Dr. C. L. Withycombe; No. 2: Papers on Indian Tabanidae—viii: The Bionomics and Life-Histories of some of the Common Tabanidae of Pusa; and No. 3: Some Observations on the Life-History and Habits of *Phycus brunneus*, Wied. (Family Therevidæ), by P. V. Isaac. Pp. 30+11 plates. 2.2 rupees; 4s. Chemical Series, Vol. 8, No. 1: The Quality and Yield of Tobacco as influenced by Manurial and other Operations. By J. N. Mukerji. Pp. 26. 8 annas; 9d. (Calcutta: Government of India Central Publication Branch.)
- Ceylon Administration Reports for 1924. Department of Agriculture: Report of the Director of Agriculture for 1924. Pp. D52. (Colombo.)
- The Institution of Civil Engineers. Engineering Abstracts prepared from the Current Periodical Literature of Engineering and Applied Science, published outside the United Kingdom. Supplement to the Minutes of Proceedings of the Institution. Edited by W. F. Spear. New Series, No. 24, July. Pp. 194. (London.)
- Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. 77: Fishes from Natal, Zululand and Portuguese East Africa. By Henry W. Fowler. Pp. 187-268. (Philadelphia.)
- Department of Commerce: U.S. Coast and Geodetic Survey. Serial No. 313: Terrestrial Magnetism—The Earth's Magnetism. By Daniel L. Hazard. (Special Publication No. 117.) Pp. 52+6 plates. (Washington: Government Printing Office.) 15 cents.
- The Brooklyn Institute of Arts and Sciences. Brooklyn Museum Science Bulletin, Vol. 3, No. 3: Revision of the New World Species of the Tribe Donacini of the Coleopterous family Chrysomelidae. By Charles Schaeffer. Pp. 45-165. 1 dollar. Vol. 3, No. 4: Notes on certain Books of Unusual Interest in the Blackford Collection of the Brooklyn Museum. By E. W. Gudger. Pp. 167-172. (Brooklyn, N.Y.)

The Manchester Steam Users' Association for the Prevention of Steam Boiler Explosions, and for the Attainment of Economy in the Application of Steam. Memorandum by Chief Engineer for the Year 1924. Pp. 52. (Manchester.)

Boletín de la Sociedad Geológica del Perú. Tomo Primero. Pp. vi+126+31 lamina. (Lima.)

The Government of the Philippine Islands: Department of Agriculture and Natural Resources, Bureau of Science. The Mineral Resources of the Philippine Islands for the Years 1921, 1922 and 1923. Issued by the Division of Geology and Mines, Bureau of Science. Pp. 63. (Manila: Bureau of Printing.)

Canada. Department of Mines: Geological Survey. Memoir 146, No. 126 Geological Series: Retreat of the Last Ice-Sheet in Eastern Canada. By Ernst Antevs. Pp. iv+138+9 plates. (Ottawa: F. A. Acland.) 25 cents.

Proceedings of the Liverpool Geological Society. Session the Sixty-sixth, 1924-25. Part 2, Vol. 14. Edited by C. B. Travis. Pp. xvii+99-195+plates 5-9. (Liverpool.) 5s.

Department of the Interior: U.S. Geological Survey. Mineral Resources of the United States in 1924 (Summary Report). Introduction by Frank J. Katz; Statistics assembled by Martha B. Clark. Pp. ii+103A. (Washington: Government Printing Office.)

Department of the Interior: U.S. Geological Survey. Water-Supply Paper 529: Surface Water Supply of the United States, 1921. Part 9: Colorado River Basin. Pp. v+181+2 plates. 25 cents. Bulletin 760: Spirit Leveling in California, 1896-1923. Pp. ii+748. 80 cents. Bulletin 781A: Paleozoic Formations penetrated by Wells in Tishomingo County, North-eastern Mississippi. By M. N. Bramlette; with Notes on Paleozoic Rocks encountered in a Well near Florence, Alabama, by H. D. Miser. Pp. 12+1 plate. (Washington: Government Printing Office.)

List of Memoirs, Maps, Sections, etc., published by the Geological Survey of Great Britain and the Museum of Practical Geology to 30th June 1925. Pp. 115+5 plates. (London: H.M. Stationery Office; Southampton: Ordnance Survey Office.) 1s. net.

