

Geography, the Gay Prize is given to M. Sauvageau. Of the general prizes, the Leconte Prize is not awarded this year, M. Fremont receiving the Montyon Prize (unhealthy trades), Mme. Curie the Gegner Prize, M. Émilio Damour the Delalande-Guérineau Prize, M. Chaffanjon the Tchihatchef Prize, M. Édouard Branly the Houllevigue Prize, M. Félix Bernard the Saintour Prize, M. Munier-Chalmas the Estrade-Delchos Prize, and M. Mérieault the Laplace Prize. The following prizes are divided: the Jérôme-Ponti Prize between MM. Guichard and Lemoult, the Cahours Prize between MM. Hébert, Metzner, and Thomas; M. Blanc receiving an encouragement, and the Kastner-Boursault Prize between MM. André Blondel and Paul Dubois and M. Paul Janet. The Rivot Prize is awarded to MM. Mérieault, Defline, Le Troquer, and Gérin.

AMSTERDAM.

Royal Academy of Sciences, November 26.—Prof. Van de Sande Bakhuysen in the chair.—Prof. Beijerinck, on a contagium vivum fluidum, causing the spot-disease of tobacco leaves. This disease, also known as the mosaic disease of tobacco leaves, may be inoculated into healthy plants by injecting into the stem, near a bud, sap pressed from infected plants. The active virus passes completely through the pores of very dense porcelain, and can even penetrate into agar by diffusion; therefore it cannot be a contagium fixum in the usual sense, but it must be fluid. Out of the tobacco plant it cannot be made to multiply; but in the dividing tissues of the leaf-rudiments and the meristems of the buds it multiplies freely and over a great extent. A very small drop of the porcelain filtrate can render all the leaves of the infected plant entirely covered with spots, and the sap of these leaves would be sufficient for the contagion of an unlimited number of healthy plants. The virus is destroyed by boiling at so low a degree as 90° C.—Prof. Bakhuis Roozeboom, on the phenomena to be observed on the solidification of liquids, consisting of two tautomeric forms. In the case of equilibrium being established between these forms at the temperature of solidification, these phenomena have been treated by Bancroft. A new deduction was given for those cases in which solidification takes place at temperatures at which no equilibrium can be established any more in the liquid, and specially when supposing that one passes from the region of equilibrium through two regions of one-sided equilibrium to the region of non-equilibrium. All the various consequences of slow and quick heating and cooling may be graphically represented.—Prof. Van der Waals deduced from the phase equation for a mixture, given by himself, the laws for Δ_v (the volume contraction on mixing under constant pressure) and Δ_p (the pressure contraction on mixing in given volume), and compared the results, obtained by himself, with the observations of Kuenen and others in the case of mixtures of carbonic acid and methyl chloride. According to Amagat, Δ_v would be =0, and according to Dalton's law, Δ_p =0. The results, arrived at by the author, may briefly be summed up as follows: Δ_v is small all along the course of the isotherm, and the amount may be considered a magnitude of the same order. On the other hand, Δ_p follows a course equal to the deviation from Boyle's law, and when the volume is small it approximates infinity.—Prof. Van Bemmelen presented for publication in the *Proceedings* a communication by Mr. F. A. H. Schreinemakers, entitled, "Equilibria in systems of three components, variation of the temperature of solution of binary mixtures by the addition of a third component."—Prof. Van der Waals, on the errors that may be committed in the determination of the molecular weight from the vapour density in consequence of the deviations from Boyle's and Guy-Lussac's laws.

DIARY OF SOCIETIES.

MONDAY, JANUARY 2.

SOCIETY OF CHEMICAL INDUSTRY, at 8.—On Safety Explosives: Oscar Guttman.
VICTORIA INSTITUTE, at 4.30.—The Physiography of the Thames Basin: Prof. Lobleby.

WEDNESDAY, JANUARY 4.

GEOLOGICAL SOCIETY, at 8.—Geology of the Ashbourne and Buxton Branch of the London and North-Western Railway. Part I. Ashbourne to

Crakelow: H. H. Arnold-Bemrose.—The Oceanic Deposits of Trinidad, W.I.: J. B. Harrison and A. J. Jukes-Browne.
SOCIETY OF ARTS, at 7.—Hands and Feet: Prof. F. Jeffrey Bell.

FRIDAY, JANUARY 6.

GEOLOGISTS' ASSOCIATION, at 8.—The Glaciers and Fjords of the Bergen District, Norway: Horace W. Monckton.
QUEKETT MICROSCOPICAL CLUB, at 8.

BOOKS RECEIVED.

BOOKS.—Das Kleinebuch von der Marine: G. Neudec and H. Schröder (Kiel, Lipsius).—The New Gulliver: W. P. Garrison (N.Y., Marion Press).—Practical Photographer, Vol. ix. (Lund).—Die Kalturgewächse der Deutschen Kolonien und ihre Erzeugnisse: Prof. R. Sadebeck (Jena, Fischer).—Das Geotektonische Problem der Glarner Alpen: A. Rothpletz, Text and Atlas (Jena/Fischer).—Studien über Säugethiere: Dr. Max Weber, Zweiter Theil (Jena, Fischer).—Sewerage: A. P. Folwell (N.Y., Wiley).—A Text-Book of Physiological Chemistry: Prof. O. Hammersten, translated by Prof. J. A. Mandel, and edition (N.Y., Wiley).—Annals of Coal Mining: R. L. Galloway (*Colliery Guardian* Office).—Fossil Medusæ: C. D. Walcott (Washington).—On the Study and Difficulties of Mathematics: A. de Morgan, new edition (Chicago, Open Court Publishing Company).—Truth and Error: J. W. Powell (Chicago, Open Court Publishing Company).—Lectures on Elementary Mathematics: J. L. Lagrange, translated by T. J. McCormack (Chicago, Open Court Publishing Company).—The Fishes of North and Middle America: Drs. Jordan and Evermann, Part 2 (Washington).

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