

Contemporary Birthdays.

December 17, 1853. M. Émile Roux, For.Mem.R.S.
 December 17, 1861. Mr. Edward Heron-Allen, F.R.S.
 December 18, 1856. Sir J. J. Thomson, O.M., F.R.S.
 December 19, 1852. Prof. A. A. Michelson, For.Mem.R.S.
 December 20, 1876. Dr. Walter Sydney Adams.
 December 22, 1862. Dr. Vaughan Cornish.

DIRECTOR of the Pasteur Institute, Paris, a foreign member of the Royal Society of London, and Copley medallist, Dr. Émile Roux was born at Confolens. Early in his career he worked in Pasteur's laboratory, and in the course of time became his collaborator in pathological research. In 1889 Roux delivered, on behalf of M. Pasteur, whose health did not allow attendance, the Royal Society's Croonian lecture, on the subject "Les Inoculations Préventives."

Mr. E. HERON-ALLEN is a Londoner, and was educated at Harrow. He has written many papers on the Foraminifera, including one published in the *Philosophical Transactions* (1915), entitled "Bionomics of the Foraminifera." In 1916-18 Mr. Heron-Allen was president of the Royal Microscopical Society. He has done original work in many departments of natural history, and is, in addition, an authority on Persian literature.

Prof. MICHELSON was born at Strelno, Germany. Entering and graduating at the U.S. Naval Academy, he joined the Nautical Almanac Office, Washington; afterwards he studied at the Universities of Berlin, Heidelberg, and the Ecole Polytechnique, Paris. From 1889 until 1892 he was professor of physics at Clark University, Worcester, Massachusetts, leaving to become professor and head of the Department of Physics in the University of Chicago. A foreign member of the Royal Society of London, he was awarded the Copley medal in 1907. In that year he was also Nobel laureate in physics. Prof. Michelson was a pioneer in the construction of interferometers, and his optical inventions have rendered possible the reproduction of accurate metric standards, which are now widely used. He has received many foreign recognitions; he is Hon. Sc.D., Cambridge, and an associate of the Royal Astronomical Society, which awarded him its gold medal in 1923. Prof. Michelson was added to our roll of "Scientific Worthies" in NATURE of January 2, 1926.

Dr. W. S. ADAMS was born at Antioch. He was sent to Dartmouth College, Hanover, U.S.A., and afterwards to the University of Chicago. Appointed an assistant at Yerkes Observatory, he removed in 1901 to fill a similar post at Mount Wilson Observatory, California, becoming Director in 1923. A member of the National Academy of Sciences, Washington, he is one of its Draper medallists. The Royal Astronomical Society awarded Dr. Adams its gold medal in 1917 for his investigations in stellar spectroscopy. Last year his observations on the spectrum of the companion of Sirius enabled him to confirm Einstein's prediction of the gravitational displacement of spectral lines, and also Eddington's calculations of the very high density of white dwarf stars.

Dr. VAUGHAN CORNISH, a zealous geographer, was born at Debenham, Suffolk. He was educated at St. Paul's School and the Victoria University, Manchester. In 1900 the Royal Geographical Society allotted him the Gill Memorial Award for extended researches on sea-beaches, sand-dunes, and wave-form in water. President of Section E (Geography) at the Liverpool meeting of the British Association in 1923, he gave an address on the British Empire regarded as a maritime organisation. He is the author of "The Great Capitals: an Historical Geography" (1923).

Societies and Academies.

LONDON.

Optical Society, November 11.—J. W. T. Walsh and W. Barnett: The effect of slightly selective absorption in the paint used for photometric integrators. A sensibly non-selective internal coating for photometric integrators is very difficult to produce and still more difficult to maintain. When lamps of different colour temperatures are compared in an integrator with an internal coating which shows selective absorption in, say, the blue, the values of candle-power obtained for the lamps of lower colour temperature will be too high, and vice versa. A simple method is given for calculating the magnitude of the effect for sources having a spectrum approximating to that of a black body. In work on normal type electric lamps, to an accuracy of 1 to 2 per cent., a quite noticeable coloration of the light may be produced by the sphere (either on account of paint or window selectivity or both) without the necessity for making any correction to the measured values of candle-power.—**Conrad Beck:** An accurate method of ascertaining the position of the focal point of an optical system. The method consists essentially in placing a diaphragm with two slit apertures behind the object-glass to be tested, the directions of the slits being at right angles to one another, and finding the position where the images form a symmetrical cross. Results of measurements by this method of the zonal aberrations of apochromatic microscope object-glasses are given.

