

## Early Science at Oxford.

March 16, 1685-6. Dr. Garden of Aberdeen communicated his observations on the weather at Aberdeen in October, November and December 1685. Dr. Plot read a discourse concerning ye old Almanacks lately communicated by him; this will be printed in ye Doctor's History of Staffordshire.

Mr. Thomas Wickam communicated the case of a Colt foaled with one of ye feet turned, ye heel standing forward, and ye toe backward, which being broken was set right, and grew together again so well, that ye Colt proved as serviceable a horse, as any of his condition thereabout.

March 17, 1684-5.—With a letter from Mr. Aston came ye Minutes of ye Dublin Society from December 1 to Feb. 23, 1684-5 inclusive. Orders were given, that the thanks of our Society be returned for these Minutes, and that copies of Sir William Petty's *Supellex Philosophica*, and of Mr. Brownlow's answers to ye Queries sent him concerning Lough-Neagh, be desired.

A draught of Mr. Beaumont's designe for writing ye History of ye Nature and Arts of the County of Somerset, was communicated.

Dr. Plot presented a Catalogue of some of ye most considerable Arcana and Desiderata in Chymistry as, follows:—To reduce any of ye Metals into a reall fluid. To turne ye whole body of mercury into a clear Diaphanous water wetting ye hands. To transmute one Metalline Species into another, especially ye baser, into gold and silver, either by projection, Cementation, Commixtion, or Digestion. To make the liquor Alkahest, which will dissolve all bodies whatever, except its Compar, and what it is. To Sublime Antimony in it's own forme, black and striated. To make a Menstruum, not corrosive, that shall perfectly dissolve all ye Metals, particularly Gold and Silver. To make urinous volatile Salt, or Spirit, from most Vegetables. To make in good Quantity an Urinous Salt, and Spirit out of a Mineral with little cost. To Mummiate an Animal entire without opening, or taking out the intestines, or giving to ye flesh any taste, colour, or smell. To make glasse malleable. To make many fragments of Diamonds, or other precious stones into one.

March 18, 1683-4.—It was ordered that there be no election of Members into ye Philosophical Society, unless there be nine Members (at least) present, to make such election; which Article, with 13 others, agreed on March 11th, 1683-4, being entred in ye Journal Book, were subscribed, by Dr. John Wallis, Savilian Professor of Geometry; Dr. Ralph Bathurst, President of Trinity; Dr. Beeston, Warden of New College; Dr. Th. Smith, Fellow of Magdalen; Dr. Robert Plot, Professor of Chymistry, and Keeper of ye Musaeum Ashmoleanum; Dr. William Gibbons, St. Johns; Edward Bernard, Savilian Professor of Astronomy; Jos. Pulleyn of Magd. Hall; John Caswell of Hart Hall; Th. Piggot, of Wadham; S. Des-Masters, of Oriel; J. Ballard and W. Musgrave, of New College; S. Welsted, of Merton.

We then passed to other Business. Mr. Ballard informed ye Society, that ye Amianthus, on which his experiments were tried, was brought from Cyprus, by Dr. Huntingdon, and communicated to us by Dr. Plot.

Manganese (a minerall, dug no where in England, but on Mendip-hills and used in ye purifying of glass) was not of itself affected by ye Magnet; but after above three hours calcination, it readily consented to it; as was shewn us by Dr. Plot. But Irish slate, calcined about four hours, could not be wrought on by ye Magnet; which gave Dr. Plot an occasion to draw up a discourse concerning severall Minerall waters, commonly thought to be Vitrioli.

## Societies and Academies.

LONDON.

