

a fine structure, as it gives, besides the known group of 6.47 cm. range, two faint groups of 6.35 cm. and 6.60 cm. range.—Rudolf Leutner: Velocity of hydrolysis of cyclic acetals (1).—Konrad Funke: Perylene and its derivatives. (35) Diaminoperylene-3:10-quinone.

May 6.—Karl Brunner and H. Moser: 5-Ethoxy-indolinone.—Arthur Haas: Relation between the world's radius of curvature and the radius of the electron.—Franz Rücker: Reflection and transparency of animal tissues in the ultra-red. Considerable proportions of infra-red rays traverse the skins of reptiles and amphibia. Thus, with many lizards, 3-4 per cent of the radiation passes through the whole covering of the body, including the black peritoneum, into the body. The influence of the chromatophores is seen particularly well with the tree-frog; almost twice as much of the radiation is transmitted by the skin of the back when the chromatophores are partially contracted as when they are expanded. The chitin of insects is also transparent to some extent. The skins of xerophile, thick-skinned snakes, are usually far less penetrable by the rays than those of the shade- and moisture-loving forms.—Julius Pia: The Girvanellæ of the English carboniferous limestone. Three species of *Girvanella* from this source have been named, but the author considers that only two have been clearly distinguished; namely, *G. ducii* Wethered and *G. staminea* Garwood (? *G. incrustans*).—Johann Koppmair: General solution of the fundamental problem of photogrammetry.—Alois Zinke: Perylene and its derivatives (36).—N. A. Puschin and M. Deželic: Equilibrium in systems with erythritol as a component.—N. A. Puschin and J. J. Rikovsky: Compounds of carbamide and urethane with acids and phenols.

Official Publications Received

BRITISH

- Ceylon Journal of Science. Section D: Medical Science. Vol. 2, Part 5, May 20th. Edited by Dr. L. Nicholls. Pp. 203-341+plates 42-49. (Colombo: Bacteriological Institute; London: Dulau and Co., Ltd.) 3 rupees.
- Report of His Majesty's Astronomer at the Cape of Good Hope to the Secretary of the Admiralty for the Year 1931. Pp. 9. (Cape of Good Hope.)
- Proceedings of the Royal Society of Edinburgh, Session 1931-1932. Vol. 52, Part 3, No. 16: Pressure Effects in the Secondary Spectrum of Hydrogen. By W. G. Guthrie. Pp. 815-822. 9d. Vol. 52, Part 3, No. 17: The Adrenal Gland of *Xenopus laevis*. By H. Zwarenstein and I. Schirre. Pp. 323-326. 6d. Vol. 52, Part 3, No. 18: The Geodesics in Einstein's Unified Field Theory. By A. Blackwell. Pp. 327-330. 6d. (Edinburgh: Robert Grant and Son; London: Williams and Norgate, Ltd.)
- Proceedings of the Royal Irish Academy. Vol. 41, Section A, Nos. 1, 2: On the Motion near Two straight Parallel Vortices, by W. B. Morton; The Radiation of Angular Momentum, by Prof. A. W. Conway. Pp. 17. (Dublin: Hodges, Figgis and Co.; London: Williams and Norgate, Ltd.) 6d.
- Department of Scientific and Industrial Research: Food Investigation. Leaflet No. 1: The Cold-Storage of English Plums. By Dr. Franklin Kidd and Dr. Cyril West. Pp. 5. Leaflet No. 2: The Preservation of Fruit and Vegetables by Freezing. By Dr. J. Barker and T. Morris. Pp. 9. (London: Department of Scientific and Industrial Research.)
- Leeds University: Department of Pathology and Bacteriology. Annual Report, by Prof. Matthew J. Stewart and Prof. J. W. McLeod; with Abstract Report on Experimental Pathology and Cancer Research, by Prof. R. D. Passey. Pp. 16. (Leeds.)
- The National Central Library. 16th Annual Report of the Executive Committee, 1931-32. Pp. 55. (London.)
- Thirteenth Annual Report of the Ministry of Health, 1931-1932. (Cmd. 4113.) Pp. xii+320. (London: H.M. Stationery Office.) 5s. net.
- Board of Education. Educational Pamphlets, No. 89: Memorandum on the Teaching of Science in Senior Schools. Pp. 67. (London: H.M. Stationery Office.) 1s. 3d. net.
- Census of Thunderstorms in the British Islands, 1925-1936. Summer Thunderstorms: First Annual Report, 1931. Pp. 24. (Huddersfield: Thunderstorms Census Organisation.) 2s. 6d.
- The Journal of the Institution of Electrical Engineers. Edited by F. F. Rowell. Vol. 71, No. 427, July. Pp. 145-284+xx. (London: E. and F. N. Spon, Ltd.) 10s. 6d.
- Department of Public Instruction, Technical Education Branch: New South Wales. Technological Museum: Curator's Annual Report for Year ended 31st December 1931. Pp. 6. (Sydney: Alfred James Kent.)
- Committee on Bird Sanctuaries in Royal Parks (England). Report for 1931. Pp. 18. (London: H.M. Stationery Office.) 6d. net.