Development Commission. Fifteenth Report of the Development Commissioners for the Year ended the 31st March 1925. Pp. vi+198. (London: H.M. Stationery Office.) 2s. 6d. net.

Memoirs of the Geological Survey of India. Vol. 50, Part 1: Descriptions of Mollusca from the Post-Eocene Tertiary Formation of North-Western India; Cephalopoda, Opisthobranchiata, Siphonostomata. By the late E. Vredenburg. Pp. xii+350+xvi+13 plates. (Calcutta: Government of India Central Publication Branch.) 5.6 rupees; 8s. 9d.

Forest Bulletin No. 65 (Silviculture Series): Tables for Bark Deductions from Logs. By S. H. Howard. Pp. ii+11. 3 annas; 4d. Forest Bulletin No. 64 (Economy Series): Summary of Results of Laboratory Experiments with different Wood Preserving Antiseptics (Results of 14 Years' Experiments). By S. Kamesam. Pp. ii+23+5 plates. 1.12 rupees; 3s. (Calcutta: Government of India Central Publication Branch.)

Diary of Societies.

FRIDAY, DECEMBER 18.

- SOCIETY OF MEDICAL OFFICERS OF HEALTH (at the Medical Institute, Newcastle-upon-Tyne), at 5.—Prof. H. Kerr: Industrial Hygiene from the point of view of Public Health Administration.—Sir T. Oliver: Industrial Hygiene from the point of view of the Physician.—G. France: Industrial Hygiene from the point of view of the Works Director.—Capt. J. Robinson: Industrial Hygiene from the point of view of the Welfare Supervisor.
- INSTITUTE OF TRANSPORT (North-Western Local Section) (at the Midland Hotel, Manchester), at 6.30.—E. G. Garstang: Transport in Connexion with the Fishing Industry.
- SOCIETY OF DYERS AND COLOURISTS (Manchester Section) (at 36 George Street), at 7.—Prof. E. Knecht: The Effect of Mercerising on the Liability to Attack, by Oxidation, of Cotton Fabrics, and the Estimation of Glucose and other Carbohydrates by an "Absolute" Method.
- SOCIETY OF CHEMICAL INDUSTRY (South Wales Section) (at the Technical College, Swansea), at 7.15.—E. E. Ayling: Modern Resistance Glasses.
- SOCIETY OF DYERS AND COLOURISTS (Scottish Section) (at the Grosvenor Restaurant, Glasgow), at 7.15.—J. Marsden: Unshrinking Wool.
- AERONAUTICAL ENGINEERS (at Royal Society of Arts), at 7.30.
- INSTITUTE OF MECHANICAL ENGINEERS (Yorkshire Branch) (at the Philosophical Hall, Leeds), at 7.30.—Prof. G. F. Charnock: The Importance of Close Speed Regulation in Driving Machinery.
- ROYAL SOCIETY OF MEDICINE (Electro-Therapeutics Section), at 8.30.—Dr. R. E. Roberts and Dr. M. J. Cohen: Paget's Disease of Bone.—Dr. P. J. Briggs: Methods of Examination of the Pelvic Cæcum.

SATURDAY, DECEMBER 19.

- NORTH OF ENGLAND INSTITUTE OF MINING AND MECHANICAL ENGINEERS (at Newcastle-upon-Tyne), at 2.30.—J. S. Carson: A System of Mechanical Coal-mining combined with the Adoption of Systematic Timbering, using Composite Steel Props.—Dr. J. N. Williamson and Prof. H. Briggs: Experiments on Fan Casings and Fan Inlets.

MONDAY, DECEMBER 21.

- ROYAL SOCIETY OF EDINBURGH, at 4.30.—Sir J. J. Thomson: The Intermittence of Electric Force.—Prof. A. R. Forsyth: A Chapter in the Calculus of Variations: Maxima and Minima for Weak Variations, of Integrals involving Ordinary Derivations of the Second Order (*To be read by title*).—Dr. A. C. Aitken: On the Theory of Graduation (*To be read by title*).—Prof. C. E. Weatherburn: On Triple Systems of Surfaces and Non-Orthogonal Curvilinear Co-ordinates (*To be read by title*).

TUESDAY, DECEMBER 22

- INSTITUTE OF MARINE ENGINEERS, at 6.30.—C. Hughes: Fuel Injection.