Royal Society, March 5.—Sir Arthur Schuster: On the life statistics of fellows of the Royal Society. A revision and extension of a statistical inquiry made by Lieut.-Gen. R. Strachey towards the end of last century. Its principal results are: (1) The average age at election remained fairly constant between the years 1848, when the nominations for election were placed into the hands of the Council, and the end of the century, the average being 44.4 years. There has been a decided increase since then, more especially in the last ten years, but some of this may have been due to war conditions. (2) The average age of fellows on January 1, 1923, was 60.9 years. (3) Their expectation of life is about 6 years greater than that recorded in the tables published in "Whitaker's Almanac" as applying to the entire population of England.—G. I. Taylor and Miss C. F. Elam: The plastic extension and fracture of aluminium crystals. In the early stages of the tests under direct tension the previous results are confirmed, and the nature of the distortion in the later stages is now proved to be due to slipping on the two crystal planes previously indicated. After double slipping has begun, the rate of slip on the original slip-plane is usually greater than that on the new one. The geometrical conditions with a shearing-stress parallel to the slip plane are such that the crystal is quite stable while the slip occurs on one plane, but as soon as double slipping occurs, it becomes far less stable, or even unstable. Therefore the specimen usually breaks before it has slipped far on the second plane, but never before the double slipping begins.—A. Fage: An experimental study of the vibrations in the blades and shaft of an airscrew. The sounds emitted were analysed with 4 Tucker hot-wire microphones used in conjunction with a four-valve amplifier. The sounds of rotation which arise from the rotation of the source-and-sink system associated with the pressure differences on the blades are composed of a large number of harmonics, having as fundamental a note of frequency equal to the product of the number of blades and the rotational speed. The natural frequencies of flexural vibration were measured for four-blade shapes, the variables of design being width and geometrical pitch. The measured frequencies of the shaft vibrations agree very closely with the calculated results, except for a discrepancy of 8 per cent. obtained on the heaviest airscrew.—J. H. Vincent and A. L. Beak: Experiments on the effects of resistance in the oscillating circuit of a triode. The circuit employed is that previously used by Eccles and Vincent. In this the main oscillator consists of a condenser and coil in series, the coil being variably coupled to the grid coil which is in conductive connexion with a point between the condenser and main coil, the opposite point being joined to the negative end of the plate battery; these two points divide the main oscillating circuit into two branches, inductive and capacitive. With this apparatus the conditions were studied under which oscillations could be started and maintained, and the changes in frequency of oscillations and the simultaneous changes in the oscillating and mean plate currents, due to altering resistances in the inductive and capacitive branches of the oscillating circuit. The chief results support Eccles's control equation, but disagree with his formula for changes in frequency. G. H. Hardy: The lattice points of a circle. Proof of the fundamental identity in the problem of the circle by means of a singular integral the kernel of which is a theta-function, with an application to a theorem of J. E. Littlewood and A. Walfisz, published

recently in the Proceedings.—H. M. Macdonald: The transmission of electric waves around the earth's surface. The transmission of wireless signals to great distances and other phenomena associated with wireless telegraphy have been ascribed to the presence of a conducting layer in the upper atmosphere. Such a layer, if it were conducting in the ordinary sense, would act as a screen in respect of electrical effects having their origin external to the layer, and electrical disturbances set up in the space between the earth's surface and the conducting layer would subside very slowly. It appears natural, therefore, to assume that, if there is reflection from the upper atmosphere, there must also be radiation through it, to allow a steady state to be attained in a comparatively short time. The simplest hypothesis consistent with this is that the upper atmosphere differs from the lower atmosphere in respect of the constants involved in the propagation of electrical effects, namely, the specific inductive capacity and the magnetic permeability. On this hypothesis the condition that a steady state of electrical oscillation can be set up in the lower atmosphere in a comparatively short time is investigated. Taking an ideal case, the condition is that the ratio of specific inductive capacities is approximately equal to the ratio of magnetic permeabilities.—R. M. Wilmette: On the field of force near the neutral point produced by two equal coaxial coils with special reference to the Campbell standard of mutual inductance. The accuracy of any apparatus depending on the mutual inductance between two coils and another coil situated at the neutral circle formed by the magnetic field of the first two coils depends largely on the variation of the magnetic force near the neutral circle. An expression in terms of the magnetic forces produced by a circular current is obtained for the variation of the mutual inductance due to a small displacement from the neutral circle of a single turn of wire acting as the secondary to two co-axial single-layer coils.—W. R. Dean: On the theory of elastic stability: After Hooke's Law has been extended, two methods are available. The three conditions for the equilibrium of an elementary volume may be written down, correctly to the second order, by considering the forces acting upon it, or the strain energy may be calculated to the third order, and the equations obtained by variation. With a cylindrical shell the energy method is shorter. The equations refer in the first instance to the displacements of any point of the shell. To reduce them to equations connecting the displacements of points of the middle surface only, the displacements of any point are expanded in series of the distance of this point from the middle surface, and the boundary conditions at the faces are used.—R. A. Frazer: On the motion of circular cylinders in a viscous fluid. The paper is restricted to two-dimensional flow, and deals primarily with the motion of circular cylinders in fluids of great viscosity, inertia terms being neglected. The flow due to a stationary cylinder immersed in a uniform infinite river is treated as the limiting case of flow between two concentric boundaries, the stream being uniform over the outer, and stationary over the inner. The essential elements for a solution are obtained with arbitrary velocity distributions specified over any two mutually external circular cylinders. The stream-function is completed for the case where the cylinders are in steady rotation. Another type of motion investigated is where two spinning cylinders are rotated as a "planetary" system about a particular "focus." The cases examined include "planetary" systems, problems of contact, and the combined rotation and translation of a cylinder in proximity to a wall.

