

ELVIRA STEFFAN: Problem of the disintegration of aluminium, treated by the photographic method. JOSEF SCHINTLMÄISTER: The question of the existence of unknown natural  $\alpha$ -rays. These rays, of range  $R_{15} = 2.2$  cm., occur always in conjunction with samarium and exhibit marked chemical affinity with this element. The carrier of the activity observed is most probably thulium or, at any rate, element No. 61. HEINRICH MACHE and GEORG MARKSTEIN: Output of emanation to water flowing over radium-containing rocks. The view has been expressed that, owing to the slight capacity of rocks for occluding indifferent gases, the quantity of emanation passing into spring water per unit of time and per unit of rock-surface must be independent of the concentration of the emanation present in the water. Experimental results now obtained agree with this view. RUDOLF KANITSCHIEDER: Terrestrial magnetic observations of the Austrian Polar Expedition to Jan Mayen, 1932-33. The results obtained for 1933.0 are: declination,  $-22^{\circ} 40'$ ; horizontal intensity, 11,700 $\gamma$ ; vertical intensity, 50,400  $\gamma$ . H. L. WERNECK: Phenology of Upper Austria, 1926-30. OTTO FÜRTH and HEINZ HERRMANN: Colour reactions of tartaric, citric and aconitic acids. When heated with pyridine and acetic anhydride, citric acid gives a carmine, aconitic acid a violet-red, and tartaric acid an emerald-green coloration. J. P. REIMER: Nebulae in the region of  $\alpha$ -Persei. HANS KRUMPHOLZ: Course of the brightness of Nova (1934) Hercules to the beginning of April 1935. FRANZ RINAGL: Flow limits and bending. ARMIN DADIEU and WOLF ENGLER: Raman spectra of  $C_2H_5SeH$  and  $C_2H_5SeD$ . The frequencies for the  $SeH$  ( $2303$   $cm^{-1}$ ) and  $SeD$  ( $1665$   $cm^{-1}$ ) vibrations agree well with those previously found for  $SeH_2$  ( $2313$   $cm^{-1}$ ) and  $SeD_2$  ( $1665$   $cm^{-1}$ ). ARMIN DADIEU and OTTO KERMAUNER: Structure of half-heavy acetylene. Comparison of the Raman spectra of  $C_2H_2$ ,  $C_2D_2$ , and a product obtained from  $CH_3CN$  and  $D_2O$  indicates that this product contains about 50 per cent of  $C_2HD$ , with 25 per cent each of  $C_2H_2$  and  $C_2D_2$ . The product of the reaction of  $C_2N_2$  with a mixture of  $D_2O$  and  $H_2O$  in equal proportions gives a spectrum identically the same. ALFONS KLEMENC, R. WECHSBERG and G. WAGNER: Preparation of carbon suboxide. The separation of carbon suboxide from its mixture with carbon dioxide and keten, obtained from diacetyl-tartaric anhydride, is described. MORITZ KOHN: Action of oxalates on blue iron-cyanogen compounds. OTTO DISCHENDORFER and AUGUST VERDINO: 2:6-Dibenzoylhydroquinone. K. W. F. KOHLRAUSCH and GR. PRINZ YPSILANTI: Raman effect (45). Raman spectrum of organic substances (polysubstituted benzenes, 7). The substances examined were of the type,  $X.C_6H_4.OCH_3$ , where  $X = NH_2, OH, CH_3, F, Cl, Br, I, or CN$ . A. PONGRATZ and R. SEKA: Raman spectra of benzenepolycarboxylic esters. Methyl and ethyl iso- and tere-phthalates, and trimethyl benzeno-1:2:3-tricarboxylate were examined. The C-C ring linkings behave similarly to those in open-chain unsaturated compounds. K. W. F. KOHLRAUSCH and W. STOCKMAIR: Raman spectra of nucleus-substituted ethyl benzoate. The substituents were  $NH_2, OH, Cl, Br, NO_2$ . EUGEN GUTH: Theory of the scattering of charged particles at atomic nuclei (with a special application to the scattering of protons at protons). KARL SCHWARZ: Transport number and valency of silver in silver amalgam. VICTOR F. HESS: Daily course of cosmic ultra-radiation. Wagner's criticisms are discussed.

## Forthcoming Events

IRON AND STEEL INSTITUTE, September 16-18. Autumn meeting to be held in Manchester.

ASSOCIATION OF SPECIAL LIBRARIES AND INFORMATION BUREAUX, September 20-23.—Annual conference to be held in St. John's College, Cambridge.

Sir Richard Gregory: "Interpretation of Science" (Presidential Address).

## Official Publications Received

### Great Britain and Ireland

Scottish Society for Research in Plant Breeding. Report by the Director of Research to the Annual General Meeting, 25th July, 1935. Pp. 29. (Edinburgh: Scottish Society for Research in Plant Breeding.) Queen Mary College (University of London). Calendar, Session 1935-1936. Pp. 260. (London: Queen Mary College.) 1s.

