

gonum Fagopyrum: Pierre Paul Richer.—On the growth in weight of plants: Mlle. M. Stefanowska.—On the culture of black rot: P. Viala and P. Pacottet.—On the role of phosphorus in mineral layers: L. De Launay.—On the presence of the Oligocene in Madagascar: Paul Lemoine.—On the earthquakes felt in Portugal during 1903: Paul Choffat. Slight earthquake shocks are frequent in Portugal, but on August 9 and September 14, 1903, that country was visited with two shocks of unusual force. The first of these affected nearly the whole of Portugal; the second was more limited in range, and it is shown that the seismic centres of both these earthquakes were in deep sea.

NEW SOUTH WALES.

Royal Society, December 2, 1903.—Mr. F. B. Guthrie, president, in the chair.—A comparison of the periods of the electrical vibrations associated with simple circuits: J. A. Pollock, with an appendix by J. C. Close. The periods of the electrical vibrations connected with narrow rectangular closed circuits have been compared with those of the oscillations associated with straight wires, with open and closed circles, and with closed ellipses. Definite numerical results have been obtained for circuits varying in length from 3 to 9 metres.—A contribution to the study of the dielectric constant of water at low temperatures: O. U. Vonwiller. The object of the experiments was to ascertain whether the dielectric constant of water had a maximum value at 4° C. or not. First an air condenser was used, readings being taken as its capacity was given different known values, and then a condenser having water as its dielectric, readings being taken as the temperature rose from 0° C. The capacity of the water condenser invariably decreased as the temperature rose, there being no indication whatever of a critical value at 4° C.

DIARY OF SOCIETIES.

THURSDAY, FEBRUARY 11.

ROYAL SOCIETY, at 4.30.—On the Compressibilities of Oxygen, Hydrogen, Nitrogen, and Carbonic Oxide between One Atmosphere and Half an Atmosphere of Pressure; and on the Atomic Weights of the Elements concerned. Preliminary Notice: Lord Rayleigh, O.M., F.R.S.—A New Method of Detecting Electrical Oscillations: Dr. J. A. Ewing, F.R.S., and L. H. Walter.—On the High-Temperature Standards of the National Physical Laboratory. An Account of a Comparison of Platinum Thermometers and Thermojunctions with the Gas-thermometer: Dr. J. A. Harker.—Constant Standard Silver Trial-Plates: Edward Matthey.—On Certain Properties of the Alloys of Silver and Cadmium: Dr. T. Kirke Rose.—Sun-spot Variation in Latitude, 1861-1902: Dr. W. J. S. Lockyer.

ROYAL INSTITUTION, at 5.—Recent Research in Agriculture: A. D. Hall. SOCIETY OF ARTS, at 4.30.—Our Commercial Relations with Afghanistan: Col. Sir Thomas H. Holdich, K.C.M.G.; K.C.I.E.

MATHEMATICAL SOCIETY, at 5.30.—On the Roots of the Equation $\int \frac{dx}{(x+1)^2} = c$: G. H. Hardy.—On a Certain Double Integral: Prof.

A. C. Dixon.—On an Appropriate Form of Conductor for a Moving Point-Singularity: Prof. A. W. Conway.—On Group-Velocity: Prof. H. Lamb.—On Point-Wise Discontinuous Functions of a Real Variable: Dr. E. W. Hobson.—Some Extensions of Abel's Theorem on Power Series on the Circle of Convergence: G. H. Hardy.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Transatlantic Engineering Schools and Engineering: Prof. R. M. Walmsley.

FRIDAY, FEBRUARY 12.

ROYAL INSTITUTION, at 9.—Some Aspects of Modern Weather Forecasting: W. N. Shaw, F.R.S.

PHYSICAL SOCIETY, at 8.—Annual General Meeting. Address by the president, Dr. R. T. Glazebrook, F.R.S., on the Theories of Microscopic Vision.

ROYAL ASTRONOMICAL SOCIETY, at 5.—Anniversary Meeting. INSTITUTION OF CIVIL ENGINEERS, at 8.—The Electricity and Destructor Station at Plumstead: T. S. Nash.