Geological Society, January 21.—Léon W. Collet: The latest ideas on the formation of the Alpine range. In 1905 Prof. E. Argand determined in the Pennine Alps the existence of six great recumbent folds or nappes. On the base of Argand's results, Dr. R. Staub found in the north-eastern part of the Swiss Alps the same tectonic elements, covered by six higher nappes belonging more to the type of the "thrust-masses" of the North-Western Highlands of Scotland than to the type of the recumbent folds of the Pennine Alps. This new series of nappes has been named by Staub the Austrides, for they form the main part of the Austrian Alps. Prof. L. Kober's discovery of a window or horizontal cut, due to erosion, in the nappes of the Austrides, revealing deeper nappes belonging to the Pennine series, shows that the nappes of the Austrides have been thrust over the Pennine nappes in the Austrian Alps, just as in the north-eastern part of Switzerland. Co-ordination of the work by Austrian and Swiss geologists was accomplished at the end of last year by Dr. Staub. Wegener's ideas on the drifting of continental masses are employed to explain the movement of the hinterland towards the foreland of the geosyncline. Foreland and hinterland constitute the boundaries of the great Alpine geosyncline: together they recall the two jaws of a vice. Prof. Argand has shown that the nappes of the Austrides belong to the hinterland: that is, to Africa or Gondwanaland. Therefore the Austrides, with the Préalpes, represent a small part of Africa resting on Europe or Eurasia.

February 4.—A. Heard: The petrology of the district between Nevin and Clynnogfawr (Carnarvonshire). Drift obscures most of the valleys, and conceals the greater part of the areas underlain by unaltered shales. Most of the sedimentary rocks consist of dark purplish-grey shales of *Didymograptus-bifidus* age, together with their metamorphosed representatives. In the north-western part of the area unfossiliferous pale-grey shales containing numerous ashy and fine-grained gritty bands are present. A large proportion of the exposed rocks consists of an igneous complex of post-Lower Arenig—pre-Old Red Sandstone age. The intrusive rocks present many petrological variations, including numerous different types of granite and quartz-porphyrries, granophyres, porphyries of intermediate composition, and basic rocks. The "banding" of the constituents of the coarser-grained intrusive masses is peculiar. Neither hybridism nor any apparent chilling is exhibited at the junction of adjacent "bands," and the uppermost band invariably consists of the most basic rock.

## CAMBRIDGE.

Philosophical Society, February 2.—L. F. Curtiss: A preliminary note on a direct determination of the distribution of intensity in the natural  $\beta$ -ray spectrum of radium-B and radium-C. The number of electrons in each small range of velocity in the  $\beta$ -ray spectrum of radium-B and -C is measured by observing the charge communicated to a Faraday cylinder. The advantage is that full weight is given to every portion of the spectrum, and errors due to the variation of ionisation with velocity are avoided. Since in this method it was unnecessary to have any covering over the mouth of the Faraday cylinder, it was possible to investigate very low velocities, and an interesting emission was found about 250  $H\beta$ .—C. D. Ellis and W. A. Wooster: Note on the heating effect of the  $\gamma$ -rays from radium-B and radium-C. The chief difficulty in this determination is due to the presence of the  $\alpha$ -rays from radium-C; they produced a heating

