

almost equivalent, so that paraffin derivatives containing only these substituents yield vibration spectra of a different type (corresponding with higher molecular symmetry) from those of analogous derivatives with the substituents SH, Cl, Br, etc.—Friedrich Lechner: Studies on the Raman effect (20). Theory of the valency force system with three mass points.

### Forthcoming Events

#### MONDAY, JULY 4

ROYAL INSTITUTION (General Meeting at the Institution, 21 Albemarle Street, London, W.1), at 5 P.M.

#### FRIDAY, JULY 8

PHYSICAL SOCIETY OF LONDON (Special General Meeting at the Imperial College of Science and Technology, South Kensington, S.W.7), at 5 P.M.

#### SATURDAY, JULY 9

SOCIETY OF CHEMICAL INDUSTRY—South Wales Section (Special Joint Meeting with the South Wales Section of the Institute of Chemistry at the laboratories of the Cardiff Gas, Light and Coke Company, Bute Terrace, Cardiff), at 3 P.M.

### Official Publications Received

#### BRITISH

The Quarterly Journal of the Geological Society of London. Vol. 88, Part 2, No. 350. Pp. 111-311. (London: Longmans, Green and Co., Ltd.) 7s. 6d.

Report of the Haffkine Institute for the Year 1930. By Major L. A. P. Anderson. Pp. 76. (Bombay: Government Printing and Stationery Office.) 6 annas; 8d.

Journal of the Chemical Society. May. Pp. v+1333-1641+x. (London: Chemical Society.)

Armstrong College, Newcastle-upon-Tyne: Standing Committee for Research. Report, Session 1930-1931. Pp. 36. (Newcastle-upon-Tyne.)

The Scientific Proceedings of the Royal Dublin Society. Vol. 20, N.S., Nos. 13-20: On Alginic Acid, its Mode of Occurrence and its Constitution, by Dr. Thomas Dillon and Annie McGuinness; The Performance of a Reservoir subjected to Flood, by H. H. Jeffcott; Cytological Studies of Potato Plants affected with certain Virus Diseases, by Dr. Phyllis Clinch; The Effect of an Insufficient Supply of Vitamin D on the Growth of the Skeleton and Internal Organs of Chickens, by E. J. Sheehy and Miss K. Sheil; Report on the Recent Bog-Flow at Glencullin, Co. Mayo, by A. D. Delap, A. Farrington, R. Lloyd Praeger and Louis B. Smyth; A Critical Review of some Recent Work on the Occurrence of Virus Complexes in the Potato, by Dr. Paul A. Murphy; Electrical Properties of Oil-Water Emulsions, with Special Reference to the Structure of the Plasmatic Membrane, II, by Prof. Herbert H. Dixon and Dr. T. A. Bennet-Clark; The Compound Nature of Crinkle, and its Production by means of a Mixture of Viruses, by Dr. Paul A. Murphy and Robert M'Kay. Pp. 129-247+plates 4-12. (Dublin: Hodges, Figgis and Co.; London: Williams and Norgate, Ltd.) 12s.

Imperial Bureau of Plant Genetics: Herbage Plants. Bulletin No. 7: Further Contributions on the Technique employed in the Breeding of Herbage and Forage Plants. Pp. 33+4 plates. (Aberystwyth: Agricultural Buildings.) 2s.

The Film in National Life: being the Report of an Enquiry conducted by the Commission on Educational and Cultural Films into the Service which the Cinematograph may render to Education and Social Progress. Pp. xii+204. (London: George Allen and Unwin, Ltd.)

Memoirs of the Royal Meteorological Society. Title-Page, Contents, Summaries and Discussion, Vol. 2, Memoirs Nos. 11-20, 1927-1928. Pp. iv+173-185. (London: Edward Stanford, Ltd.) 2s. 6d.

