

Einstein.—M. Frontad: Logoids of slipping of soil.—E. Fichot: The sense of rotation of cotidal lines round amphidromic points.—M. Siegbahn: The degree of exactitude of Bragg's law for the X-rays. Exact measurements have shown that calcite gives a small deviation from Bragg's theory, the differences although small being systematic. M. Dauvillier has recently suggested that the deviation was due to the complexity of the $K\alpha_1$ line used in the measurements; but the result is the same for the line α_2 , which according to M. Dauvillier is simple.—E. Gleditsch and B. Samdahl: The atomic weight of chlorine in an ancient mineral, Balme apatite.—J. Durand: The thermal treatment of some cast irons. Heating to 900° C. and slow cooling increased the proportion of graphite and diminished the resistance to breaking. Tempering in oil from 900° C. and repeating to 650° C. increased the breaking load.—M. Charriou: The separation of ferric oxide and alumina from lime by the nitrate method.—H. Gault and T. Salomon: The α -alkyl levulinic acids.—E. Decarrière: The rôle of gaseous impurities in the catalytic oxidation of ammonia. Extremely minute proportions of hydrogen phosphide (0.2 parts per million) poison the platinum catalyst in this oxidation, but the simultaneous presence of acetylene and hydrogen sulphide, especially the latter, partially neutralises the poisonous action of the phosphorus compound.—E. Grandmougin: The acyl and alkyl leucoindigos.—C. Jacob: Eruptive rocks of the intermediate series in North Annam and in Tonkin.—P. Corbin: Some sections on the eastern edge of the Vercors-massif.—L. Guillaume: Tertiary and existing Turritella: evolution and migrations.—P. Lesage: The determination of the germinative faculty other than by the actual germination of the seeds. A. Němec and F. Duchon have recently described a method based on the evolution of oxygen by the action of hydrogen peroxide on the diastase of the seed as the only method available for testing the vitality of the seed other than actual germination tests. The author directs attention to a method described by him in 1911 and 1917 based on the colour imparted to dilute solutions of potash by the seeds. This gives a definite result in four hours.—J. Bouget and A. D. de Virville: The influence of the meteorology of the year 1921 on the reddening and fall of leaves.—R. Poisson: Histogenesis of the flight muscles in *Ranatra*, *Nepa* (*N. cimicoides* and *N. maculatus*).—G. Bourguignon: Modification of the chronaxy of the skeleton muscles and their nerves by the repercussion of the lesion of the neurones with which they are functionally associated.—A. Lumière and H. Couturier: Traumatic shock.—C. Levaditi and S. Nicolau: The embryonic leaflets in relation with the affinities of the vaccine virus.—E. Fernbach and G. Rullier: The action of an artificial gastric juice on tubercular pulmonary granulations of the guinea-pig.

Academy of Sciences, March 20.—M. Emile Bertin in the chair.—A. Haller and Mme. Ramart-Lucas: New distinctive characters of the three propanol- α -camphocarbonolides melting at 141°, 117°-118°, and 89°-90° C. respectively.—G. Mittag-Leffler: Cauchy's theorem on the integral of a function between imaginary limits.—C. Sauvageau and G. Denigès: Remarks on the efflorescences of *Rhodymenia palmata*. The presence of a xylane in these algae. The pentosane extracted by the method of Mme. Swartz from *R. palmata* gives xylose on hydrolysis and hence is a xylane. This is the first case of the extraction of this substance from an alga.—J. Drach: The determination of the differential equations of the second order integrable by quadrature.—G. Julia: The trans-

formation of rational substitutions into linear substitutions.—M. Stoilow: The definite integral and the measurement of *ensembles*.—J. Ubach: Observations of the partial eclipse of the sun of October 21, 1921, made at Buenos Ayres (Argentine Republic).—F. Michaud: A micromanometer with sensibility capable of regulation.—A. Guillemet: A new objective shutter for taking aerial photographs with apparatus with long focus.—V. Henri: The absorption spectrum of benzene vapour and the fundamental magnitudes of the benzene molecule. The absorption spectrum of benzene vapour has been measured at pressures between 0.01 and 65 mm. The ultra-violet spectrum can be represented very exactly by a formula derived from Bohr's theory, and consists of four series of superposed bands. The results show that the molecule of benzene is a very symmetrical structure, the movements of which obey the simple laws deduced for diatomic molecules.—F. W. Klingstedt: The ultra-violet absorption of phenol in different solvents. The absorption spectrum of phenol in solution depends on the nature of the solvent. Comparing with the spectrum of the vapour, one type of solvent (carbon tetrachloride and ether) produces only a displacement and enlargement of the bands. The second group of solvents (methyl and ethyl alcohol, and water) change the absorption spectrum completely. The spectrum of pure liquid and solid phenol is intermediate between the two preceding types.—C. Chéveneau: An optical method for the determination of the reciprocal solubility of slightly miscible liquids. The method is based on the use of a hollow prism divided into several compartments. The differences of the refractive indices of the two liquids are taken directly, independently of the temperature. The case of aniline and water is given and the results compared with the gravimetric method.—G. Guilbert: The observation of clouds and the prediction of weather.—H. Joly: The existence of phenomena of horizontal displacements of large amplitude at the eastern extremity of the Iberian chain, near Montalban (province of Têrue, Spain).—H. Coupin: Determination of the optimum of humidity of the external medium in the *Oscillaria*.—A. de Puymaly: The reproduction of *Vaucheria* by amœboid zoospores.—G. Tanret: The chemical composition of ergot of Diss (*Ampelodesmos tenax*) and the ergot of oats. Since the closing of the Russian frontiers ergot of rye has become extremely scarce, and the possibility of obtaining ergot from other Graminaceæ is of immediate interest. Of the two plants mentioned, oats only would appear to contain sufficient of the active principle to be of practical service. From one kilogram of Algerian oats 1.8 gram of crude and 0.8 gram of pure crystallised ergotinine was isolated.—C. J. Gravier: The relations between the Crustacean and the sponge in the sponges carrying Cirripedes.

Official Publications Received.

Spolia Zeylanica. Edited by Dr. J. Pearson. Vol. 12, Part 45. Pp. 221. (Colombo: Colombo Museum.)
 Department of Statistics, India. Agricultural Statistics of India, 1919-20. Vol. 1: Area, Classification of Area, Area under Irrigation, Area under Crops, Live-Stock, Land Revenue Assessment, and Harvest Prices in British India. (Thirty-sixth issue.) Pp. ix+380+9 charts. (Calcutta: Government Printing Office.) 2.8 rupees.
 Imperial Department of Agriculture for the West Indies. Report on the Agricultural Department, St. Vincent, for the Year 1920. Pp. iv+32. (Barbados: Imperial Commissioner of Agriculture for the West Indies.) 6d.
 Union of South Africa. Fisheries and Marine Biological Survey. Report No. 1 for the Year 1920. By Dr. J. D. F. Gilchrist. Pp. v+111+9 plates+4 charts. (Cape Town: Cape Times, Ltd.)
 Report on the Progress and Condition of the United States National Museum for the Year ending June 30, 1921. Pp. 219. (Washington: Government Printing Office.)
 State of Connecticut. Public Document No. 24. Forty-fourth Annual Report of the Connecticut Agricultural Experiment Station: Being the Annual Report for the Year ended October 31, 1920. Pp. xvi+377. (New Haven.)