one hundred times as great as that due to the  $\gamma$ -rays. This was overcome by an automatic compensation method. The rise in temperature was measured by means of thermocouples and the equivalent amount of heat found by calibration experiments with heating coils. The amount of radium-B+C in equilibrium with 1 gram of radium emits 8.1 cal./hour in the form of  $\gamma$ -rays.—C. D. Ellis and M. Bowman-Manifold: The interpretation of  $\beta$ -ray absorption curves. The approximate exponential absorption curves are due to the initial heterogeneity of the radiation. The absorption curve of a continuous spectrum can be explained by the superposition of the linear absorptions of the  $\beta$ -rays contained in each small range of velocities. The form of the continuous spectrum is simply related to the second differential coefficient of the absorption curve.—D. Stockdale: A thermostat for high temperatures. The instrument is designed to control the heating of electrical resistance furnaces. The electro-motive force given by a thermocouple, the hot junction of which is placed in the furnace, is balanced against the fall of potential along a wire. If the system is not in equilibrium, a galvanometer is deflected, and a boom carried by this galvanometer touches a wheel; an electrical circuit is closed and a relay is actuated in such a way that the current heating the furnace is altered until equilibrium is again established. It was fairly easy to maintain any temperature up to 1000° C. with a fluctuation of not more than 3° C.—W. G. Palmer: A method of finding the composition of adsorption films of mixed gases. The gas in an adsorption layer between two fine metallic filaments in mechanical contact can be removed, and metallic contact established by applying to the junction an electric stress, the value of which is characteristic of a particular gas and adsorbing material. When a bare surface first comes into contact with a mixture of gases, the composition of the initial film formed is directly calculable from the partial pressures and molecular weights of the gases. This film will in general change in composition to an equilibrium value. The composition of this final film is given by plotting the relation between electric stress required to remove the initial film and the composition of this film.—A. P. Cary and E. K. Rideal: The spreading of oils and fats on water surfaces.—W. Saddler: Triple binary forms; the complete system for a single (1, 1, 1) form with its geometrical interpretation.—W. Burnside: On the phrase "equally probable."

## DUBLIN.

Royal Dublin Society, January 27.—G. Brownlee: The interpretation of certain empirical standards in their application to Irish butter. An investigation of a large number of samples of butter, collected from various creameries by the inspectors of the Department of Agriculture and Technical Instruction of the Irish Free State, has shown that, during the months of November, December, and January, the Reichert-Wolny number of Irish butter is usually below the value 24, which is generally taken as the lower limit for pure butter. This is in agreement with the results of a previous investigation carried out some years ago. The values obtained for the other numbers used for defining the properties of butter also frequently fell outside the limits generally assumed to be applicable to pure butter.—E. A. Werner: The decomposition of certain amino acids by alkaline hypobromite.

## ROME.

Royal Academy of the Lincei, November 2.—F. Zambonini and G. Carobbi: Double sulphates of

