

Contemporary Birthdays.

- October 5, 1861. Sir Thomas L. Heath, K.C.B., K.C.V.O., F.R.S.
 October 7, 1842. Sir Philip Magnus, Bart.
 October 8, 1850. Prof. Henry Louis le Chatelier, For. Mem. R.S.
 October 8, 1857. Sir Richard C. Garton, G.B.E.
 October 9, 1879. Prof. Max T. F. von Laue.
 October 9, 1863. Prof. Albert Charles Seward, F.R.S.

Sir THOMAS HEATH, who was born in Lincolnshire, was educated at Caister Grammar School and Clifton College, passing thence to Trinity College, Cambridge, where he graduated 12th wrangler, whilst also acquiring distinction in classical studies. Entering the public service, he was early attached to H.M. Treasury, fulfilling successively the highest offices. Since 1919 he has been Comptroller-General, National Debt Office. Among many dissertations and works, he is the author of "A History of Greek Mathematics" (2 vols., 1921). Sir Thomas is an honorary fellow of Trinity College, Cambridge, and Hon. D.Sc. Oxford.

Sir PHILIP MAGNUS, to whom very hearty congratulations are due on the approaching anniversary of his eighty-fourth birthday, was educated at University College School, graduating thence at the University of London. Organising director and secretary of the City and Guilds of London Institute from 1880 until 1888, he was afterwards and for nearly thirty years the able and zealous secretary of its Technology Department.

Prof. LE CHATELIER'S name is associated with important discoveries in several branches of chemistry. In conjunction with Mallard he conducted elaborate investigations on the ignition and explosion of gaseous mixtures, in which principles of fundamental importance were established. His thermo-electric couple inaugurated a new period in the measurement of high temperatures. One of the pioneers of micro-metallurgy, he was among the first to introduce exact methods into the science of industrial silicates. Prof. le Chatelier was elected a foreign member of the Royal Society in 1913, and allotted the distinction of its Davy medal in 1916, in respect of his eminence as a chemist.

Sir RICHARD GARTON was educated at Owens College, Manchester, and the University of Marburg. As honorary secretary of the British Empire Cancer Campaign he has carried out work of widespread importance.

Prof. MAX VON LAUE, Nobel laureate, 1915, was born at Pfaffendorf, near Coblenz. His studies were conducted at the Universities of Strasbourg, Munich and Berlin. In 1912 he occupied a chair in the University of Zurich, and was afterwards at Frankfurt. Since 1919 he has been professor of theoretical physics in the University of Berlin. Prof. Max von Laue was allotted the Nobel prize in physics for 1915, for his discovery of the diffraction of Röntgen rays in crystals.

Prof. SEWARD, Master of Downing College, Cambridge, professor of botany in and vice-chancellor of the University, was educated at Lancaster Grammar School and St. John's College, Cambridge. The Royal Society awarded Prof. Seward a Royal Medal last year for his fruitful studies in palæobotany, which have proved of direct stratigraphical value to geologists, enabling the principles and facts of one science to aid, and even solve, the problems of another.

NO. 2970, VOL. 118]

Societies and Academies.

PARIS.

Academy of Sciences, August 30.—Bigourdan: The regularity of the diurnal movement and the possibility of verifying it by means of observatory clocks (see also NATURE, September 18, p. 425).—Boris Delaunay: The theory of parallelehedra.—G. Polya: The linear functional operations exchangeable with the derivation and the zeros of the sums of exponentials.—Mlle. N. Bary: The analytical representation of a class of continuous functions.—A. Kovanko: The integration of suites of functions capable of summation.—Kyrille Popoff: The convergence of series and celestial mechanics.—Krawtchouk: The method of N. Kriloff for the approximate integration of the equations of mathematical physics.—N. Bogoliouboff and N. Kriloff: The justification of Rayleigh's principle by the order of the error committed at the n th approximation.—Jacques Bourcart: An attempt at the morphological interpretation of the Bouches de Cattaro.—Lucien Daniel: Researches on the grafting of garlic and cabbage.—Antonin Němec: Chemical methods for determining if agricultural soils are in need of nitrogenous or potash manures. Details of the analytical methods and limits of nitrate and potash suitable for sugar beet, barley, and oats.—Raymond Hamet: The inversion of the normal action of adrenaline.—E. Ducloux and Mlle. G. Cordier: The virus of sheep scab treated with various aldehydes.

CAPE TOWN.

