

Contemporary Birthdays.

October, 24, 1854. Right Hon. Sir Horace C. Plunkett, K.C.V.O., F.R.S.

October 26, 1874. Prof. T. M. Lowry, C.B.E., F.R.S.

October 27, 1856. Prof. Ernest William Hobson, F.R.S.

October 28, 1868. Mr. Frederick William Lancaster, F.R.S.

October 29, 1868. Mr. Charles P. Eugène Schneider.

SIR HORACE PLUNKETT, sometime an Irish administrator, was born in Gloucestershire. He was educated at Eton and University College, Oxford. Soon after attaining his majority he worked at the development of a ranch in Montana, acquainting himself with all the details of American agricultural methods. Afterwards, Irish agriculture and industry engaged his whole-hearted energies for many years, with much practical issue. Chairman of the (then) Sub-Section of Agriculture at the British Association's Dublin meeting in 1908, Sir Horace gave a highly informative address, worthy of reference to-day, on "Science and the Problem of Rural Life."

Prof. LOWRY was born at Low Moor, Yorkshire. Educated at Kingswood School, Bath, he entered later the Central Technical College of the City and Guilds Institute, South Kensington. Here for seventeen years, from 1896, he held an assistantship to Prof. H. E. Armstrong, F.R.S. From 1912 until 1916 he was lecturer in chemistry at Guy's Hospital Medical School. In 1920 Prof. Lowry was appointed to the chair of physical chemistry in the University of Cambridge. Bakerian lecturer of the Royal Society in 1921 (in collaboration with Dr. P. C. Austin), he dealt with "Optical Rotatory Dispersion." On the same subject he discoursed in December 1925, before the Société de Chimie Physique, Paris, in exemplification of Biot's researches. Prof. Lowry is the author of two useful works, "Historical Introduction to Chemistry" (1915) and "Inorganic Chemistry" (1922).

Prof. HOBSON, Sadleiran professor of pure mathematics in the University of Cambridge, was born at Derby. Entering Christ's College, Cambridge, he graduated senior wrangler. The Royal Society awarded him a Royal medal in 1907 in respect of the fundamental character of his contributions to mathematics and mathematical physics, particularly with reference to the history and development of mathematics.

Mr. F. W. LANCHESTER, whose pioneer work and researches in aeronautics were recognised last year by the Royal Aeronautical Society in the award of its gold medal, and by his election as an honorary fellow, was educated privately and at the Royal College of Science, South Kensington. Early in his career he was technical adviser to the Birmingham Small Arms Company, and to the Daimler Company. From 1909 until 1920 he was a valued member of the Advisory Committee for Aeronautics.

Mr. C. P. EUGÈNE SCHNEIDER, ironmaster and metallurgist, owner, in family succession, of the famous Creusot Works in France, was nominated in 1917 president of the Iron and Steel Institute, and he held office for a year. It was a departure in procedure cordially and unanimously received. Distinguished specially in metallurgical research and practice, Mr. Schneider is also prominent as a scientific industrialist. In 1920-21 the Iron and Steel Institute published papers of his in its *Journal* on "An Investigation of various Forging Operations carried out under Hydraulic Presses."

Societies and Academies.

LONDON.

Society of Public Analysts, October 6.—A. Chaston Chapman: On the presence of compounds of arsenic in marine crustaceans and shellfish. Marine crustaceans and shellfish have been found to contain from 10 to 174 parts of arsenic (as As_2O_3) per million of the wet edible portions. Native oysters contained from 5 to 10 parts, and Portuguese oysters from 33 to 70 parts per million. In fresh-water fish, shellfish and crustaceans, the amounts of arsenic ranged from only about 0.4 to 1.5 parts per million. The arsenic in the marine animals is therefore derived from the sea water. Potted and canned crustacea and shellfish contained from 0.5 to 85 parts of arsenic per million. The arsenic in the urine of two experimental subjects was raised from the normal figure of about 1/200 grain per gallon to $\frac{1}{2}$ grain in one case, and $\frac{1}{3}$ grain in the other, after a meal of lobster.