rare earth and alkali metals. I. Double sulphates of lanthanum and potassium. Systematic study of the ternary systems composed of these two sulphates and water shows the existence of six compounds containing  $\text{La}_2(\text{SO}_4)_3$ ,  $\text{K}_2\text{SO}_4$  and  $\text{H}_2\text{O}$  in the molecular proportions, 1:5:2, 1:4:5:2, 1:4:1, 1:3:0, 2:3:8, and 1:1:2 respectively.—Ferruccio Zambonini and V. Caglioti: Double sulphates of rare earth and alkali metals. II. Double sulphates of neodymium and potassium. In this case the molecular proportions of the components of the double salts are 1:5:2, 1:4:2, 1:4:1, 1:3:2, 2:3:8, and 1:1:2.—V. Ronchi: An interferential method for the direct determination of the constants and aberrations of divergent optical systems. The method of combination fringes previously applied to convergent optical systems is simplified by the use of an auto-collimating arrangement as so to require only a single grating.—Dino Bigiavi: Action of nitrous acid on the azophenols. With nitrous acid, *p*:*p*'-dihydroxyazophenol yields a dinitroazophenol, and is also partly oxidised to *p*-nitrophenol, the diazo-group undergoing rupture; benzeneazo- $\alpha$ -naphthol also appears to suffer oxidation, whilst other azo-phenols yield diazonium salts, together with products not yet investigated.—G. Carobbi: Double nitrates of metals of the cerium group with copper and with cadmium. Compounds of the type  $2\text{X}(\text{NO}_3)_3$ ,  $3\text{Ca}(\text{NO}_3)_2$ ,  $24\text{H}_2\text{O}$ , where X represents Nd, Pr, Sm, and of the type  $2\text{X}(\text{NO}_3)_3$ ,  $3\text{Cd}(\text{NO}_3)_2$ ,  $24\text{H}_2\text{O}$ , where X represents La, Ce, Nd, are described; by means of the double nitrates formed with copper, lanthanum may be separated from praseodymium.—Gustavo Cumin: Geological data on the Iстриan mountain region. II. Tectonics and morphology.—Marcello Boldrini: Internal and external measurements of certain long bones in man and in woman. II. Measurement of the intensity of the secondary sexual characters.—Cesare Artom: Numerical disproportion of the sexes in *Gambusia holbrooki* (Grd.) analysed as to its manifold causes. For most generations of the top-minnow, the numerical relation of the sexes at birth is 1:1, but in one autumnal generation a predominance of females was observed.—Boldrino Boldrini: Biological reactions observed in the blood serum of woman during and after the lacteal decline: II. Demonstration of an agglutinin of the globules of human milk.—Primo Dorello: Contribution to the knowledge of the biology of the nemasperms in the pulmonated gasteropods.—Carlo Jucci: Bivoltinism and parthenogenesis in silkworms (*Bombyx mori*).—Sergio Sergi: Myorabdotic cellular groups in the cervical region of the spinal medulla of the chimpanzee.

November 16, 1924.—Luigi Bianchi: A class of pairs of stratifiable rectilinear congruences.—G. Bruni and G. R. Levi: Solid solutions between compounds of elements of different valencies. The formation of solid solutions of lithium and magnesium fluorides, previously indicated by the results of thermal analysis of the system, is confirmed by X-ray examination. The substitution of magnesium fluoride molecules for a corresponding number of double lithium fluoride molecules produces neither an appreciable alteration in the lithium fluoride lattice nor the appearance of new lines in the photograms.—F. Zambonini and V. Caglioti: Double sulphates of the rare earth and alkali metals. II. Neodymium and potassium sulphates. Descriptions are given of the various double sulphates previously found. Federico Sacco: An opened nummulite.—J. Pérès: Transformations which maintain the composition.—Bruto Caldonazzo: Differential geometry of surfaces of hydrodynamic interest.—Umberto

**Crudei**: Rhombic systems with uniform rotation in electronic dynamics.—**Paolo Stranco**: Theory of Einstein fields with axial symmetry.—**Guido Horn d' Arturo**: Flying shadows visible during solar eclipses.—**Rita Brunetti**: Fine structure of the helium line 5876 Å.U.—**G. Carobbi**: Double chromates of rare earth and alkali metals. I. Lanthanum and potassium chromates. Investigation of the isotherm for 25° reveals the existence of double salts containing  $\text{La}(\text{CrO}_4)_3$ ,  $\text{K}_2\text{CrO}_4$ , and  $\text{H}_2\text{O}$  in the molecular proportions, 1:1:2, 1:3:2, 1:4:2, 1:4.5:2, and 1:5:2, these corresponding with the proportions found in the double sulphates of the same metals, excepting that, in the latter case, the 1:3-compound is anhydrous, and the 1:4-salt monohydrated.—**Roberto Savelli**: Genetic value of the process of ionolysis of gametes.—**Marcello Boldrini**: Internal and external measurements of certain long bones in man and in woman. III. The volume of the medullary cavity and hematopoiesis in the two sexes.—**A. Clementi**: Adaptation of tadpoles to the chemico-physical conditions of the surrounding medium.—**Boldrino Boldrini**: Biological reactions observed in the blood serum of woman during and after the lacteal decline. III. Demonstration of the existence of proteolytic enzymes capable of hydrolysing the proteins of human milk.—**Carlo Jucci**: Varying proclivity to parthenogenesis in different races of silkworms (*Bombyx mori*) and its probable correlation with the varying tendency to bivoltinism.—**Sergio Sergi**: Myorabdotic cellular groups in the thoracic region and the limits between the thoracic and lumbar regions in the spinal medulla of the chimpanzee.

