

PARIS.

Academy of Sciences, February 16.—M. Henri Deslandres in the chair.—G. **Humbert**: The positive quadratic forms of Hermite in an imaginary quadratic body.—M. **Hadamard**: Certain solutions of a functional differential equation.—G. **Bigourdan**: Coordinates, instruments, and work of the Observatory of the Collège de France.—A. **Rateau**: The greatest range and maximum realisable velocities of aeroplanes.—M. Ciamician was elected a foreign associate in succession to the late Sir William Ramsay, and M. L. Bianchi a correspondant for the section of geometry in succession to M. Volterra, elected foreign associate.—G. **Cerf**: Remarks on a generalisation of Pfaff's problem.—B. **de Fontviolant**: Calculation of circular bridges.—D. **Pompieu**: A condition equivalent to monogeneity and the demonstration of the fundamental theorem of Cauchy.—J. **Boccardi**: A diurnal variation of latitude.—A. **Guillet** and M. **Aubert**: An absolute bispherical electrometer. The numerical calculation of its characteristics.—S. **Procopiu**: Diffraction grating spectra in the case where the incident light is oblique with respect to the principal plane of the lines.—A. **Pérard**: A method for the comparison and measurement in absolute value of standards with plane ends by an interference method.—Ch. **Boulin** and L. J. **Simon**: The action of water on dimethylsulphate.—F. **Canac**: The determination of the parameters of a crystal by the X-rays.—M. **Zeil**: The ascending movements of the earth's crust and the evolution of fossil remains.—G. **Denizot**: The existence of two penneplains in the Paris basin.—P. **Guérin** and Ch. **Lormand**: The action of chlorine and various vapours upon plants. After one or two hours' exposure to an atmosphere containing 1/2000 of chlorine, bromoacetone, and other poison gases, most plants resist; they lose their leaves, but new ones appear, and the plants finish their normal growth.—H. **Coupin**: The production of chlorophyll by plants exposed to a discontinuous light.—J. **Amar**: The index of respiratory endurance. This is defined as the ratio of the volume of air entering the lungs at each inspiration to the body-weight.—H. V. **Vallois**: Evolution of the muscle system of the episome in vertebrates.—L. **Mercier**: Variation of *Corophium volutator* according to its place of origin.—E. **Chatton**: The existence in Radiolaria of parasitic Periclinians considered as forms of reproduction of their hosts.

Books Received.

The Story of Milk. By J. D. Frederiksen. Pp. xx+188. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd.) 9s. net.

The Handbook of Cyprus. Eighth issue. Edited by H. C. Luke and D. J. Jardine. Pp. xii+300. (London: Macmillan and Co., Ltd.) 12s. net.

A First-Year Physics for Junior Technical Schools. By G. W. Farmer. Pp. x+183. (London: Longmans and Co.) 4s. 6d.

Practical Hardy Fruit Culture. By R. Staward. Pp. 216. (London: The Swarthmore Press, Ltd.) 6s. net.

A First Book of School Celebrations. By Dr. F. H. Haywood. Pp. 167. (London: P. S. King and Son, Ltd.) 5s.

The Chemical Age. June-December, 1919. Pp. xi+750. (London: Benn Bros., Ltd.) 15s.

Mauka Polska Jej Pstrzeby, Organizacja i Rozwój. Tom i. Pp. xvi+558. (Warszawa.) Cena M.P. 15.

The Elementary Differential Geometry of Plane Curves. By R. H. Fowler. Pp. vii+105. (Cambridge: At the University Press.) 6s. net.

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The Foundations of Einstein's Theory of Gravitation. By E. Freundlich. Authorised English translation by H. L. Brose. Preface by A. Einstein. Introduction by Prof. H. H. Turner. Pp. xvi+61. (Cambridge: At the University Press.) 5s. net.

Through Deserts and Oases of Central Asia. By Miss Ella Sykes and Brig.-Gen. Sir Percy Sykes. Pp. xii+340. (London: Macmillan and Co., Ltd.) 21s. net.

The Origin and Development of the Compositæ. By Dr. J. Small. Pp. xi+334+6 plates. (London: W. Wesley and Son.) 15s. net.

A Text-book on Machine Drawing for Electrical Engineers. By E. Blythe. Pp. vii+81. (Cambridge: At the University Press.) 20s. net.

La Molécule Chimique. By Prof. R. Lespieau. Pp. iii+286. (Paris: F. Alcan.) 3.50 francs.

L'Unité de la Science. By Prof. M. L. du Sablon. Pp. iii+284. (Paris: F. Alcan.) 3.50 francs.

The Examination of Materials by X-rays. Pp. ii+64. (London: Faraday Society.) 13s. 6d.

