

the application of the method outlined in an earlier communication to the analysis of brass, German silver, and other alloys.—E. **Ariès**: The critical constants of mercury. The formula given in a previous paper, and worked out for the cases of argon, xenon, and krypton, is now applied to mercury, the vapour of which is also monatomic. The formula leads to 1077° C. for the critical temperature, and 420 atmospheres for the critical pressure of mercury.—W. **Kilian**: Contributions to the knowledge of the Delphino-Provençal and Rhodanian lower Cretaceous.—M. Flahault was elected a non-resident member in the place of the late M. Gosselet.—B. **Jekhowsky**: The generalisation of a theorem of Cauchy relating to developments in series.—R. de Montessus de **Ballore**: Skew quartics of the first species.—J. **Guillaume**: Observations of the sun made at the Observatory of Lyons during the fourth quarter of 1917. Details of observations made on fifty-seven days.—E. **Vessiot**: Propagation by waves and the theory of general relativity.—P. **Weiss** and A. **Piccard**: A new magneto-thermal phenomenon. In the course of a magnetic study of nickel in the neighbourhood of the Curie point, the establishment of the field (15,000 g.) caused a marked rise of temperature (0.7°). The suppression of the field produced a cooling of the same order. The reversibility and order of magnitude distinguish this effect from heating due to hysteresis. Above the Curie point (629.6° Absolute) the rise of temperature is proportional to the square of the magnetisation, a result which can be deduced from the theory of the molecular field.—Ph. **Flajolet**: Perturbations of the magnetic declination at Lyons (Saint-Genis-Laval) during the fourth quarter of 1917.—J. **Dufrénoy**: Tumours on the maritime pine.—C. **Cépède**: New method of staining the tubercle bacillus.—H. **Vincent**: The prophylaxy of Maltse fever by the active immunisation of the germ-carrying animals.

BOOKS RECEIVED.

- Précis de Radiodiagnostic Technique et Chirurgie. By Dr. Jaugeas. Second edition. Pp. xxviii+563. (Paris: Masson et Cie.) 20 francs.
- Localisation et Extraction des Projectiles. By L. Ombrédanne and R. Ledoux-Lebard. Second edition. Pp. iv+305. (Paris: Masson et Cie.) 4 francs.
- Theory of Functions of a Complex Variable. By Prof. A. R. Forsyth. Third edition. Pp. xxiv+855. (Cambridge: At the University Press.) 30s. net.
- The War and the Bagdad Railway. By Prof. M. Jastrow, jun. Pp. 160. (Philadelphia and London: J. B. Lippincott Co.) 6s. net.
- Department of Commerce. U.S. Coast and Geodetic Survey. Terrestrial Magnetism. U.S. Magnetic Tables and Magnetic Charts for 1915. By D. L. Hazard. Pp. 256+illustrations in pocket. (Washington: Government Printing Office.)
- The Advanced Montessori Method. By M. Montessori. ii., The Montessori Elementary Material. Translated by A. Livingston. Pp. xviii+455. (London: W. Heinemann.) 12s. 6d. net.
- What Industry Owes to Chemical Science. By R. B. Pilcher. Pp. xiv+150. (London: Constable and Co., Ltd.) 3s. net.
- The Systematic Treatment of Gonorrhœa. By N. P. L. Lumb. Pp. viii+116. (London: H. K. Lewis and Co., Ltd.) 4s. 6d. net.
- Anti-Malaria Work in Macedonia among British Troops. By Dr. W. G. Willoughby and L. Cassidy. Pp. x+68. (London: H. K. Lewis and Co., Ltd.) 3s. 6d. net.
- Tumours: Their Nature and Causation. By Dr. W. d'Este Emery. Pp. xx+146. (London: H. K. Lewis and Co., Ltd.) 5s. net.

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Aids to Rational Therapeutics, with U.S.A. Pharmacopœia Equivalents. By Dr. R. W. Leftwich. Pp. x+233. (London: Baillière and Co.) 3s. 6d. net.

Aviation Engines: Design, Construction, Operation, and Repair. By First Lieut. V. W. Pagé. Pp. 589. (London: Crosby Lockwood and Son.) 15s. net.

DIARY OF SOCIETIES.

THURSDAY, MARCH 21.
 INSTITUTION OF ELECTRICAL ENGINEERS, at 6.—The Mechanical Design and Specification of the Turbo-alternator Rotor: Dr. S. F. Barclay.
 INSTITUTION OF MINING AND METALLURGY, at 5.30.—Annual General Meeting.
 INSTITUTION OF NAVAL ARCHITECTS, at 11 a.m.—Problems of the Future in the Design and Construction of Merchant Ships: W. S. Abell.—Research in Marine Engineering: A. E. Seaton.—The Effect of the Longitudinal Motion of a Ship on its Static Transverse Stability: G. S. Baker and Miss E. M. Keary.—At 3 p.m.—The Iron Carbon Equilibrium Diagram and its Practical Usefulness: Prof. H. C. H. Carpenter.—Stress Distribution in Bolts and Nuts: C. E. Stromeier.
 LINNEAN SOCIETY, at 5.—The Shoulder-girdle of a Dicotyledon Reptile from South Africa: E. S. Goodrich.—Fossil Charas from Oligocene Beds: J. Groves.—Malayan Form of *Chlorococcum humicola* (Nacq.), Rabenh.: Miss E. Muriel Bristol.

FRIDAY, MARCH 22.
 ROYAL INSTITUTION, at 5.30.—Radiation from System of Electrons: Sir J. J. Thomson.
 INSTITUTION OF NAVAL ARCHITECTS, at 11 a.m.—A Preliminary Survey of the Possibilities of Reinforced Concrete as a Material for Ship Construction: Major M. Denny.—Reinforced Concrete Vessels: W. Pollock.—Design and Construction of a Self-propelled Reinforced Concrete Seagoing Cargo Steamer building in Great Britain: T. G. O. Thurston.—An Investigation of the Shearing Force and Bending Moment acting on the Structure of a Ship including Dynamic Effects: A. M. Robb.—At 3 p.m.—Air Supply to Boiler Rooms: R. W. Allen.
 PHYSICAL SOCIETY, at 5.—The Fourth Guthrie Lecture: The Origin of Spectra: Prof. J. C. McLennan.

SATURDAY, MARCH 23.
 ROYAL INSTITUTION, at 3.—Problems in Atomic Structure: Sir J. J. Thomson.

MONDAY, MARCH 25.
 SOCIETY OF CHEMICAL INDUSTRY, at 8.—Some Cottonseed Products in Relation to Present-day Needs: E. C. de Segundo.

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