## VIENNA.

Academy of Sciences, January 8.—**K. Umrath**: The conduction of excitation in the leaf of *Mimosa pudica*. The velocity of conduction is discontinuous and is dependent on the nature and strength of the stimulus. The separate stages may be ascribed to separate conducting systems. The velocity is less in the leaflets than in the secondary leaf-stalk, and less in them than in the primary leaf-stalk. The system of greatest velocity is in the chief bundles.—**T. Ciurapajlowicz**: Two proofs of Fermat's great theorem.—**L. Waldmann**: Report on the geological survey of Moravian territory between Eggenburg, Pernegg, and Theras. A series of orthogneiss intrusions and strata of rocks of sedimentary origin.—**G. Weissenberger**, **F. Schuster**, and **K. Wojnoff**: Molecular compounds of the phenols. VI. The behaviour of hydrated cresols and allied compounds.—**L. Moser** and **E. Reitschl**: The determination and separation of the rare metals from other metals. VI. Determination of the solubility and sensitiveness of complex compounds of caesium and rubidium and their application in analysis. For quantitative analysis only the chloroplatinate, perchlorate, and bitartrate come into consideration. A quantitative separation was not attained. There is no special caesium or rubidium reagent, only sensitiveness is decisive. The best indication is given by silico-molybdic acid, by which potassium is not precipitated. Phosphotungstic acid is still more sensitive, but precipitates potassium also.

## Official Publications Received.

University of London: University College. Report of the University College Committee (February 1924-February 1925), with Financial Statements (for the Session 1923-24), and other Documents, for Presentation to the Senate. Pp. 101. (London.)

Smithsonian Institution: United States National Museum. Report on the Progress and Condition of the United States National Museum for the Year ended June 30, 1924. Pp. ix+205. (Washington: Government Printing Office.) 63 cents.

Journal of the College of Agriculture, Hokkaido Imperial University, Sapporo, Japan. Vol. 13, Part 3: On the Phenomena of Sex Transition in *Arisaema japonica* Bl. By Tokujiro Maekawa. Pp. 217-305+1 plate. Vol. 13, Part 2: Das Urogenitalsystem der Urodelen. Von Samuro Yamagiwa. Pp. 37-82+4 Tafeln. (Sapporo.)

Department of Commerce: U.S. Coast and Geodetic Survey. Serial No. 278: Results of Observations made at the United States Coast and Geodetic Survey Magnetic Observatory near Honolulu, Hawaii, in 1921 and 1922. By Daniel L. Hazard. Pp. 100+4 charts. Serial No. 282: Results of Observations made at the United States Coast and Geodetic Survey Magnetic Observatory at Sitka, Alaska, in 1921 and 1922. By Daniel L. Hazard. Pp. 100+10 charts. (Washington: Government Printing Office.) 25 cents each.

Ceylon Administration Reports for 1923. Department of Agriculture: Report of the Director of Agriculture for 1923. Pp. D54. (Peradeniya.)

Report on the Operations of the Department of Agriculture, Madras Presidency, for the Official Year 1923-24. Pp. 48. (Madras: Government Press.) 6 annas.

Memoirs of the Geological Survey of India. Vol. 48, Part 2: The Geology of parts of the Persian Provinces of Fars, Kirman and Laristan. By Dr. Guy E. Pilgrim. Pp. iv+116+xiii+plates 11-16. (Calcutta: Government of India Central Publication Branch.) 3.12 rupees; 6s. 3d.

Koninklijk Magnetisch en Meteorologisch Observatorium te Batavia. Verhandelingen No. 8: Het Klimaat van Nederlandsch-Indië (The Climate of the Netherlands Indies). Deel 1 (Vol. 1), Algemeene Hoofdstukken (General Chapters), Aftewering 7 (Part 7). With English Summaries. Pp. iv+417-497+199-248. (Batavia.)

Forest Research Institute, Dehra Dun, (U.P.), India: Economic Branch. Testing of Raw Materials: Scheme of Operation No. 1 for Project No. 5, Paper Pulp Section. By W. Raitt. Pp. iii+10. (Calcutta: Government of India Central Publication Branch.) 5 annas; 6d.

