

the plains of the interior would also be very valuable.—Notes on the distribution of *Ceratella fusca*, Gray, from the coast of New South Wales, by John Brazier, C.M.Z.S. A number of instances are given of the occurrence of this Hydrozoon near the Heads of Port Jackson. Mr. Brazier also mentions that a specimen sent from the British Museum to the Australian Museum as *Ceratella fusca*, Gray, is really *D. hitella atrorubens*, Gray, from Algoa Bay.

PARIS

**Academy of Sciences, August 9**—M. Émile Blanchard in the chair.—On the problem of Gauss concerning the attraction of an elliptical ring, by M. Halphen. Although a clear demonstration of this well-known problem has lately been made by G. W. Hill (Simon Newcomb's "Astronomical Papers," vol. i. 1882), a fresh solution is here proposed, which has the advantage of not requiring the preliminary resolution of an equation of the third degree.—Observations on the oldest sedimentary formations in North-West France (concluded), by M. Hébert. It is shown that the clay-slates of Saint-Lô, which are pre-Cambrian or Archæan formations, were deposited in horizontal layers in a marine basin, which stretched from Wales southwards to Quimper and Alençon, and which was broken only by a few isolated masses of granite and crystalline schists. This oldest of oceanic waters lasted for a long geological epoch, as attested by the thickness of these deposits, and the transformation of the muddy sediment into hard clay-slates. The present vertical position of these rocks, which were antecedent to all animal life, was evidently due to contraction of the terrestrial crust, by which were determined the foldings, faults, and ruptures, and probably the general upheaval of the whole region.—Reply to M. Hugoniot's note on the pressure that exists in the contracted section of a gaseous vein, by M. Hirn. To M. Hugoniot's objection the author replies that he has shown by experiment that the gas flowing through a cylindrical tube into a reservoir, where it becomes very rarefied, falls gradually from the pressure  $P_0$ , which it possesses in the gasometer, to a pressure  $P_2$ , which is almost exactly that of the rarefying reservoir.—On the velocity of the flow of fluids, by M. Th. Vautier. Having in a previous communication explained his graphic method, the author here shows the process by which he has successfully applied the revolving mirror to the measurement of the velocity of fluids.—Spectrum of the negative pole of nitrogen: general law of distribution of the rays which appear in the bands of the negative pole, by M. H. Deslandres. In the luminous region, which alone has hitherto been studied, the spectrum of the negative pole is accompanied by faint traces of positive bands. But in the ultra-violet region it is prolonged only by a small number of bands, and becomes, so to say, smothered amid the powerful and numerous positive bands. The rays of the band  $\lambda$  391 are disposed according to the following simple law: The intervals from one ray to another, calculated in numbers of vibrations, are arranged as nearly as possible in arithmetical progression. This appears to be a general law, not merely an isolated fact, as observed by Piazzi Smyth and Herschel between sixteen rays of the green band of the oxide of carbon.—On the temperatures and critical pressures of some vapours in liquids, by MM. C. Vincent and J. Chappuis. In a previous communication the authors announced their researches on the temperatures and critical pressures of two series of gaseous bodies at the ordinary temperature. Here they give the result of their experiments with liquid bodies at the ordinary temperature—the chloride of propyl, the series of the three amines of ethyl, and the two first normal amines of propyl.—Researches on the variations of solubility of certain chlorides in water in the presence of hydrochloric acid, by M. Guillaume Jeannel. From his experiments with the chloride of potassium the author infers that the variations of solubility of this salt are not subjected to the law recently announced by Engel. He arrives at the general conclusion that the solubility of the chlorides precipitated by hydrochloric acid varies in the presence of the acid, so that the sum of the equivalents of water, salt, and acid forming the solution remains constant at the same temperature, whatever be the chloride and whatever be the proportions of the mixture.—Combinations of ammonia with the metallic permanganates, by M. T. Klobb.—Chemical and thermic study of the phenosulphuric acids: paraphenosulphuric acid, by M. S. Allain-Le Canu. This paper is devoted to a fresh study of the three phenosulphuric acids (oxyphenylsulphonic)  $C_{12}H_6S_2O_8$ .—On the presence of lecithine in vegetation, by MM. Ed. Heckel and Fr. Schlagdenhauffen. The authors' researches confirm the

conclusion already arrived at by Hoppe-Seyler and Kratzschmar that this substance, known to exist in many of the animal tissues, is found also in numerous plants.—Note on fine-flavoured brandy distilled from the grape-cake of white wine, by M. Alph. Rommier.—Fresh researches on the axial nervous current, by M. Maurice Mendelssohn. It is shown that the axial current possesses the same physical and physiological properties that M. E. Du Bois-Reymond has discovered in other nervous currents; also that its direction is in the closest relation with that of the function of the nerve.—On the alterations produced in the constitution of the blood by the action of the sulphuret of carbon on the animal system, by MM. Kiener and R. Engel.—On the resistance of the virus of glanders to the destructive action of atmospheric agencies and of heat, by MM. Cadéac and Malet. It is shown that this virus loses its virulence in humours exposed to the open air after complete desiccation; also that it is destroyed rapidly in warm and dry, slowly in cold and moist weather.—On the disposition of the limestone breccias of the Alpujarras Range, Andalusia, and their resemblance to the carboniferous breccias of Northern France, by MM. Ch. Barrois and A. Offret.—On a method of volumetric analysis for the sulphates, by M. H. Quantin.

BOOKS AND PAMPHLETS RECEIVED

"Life and Labours of John Mercer," by E. A. Parnell (Longmans).—"Arc and Glow Lamps," by J. Maier (Whittaker).—"Fourth Report of the U.S. Entomological Commission," by N. Riley (Washington).—"List of Foreign Correspondents of the Smithsonian Institution," by G. H. Boehmer (Washington).—"List of Institutions in the U.S. Receiving Publications of the Smithsonian Institution" (Washington).—"Bulletin of the U.S. National Museum," No. 30, "Bibliographies of Amer. Naturalists," iii., "Publications relating to Fossil Invertebrates," by J. B. Marcou (Washington).—"Quarterly Journal of the Geological Society," vol. xlii. part 3, No. 167 (Longmans).—"Catalogue of Birds of Suffolk," by Rev. C. Babington (Van Voorst).—"Elements of Plane Geometry," part 2 (Sonnenschein).—"A New Physical Truth," by E. J. Goodwin.—"Progress in Zoology, 1885," by Prof. Gill; "Progress in Chemistry, 1885," by H. C. Bolton; "Progress in Geography, 1885," by J. K. Goodrich; "Progress in Astronomy, 1885," by W. C. Winlock; "Progress in Anthropology, 1885," by Prof. Mason; "Record of North American Invertebrate Palæontology, 1885," by J. B. Marcou; "Progress in Vulcanology and Seismology, 1885," by Prof. Rockwood (Smithsonian Institute, Washington).

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