Air Ministry: Aeronautical Research Committee: Reports and Memoranda. No. 1449 (S. 100): Anchors for use on Flying Boats. By L. P. Coombes and the Experimental Staff of the Marine Aircraft Experimental Establishment, Felixstowe. Pp. 14+10 plates. 1s. 3d. net. No. 1421 (T. 3053, 3178): Spinning of a Single Seater Fighter with Deepened Body and Raised Tailplane. Part 1: Model Experiments, by H. B. Irving and A. S. Batson; Part 2: Full Scale Spinning Tests, by A. V. Stephens. Pp. 16+20 plates. 1s. 3d. net. No. 1443 (T. 3164 and "a"): Wind Tunnel Tests on Aileron Loads. By F. B. Bradfield, G. F. Midwood and F. R. C. Hounsfield. Pp. 20+25 plates. 1s. 3d. net. (London: H.M. Stationery Office.)

Memoirs and Proceedings of the Manchester Literary and Philosophical Society. Vol. 75, 1930-31. Pp. iv+117+lxix. (Manchester.) 10s.

Proceedings of the Royal Society. Series A, Vol. 136, No. A830, June 1. Pp. 465-766. (London: Harrison and Sons, Ltd.) 12s. 6d.

Transactions of the Optical Society. Vol. 33, 1931-32. No. 2. Pp. ii+37-72. (London: Optical Society.) 12s.

Royal Observatory, Hong Kong. The Climate of Hong Kong, 1884-1929. By T. F. Claxton. (Appendix to Hong Kong Observations, 1931.) Pp. 88+31 plates. (Hong Kong.)

Commonwealth of Australia. Fifth Annual Report of the Council for Scientific and Industrial Research for the Year ended 30th June 1931. Pp. 54. (Canberra: H. J. Green.)

The Economic Botany of Cacao: a Critical Survey of the Literature to the end of 1930. By Prof. E. E. Cheesman. Pp. 16. (Trinidad: Government Printing Office.) 1s.

Report of the Astronomer Royal to the Board of Visitors of the Royal Observatory, Greenwich, read at the Annual Visitation of the Royal Observatory, 1932 June 4. Pp. 19. (Greenwich.)

Commonwealth Bureau of Census and Statistics, Canberra. Official Year Book of the Commonwealth of Australia. No. 24, 1931. Compiled by Chas. H. Wickens. Pp. xxxii+898. (Canberra: H. J. Green.) 5s.

Proceedings of the Royal Irish Academy. Vol. 40, Section B, No. 15: The Fens of North Armagh. By J. M. White. Pp. 233-288+plate 6. (Dublin: Hodges, Figgis and Co.; London: Williams and Norgate, Ltd.) 2s. 6d.

#### FOREIGN

Proceedings of the Academy of Natural Sciences of Philadelphia, Vol. 84, West Mexican and Central American Mollusks collected by H. N. Lowe, 1929-31. By H. A. Pilsbry and H. N. Lowe. Pp. 33-144+17 plates. A Collection of Birds from Southwestern Africa. By Rodolphe Meyer de Schauensee. Pp. 145-202+plates 18-26. The Name of *Lophoceros bradfieldi* from Bechuanaland and Rhodesia. By Rodolphe Meyer de Schauensee. P. 203. (Philadelphia.)

Smithsonian Miscellaneous Collections. Vol. 87, No. 8: Graphic Correlation of Radiation and Biological Data. By F. S. Brackett. (Roebling Fund.) (Publication 3170.) Pp. 8. (Washington, D.C.: Smithsonian Institution.)

Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. 83, 1931. Pp. iii+487+41 plates. (Philadelphia.) 6.25 dollars.

Conseil Permanent International pour l'Exploration de la Mer. Faune Ichthyologique de l'Atlantique nord. Publiée sous la direction de Prof. Jouin. No. 9. 24 planches. 4.00 kr. No. 10. 24 planches. 4.00 kr. (Copenhagen: Andr. Fred. Høst et fils.)

Proceedings of the Imperial Academy. Vol. 8, No. 4, April. Pp. vii-viii+113-141. (Tokyo.)