PARIS.

Academy of Sciences, November 15.—Georges Perrier: The regular triangulation of Morocco. Outline of geodesic work done in Morocco since 1910, with key map.—F. E. Fournier: Effects useful or detrimental to the velocity of ships.—Charles Moureu, Charles Dufraisse, and Marius Badoche: Autoxidation and antioxygen action (XX.). Catalytic actions of a new series of nitrogen compounds. General observations on the nitrogen compounds. Details of the study of the catalytic properties of thirty-seven new nitrogen compounds.—H. Douvillé: The marbles of Sarrancolin and of Saint-Béat in the Central Pyrenees.—Jean Baptiste Senderens and Jean Aboulenc: The etherification of the hydroaromatic alcohols. Cyclohexanol, heated with 2 per cent. sulphuric acid (concentrated or diluted) does not give cyclohexyl oxide, but a mixture of cyclohexene and its polymer. Similarly, a mixture of cyclohexanol and a fatty alcohol fails to give a mixed ether. On the other hand, the hydroaromatic alcohol and an aromatic alcohol under the same conditions gives a mixture containing benzyl ether and the mixed ether.—Camille Sauvageau: The development of *Colpomentia sinuosa*.—A. Calmette, J. Valtis, and M. Lacomme: The intra-uterine transmission of the tubercle virus from mother to infant. In the course of some grave tuberculous infections, the passage of the tubercle virus from mother to foetus during gestation is less exceptional than has hitherto been supposed.—Bertrand Gambier: The deformation of surfaces and the method of Weingarten.—E. Goursat: Observations on the preceding communication.—Potron: The fundamental theorems of the theory of finite continuous groups of transformations.—R. Wavre and A. Bruttin: A continuous transformation and the existence of an invariant point.—J. Delsarte: Rotations in functional space.—E. F. Collingwood: A theorem on integral functions.—S. Saks: The differentiation of the area of surfaces.—G. Vranceanu:

Non-holonomical spaces.—Jean Chazy: The field of gravitation in the interior of a hollow sphere in rotation in the relativity theory.—H. Beghin and P. Monfraix: The realisation of a damped zenithal gyrostatic compass.—R. Swyngedaew: The slipping of belts.—J. F. Saffy: The influence of prolonged maintenance, at a red heat, on the resilience of some metals used for exhaust valves. Measurements of resilience of four samples of chrome-steel of different composition are given. These steels had been submitted to a temperature of 600° (in one case to 850°) for varying periods (maximum twelve weeks), before taking the measurements. An austenitic chrome-nickel steel retained a practically constant resilience, even after twelve weeks and at 850° C. This steel is markedly superior to other steels for use in valves of internal combustion engines.—R. Mazet: The formation of liquid jets.—Robert Lévi: The theory of universal and discontinuous action.—Sauger: Energy extensions of the Newtonian potential.—A. Guillet: The value of the constant of time most favourable to the direct electrical maintenance of an oscillatory movement.—L. Caignard: The variation of the dielectric constant of benzene with pressure. The high frequency oscillations used in the measurements had a wave-length of 6425 metres, the electric field applied to the dielectric 650 volts per cm., maximum pressure, 22 atmospheres. At constant temperature the dielectric constant is a linear function of the pressure.—G. Gamow: L. de Broglie's theory of waves of phases.—C. Mihul: The structure of the spectrum of oxygen of the second order.—D. K. Yovanovitch and Al. Proca: The slow β -rays of mesothorium-2.—Maurice Lecat: Azeotropism, particularly of binary systems with closely chemically related constituents. An attempt to measure the tendency of two substances to form a mixture of constant boiling point, with special reference to the chemical nature of the two constituents. Numerical data are given for twenty-eight binary mixtures forming constant boiling mixtures.—F. M. Ostroga: Chrome-cobalt steels. From the point of view of the influence of the temperature of heating and velocity of cooling on the constitution of these alloys, the chrome-cobalt steels show a sensibility at least equal, if not superior, to that of chrome-nickel high-speed steels.—J. Cournot and R. Pages: Studies of the viscosity of copper and its alloys.—E. Tassilly and R. Savoie: The spectrophotometric determination of nitrites and nitrates by diphenylamine sulphate. With the instrument used (Ch. Féry spectrophotometer) the useful range is from 0.1 to 5 milligrams of N_2O_3 , with a possible error of 0.1 mgm.—J. A. Le Bel: The stereochemistry of the ethylene derivatives. The experimental results in a recent note by Dufraisse and Gillet afford a confirmation of the theoretical views of the author.—Lespieau and Deluchat: 1,7-Octadiene. This hydrocarbon, $HC:C-(CH_2)_4-C:CH$, has been isolated, starting with dibromobutene, and its compound with silver nitrate prepared.—E. Raguin: The presence, to the north-east of Vanoise, of schists assimilable to those of the Tertiary Flysch.—Octave Mengel: An apparent analogy between the Alpino-Dinaric and Pyreneo-Iberic border. Common origin of the Alpine lakes and ancient Pyrenean lakes.—L. Picard: The Cenomanian of Carmel (south-east of Haifa).—Henri Coupin: The rôle of fleshy pericarps.—E. Chemin: A new species of *Colaconema* on *Asparagopsis lamifera*.—René Souèges: The embryogeny of the Papaveraceæ. The development of the proembryo in *Papaver Rhæas*.—E. Chemin and R. Legendre: Observations on the existence of free iodine in *Falkenbergia Doubletiii*. Free iodine has been found

