dynamical effect is equal to the geometrical variation of quantity of movement suffered by the volume of water delivered per second in its passage across the turbine.—On the time distribution of rain at Athens, by M. D. Eginitis.—On the process of attacking the emerald and the preparation of pure glucina, by M. P. Lebeau.—On a group of mineral waters containing ammonia (bituminous waters), by M. F. Parmentier.—On the estimation of tannins in wines, by M. E. Manceau.—Action of chlorine on normal propyl alcohol, by M. André Brochet. Two of the products of chlorination in the cold are α chloropropionic aldehyde, $CH_3.CHCl.COH$, and dipropyl chloropropional, $CH_3.CHCl.CH(OC_3H_7)_2$.—On ozotoluene, by M. Adolphe Renard. Ozotoluene resembles the ozobenzene previously described. It is a white opaque mass, commencing to decompose at about 8°. It detonates on heating or by shock, but less easily than ozobenzene. Its composition is represented by the formula $C_7H_8O_6$.—Study on the nitration of menthone, by M. Konovaloff. By heating with nitric acid at 100° in a sealed tube menthone yields nitromenthone $C_{10}H_{17}(NO_2)O$. The alcoholic solution of the latter with sodium ethoxide gives a salt, undecomposed by boric, carbonic, or hydrosulphuric acids, corresponding to the acid $C_{10}H_{19}NO_4$ set free by sulphuric acid. The nitromenthone is reduced with formation of a basic substance. It is probably a tertiary nitromenthone of the composition

$$CH_3.CH\begin{cases}CH_2-CH_2\\ CH_2-CO\end{cases}C(NO_2).C_3H_7.$$

—On the fermentation of cellulose, by M. V. Omelianski. The specific ferment destroying cellulose has been isolated by the author, and is described in the paper.—Anatomy of the digestive apparatus of the Orthoptera of the family of the *Forficulidæ*, by M. Bordas.—On the application of the experimental method to the orogenic history of Europe, by M. Stanislas Meunier.—Experiments relative to the direct manufacture of pure ethyl alcohol, by the fermentation of *Asphodelus ramosus* and *Scilla maritima* with cultivated pure wine yeasts, by M. M. G. Rivière and Bailhache.—On the reclamation of the heath-lands of the Dordogne, by M. Raoul Bouilhac. It is shown that the reclamation of these sandy barrens is possible by the use of a lime phosphatic manure.—Experimental congenital deformities, by MM. Charrin and Gley.

AMSTERDAM.