MALACOLOGICAL SOCIETY, at 8.—Annual Meeting: President's Address.

SATURDAY, FEBRUARY 13.

ROYAL INSTITUTION, at 3.—Culture and Sculpture: Dr. C. Waldstein. ESSEX FIELD CLUB, at 6.30 (Essex Museum of Natural History, Stratford).—Nature's Protection of Insect Life, with Natural-colour Photographs: Mr. F. Enock.

MONDAY, FEBRUARY 15.

SOCIETY OF ARTS, at 8.—Oils and Fats—their Uses and Applications: Dr. J. Lewkowitsch. (Cantor Lectures, IV).

TUESDAY, FEBRUARY 16.

ROYAL INSTITUTION, at 5.—The Development of Animals: Prof. L. C. Miall, F.R.S.

ZOOLOGICAL SOCIETY, at 8.30.—(1) On the Marine Fauna of Zanzibar and British East Africa—Polychæta, Part iii.; (2) The Polychæta of the Maldivé Archipelago from the Collections made by J. Stanley Gardiner in 1899; Cyril Crossland.—On some Nudibranchs from Zanzibar and East Africa—No. IV. Dorididæ Cryptobranchiatæ: Sir Charles Eliot, K.C.M.G.

ROYAL STATISTICAL SOCIETY, at 5.—Trade Union Expenditure on Unemployed Benefit: E. L. Hartley. INSTITUTION OF CIVIL ENGINEERS, at 8.—The Forms of Turbines most Suitable for Low Falls: A. Steiger.

WEDNESDAY, FEBRUARY 17.

SOCIETY OF ARTS, at 8.—Garden Cities in their Relation to Industries and Agriculture: A. R. Sennett.

ROYAL MICROSCOPICAL SOCIETY, at 8.—On the Vertical Illuminator; the Influence of the Antipoint on the Microscopic Image shown Graphically: E. M. Nelson.—A Microscope with Geometric Slides: Keith Lucas.—Mr. C. L. Curties will exhibit Specimens of Marine Objects mounted by Mr. H. J. Waddington.

ROYAL METEOROLOGICAL SOCIETY, at 7.30.—Report on the Phenological Observations for 1903: E. Mawley.—Observations by Means of Kites at Crinan in the Summer of 1903: W. H. Dines.

CHEMICAL SOCIETY, at 5.30.—Observations on some Continuous Intramolecular and at First Reversible Changes extending over Prolonged Periods of Time: R. J. Friswell.—The Esterification of *r*-Mandelic Acid by Menthol and Borneol: A. McKenzie.

THURSDAY, FEBRUARY 18.

ROYAL SOCIETY, at 4.30.—Probable Papers: Further Researches on the Temperature Classification of Stars: Sir J. Norman Lockyer, K.C.B., F.R.S.—Theory of Amphoteric Electrolytes: Prof. James Walker, F.R.S.—Note on the Formation of Solids at Low Temperatures, particularly with regard to Solid Hydrogen: Prof. Morris W. Travers.—Atmospherical Radio-activity in High Latitudes: George C. Simpson.

ROYAL INSTITUTION, at 5.—Recent Research in Agriculture: A. D. Hall. LINNEAN SOCIETY, at 8.—Mendel's Laws as Illustrated by Wheat Hybrids: R. H. Biffen.—Hereditry and Variation as seen in *Prunella sinensis*: W. Bateson, F.R.S.—Formation of Secondary Wood in Psilotum: L. A. Boodle.

FRIDAY, FEBRUARY 19.

ROYAL INSTITUTION, at 9.—Condensation Nuclei: C. T. R. Wilson, F.R.S.

GEOLOGICAL SOCIETY, at 8.—Anniversary Meeting. INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Annual General Meeting; followed by Discussion on Heat Treatment of Steel.—The Motion of Gases in Pipes, and the Use of Gauges to Determine the Delivery: R. Threlfall, F.R.S.

EPIDEMIOLOGICAL SOCIETY, at 8.30.—The Etiology of Scurvy: Dr. Myer Coplans.

SATURDAY, FEBRUARY 20.

ROYAL INSTITUTION, at 5.—The Life and Work of Stokes: Lord Rayleigh.

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