

main object of these remarks is to enable chemists to judge for themselves as to the degree of confidence his conclusions are entitled to.—On the density of chlorine and on the vapour density of ferric chloride, by MM. C. Friedel and J. M. Crafts. For chlorine the mean at 21° C. is here determined at 2.471, and at 440° C. 2.448, while between 321° and 442° C. the perchloride of iron is shown to have a somewhat constant density corresponding to the formula Fe₃Cl₆.—On the vapour density of the perchloride of gallium, by MM. C. Friedel and J. M. Crafts. According to Lecoq de Boisbaudran's determinations the perchloride of gallium (Ga₃Cl₆) melts at 75°·5 and boils at 215° to 220°. Here the density at 237° and 307° is found to be 11.73 and 10.61 respectively, or somewhat less than the theoretic density. Above 307° it diminishes considerably, falling to 8°·5 at 357°, and 6°·6 at 440°.—On the gigantic dimensions of some fossil mammals, by M. Albert Gaudry. These remarks are made in connection with the accurate measurements of the St. Petersburg mammoth (*Elephas primigenius*) supplied by Tilesius. The skeleton, a photograph of which has recently been taken by M. Strauch, is 3.42 metres high to the top of the head, as compared with the 4.22 of the Dufort skeleton (*Elephas meridionalis*) in the new gallery of the Paris Museum. Comparing these with the remains of *Dinotherium giganteum* and other monsters of the Upper Miocene and later epochs, the author groups the larger extinct mammals according to their dimensions in five classes, as follows: (1) *Dinotherium giganteum* of the Upper Miocene, Attica; (2) *Elephas antiquus* of the Quaternary, neighbourhood of Paris; (3) *Elephas meridionalis* of the Upper Pliocene, Dufort (Gard); (4) *Mastodon americanus*, of the Quaternary, United States; (5) *Elephas primigenius*, of the Quaternary, Siberia, this last being about the same size as the living elephants.—Observations of the comet 1888 a, by M. Cruls. These observations were made at the Imperial Observatory of Rio Janeiro for the period from February 24 to April 2.—Positions of the comet 1888 L, measured with the 8-inch equatorial of the Observatory of Besançon, by M. Gruy. The positions of the comet and comparison stars are given for the period from June 7 to June 19.—An isochronous regulator, by M. Baudot. The object of this apparatus is to maintain at a uniform velocity the rotation of the distributor employed by the inventor in his multiple printing telegraph system, despite the variations of the motor power and those of the resisting force caused by the action of the several parts of the instrument, or by any other disturbing element. Its action consists in introducing into the motor mechanism a resistance varying automatically whenever necessary, thus maintaining a perfect equilibrium between the total motor and resisting forces.—On a telephone with closed magnetic field, and plaque with equal concentric cylindrical sections, by M. Krebs. With the appliance here described the vibrations preserve a large degree of amplitude, while the section is saturated at no point of the magnetic circuit. These dispositions greatly facilitate the construction of powerful instruments of all sizes.—Magnetic charts of the West Mediterranean basin, by M. Th. Moureaux. The magnetic charts which the author now presents to the Academy have been mainly prepared from the data supplied by the series of observations described in the last number of the *Comptes rendus*. They comprise, besides the chief islands, the whole of the European seaboard from Cadiz to the Strait of Messina, and the North African coast between Tangier and Tripoli.—The storage of electricity and thermodynamics, by M. Gouy. In this paper the author endeavours to connect the principle of the preservation of electricity with the general laws of thermodynamics, taking as his experimental starting-point the first law of electric actions.—On the electric conductivity of mixtures of salts in solution, by MM. E. Bouty and L. Poincaré. In the present communication the authors deal mainly with the special case of the nitrates of potassa and soda, their object being to ascertain whether it be possible to deduce the electric conductivity of a mixture of saline solutions, without chemical action, from the conductivity of each, assuming this to be a known quantity.—On the production of ozone by electric shocks, by MM. Bichat and Guntz. Here the authors propose to study the various circumstances which influence the production of ozone by means of explosive discharges. The results obtained show that the formation of ozone is primarily connected with the greater or less elevation of the temperature of the oxygen under the action of the electric shocks.—Notes follow, by M. A. Carnot, on the lithine present in mineral waters; by M. J. Ribau, on a method

of analyzing and separating zinc; by M. de Forcrand, on the glycol-alcoholate of soda; by M. J. Meunier, on a dibenzoic ether derived from mannite; by M. E. Gley, on the comparative toxic properties of wabaine and strophanthine; and by M. Prillieux, on an efficacious treatment of black rot, a disease of the vine which has spread from America to France.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

The Speaking Parrots, Part 4; Dr. K. Russ (L. U. Gill).—British Dogs, No. 22; H. Dalziel (L. U. Gill).—*Challenger Expedition Reports—Zoology*, vol. xxvi. (Eyre and Spottiswoode).—Contributions to the Natural History of Alaska, No. 2; L. M. Turner (Washington).—A New Theory of Parallels; C. L. Dodgson (Macmillan).—Atlantic Weather Charts, Part 4 (Eyre and Spottiswoode).—Arithmetical Exercises and Examination Papers; H. S. Hall and S. R. Knight (Macmillan).—Entomology for Beginners; Dr. A. S. Packard (Holt, New York).—Catalog der Conchylien-Sammlung, Liefg. 8; F. R. Paetel (Berlin).—The Structure and Classification of the Mesozoic Mammalia; H. F. Osborn (Philadelphia).—Insect Life (Washington).—Il Terremoto nel Vallo Cosentino del 3 Dicembre, 1887; G. Agamenno (Roma).—Morphologisches Jahrbuch, Band 14, Heft 1 (Williams and Norgate).—Annalen der Physik und Chemie, 1888, No. 9 (Leipzig).—Verhandlungen des Naturhistorischen Vereines, 5 Jahrg. Erste Hälfte (Bonn).—Annual Report of the American Museum of Natural History, Central Park, New York, for the Year 1887-88.

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