Royal Academy of Sciences, September 28.—Prof. Van der Waals in the chair.—Mr. Jan de Vries read a paper on addition theorems for elliptic integrals.—Prof. Kamerlingh Onnes communicated measurements, made in the Leyden laboratory, and already published in Dr. Lebret's dissertation (July 1895) on the variation with temperature of the Hall effect in bismuth, the temperatures ranging from −74° to + 240°. Two samples of pure bismuth were experimented upon. The temperature curve of one of the specimens showed a maximum point at −20°; that of the other was not examined far enough. The latter specimen was melted up into a glass tube, and the variation in the electrical resistance measured between −76° and +240°.—At the request of Prof. Cohn of Strassburg and of Dr. Zeeman of Leyden, Prof. Onnes gave an account of experiments, made partly at Strassburg and partly at Leyden, on the propagation of electrical waves in water. The result was: (1) there is no dispersion for waves of the oscillation frequency of 27 to 97 millions per second; (2) the refractive index for waves of which there are a hundred millions a second, is equal to the square root of the specific inductive capacity as measured by the statical method.—Prof. Onnes further communicated: (1) a measurement on the refractive index of glowing platinum, made by Dr. Zeeman in the Leyden laboratory. With Babinet's compensator it was impossible to establish a variation with temperature of the principal incidence and the principal azimuth, even when the platinum mirror was heated to 800° C. Hence within the limits of the errors of measurement the refractive index does not change; (2) a chart, showing the secular variation of magnetic declination, by Dr. W. van Bemmelen; (3) photographs of vibrating strings made by a new method, that of intermitting photography, by Dr. H. J. Oosting.—On behalf of Messrs. C. A. Lobry de Bruyn and W. Alberda van Ekenstein, Prof. Franchimont presented a paper on the reciprocal conversion of glucose, fructose and mannose into one another under the influence of alkalis.—Mr. van Diesen called attention to a copy, now in the library of the Academy, of the second edition of the map of North Holland, made in 1575, by order of the Duke of Alva, by Joost Jansz. Beeldsnyder. Of the first edition no copy seems to be extant in Holland. The copy shown is the edition published in 1610 by H. A. van Warmenhuysen. Though the map seems to have been prepared with care as regards local details, the triangulation is not correct. The "mile," given as scale, probably the Spanish mile, has on this copy a length of 73 m.m.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—The Story of the Earth in Past Ages: Prof. H. G. Seeley (Newnes).—Birds from Moidart and Elsewhere: Mrs. H. Blackburn (Edinburgh, Douglas).—Zoological Record, Vol. xxxi. (Gurney).—Histoire de la Philosophie Atomistique: L. Mabilleau (Paris, Alcan).—Geological Survey of Canada, various Maps, (Ottawa).—An Introduction to the Algebra of Quantics: Prof. E. B. Elliott (Oxford, Clarendon Press).—The Reliquary and Illustrated Archæologist, new series, Vol. 1 (Bemrose).—Analyse des Alcools and des Faux-de-Vie: X. Rocques (Paris, Gauthier-Villars).—Applications Scientifiques de la Photographie: G. H. Niewenglowski (Paris, Gauthier-Villars).—Fourth Volume of Reports upon the Fauna of Liverpool Bay, &c. (Liverpool, Dobb).—A Primer of the History of Mathematics: W. W. R. Ball (Macmillan).—Science Readers: V. T. Murché, Books v. and vi. (Macmillan).—The Natural History of Eristalis Tenax, or the Drone Fly: J. B. Buckton (Macmillan).—Studies in Economics: Dr. W. Smart (Macmillan).—The Life of Joseph Wolf: A. H. Palmer (Longmans).—Stanford's Compendium. Africa, Vol. 2: South Africa: A. H. Keane (Stanford).—Elementary Physical Geography: Prof. R. S. Tarr (Macmillan).—Elementary Physiography: J. Thornton, 8th edition (Longmans).—The Intellectual Rise in Electricity: Dr. P. Benjamin (Longmans).

PAMPHLETS.—De la Double Réfraction Elliptique et de la Tétraréfringence du Quartz: Prof. G. Quesneville (Paris).—The Rutherfurd Photographic Measures of Sixty-two Stars about η Cassiopeiæ: H. S. Davis (New York).—Clouds and Weather: Captain D. Wilson-Barker (*Shipping World* Office).

SERIALS.—Princeton Contributions to Psychology, September (Princeton, N.J.).—Zeitschrift für Wissenschaftliche Zoologie, lx. Band, 2 Heft (Leipzig, Engelmann).—Geographical Journal, November (Stanford).—Bulletin of the American Mathematical Society, October (New York, Macmillan).—L'Anthropologie, tome vi. No. 5 (Paris, Masson).—Zeitschrift für Physikalische Chemie, xviii. Band, 2 Heft (Leipzig, Engelmann).—Scribner's Magazine, November (S. Low).—Geological Magazine, November (Dulau).—Journal of the Chemical Society, November (Gurney).—History of Mankind: F. Ratzel, Part 2 (Macmillan).—Mathematical Gazette, October (Macmillan).—Science Progress, November (Scientific Press, Ltd.).—The Evergreen, Autumn (Unwin).—Journal of the American Public Health Association, October (Concord).—Proceedings of the Physical Society of London, November (Taylor).—Journal of the Franklin Institute, November (Philadelphia).—American Naturalist, November (Philadelphia).—Engineering Magazine, November (Tucker).

CONTENTS.