The Physiology of Vision: With Special Reference to Colour Blindness. By Dr. F. W. Edridge-Green. Pp. xii+280. (London: G. Bell and Sons, Ltd.) 12s. net.

Diary of Societies.

THURSDAY, MARCH 11.

- ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Lt.-Col. E. Gold: The Upper Air: (i) Results and their Interpretation.
- INSTITUTE OF METALS (at Institution of Mechanical Engineers) (Annual General Meeting), at 4.—Eng. Vice-Admiral Sir George Goodwin: Inaugural Address.
- ROYAL SOCIETY, at 4.30.—W. G. Duffield, T. H. Burnham, and A. A. Davis: The Pressure upon the Poles of Metallic Arcs, including Alloys and Composite Arcs.—J. H. Vincent: Further Experiments on the Variation of Wave-length of the Oscillations Generated by an Ionic Valve Due to Changes in Filament Current.—H. A. Daynes: (1) The Theory of the Katharometer; (2) The Process of Diffusion through a Rubber Membrane.
- LONDON MATHEMATICAL SOCIETY, at 5.—G. S. Le Beau: A Property of Polynomials whose Roots are Real.—B. M. Sen: Double Surfaces.
- ROYAL COLLEGE OF PHYSICIANS, at 5.—Dr. J. L. Birley: The Principles of Medical Science as applied to Military Aviation (Goulstonian Lecture).
- ROYAL INSTITUTE OF PUBLIC HEALTH, at 5.—Dr. H. M. Berry: X-rays in the Diagnosis of Tuberculosis.
- ROYAL SOCIETY OF MEDICINE (Occasional Lecture), at 5.—Sir Jagadis Bose: Plant and Animal Response (with Demonstrations of Growth by the Magnetic Crescograph).
- CHILD-STUDY SOCIETY (at Royal Sanitary Institute), at 6.—Dr. M. Jane Reaney: The Educational Needs of Adolescence.
- INSTITUTION OF ELECTRICAL ENGINEERS (at Institution of Civil Engineers), at 6.—W. H. Patchell: Operating a By-product Producer-gas Plant for Power and Heating.—S. H. Fowles: Production of Power from Blast-furnace Gas.
- OIL AND COLOUR CHEMISTS' ASSOCIATION (at 2 Furnival Street), at 7.—J. B. Shaw: Various Points in the Manufacture of Lake and Pigment Colours.
- OPTICAL SOCIETY, at 7.30.—A. C. W. Aldis: Portable Electric Signalling Lamps.
- INSTITUTION OF AUTOMOBILE ENGINEERS (Graduate Section), at 8.—C. A. Chappell: Magnetos.
- INSTITUTE OF METALS (at Institution of Mechanical Engineers) (Annual General Meeting), at 8.—Dr. G. D. Bengough, R. M. Jones, and Ruth Pirret: Fifth Report to the Corrosion Research Committee.—R. Seligman and P. Williams: The Action on Aluminium of Hard Industrial Waters.
- ROYAL SOCIETY OF MEDICINE (Neurology Section), at 8.30.—Prof. J. S. B. Stopford: Results of End-to-end Suture of Peripheral Nerves.
- SOCIETY OF ANTIQUARIES, at 8.30.
- FRIDAY, MARCH 12.
- INSTITUTE OF METALS (at Institution of Mechanical Engineers) (Annual General Meeting), at 10.30.—J. Neil MacLean: The Art of Casting in High Tensile: Brass.—H. Moore and S. Beckinsale: The Removal of Internal Stress in 70:30 Brass by Low-temperature Annealing.—Dr. W. Rosenhain, J. L. Haughton, and Kathleen Binham: Zinc Alloys with Aluminium and Copper.—Dr. W. Rosenhain: A Model for Representing the Constitution of Ternary Alloys.—A. C. Vivian: Tin-Phosphorus Alloys.—W. C. Hotheralls and E. L. Rhead: Some Notes on the Effect of Hydrogen on Copper.
- INSTITUTE OF METALS (at Institution of Mechanical Engineers) (Annual General Meeting), at 2.30.—W. E. Alkins: The Effect of Progressive Drawing upon some Physical Properties of Commercially Pure-Copper.—F. Johnson: The Influence of Cold Rolling on the Physical Properties of Copper.—J. L. Haughton: The Study of Thermal Electro-motive Force as an Aid to the Investigation of the Constitution of Alloy Systems.—H. H. Hayes: The Polishing and Etching of Zinc for Micro-examination.—W. E. Hughes: Idiomorphic Crystals of Electro-deposited Copper.
- ROYAL ASTRONOMICAL SOCIETY, at 5.—N. Liapin: Some Remarkable Properties of Diurnal Motion.—H. C. Plummer: The Nature of Short-period Variables.—L. Becker: (1) Capture Orbits; (2) The Capture Hypo-