atomic alcohol isomeric with the saccharoses, and very near to maltose in chemical constitution; it yields glucose on inversion, and does not fulfil aldehydic functions.—On the constitution of aqueous solutions of tartaric acid, by M. Aignan. The author arrives at the conclusion that tartaric acid exists in aqueous solution in the state expressed by the formula $(C_4H_6O_6)_2$, partially dissociated according to a definite law.—Researches upon the artificial production of hyalite at the ordinary temperature, by M. Stanislaus Meunier.—On the stomachic digestion of the frog, by M. Ch. Contejean. Experimental evidence is given (1) that the pepsin secreted by the œsophagus is more abundant or more active than that of the stomach; (2) that the œsophagean and stomachic pepsins transform coagulated albumin into syntonin, and afterwards into peptone, without passing through the pro-pepsin stage; (3) that the predominance of the action of œsophagean pepsin on stomachic pepsin is especially manifest by the larger quantity of syntonin that it produces.—On the sexual evolution of the trouts of the Pyrenees, by M. A. Cannieu. The metamere of the endodermous layer and of the primitive circulatory system in the post-branchial region of Vertebrata, by M. F. Houssay.—Contribution to the study of the mechanism of urinary secretion, by M. O. van der Stricht.—Reappearance during winter of the starch in ligneous plants, by M. Émile Mer. The researches indicate that in ligneous plants starch is reabsorbed at the end of the autumn, and generated at the beginning of spring. It results from this that the winter, instead of being the season during which the amylaceous reserve is most considerable, is the season during which it is least.—On some points in the anatomy of the vegetative organs of Ophioglossa, by M. G. Poirault. The observations show that the Ophioglossum fungus is never reproduced by spores, but is propagated exclusively by buds on the roots.—On the existence of Diatoms in the lower lands of North France and Belgium, by M. L. Cayeux.—On the proportion of water in corn from different localities, by M. Balland.—On the treatment of phylloxerous vines by carbon bisulphide mixed with vaselines, by M. P. Cazeneuve.

BRUSSELS.

Academy of Sciences, February 7.—M. F. Plateau in the chair.—Micrographical researches on the nature and origin of phosphate rocks, by M. A. F. Renard. The author gives the preliminary results of some researches on the formation of phosphate rocks. The investigation has been especially directed towards the problem of the origin of these rocks, and some important conclusions are arrived at with regard to this point. A lithographic plate, containing magnified representations of nineteen phosphate chalk specimens, accompanies the paper.—The winter of 1890-91, by M. F. Folie. It is remarked that observations at Brussels show that the winter of 1890-91 is one of the severest passed during the last sixty years. Since 1833 seven winters have been of a severity comparable with the last. They are 1837-38, 1840-41, 1844-45, 1846-47, 1854-55, 1870-71, 1879-80. A table is given showing the mean minimum temperature and the mean temperatures experienced during these years. This comparison and a consideration of summer temperatures do not point to any particularly definite facts. The idea that a hot summer succeeds a rigorous winter does not appear to be supported. On the contrary, it appears that the coming summer should be more cold than hot, with the exception of the months of May and August.—On variations in the latitude of a single place, by M. F. Folie. The reality of the variations in latitude deduced from observations made at Berlin, Potsdam, and Prague, are contested on the ground of systematic errors in the formulæ of reduction, due to the assumption that the earth has been considered to move as a solid body, whereas M. Folie believes it to be composed of a fluid nucleus with a solid crust.—Researches on the development of Arachnætis: contribution to the morphology of Cerianthidæ, by M. E. van Beneden.—Researches on the velocity of evaporation of liquids at temperatures below their boiling-points, by M. P. de Heen. The first part of this paper was read at the January meeting. The results are now given of experiments on the variations of the velocity of evaporation with the hygrometric condition of the current employed. The whole of the observations show that the velocity of evaporation, v, of a liquid surface acted on by wind may be expressed by the formula—

$$v = AF\,(100 - 0{\cdot}88f)\sqrt{V}$$

where A is a constant, F the tension of the saturated vapour at the temperature of the liquid, and V the velocity of the current.—Determination of the radius of curvature in parallel coordinates, by M. Maurice d'Ocagne.

March 7.—M. Plateau in the chair.—On a curious peculiarity of currents of water, and on one of the causes of sudden floods, by M. G. van der Mensbrugghe. An explanation is given of the fact that in a river the maximum velocity of the current does not occur at the surface, but about three-tenths of the depth below the surface.—Reduction of nitrates by sunlight (second note), by M. Émile Laurent. The author has caused a beam of sunlight to fall upon solutions of nitrates placed in a vacuum, and has found that after a certain time the space contained liberated oxygen, whilst the liquids possessed the characteristic reactions of nitrites. M. Laurent has analyzed the oxygen and nitrites, and finds that the quantity of gas is sensibly proportional to the nitrite formed. As might have been expected, the blue end of the spectrum possesses the most powerful reducing action.—Note on the coagulation of the albumins of the serum of cow's blood, by MM. J. Corin and G. Ansiaux. The authors support the assertion made by Halliburton in 1883, that the albumin of serum ought not to be considered as a single substance, but as a mixture of two or three albuminoids, α, β, and γ, coagulating respectively at temperatures—$\alpha = 73^\circ$ C., $\beta = 77^\circ$ C., and $\gamma = 82^\circ$ C. The blood of man, the dog, pig, rabbit, &c., were known to contain these three substances, and it is now shown that the serum of the cow also contains the paraglobulin α, and the albumins β and γ. Further, it is shown that opalescence and coagulation are not distinct things, but two forms of one and the same phenomenon occurring at the same temperature.—On the curvature of polars with respect to a point on a curve of the nth order, by Prof. C. Servais.—Discovery of a variable star, by M. L. de Ball. An account is given of observations of a variable red star situated in R.A. 20h. 41m. 19s., Decl. + 2° 2′·3 (1891). The observations extend from September 15, 1890, to January 9, 1891. In this time the magnitude of the star increased from 8·7 to 8. The star is not included in Bermingham's Red Star Catalogue. M. de Ball's observations are only eye-estimations, and have not been made by the aid of a photometer. Further evidence of variability is therefore required.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Lessons in Astronomy: C. A. Young (Arnold).—Practical Perspective: J. Spencer (Percival).—Revision or Examination Sheets; Subject II., Machine Construction and Drawing, Elementary Stage: A. G. Day (Percival).—General Physiology: Dr. C. Calleja (Kegan Paul).—Differential and Integral Calculus: A. G. Greenhill, 2nd edition (Macmillan and Co.).—Natural Selection and Tropical Nature: A. R. Wallace; new edition (Macmillan and Co.).—Fifth Report of the U.S. Entomological Commission: A. S. Packard (Washington).—Principles of Political Economy and Taxation: D. Ricardo; edited by E. C. K. Gonner (Bell).—L'Évolution des Formes Animales: F. Priem (Paris, Baillière).—Géologie, Principes—Explication de l'Époque Quaternaire sans Hypothésis: H. Hermite (Neuchâtel, Attinger).

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