—A. Chaston Chapman and H. Linden: On the presence of lead and other metallic impurities in marine crustaceans and shellfish. The following amounts of copper (parts per million of the dried edible portion) were found: lobster, 167; crab, 130; and whelks, 115. The amounts of lead ranged from 5 (whelk) to 25.6 (lobster). Native oysters contained from 12 to 400 parts and Portuguese oysters 10 to 307 parts of lead per million. Like the arsenic, these metallic impurities are probably derived from the sea water.—A. R. Tankard and D. J. T. Bagnall: The examination of fish for formaldehyde. Various kinds of fish gave a positive reaction in Schryvor's phenylhydrazine test, indicating the presence of 1 to 2 parts per million of formaldehyde. Since, however, trimethylamine (a common constituent of fish) can be readily oxidised to formaldehyde, a positive reaction does not necessarily indicate the presence of added formaldehyde. The reaction tends to be less marked when putrefaction of the fish has set in.—Karl Sandved: The potentiometric titration of tin with potassium bromate. The best results (error 0.5 per cent.) were obtained by oxidation of the stannous tin with antimony chloride or ferric chloride, and potentiometric titration of the reduction compound with potassium bromate. A method of determining tin in the presence of antimony has been devised, and the potentiometric titration of ferrous iron has been closely studied.—R. R. T. Young: The determination of nicotine in tobacco. Kellor's, Kissling's, and other methods have been critically examined. Accurate results are obtained by extracting the tobacco with a mixture of petroleum spirit, ether, and aqueous potash, shaking the ethereal extract with dilute (1:1) alcohol containing cochineal, adding excess of hydrochloric acid to the separated aqueous layer, and titrating with standard sodium hydroxide. Ammonia is best determined by distillation after precipitation of the nicotine with iodine, but little ammonia, if any, was present in the tobaccos examined.

PARIS.

Academy of Sciences, September 6.—Alfred Rosenblatt: The plane irrotational movements of incompressible viscous fluids.—H. Pélabon: Rectifying contacts. A detector consists essentially of the system metal-dielectric-metal. The thickness of the dielectric must be as small as possible and remain constant. Various practical means of satisfying these conditions are suggested.

September 13.—H. Deslandres: Remarks on the law of distribution in time of magnetic storms. The theory of corpuscular radiation appears to be

able to explain the greater part of solar phenomena.—Valère Glivenko: Surfaces of finite area.—Julius Wolff: A generalisation of a theorem of Schwartz.—Gossot and Liouville: The principles of interior ballistics.—V. N. Ipatief and B. A. Mouromtsef: The reduction of chromic combinations by hydrogen under pressure and at high temperatures.—F. Taradoire: The rapid oxidation of drying oils and antioxygens. With the exception of the nitroso derivatives of diphenylamine, none of the other organic antioxygen substances employed were sufficiently active to prevent the spontaneous inflammation caused by the oxidation of drying oils on cotton wool.—Raymond-Hamet: A supposed sympathicotropism of Uzara.—Methodi Popoff, Minco Dobreff, and George Paspaleff: The development of the eggs of the sea-urchin (*Strongylocentrotus lividus*) under the action of extracts of the pollen of the oak and of calla.

September 20.—Th. Got: A remarkable class of ruled surfaces.—A. Myller: Normal curvature and geodesic torsion.—George D. Birkhoff: The significance of the canonical equations of dynamics.—André Meyer: The catalytic rôle of mercury in the sulphonation of anthraquinone. To explain the catalytic influence of mercury on this sulphonation, Martinet and Roux have formulated an ingenious hypothesis. One deduction from this is that α -anthraquinone sulphonic acid should be transposed into the β -acid by simple heating with concentrated sulphuric acid. This the author is unable to confirm, the α -acid remaining unchanged under these conditions.—E. Kohn-Abrest and S. Kawakibi: Nitrates in animal and vegetable tissues. Details of a modification of Lunge's method of determining nitrates suitable for organic material.

SYDNEY.

