

liquids holding solid substances in solution, by M. Raoul Pictet. From the results obtained, it appears that either solid bodies become gaseous and mix with other gases at temperatures below their points of fusion and under considerable partial pressures of their own vapours, or the solid bodies present are dissolved in droplets momentarily formed in many places in the mass of gas above the critical temperature of the solvent. In the latter case, a solid deposit should be formed on superheating the vapours. This point has to be investigated.—The treatment of vines, infested by phylloxera, with peat-moss impregnated with a mineral oil, by M. F. de Mély. Details are given of a process which appears to effectually clear off the pest without injuring vegetation.—On a method of drawing a right line by the aid of jointed links, by M. Raoul Bricard.—M. J. Janssen called the attention of the Academy to the contents and scope of the *Annuaire du Bureau des Longitudes*.—A letter from the *Königliche Gesellschaft der Wissenschaften* of Göttingen was read inviting the Academy to send delegates to Innsbrück, to take part in a meeting for the consideration of the problem of investigating the variation of the intensity of gravity with the geological character of the crust of the earth.—On the application to differential equations of methods analogous to those of Galois, by M. Jules Drach.—On the determination of the equations of continuous finite groups, by M. E. Vissiot.—On the law of transmission of energy between the source and the conductor, in the case of a permanent current, by M. Vaschy.—On the production of cathode rays, by M. Joseph de Kowalski. (1) The production of the so-called cathode rays does not depend on the discharge from metallic electrodes across a rarefied gas (2) They are produced chiefly where the primary illumination attains a considerable intensity; that is, where the density of the current lines is very considerable. (3) Their direction of propagation is that of the current lines at the place where the rays are produced, from the negative to the positive poles.—On the *entraînement* of luminous waves by matter in motion, by M. G. Fousereau.—On some properties of silver sulphide, by M. A. Ditte. The double sulphides, $4Ag_2S.K_2S.2H_2O$ and $3Ag_2S.Na_2S.2H_2O$, are described, and a method for their preparation given.—On the preparation of amorphous silicon, by M. Vigouroux. The preparation is carried out by heating to about 540° a perfectly dry mixture of silica, magnesium, and magnesia. The silicon, by the usual treatment with acids, is obtained as a pulverulent, maroon-coloured substance.—On the protomorphic state: sulphides of zinc and manganese, by M. A. Villiers.—On some sensitive reactions of amido-benzoic acids, by M. Oechsner de Coninck.—On a class of nitriles, by M. Albert Colson.—On the constitution of hexamethylenetetramine, by MM. R. Cambier and A. Brochet.—On ethylenic methylal, by M. Louis Henry.—New researches on pectase and on the pectic fermentation, by MM. G. Bertrand and A. Mailève. Pectase exists in solution in the cellular sap of acid fruits, just as in carrot roots. There is no insoluble pectase. In acid fruits, its action is only apparent after neutralisation.—On the influence exercised by the nervous system and the internal pancreatic secretion on histolysis. Facts illustrating the mechanism of normal glycaemia and sugar diabetes. A note by M. M. Kaufmann.—The Pleistocene of the valley of Chambéry, by MM. J. Révil and J. Vivien.—Remains of striped hyænas from the quaternary of Bagnères-de-Bigorre (Hautes-Pyrénées), by M. Édouard Harlé.—On the quaternary phosphorites from the region of Uzès, by M. Charles Depéret.—An anemometer with multiple-electrical indications and automatic orientation, by M. Jules Richard.

BERLIN.

Physiological Society, December 21, 1894.—Prof. du Bois Reymond, President, in the chair.—Prof. Waldeyer gave a lengthy account of the most recent researches on the formative structures of the nervous system, laying special stress on the following statements. The entire nervous system consists of single elements which may most conveniently be called "neurons," each of which is composed of a nerve-cell and its processes. These processes are, on the one hand, protoplasmic "dendrites" which rapidly become branched, and, on the other hand "neurites" or "axons," which give off collateral branches, soon become medullated, and end in fine branchings, as also do the collaterals. Each nerve-cell has only one "axon." The dendrites convey impulses to the cell, the neurites or axons convey impulses from the cell. All nerve-fibres, both dendrites and neurites, end freely in fine

branchings. Every physiological path of conduction, whether from the periphery to the central nervous system, or *vice versa*, consists of two or more neurons, never of one. Conduction in the neurons is always longitudinal. Impulses are transmitted from one neuron to the other only by means of the free endings of the terminal branches. The lecture was illustrated by a series of schematic diagrams and some preparations.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—L'Industrie des Araneina: W. Wagner (St. Pétersbourg).—Summer Studies of Birds and Books: W. Warde Fowler (Macmillan).—Über die Bevruchtung der Bloemen: J. MacLeod (Gent, Vuylsteke).—L'ens-Work for Amateurs: H. Orford (Whittaker).—Steel Works Analysis: Prof. J. O. Arnold (Whittaker).—Handbook for Hertfordshire, Bedfordshire, and Huntingdonshire (Murray).—Calcareous Cements: G. R. Redgrave (Griffin).—An Elementary Text-Book of Metallurgy: Prof. A. H. Sexton (Griffin).—Electrical Engineering: W. Slingo and A. Brooker, new edition (Longmans).—A Popular Treatise on the Physiology of Plants: Dr P. Sorauer, translated by Prof. Weiss (Longmans).—Whence Comes Man, from "Nature" or from "God"?: A. J. Bell, new edition (Isbister).—Why does Man Exist?: A. J. Bell, new edition (Isbister).—A Collection of Appliances and Apparatus for the Prevention of Accidents in Factories, 2nd edition (Dulau).—Elektrophysiologie: Prof. W. Biedermann, Erste Abthg. (Jena, Fischer).—Allgemeine Physiologie: Dr. Max Verworn (Jena, Fischer).—Manuals of Elementary Science: Zoology: Prof. A. Newton, new edition (S.P.C.K.).—Manuals of Health: Air, Water, and Disinfectants: Dr. C. M. Aikman (S.P.C.K.).

PAMPHLETS.—Elementary Practical Chemistry: J. T. Hewitt and F. G. Pope (Whittaker).—Latent Heat of Steam and Absolute Zero: W. Donaldson (Waterlow).

SERIALS.—L'Anthropologie, tome v. No. 6 (Paris).—Quarterly Review, January (Murray).—Archives of Surgery, January (West).—Journal of Anatomy and Physiology, January (Griffin).—Botanische Jahrbücher, Neunzehnter Band, 4 Heft (Leipzig).—Royal Natural History, Part 15 (Warne).—Rendiconto dell'Accademia delle Scienze Fisiche e Matematiche, serie 2^a, Vol. viii, Fasc. 11^o, e 12^o (Napoli).—Bulletins de la Société D'Anthropologie de Paris, Nos. 5-7 (Paris).—Bulletins of the Rose Polytechnic Institute. No. 1: Physical Units: Prof. T. Gray (Terre Haute, Ind.).

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