Royal Society of South Africa, August 18.—L. P. Bosman: The nature of the co-enzyme of lipase. The lipase extract (from sheep's pancreas) is dialysed against distilled water and the lipolytic actions of the dialysate and the 'inside' liquid on ethyl butyrate are studied. The inside liquid loses approximately 50 per cent. of its hydrolytic power. The dialysate, while having no hydrolytic power, when coupled with the inside liquid, restores the lipolytic power of the original extract. The dialysate was investigated and the so-called co-enzyme was found to be inorganic salts.—W. Rose and J. Hewitt: Description of a new species of *Xenopus* from the Cape Flats. The new species, *Xenopus gilli*, differs from *X. laevis* in that tentacles are not apparent and that there is in the mouth an organ which is either a posteriorly attached tongue or a deflated air-sac.—J. H. Power: Notes on the habits and life histories of South African Anura with descriptions of the tadpoles.—C. von Bönde: The vascular system of the Plagiostomi, with special reference to the common dogfish (*Squalus acutipinnis*, Regan). The author has previously worked out the morphology of the vascular system of the South African dogfish *S. acutipinnis* and it is now compared with the structure typical of the Plagiostomi in general. The absence of vascular loops round the gill-arches together with the absence of a precardiac extension of the dorsal aorta presents an interesting feature. The arterial circulation of the cephalic region also shows a distinctive difference from the normal distribution of the carotid arteries in the Plagiostomi.—Neville S. Pillans: The African genera and species of Restionaceae.—H. G. Fourcade: A new method of aerial surveying.

ROME.

Royal National Academy of the Lincei: Communications received during the holidays.—T. Levi-Civita: Einsteinian motions in second approximation.—Ferruccio Zambonini and S. Restaino: Double sulphates of the rare earth and alkali metals (vi.). Cerous

potassium sulphates. In addition to the double salts already described, this system forms the compound, $Ce_2(SO_4)_3 \cdot 4.5 K_2SO_4$, which is stable in the presence of solutions containing from about 5 per cent. to 1.2 per cent. of potassium sulphate.—G. Bruni and A. Ferrari: Crystalline structure of certain bivalent chlorides. Anhydrous magnesium, manganese and cadmium chlorides are found to be of rhombohedral structure with the respective axial ratios, 2.45, 2.34, and 2.20. Zinc chloride appears to exhibit a rhombohedral or hexagonal structure, the dimensions of its structure indicating its structural similarity to magnesium chloride.—Silvio Minetti: Investigation of the

singularity of $f(z) = \sum_{n=0}^{\infty} a_n z^n$, where $a_n = g(n)$ for n a

positive integer with $g(n)$ wholly transcendental.—Mauro Picone: The isolated singularity of harmonic functions in two or more variables.—Oscar Zariski: Conformable representation of the area bounded by a lemniscate on a circle.—Luigi Fantappiè: The polydromy of linear analytic functionals.—A. M. Bedarida: A new rectilinear congruency.—Harry Levy: Einsteinian motions of a disgregate medium with spherical symmetry.—Arnaldo Belluigi: Evaluation of the damping in seismographic pendulums.—Rita Brunetti: Theory of the polarisation of independent X-rays.—G. Natta and A. Reina: Oxides and hydroxides of cobalt: Crystalline structure of cobaltous oxide and hydroxide. The results of X-ray analysis show that cobaltous oxide belongs crystallographically to the monometric system and has an elementary cell of side a 4.22 Å.U. of the sodium chloride type, containing four molecules. The precipitated and crystalline forms of cobaltous hydroxides are structurally identical and are of the uniaxial rhombohedral type.—Raoul Poggi and Angiolo Polverini: Destruction of filter-paper by alternate oxidising agents applied to quantitative analysis.—Adolfo Quilico: Röntgenographic investigation of metallic hydrides: copper hydrides. The so-called hydrides obtained by reducing cupric oxide by means of hydrogen prove to be either pure copper or copper containing occluded hydrogen in proportion insufficient to modify appreciably the crystal lattice. The products formed in the reaction between hypophosphorous acid and copper sulphate vary with the temperature employed and consist either of amorphous copper containing occluded hydrogen or of a mixture of this with cuprous oxide.—C. Sandonni: Heats of mixing of water with acetic acid and with isopropyl alcohol.—Emanuele Quercigh: The nature of stibiobismuthinite. This mineral, found in Nacozari, Mexico, consists of an isomorphous mixture of bismuthinite and antimonite, with or without inclusions of sulphur.—C. Acqua: The virus of the polyhedry of the silkworm in relation to modern theories on the filterable virus.