No. 3276, VOL. 130]

Philosophical Transactions of the Royal Society of London. Series B, Vol. 221, B476: Experiments on the Development of Chick and Duck Embryos, cultivated *in vitro*. By C. H. Waddington. Pp. 179-230+plates 22-28. (London: Harrison and Sons, Ltd.)

Air Ministry: Aeronautical Research Committee: Reports and Memoranda. No. 1447 (T. 3152): Thrust Integrating Tubes—Wind Tunnel Experiments. By C. N. H. Lock, F. C. Johansen and H. L. Nixon. Pp. 22+10 plates. 1s. 3d. net. No. 1457 (T. 3204, 3211): Two Reports on Tail Buffeting. By the Aerodynamics Staff of the National Physical Laboratory. Pp. 36+26 plates. 2s. 3d. net. (London: H.M. Stationery Office.)

Commonwealth of Australia: Council for Scientific and Industrial Research. Bulletin No. 61: Studies in the Supplementary Feeding of Merino Sheep for Wool Production. 1: The Effect of a Supplementary Ration of Blood Meal on the Growth Rate and Wool Production of Merino Sheep on Central Queensland Pastures. By Hedley R. Marston. Pp. 31. Bulletin No. 62: A Soil Survey of the Cadell Irrigation Area and New Era, South Australia. By T. J. Marshall and N. J. King. Pp. 24. (Melbourne: H. J. Green.)

University of Bristol. The Annual Report of the Agricultural and Horticultural Research Station (The National Fruit and Cider Institute), Long Ashton, Bristol, 1931. Pp. 204. (Bristol.)

Proceedings of the Malacological Society of London. Edited by R. Winckworth. Vol. 20, Part 2, July. Pp. 77-140+plates 9-11. (London: Dulau and Co., Ltd.) 10s. net.

Reports on Comparative Tests on "Armourplate" and ordinary Plate Glass by the National Physical Laboratory and the Department of Scientific and Industrial Research (Building Research). Pp. 48. (St. Helens: Pilkington Bros., Ltd.)

Economic Advisory Council: Committee on Locust Control. Fourth Report: Survey of Locust Investigations in 1931 and Programme of Work for 1932-33. (Cmd. 4124.) Pp. 43. (London: H.M. Stationery Office.) 1s. net.

FOREIGN

The University of Colorado Studies. Vol. 19, No. 3. Pp. 163-355. (Boulder, Colo.) 1 dollar.

U.S. Department of Commerce: Coast and Geodetic Survey. Special Publication No. 175: First and Second Order Triangulation in Oregon (1927 Datum). By Clarence H. Swick. Pp. iii+89. (Washington, D.C.: Government Printing Office.) 10 cents.

Proceedings of the American Philosophical Society. Vol. 71, No. 3. Pp. 73-133. (Philadelphia.)

University of California Publications in American Archaeology and Ethnology. Vol. 31, No. 3: Ethnography of the Surprise Valley Paiute. By Isabel T. Kelly. Pp. iv+67-210+plates 17-32. (Berkeley, Calif.: University of California Press.) 2 dollars.