Publications of the South African Institute for Medical Research. Edited by Dr. W. Watkins-Pitchford. No. 18: An Investigation into the Significance of Localized and more or less Persistent Râles in the Marginal Areas of the Lungs of apparently Healthy Natives. By Dr. W. Watkins-Pitchford and Dr. Peter Allan. Pp. 35. (Johannesburg.) 5s.

Calendario della Basilica Pontificia del Santissimo Rosario in Valle di Pompei per 1925. Pp. 256. (Valle di Pompei.)

First Greenwich Catalogue of Stars for 1925-0. Catalogue of 2648 Stars from Observations with the Transit Circle made at the Royal Observatory, Greenwich, during the Years 1915-1921, under the Direction of Sir Frank Watson Dyson. Pp. xix+68. (London: H.M. Stationery Office.) 20s. net.

Astronomical and Magnetical and Meteorological Observations made at the Royal Observatory, Greenwich, in the Year 1922, under the Direction of Sir Frank Dyson. Pp. 8+A57+B4+C2+Dix+D51+E5+Bxi+E84+20. (London: H.M. Stationery Office.) 35s. net.

Publikationer fra det Danske Meteorologiske Institut. Aarbøger. Isforholdene i de Arktiske Have (The State of the Ice in the Arctic Seas) 1924. Pp. 38+5 maps. (København: G. E. C. Gad.)

The Marine Biological Station at Port Erin (Isle of Man). Supplement to Thirty-eighth Annual Report. List of the Published Works of the late Sir William A. Herdman, C.B.E., F.R.S., D.Sc., etc. Arranged by E. Catherine Herdman. Pp. 25. (Liverpool: University Press of Liverpool, Ltd.; London: Hodder and Stoughton, Ltd.)

Journal of the Marine Biological Association of the United Kingdom. New Series, Vol. 13, No. 3, March. Pp. 531-754. (Plymouth.) 6s. net.

Journal of the Chemical Society: containing Papers communicated to the Society. 1925, Vol. 127, February. Pp. iv+viii+305-498. (London: Gurney and Jackson.)

Journal of the Chemical Society. Supplementary Number, containing Title-pages, Contents and Indexes. 1924, Vol. 125. Pp. 2699-2796+xxx+4. (London: Gurney and Jackson.)

Abstracts of Chemical Papers issued by the Bureau of Chemical Abstracts. A: Pure Chemistry. Supplementary Number, containing Title-pages and Indexes. 1924, Vol. 126. Pp. ii.377-ii.1304+20. (London: Gurney and Jackson.)

Transactions and Proceedings of the Perthshire Society of Natural Science. Vol. 8, Part 1, 1923-24. Pp. 15+xv+5 plates. (Perth.)

U.S. Department of the Interior. Annual Report of the Commissioner of Education to the Secretary of the Interior for the Fiscal Year ended June 30, 1924. Pp. iii+32. (Washington: Government Printing Office.) 5 cents.

## Diary of Societies.

## SATURDAY, MARCH 14.

ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Sir Ernest Rutherford: The Counting of the Atoms (III.)

INSTITUTE OF BRITISH FOUNDRYMEN (Lancashire Branch) (at Manchester College of Technology), at 4.—G. Edgington: Oil-Sand Cores.

## SUNDAY, MARCH 15.

C.B.C. SOCIETY FOR CONSTRUCTIVE BIRTH CONTROL AND RACIAL PROGRESS (at Criterion Theatre, Piccadilly Circus, W.), at 3.—Dr. H. M. Telling, Dr. M. Thomson, Dr. Jane L. Hawthorne, Dr. Marie Stopes, and others: Why Doctors Disagree about Birth Control.

## MONDAY, MARCH 16.

ROYAL IRISH ACADEMY, at 4.15.

ROYAL GEOGRAPHICAL SOCIETY (at Lowther Lodge, Kensington Gore), at 5.—R. D. Oldham: The Portolan Maps of the Rhone Delta.

INSTITUTE OF AUTOMOBILE ENGINEERS (Loughborough Graduates' Meeting) (at Loughborough College), at 7.—E. R. Caffyn: A Few Features of Early Car Design.

INSTITUTE OF ELECTRICAL ENGINEERS (Mersey and North Wales (Liverpool) Centre) (at Liverpool University), at 7.—Informal Discussion on The Application of Electricity on Board Ship.