Official Publications Received.

Canada. Department of Mines: Geological Survey. Memoir 148, No. 129 Geological Series: Geology and Mineral Deposits of Windermere Map-area, British Columbia. By J. F. Walker. (No. 2088.) Pp. 69. 20 cents. Summary Report, 1924, Part C. (No. 2091.) Pp. 268C. (Ottawa: F. A. Acland.)

Education Committee for the County Borough of Brighton. Technical College, Richmond Terrace, Brighton. Day Courses, Session 1926-27. Pp. 79+9 plates. Evening Courses, Session 1926-27. Pp. 48. (Brighton.)

Almanach České Akademie věd a umění. Řičník 85. Pp. 240. (Praze.)

Académie Tchèque des Sciences (Česká Akademie věd a umění). Bulletin International: Résumés des travaux présentés. Classe des sciences mathématiques, naturelles et de la médecine. 23^e année (1923). Pp. 79+266. 25^e année (1925). Pp. iv+385. (Prague.)

Premier Congrès International pour la Protection de la Nature, Faune et Flore, Sites et Monuments Naturels (Paris, 31 mai-2 juin, 1923). Rapports, Vœux, Réalisations. Pp. viii+388. (Paris: Paul Lechevalier.)

Instituts scientifiques de Buitenzorg: "sLands Plantentuin." Treubia: Recueil de travaux zoologiques, hydrobiologiques et océanographiques. Vol. 6, Supplément, Avril 1926: The Bloodsucking Arthropods of the Dutch East Indian Archipelago. vii: The Tabanids of the Dutch East Indian Archipelago (including those of some neighbouring Countries) By Dr. J. H. Schuurmans Stekhoven, Jr. Pp. 551+18 plates. Vol. 8, Supplément, Juillet: Die Jugendstadien der malayischen Phlebotomen. Von H. Priesner. Pp. iii+264+16 Tafeln. (Buitenzorg: Archipel Drukkerij.)

Ceylon Administration Reports for 1925. Part 4: Education, Science and Art (D). Administration Report of the Director of Agriculture for 1925. Pp. D60. (Colombo: Government Record Office.) 1.25 rupees.

Bureau of Education, India. Education in India in 1924-25. Pp. iii+59. (Calcutta: Government of India Central Publication Branch.) 1.6 rupees; 2s.

Memoirs of the Department of Agriculture in India. Entomological Series, Vol. 9, No. 5: Experiments on the Transmission of Rinderpest by Means of Insects. By S. K. Sen. Pp. ii+59-185. (Calcutta: Government of India Central Publication Branch.) 2.4 rupees; 4s. 2d.

The Hundred and Fourth Report of the Commissioners of Crown Lands, dated 29th June 1926. Pp. 36. (London: H.M. Stationery Office.) 4s. net.

The Indian Zoological Memoirs on Indian Animal Types. 1: Pheretima (The Common Indian Earthworm). By Prof. Karm Narayan Bahl. Pp. v+72. (Lucknow: The University.) 1.8 rupees.

Cambridge Observatory. Annual Report of the Observatory Syndicate, 1925 May 19-1926 May 18. Pp. 8. (Cambridge.)

The Journal of the American Chemical Society. Vol. 48, No. 8-a; Golden Jubilee Number, August 20, 1926: A Half-Century of Chemistry in America, 1876-1926; an Historical Review commemorating the Fiftieth Anniversary of the American Chemical Society. Edited by Charles A. Browne. Pp. xiv+254. (Easton, Pa.: American Chemical Society.)

South African Sugar Association. Proceedings of the Fourth Annual Congress held at Durban on April 12th to 16th, 1926. Pp. 109. (Durban: South African Sugar Association.)

Union of South Africa: Department of Agriculture. Science Bulletin No. 48 (Division of Chemistry Series No. 66): Fumigation with Hydrocyanic Acid Gas: Concentration and Distribution as influenced by Fumigation Procedure. By B. J. Smit and Dr. T. J. Naude. Pp. 25. Science Bulletin No. 49: Experiments in Veld Management, First Report. By R. R. Staples. Pp. 35. (Pretoria: Government Printing and Stationery Office.) 3d. each.

