

The magnetic equation of state and variation of the atomic moment.—M. Eugène Fichot was elected a member of the section of geography and navigation in succession to the late E. Bertin.—A. Kolmogoroff: The possibility of the general definition of the differential, the integral, and the summation of divergent series.—J. Haag: Euclidian action at a distance.—P. Fatou: The movement of a material point submitted to the attraction of a flattened spheroid.—A. Barbaud and R. Le Petit: The measurement of the wind in an aeroplane and its effects on the route followed.—J. Cathala: A recording apparatus for the control of the insulation of enamelled wires. Enamel has been used in late years to an increasing extent as an insulating material for wires, but the wire thus covered always has a certain number of microscopic cracks, where the insulation is nil. In the apparatus described and figured the wire is rapidly drawn through a mercury bath and the weak spots detected.—Léon Guillet and Albert Portevin: The influence of tempering on the mechanical properties of steel after reheating. Whenever the nature of the metal permits the production of different constitutions by tempering, the results of mechanical tests obey the following rule: for equal final hardness after reheating, the resilience is better for the completely tempered states, that is to say, those formed of pure martensite. Inversely, for equality of resilience after reheating, the final hardness is always higher as the temper hardness is higher.—V. Auger and Mlles. L. Lafontaine and Ch. Caspar: Some salts of cupferron. Details of the properties of 21 metallic compounds of cupferron.—O. Gaubert: The modification of the facies of crystals as the result of their syncrystallisation with a foreign material dissolved in the mother liquor.—Albert Michel Levy: The birth of biotite in the crushed granites and rhyolites of Morvan.—E. Tabesse: Magnetic measurements in Normandy and Brittany.—H. Hérissé and J. Cheymol: The extraction and properties of geïne, a glucoside giving rise to eugenol, contained in *Geum urbanum*. This glucoside was extracted from the fresh underground parts of herb-bennet, in the proportion of about 0.1 per cent. On hydrolysis, it gives eugenol, *d*-glucose and *l*-arabinose in equimolecular proportions.—M. Bridel and C. Charaux: The process of blackening of Orobanché in the course of drying.—L. Blaringhem: New observations on *Xenia* in wheat.—Ad. Davy de Virville: The biological relations between a liver-wort (*Lophocolea bibentata*) and various Muscinæ.—N. Kleitmann and H. Piéron: The velocity of establishment of the light sensation and the magnitude of the undulation of pre-equilibrium for monochromatic stimulations of variable intensity.—E. Fauré-Fremiet: The quiescent state and active state in the amibocytes of *Arenicola*.—C. Hosselet: The oenocytes of *Culex annulatus* and their chondriome in the course of secretion.—C. Levaditi and A. Girard: The mode of action of bismuth in syphilis. A quantitative method has been developed capable of detecting 0.001 milligram of bismuth, and this has been applied to the estimation of bismuth in various organs of the rabbit after treatment with trepol (alkaline tartro-bismuthate). Infinitesimal traces of bismuth (0.002 mgm.) are sufficient to destroy the parasite.

Official Publications Received.

Department of the Interior: Bureau of Education. Bulletin, 1924, No. 10: Statistics of Teachers Colleges and Normal Schools, 1921-22. Prepared under the Direction of Frank M. Phillips. Pp. 76. 10 cents. Bulletin, 1924, No. 22: Technique of Procedure in Collegiate Registration. By Prof. George T. Avery. Pp. 26. 5 cents. Bulletin, 1924, No. 24: Organization and Administration of the Duplicate School in Philadelphia, Pa. By Edwin Y. Montany. Pp. 16. 5 cents. Bulletin, 1924, No. 25: A Platoon School in Kansas City, Missouri. By G. W. Diemer. Pp. iii+25. 5 cents. (Washington: Government Printing Office.)

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United States Department of Agriculture: Department Bulletin No. 1313: Fumigation against Grain Weevils with various Volatile Organic Compounds. By Ira E. Neifert, F. C. Cook, R. C. Roark, W. H. Tonkin, E. A. Back and R. T. Cotton. Pp. 40. (Washington: Government Printing Office.) 10 cents.

Contributions from the Princeton University Observatory, No. 7. Photometric Researches: The Eclipsing Variables, TV Cassiopeie, TW Cassiopeie, TX Cassiopeie, T Leonis minoris, SS Camelopardalis. By Richard John McDiarmid. Pp. 64. (Princeton, N.J.)

Bulletin of the National Research Council. Vol. 8, Part 2, No. 44: The Continental Shelf of the Coast of California. By Andrew C. Lawson. Pp. 23. 25 cents. Vol. 8, Part 4, No. 46: The Geological Implications of the Doctrine of Isostasy. By Andrew C. Lawson. Pp. 22. 40 cents. (Washington: National Academy of Sciences.)

Cornell University Agricultural Experiment Station. Memoir 68: The Lepidoptera of New York and neighboring States. Primitive Forms, Microlepidoptera, Pyraloids, Bombyces. By William T. M. Forbes. Pp. 729. (Ithaca, N.Y.)

Library of Congress. Report of the Librarian of Congress for the Fiscal Year ending June 30, 1924. Pp. vi+290. (Washington: Government Printing Office.) 60 cents.

International Geodetic and Geophysical Union (Union Géodésique et Géophysique Internationale): Section of Terrestrial Magnetism and Electricity. Bulletin No. 4: Terrestrial Magnetism and Electricity at the Madrid Meeting, October 1924; General Report. By Louis A. Bauer. Pp. 10. (Baltimore, Md.: Johns Hopkins Press.) 25 cents.