Statens Meteorologisk-Hydrografiska Anstalt. Årsbok, 11, 1929. iii. Vattenstånd vid Rikets kuster. Pp. 21. 2.00 kr. Årsbok, 11, 1929. iv. Meteorologiska iakttagelser i Sverige, Band 71. Pp. x+179. 7.00 kr. Årsbok, 12, 1930. v. Hydrografiska mätningar i Sverige. Pp. 40. 8.00 kr.

Årsbok, 13, 1931. i. Månadsöversikt över väderlek och vattentillgång jämte anstaltens årsberättelse. Pp. 94. 2.50 kr. (Stockholm.)

Collection des travaux chimiques de Tchecoslovaquie. Rédigée et publiée par E. Votoček et J. Heyrovský. Année 4, No. 3, Mai. Pp. 193-238. (Prague: Regia Societas Scientiarum Bohemica.)

Ministry of Public Works, Egypt: Physical Department. Meteorological Report for the Year 1926. Pp. xi+156. (Cairo: Government Press.) 40 P.T.

League of Nations' Intellectual Co-operation Organisation. Information Bulletin, Vol. 1, No. 1, April. Pp. 32. (Paris.) 1s.

Smithsonian Miscellaneous Collections. Vol. 87, No. 9: Periodicity in Solar Variation. (Roebling Fund.) By C. G. Abbot and Gladys T. Boud. (Publication 3172.) Pp. ii+14+2 plates. (Washington, D.C.: Smithsonian Institution.)

Journal of the Faculty of Agriculture, Hokkaido Imperial University. Vol. 33, Part 1: Studies on the Morphology and Ecology of the Rice Leaf-Beetle, *Lema oryzae* Kuwayama, with Special Reference to the Taxonomic Aspects. By Satoru Kuwayama. Pp. 132+4 plates. (Tokyo: Maruzen Co., Ltd.)

Publications of the Allegheny Observatory of the University of Pittsburgh. Vol. 9. Pp. iii+213. (Pittsburgh, Pa.)

Science Reports of the Tokyo Bunrika Daigaku, Section B. No. 1: Über die Farbbarkeit der fixierten Zellstrukturen. Von Gihai Yamah. Pp. 21. 25 sen. No. 2: Zur Kenntnis der Algininsäure. I. Von Tomoo Miwa. Pp. 23-37. 23 sen. No. 3: On the Sexual Reproduction of *Prasiola japonica* Yatabe. By Yoshitada Yabe. Pp. 39-40+1 plate. 10 sen. (Tokyo: Maruzen Co., Ltd.)

National Research Council of Japan. Report No. 8-9, April 1928-March 1930. Pp. iii+229-350. (Tokyo.)

Proceedings of the Delaware County Institute of Science. Vol. 9, No. 4. Pp. 153-204. (Media, Pa.)

Peking Natural History Bulletin. Vol. 6, Part 4: Chinese Materia Medica. vi: Avian Drugs. By Bernard E. Read. Pp. 112. (Peiping: The French Book Store.) 1.50 dollars.

The Science Reports of the National Tsing Hua University. Vol. 1, No. 4, May. Pp. 129-157. (Peiping.)

Egyptian Government: Ministry of Public Works. Annual Report for the Year 1927-1928. Part 1. Pp. vi+166. (Cairo: Government Press.) 20 P.T.

Publications of the Manila Observatory. Vol. 3, Nos. 1-10: Oceanographic Papers. Report of the Subcommittee on Physical and Chemical Oceanography of the Philippine Islands to the International Committee on Oceanography of the Pacific Science Congress. By Rev. Miguel Seiga, Rev. Wm. C. Repetti, Wallace Adams. Pp. 210. (Manila: Bureau of Printing.)

Report of the National Research Council for the Year July 1, 1930-June 30, 1931. Pp. iv+92. (Washington, D.C.: Government Printing Office.)

#### Editorial and Publishing Offices:

MACMILLAN & CO., LTD.

ST. MARTIN'S STREET, LONDON, W.C.2

Editorial communications should be addressed to the Editor  
Advertisements and business letters to the Publishers

Telephone Number: WHITEHALL 8831

Telegraphic Address: PHUSIS, LESQUARE, LONDON