Royal Society of New South Wales, September 1.—F. W. Booker: The internal structures of the Pentameridae of N.S. Wales. Brachiopod material was examined by means of serial thin sections, from 1 to 1.5 mm. apart. A new sub-genus, *Barrandina* (Synonym *Pentamerus linguifera*, var. *Wilkinsoni*, Eth. Fils 1892), containing two new species, *B. Wilkinsoni* and *B. Minor*, is described. A structure new to science is noted in the cruralium of these two species. It is also present in *Sieberella galeata*, Dalman, and *Sieberella glabra*, Mitchell, but not in *Pentamerella (Barrandella) Molongensis*, Mitchell.—M. B. Welch: The wood structure of certain eucalypts belonging chiefly to the ash group. The woods of seven species of eucalyptus are described in detail. In common with other members of the genus, the woods are practically diffuse-porous, though growth rings are more prominent in certain of these species than in most. The vessels possess simple end perforation. Transition forms occur between the fibre-tracheids, making up the bulk of the woody tissue, and the typical tracheids. Wood parenchyma is usually not abundant and is chiefly vasicentric.

Official Publications Received.

BRITISH AND COLONIAL.

Journal of the Indian Institute of Science. Vol. 9A, Part 2: Vegetable Oils containing Glycerides of Erucic Acid. By J. J. Sudborough, H. E. Watson and P. Ramaswami Ayyar. Pp. 25-70+2 plates. 2s. rupees. Vol. 9A, Part 3: The Production of Ether by Solid Catalysts. By S. K. Kulkarni Jatkari and H. E. Watson. Pp. 71-109+4 plates. 3 rupees. Vol. 9A, Part 4: The Constituents of some Indian Essential Oils. Part 13: Derivatives of Abietic Acids. By Madyar Gopal Rau and John Lionel Simonsen. Pp. 111-116+3 plates. 8 annas. (Bangalore.)

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Transactions of the Royal Society of Edinburgh. Vol. 54, Part 3, No. 17: Some new Ordovician and Silurian Fossils from Girvan. By Dr. F. R. Cowper Reed. Pp. 785-789+1 plate. 1s. Vol. 54, Part 3, No. 18: The Geology of Jan Mayen. By J. M. Wordie. Pp. 741-745+2 plates. 1s. 6d. Vol. 54, Part 3, No. 20: Calamoichthys calabaricus J. A. Smith. Part 1: The Alimentary and Respiratory Systems. By G. Leslie Purser. Pp. 767-784+1 plate. 2s. 6d. Vol. 54, Part 3, No. 21: Contributions to the Study of the Old Red Sandstone Flora of Scotland. iii: On *Hostimella* (Phlophyton) Thomsoni, and its Inclusion in a new Genus, *Milleria*; iv: On a Specimen of *Protolopodendron* from the Middle Old Red Sandstone of Caithness; v: On the Identification of the large 'Stems' in the Carnyllie Beds of the Lower Old Red Sandstone as Nematophyton. By Dr. W. H. Lang. Pp. 785-799+2 plates. 5s. 6d. (Edinburgh: Robert Grant and Son; London: Williams and Norgate, L. d.)

Department of Agriculture, Ceylon. Bulletin No. 76: Supplement No. 1 to the Guide to the Central Experiment Station, Peradeniya, issued as Bulletin No. 70. Pp. 24. (Peradeniya.) 40 cents.

Botanical Survey of South Africa. Memoir No. 7: The Native Timber Trees of the Springbok Flats. By Ernest E. Galpin. Pp. 26+26 plates. (Pretoria: Government Printing and Stationery Office.)

Department of Science and Agriculture, Jamaica. Microbiological Circular No. 5: Panama Disease in Jamaica. By C. G. Hansford. Pp. ii+35. (Kingston, Jamaica: Government Printing Office.)

University of London: University College. Calendar, Session 1926-1927 (Centenary Year). Pp. clxxx+10+475+44. (London: Taylor and Francis.)

The Journal of the Institution of Electrical Engineers. Edited by P. F. Rowell. Vol. 64, No. 358, October. Pp. 989-1092+xxx. (London: E. and F. N. Spon, Ltd.) 10s. 6d.

Engineering Abstracts from the Current Periodical Literature of Engineering and Applied Science, published outside the United Kingdom. Published by the Institution of Civil Engineers with the Co-operation of other Engineering Societies in Great Britain and the Dominions. New Series, No. 29, October. Pp. 221. (London: The Institution of Civil Engineers.)

FOREIGN.