Department of the Interior, Canada. Publications of the Dominion Astrophysical Observatory, Victoria, B.C. Vol. 3, No. 1: The Absolute Magnitudes and Parallaxes of 1105 Stars. By R. K. Young and W. E. Harper. Pp. 143+4 plates. (Ottawa: F. A. Acland.)

Journal and Proceedings of the Royal Society of Western Australia. Vol. 10, 1923-1924. Pp. xxvii+129+11 plates. (Perth.)

Department of Commerce: U.S. Coast and Geodetic Survey. Serial No. 275: Results of Observations made at the United States Coast and Geodetic Survey Magnetic Observatory at Cheltenham, Md., in 1921 and 1922. By Daniel L. Hazard. Pp. 96+5 plates. (Washington: Government Printing Office.) 10 cents.

Legislative Assembly: New South Wales. Report of the Director-General of Public Health, New South Wales, for the year 1923. Pp. v+157+19 graphs. (Sydney: Alfred James Kent.) 7s. 3d.

Ministry of Finance, Egypt: Coastguards and Fisheries Service. Report on the Fisheries of Egypt for the year 1923. By G. W. Paget. Pp. v+43. (Cairo: Government Publications Office.) 5 P.T.

Instituts Scientifiques de Buitenzorg "'s Lands Plantentuin." Treubia: Recueil de travaux zoologiques, hydrobiologiques et océanographiques. Rédigé par Dr. W. M. Doetens van Leeuwen, Dr. K. W. Dammersman et Dr. H. C. Delsman. Vol. 5: Supplément, Septembre 1924. Pp. 142+5 Tafeln. (Batavia: Landsdrukkerij.)

Department of Agriculture, Ceylon. Bulletin No. 70: Guide to the Central Experiment Station, Peradeniya. By T. H. Holland and H. A. Deutrom. Pp. 112+6 plans. Bulletin No. 71: Entomogenous Fungi and their Use in Controlling Insect Pests. By T. Fetch. Pp. 40+2 plates. (Colombo.) 40 cents each.

Union of South Africa: Department of Agriculture. Science Bulletin No. 34: Kemp Fibres in the Merino Sheep. By Prof. J. E. Duerden and Miss M. Ritchie. Pp. ii+18. (Cape Town: Cape Times, Ltd.) 3d.

South Australia: Department of Mines. Mining Review for the Half-year ended June 30th, 1924. (No. 40.) Pp. 66+5 plates. (Adelaide: R. E. Rogers.)

Ministry of Agriculture, Egypt: Technical and Scientific Service. Bulletin No. 53: The Effect of Irrigation upon Soil Temperatures. By Dr. E. McKenzie Taylor. Pp. 18+7 plates. Bulletin No. 51: A Statistical Note on the Cotton Variety Tests at Sakha, 1916-1920. By Trevor Trought. Pp. 16. (Cairo: Government Publications Office.) 5 P.T. each.

Torquay Natural History Society. Transactions and Proceedings for the Year 1923-24. Edited by the Rev. James A. Balleine and H. L. Earle. Vol. 4, Part 2. Pp. 101-198. (Torquay.)

The Carnegie United Kingdom Trust. Eleventh Annual Report (for the Year ending 31st December 1924) submitted by the Executive Committee to the Trustees on Friday, 27th February 1925. Pp. ii+89. (East Port, Dunfermline.)

Smoke Abatement League of Great Britain. Report of the Smoke Abatement Conference held at the Town Hall, Manchester, November 4th, 5th and 6th, 1924. Pp. xi+308. (Manchester: Hon. Secretary, 33 Blackfriars Street.) 5s. 6d.

Diary of Societies.

SATURDAY, MARCH 21.

BRITISH MYCOLOGICAL SOCIETY (in Botany Department, University College), at 11 A.M.—Miss E. Green: The Development of *Zygorhynchus*.—W. F. Hauna: Sax in the Genus *Coprinus*.—J. Ramsbottom: Fragmenta Mycologica III.—Dr. M. C. Rayner: Sectoring in Cultures of *Phoma ruficis-Calluna*.—Miss A. Lorrain Smith: (I.) Notes on Myxobacteriaceae; (II.) Templeton's Drawings of Fungi and Lichens.

PHYSIOLOGICAL SOCIETY (Annual General Meeting) (at University College), at 8.—E. H. J. Schuster: Adjustable Pump for Artificial Respiration or Perfusion.—A. C. Downing: (a) Magnet Systems for Sensitive Galvanometers; (b) Some Recent Muscle Thermopiles; (c) A Sensitive Compton Electrometer.—N. Kubo and Prof. A. V. Hill: The Effect of Length on the Heat-production of Muscle.—Phyllis M. Kerridge: Modified Glass Electrodes.—J. Wyman: The Viscous-elastic Properties of Turtle's Muscle.—W. Shaw: The Relation of the Corpus Luteum to the Pre-menstrual Changes of the Endometrium.—J. R. Pereira: The Patellometer: Measurement of the Threshold Stimulus and Recording of the Knee-jerk.—D. T. Harris: Action of Light on the Affinity of Haemoglobin for Oxygen.—W. K. Slater: A Micro-respiration Apparatus.—H. A. Ellis: A Rapid Colorimetric Method of Measuring the C_{11} of Blood.—Dr. C. Da Fano: Modification of the Hewer Method for Staining in Bulk with Hamatoxylin and Eosin.—H. I. Coombs and T. S. Hele: The