by M. Sauvageau in *F. Doubletiii* collected at Guéthary and at Cherbourg. The authors have examined specimens from Brest and from Glénans, but no free iodine could be detected. Weak acids, even carbonic acid, set free iodine, which hence would appear to be present as a labile compound other than iodide. O. Munerati: Observations on the seed yield of beetroot in the first year.—Lucien Daniel: Intermittent heredity in the Jerusalem artichoke.—Adrien Davy de Virville: The influence of submersion on the mode of development of a moss: *Aulacomnium androgynum*.—J. Dubar and G. Thieulin: An attempt at the determination of the static refraction of the eye of the dog and cat.—Mme. Marguerite Lwoff: A mode of asexual reproduction in a Hydra of the family of the Tubularidæ.—Louis Roule: The displacements of *Orcynus thynnus* (or *Thynnus thynnus*) in the western basin of the Mediterranean.—L. Lutz: The soluble ferments secreted by the Hymenomycetes fungi: simple antioxygen actions.—V. Oméliansky and Mlle. M. Kononoff: A method of culture of the bacillus causing the retting of flax.—N. Bezssonoff: The true specific régime of experimental scurvy. Heated milk contains an appreciable proportion of vitamin C, and this is the cause of its varying effects on guinea-pigs. An alternative diet is suggested which gives more definite results.—L. Ambard and F. Schmid: The treatment of respiratory syncope by inhaling carbon dioxide. An arrest of respiration in a dog produced by a dose of chloralose, on which artificial respiration was without effect, was immediately removed by causing the animal to inhale a mixture of air and carbon dioxide. It is suggested that in many cases this method possesses advantages over artificial respiration.

VIENNA.

Academy of Sciences, October 21.—A. Kailan: The chemical effects of the penetrating radium radiation. The rays from 110 milligrams of a radium preparation were passed through 1 mm. of glass and allowed to act for more than 1000 hours on uric acid, on pyridin, on anilin, on nitrobenzol. Slight changes were noticed.—F. Hölzl: Organic acids and bases in non-aqueous solution. Conductivity measurements were made.—S. I. Mayr: Free albumin crystals in the endosperm of the seeds of *Loranthus europæus*.—R. Weiss and W. Knapp: Triphenylmethanes the benzene rings of which are interconnected.—S. Loewe and E. Spöhr: Detection and determination of contents of the female oestral hormone in the female organs of the vegetable kingdom. Experiments were made on mice and rats with extracts prepared from the flowers of the yellow water-lily and from willow catkins.—P. Ludwig: Tensile strength, cohesion, and danger of fracture. The fundamental factor in brittleness depends on the ratio of rigidity of form to tensile strength.—R. Rotter: The condensation of unsaturated compounds with diazomethane. Condensation of diazomethane with carbon disulphide and xyloquinone.—R. Seka and H. Sedlatschek: Complex compounds of pyromellithic acid anhydride.—G. Klein: Assimilation of nitrates by moulds.—N. A. Puschin and B. Vaic: Equilibrium in binary systems which contain guaiacol as one of the constituents.

October 28.—F. Heritsch: The tectonic 'window' [a break in a sheet-fold or overthrust layer, through which lower rocks are exposed] at Felsbach.—R. Seka and K. Sekora: Reduction products of dinaphthanthracene-diquinone.