Transactions of the Astronomical Observatory of Yale University. Vol. 3, Part 4: Catalogue of 1275 Stars; Re-observation by Means of Photography of Astronomische Gesellschaft Stars between Declinations $+1^\circ$ and $+2^\circ$, reduced to 1875.0 without applying Proper Motions. By Frank Schlesinger, with the collaboration of C. J. Hudson, Louise Jenkins and Ida Barney. Pp. 135-151. Vol. 3, Part 5: Complement to the Tables of the Motion of the Moon, containing the Remainder Terms for the Century 1800-1900, and Errata in the Tables. By Ernest W. Brown, with the assistance of H. B. Hedrick. Pp. 155-204. Vol. 3, Part 6: The Evidence for Changes in the Rate of Rotation of the Earth and their Geophysical Consequences, with a Summary and Discussion of the Deviations of the Moon and Sun from their Gravitational Orbits. By Ernest W. Brown. Pp. 205-235+3 plates. (New Haven, Conn.)

Department of Commerce: Bureau of Standards. Scientific Papers of the Bureau of Standards, No. 530: Establishment of Radio Standards of Frequency by the Use of a Harmonic Amplifier. By C. B. Joffille and Grace Hazen. Pp. 177-189. (Washington, D.C.: Government Printing Office.) 10 cents.

Rapport annuel sur l'état de l'Observatoire de Paris pour l'année 1925, présenté au conseil dans sa séance du 6 mars 1926. Pp. 26. (Paris.)

Cornell University Agricultural Experiment Station. Bulletin 449: Biology and Control of the White-Pine Weevil, *Pissodes strobi* Peck. By Samuel A. Graham. Pp. 32. Memoir 97: Calcium Sulfate as a Soil Amendment. By M. H. Cubbon. Pp. 51. (Ithaca, N.Y.)

Jahresbericht der Hamburger Sternwarte in Bergedorf für das Jahr 1925. Nebst einer Übersicht über die meteorologischen Beobachtungen 1919-1925. Pp. 34. (Bergedorf.)

Astronomische Abhandlungen der Hamburger Sternwarte in Bergedorf. Band 2, Nr. 7: Beiträge zur physischen Untersuchung der grossen Planeten. 3: Beobachtungen und Zeichnungen des Planeten Mars während der Perihelopposition 1924 ausgeführt am 60 cm-Refraktor der Hamburger Sternwarte in Bergedorf. Von K. Graff. Pp. 30+12 Tafeln. (Bergedorf.)

Mitsuru Kuhara's On the Beckmann Rearrangement. Edited by Prof. Shigeru Komatsu. Pp. v+83. (Kyoto: Kyoto Imperial University.)

Festschrift der Zentralanstalt für Meteorologie und Geodynamik zur Feier ihres 75-jährigen Bestandes im Jahre 1926. Herausgegeben von der Akademie der Wissenschaften in Wien unter Mitwirkung der Zentralanstalt für Meteorologie und Geodynamik. Pp. v+195. (Wien.)

Report of the National Research Council for the Year July 1, 1923-June 30, 1924. Pp. iv+59-95+129-205. Report of the National Research Council for the Year July 1, 1924-June 30, 1925. Pp. iv+106. (Washington, D.C.: Government Printing Office.)

American Museum of Natural History. Guide Leaflet Series No. 64: Meteorites, Meteors and Shooting Stars. By Frederic A. Lucas. Pp. 24. (New York City.)

Year Book of the Michigan College of Mines, 1925-1926, Houghton, Michigan. Announcement of Courses, 1926-1927. Pp. 11. (Houghton, Mich.)

The American Journal of Hygiene. Monographic Series, No. 6, September: The School of Hygiene and Public Health of the Johns Hopkins University. Pp. iii+55. (Baltimore, Md.) Free.

Sveriges Geologiska Undersökning. Årsbok, 1924. Motsvarande No. 820-833 av Ser. C. (Avhandlingar och Uppsatser.) Pp. ii+96+129+130+34+20+11. (Stockholm.) 850 kr.

Publication No. 587: A Decade of Progress in the Design and Manufacture of Scientific Optical Instruments and Apparatus. Pp. 20. (York and London: Cooke, Troughton and Simms, Ltd.)

Price List for 1926-7. Pp. 28. (London: Dubilier Condenser Co., 1925) Ltd.)

Microscopical Illuminating Apparatus. Pp. 32. (London: Ogilvy and Co.)