Geofysiske Publikasjoner utgitt av det Norske Videnskaps-Akademi i Oslo. Vol. 4, No. 7: Résultats des mesures photogrammétriques des Aurores boréales observées dans la Norvège méridionale de 1911 à 1922. Par Carl Størmer. Pp. 108+48 planches. (Oslo: A. W. Broeggers Boktrykkeri A/S.) 12 kr.

D. Kgl. Danske Vidensk. Selsk. Skrifter, naturvidensk. og mathem. Afd., 8 Række, 11, 1: La surface de la planète Jupiter 1919-1924. Par C. Luplau Janssen. Pp. 88+7 planches. (København: Andr. Fred. Høst and Søn.) 10 kr.

The East London College (University of London). Calendar, Session 1926-1927. Pp. 184. (London: East London College.)

Ministry of Agriculture and Fisheries: Standing Committee on River Pollution. River Pollution and Fisheries: a Non-Technical Report on the Work during 1925 of the Standing Committee on River Pollution appointed in 1921. Pp. 33. (London: H.M. Stationery Office.) 6d. net.

The British Mycological Society. Transactions, Vol. 11, Parts 1 and 2, August 26th. Edited by Carleton Rea and J. Ramsbottom. Pp. 168+6 plates. (London: Cambridge University Press.) 15s. net.

University of London, University College: Faculty of Medical Sciences. University Centre for Preliminary and Intermediate Medical Studies. Courses for Dental Students, Session 1926-1927. Pp. vi+227-262+10. (London: University College.)

Journal of the Marine Biological Association of the United Kingdom. New Series, Vol. 14, No. 2, August. Pp. 239-555. (Plymouth: Marine Biological Association.) 10s. net.

Conseil Permanent International pour l'Exploration de la Mer. Bulletin hydrographique pour l'année 1925. Pp. 49. Bulletin hydrographique: Appendice supplémentaire d'observations de surface anglaises pour la période 1915-1923. Pp. 64. Bulletin hydrographique: Appendice 1 et 2 pour les années 1923 et 1924. Pp. 20. Rapports et procès-verbaux des réunions, Vol. 40. Rapport Atlantique 1925 (Travaux du Comité du Plateau continental Atlantique) (Atlantic Slope Committee). Pp. 60. (Copenhague: Andr. Fred. Høst et fils.)

Transactions of the Royal Society of Canada. Third Series, Vol. 20, Section 4. On some Minerals from the Ruby Mining District of Mogok, Upper Burma. By Frank D. Adams and R. F. D. Graham. Pp. 113-136. (Ottawa: Royal Society of Canada.)

Aeronautical Research Committee: Reports and Memoranda. No. 1104 (Ae. 211): Further Experiments on the Relation between Skin Friction and Heat Transmission. By Miss Dorothy Marshall. Work performed for the Engineering Research Board of the Department of Scientific and Industrial Research. (D.1. Special Technical Questions, 132.—T. 2082.) Pp. 19+12 plates. 1s. net. No. 1012 (M. 35): Some Comparative Fatigue Tests in special relation to the Impressed Conditions of Test. By H. J. Gough and H. J. Tapsell. Work performed for the Engineering Board of the Department of Scientific and Industrial Research. (M.C. 79, 157, 167, 167A.) Pp. 21. 1s. net. No. 1021 (E. 19): The Effect of Metallic Sols in Delaying Detonation in Internal Combustion Engines. By Ft.-Lieut. C. J. Sims, assisted by Dr. E. W. J. Mardles. (I.C.E. 516.) Pp. 11. 6d. net. No. 1013 (E. 18): Report on Dopes and Detonation. By Prof. H. L. Callendar, assisted by Capt. R. O. King and Flying Officer C. J. Sims. (B. 4. Engines 55.—T. 2151, I.C.E. 508.) Pp. 54+13 plates. 2s. net. No. 1022 (M. 38): An Experiment to determine if Slip can be detected during the Unloading Portion of a Cycle of repeated Tensile Stresses. By H. J. Gough, S. J. Wright and Dr. D. Hanson. Work performed for the Engineering Research Board of the Department of Scientific and Industrial Research. (B. 1.a. Metals, 46.—T. 2165.) Pp. 6+3 plates. 6d. net. (London: H.M. Stationery Office.)

Government of India: Department of Industries and Labour, Public Works Branch. Irrigation in India: Review for 1924-25. Pp. 37. (Simla: Government of India Press.)