U.S. Department of the Interior: Office of Education. Bulletin, 1932, No. 3: Studies of Teachers and Principals employed in the Rural Schools of the United States. By Walter H. Gaumnitz. Pp. iv+122. Bulletin, 1931, No. 20: Biennial Survey of Education in the United States, 1928-1930. Chapter 22: Recent Progress and Condition of Museums. By Laurence Vail Coleman. Pp. 34. (Washington, D.C.: Government Printing Office.)

U.S. Department of Commerce: Bureau of Standards. Bureau of Standards Journal of Research. Vol. 8, No. 5, May, Research Papers Nos. 434-445. Pp. 549-668. (Washington D.C.: Government Printing Office.)

Verhandlungen und wissenschaftliche Abhandlungen des 24 Deutschen Geographentages zu Danzig 26 bis 28 Mai 1931. Pp. 272. (Breslau: Ferdinand Hirt.) 12 gold marks.

Memoirs of the College of Science, Kyoto Imperial University, Series B, Vol. 7, No. 1. Pp. 53+3 plates. Vol. 7, No. 2. Pp. 55-101+plate 4. Vol. 7, No. 3. Pp. 103-158+plates 5-14. Vol. 7, No. 4. Pp. 159-203+plates 15-17. Vol. 7, No. 5. Pp. 205-250+plates 18-19. (Tokyo and Kyoto: Maruzen Co., Ltd.)

Collection des travaux chimiques de Tchecoslovaquie. Rédigée et publiée par E. Votoček et J. Heyrovský. Année 4, No. 6, Juin. Pp. 239-284. (Prague: Regia Societas Scientiarum Bohemica.)

Journal of the Faculty of Science, Hokkaido Imperial University. Series 1: Mathematics. Vol. 1, No. 3. Pp. 157-209+143-157. (Sapporo.)

Report on Clove Cultivation in the Zanzibar Protectorate, 1931. By Prof. R. S. Troup. Pp. iii+46. (Zanzibar: Government Printer.)

Sudan Government: Wellcome Tropical Research Laboratories, Khartoum. Report of the Government Chemist for the Year 1931. (Chemical Section, Publication No. 65.) Pp. 28. (Khartoum.)

The Museum Journal. Vol. 23, No. 2: Primitive Peoples of Matto Grosso, Brazil. By V. M. Petrullo. Pp. 81-184. (Philadelphia: University Museum.)

U.S. Department of the Interior: Office of Education. Bulletin, 1932, No. 5: Education in Belgium. By James F. Abel. Pp. vii+145+8 plates. Bulletin, 1932, No. 7: The Legal Status of the County Superintendent. By Prof. N. William Newsom. Pp. vi+42. (Washington, D.C.: Government Printing Office.)

United States National Museum. Bulletin 161: The Foraminifera of the Tropical Pacific Collections of the *Albatross*, 1899-1900. Part 1: Astrohizidæ to Trochamminidæ. By Joseph Augustine Cushman. Pp. vi+88+17 plates. (Washington, D.C.: Government Printing Office.)

Uganda Protectorate. Annual Report of the Geological Survey Department for the Year ended 31st December 1931. Pp. 20. (Entebbe: Government Printer.) 2s.

Field Museum of Natural History. Zoological Series, Vol. 18, No. 9: Reptiles and Amphibians from the Solomon Islands. (Reports on Results of the Crane Pacific Expedition.) By Karl P. Schmidt. (Publication 311.) Pp. 173-190. (Chicago.) 35 cents.

CATALOGUES

- Astronomical Instruments. (Astro. 103E.) Pp. 16. (Berlin-Friedenau: Askania-Werke A.-G.; London: O. G. Karlowa.)
- Cambridge Draught and Pressure Gauges (Indicating and Recording). (List No. 152A.) Pp. 8. (London: Cambridge Instrument Co., Ltd.)
- John G. Stein and Co., Limited, Silica and Firebrick Manufacturers. Pp. 136. (Bonnybridge.)