Proceedings of the Royal Irish Academy. Vol. 42, Section A, No. 3: A New Method for counting Atmospheric Ions and determining their Mobilities. By J. J. Nolan and P. J. Nolan. Pp. 15-19. Vol. 42, Section A, No. 4: Vortex Polygons. By W. B. Morton. Pp. 21-29. 1s. Vol. 42, Section No. 5: The Faraday Dark Space. By K. G. Emeleus. Pp. 31-36. Vol. 42, Section B, Nos. 10, 11, 12: The Physiological Basis of the Sensation of Cold. 1: The Influence of the Initial Skin Temperature on the Excitability of the Cold Organs, by J. M. O'Connor; 2: The Analogy between Human Cold Sensations and Shivering in the Rabbit, by J. M. O'Connor, M. Moriarty and O. Fitzgerald; 3: The Influence of the Body Temperature on the Resting Oxygen Consumption—A Metabolic Analogy to Cold Sensations, by J. M. O'Connor. Pp. 327-357. 1s. Vol. 42, Section B, No. 13: Some 2,4-Derivatives of Thiophene. By R. O. Cinnéide. Pp. 359-363. Vol. 42, Section B, No. 14: Excretion of Glucose by the Rabbit Kidney. By T. W. T. Dillon and R. O'Donnell. Pp. 365-405. 1s. 6d. (Dublin: Hodges, Figgis and Co.; London: Williams and Norgate, Ltd.)

London County Council. Lectures and Classes for Teachers: Handbook for the Session 1935-36. Pp. 83. (London: London County Council.)

Sixth Report on the Heterogeneity of Steel Ingots: being a Report by a Joint Committee of the Iron and Steel Institute and the British Iron and Steel Federation to the Iron and Steel Industrial Research Council. (Special Report No. 9.) Pp. vi+236+37 plates. Waste-Heat Boilers in Open-Hearth Practice: Second Report of the Open-Hearth Committee, being a Committee of the Iron and Steel Industrial Research Council. (Special Report No. 10.) Pp. iii+73+2 plates. (London: Iron and Steel Institute.)

### Other Countries

U.S. Department of the Interior: National Park Service. Fauna of the National Parks of the United States: Wildlife Management in the National Parks. By George M. Wright and Ben H. Thompson. (Contribution of Wildlife Division, Fauna Series, No. 2.) Pp. viii+142. (Washington, D.C.: Government Printing Office.) 20 cents.

Ministry of Agriculture, Egypt: Technical and Scientific Service. Bulletin No. 146: Egyptian Plant Diseases, a Summary of Research and Control. By G. Howard Jones. Pp. v+45+8 plates. 5 P.T. Bulletin No. 152: An Analysis of the Factors governing the Response to Manuring of Cotton in Egypt. By David S. Gracie and Dr. Fahmy Khalil, in collaboration with Hussein Enan. Pp. v+71+12 plates. 10 P.T. (Cairo: Government Press.)

Conseil Permanent International pour l'Exploration de la Mer. Rapports et procès-verbaux des réunions. Vol. 94, Partie 1: Procès-verbaux (Mai 1935). Pp. 55. 3.00 kr. Vol. 94, Part 3: Appendices (1934-1935). Pp. 77. 3.50 kr. (Copenhagen: Andr. Fred. Hest et fils.)

Commonwealth of Australia: Council for Scientific and Industrial Research. Pamphlet No. 55: The Selection, Preservation, Distribution and Identification of Australian Pole Timbers. By J. E. Cummins and H. E. Dadswell. (Division of Forest Products: Technical Paper No. 17.) Pp. 79+7 plates. Pamphlet No. 57: Tests of the Efficacy of the Oxy-Acetylene Scouring and Charring Process for Sterilising Partly Decayed Poles. By J. E. Cummins. (Division of Forest Products: Technical Paper No. 18.) Pp. 43. (Melbourne: Government Printer.)

Forest Department: Trinidad and Tobago. Leaflet No. 6: Notes on Insect Attack on Mora (*Mora excelsa* Benth.) in Trinidad. By C. Swabey. Pp. 39. (Trinidad: Government Printing Office.) 6d.

Ingeniørvideenskabelige Skrifter. A, Nr. 39: A New Device for Direct Stream Field Studies and its Application; with an Appendix on the Pressure Distribution on a Triangular Prism. By Paul Neményi. Pp. 23. (Copenhagen: G. E. C. Gad.) 3.00 kr.

Journal of the Indian Institute of Science. Vol. 18A, Part 11: Hydrogen Ion Concentration of Lead Solutions. By D. N. Mehta and S. K. Kulkarni Jatkar. Pp. 75-83. 14 annas. Vol. 18A, Part 12: Studies in Antimony Electrode. By D. N. Mehta and S. K. Kulkarni Jatkar. Pp. 85-100. 1.4 rupees. Vol. 18A, Part 13: pH Control of Rotary Drilling Fluids. By D. N. Mehta and S. K. Kulkarni Jatkar. Pp. 101-107. 12 annas. (Bangalore: Indian Institute of Science.)

Ministry of Agriculture, Egypt: Technical and Scientific Service. Bulletin No. 152: An Analysis of the Factors governing the Response to Manuring of Cotton in Egypt. By David S. Gracie and Dr. Fahmy Khalil, in collaboration with Hussein Enan. Pp. iii+71+12 plates. (Cairo: Government Press.) 10 P.T.