

such as pieces of ivory embellished with carvings of the aurochs and other animals, seem to have been executed at an earlier period, while the cave-dwellers were still struggling for existence with the mammoth, with *Rhinoceros tichorhinus*, the cave-bear, cave-lion, and large hyæna.—On glycose, glycogene, and glycogeny, in their relation to the production of heat and of mechanical labour in the animal system, by M. A. Chauveau. In this first physiological study of these elements, the author deals more especially with the generation of heat in the organism while in a state of repose. The reasons are set forth which lead to his broad generalisation regarding the preponderating part played by the glycose of the blood in organic combustions, source of animal heat and of muscular energy. It is now fully established that the absorption of glycose in the capillaries during the transformation of arterial into venous blood is connected with the respective activity of the attendant combustions in the several organs.—Some remarks on the determination of mean values, by Leopold Kronecker. It is shown that in a converging series of real terms $\phi_1 + \phi_2 + \phi_3 + \dots$ with positive real quantities $\psi_1, \psi_2, \psi_3, \dots$ increasing with n beyond all limit, the limit of the expression—

$$\frac{1}{\psi_n} (\phi_1 \psi_1 + \phi_2 \psi_2 + \phi_3 \psi_3 + \dots + \phi_n \psi_n)$$

for increasing values of n is equal to zero.—On the movement of an indefinite and perfectly elastic fluid, by M. N. Marin. The object of this study is to complete the law of Mariotte by another described as the law of elasticity for perfectly elastic and completely free fluids. In a fluid so constituted, it is laid down that all contraction determined by any cause whatsoever acting in a single direction, is instantaneously propagated in all other directions.—On the movement of a cord in a fixed plane, by M. Appell.—On the algebraic integrals of Kummer's equation, by M. E. Goursat.—Analytical demonstration of a theorem relating to orthogonal surfaces, by M. Paul Adam. The theorem here dealt with is that of M. Maurice Lévy regarding a group of surfaces in an orthogonal system, and by him demonstrated on purely geometrical considerations.—On the unequal movement of a compressed gas in a reservoir freely discharging into the atmosphere, by M. Hugoniot.—On an apparatus by which the time may be communicated to the performers out of the conductor's sight, by M. J. Carpentier. The apparatus here described has been constructed at the request of the directors of the Paris Opera. It is based on the principle of visible signs, depending on a purely optical illusion, and producing the impression of an ordinary conductor's hand beating time. It is thus free from the defects inherent to the various electric appliances hitherto devised for the same purpose.—On a means of increasing the power of fluid and electric agencies, by M. Charles Cros. In this process a return is made to the old idea involved in the expression "electric fluid," and the wires are regarded as analogous to elongated tubes through which pressure is transmitted. The experiment was suggested by the author's researches on transmissions through more or less elastic tubes containing air or water.—On the tension of saturated vapour, by M. P. Duhem.—On the physical properties of mercury, by M. Marcellin Langlois. On the assumption of a mono-atomic molecule of mercury, the author determines its heat of evaporation, its specific heat, compressibility, and heat of fusion.—Actinometric studies, by M. E. Duclaux.—A new process of volumetric analysis for powdery zinc (*gris d'ardoise* of la Vieille Montagne), by M. Frédéric Weil. By the process here described, 100 gr. of this substance yield 65.3 gr. of pure zinc.—Action of the alcohols on the protochloride of gold and phosphorus, by M. L. Lindet. Here are described the preparation and properties of two chloro-phosphorous ethers—ethylic and methylic ether.—On the Russian petroleum, by M. J. A. Le Bel. The chief element of the petroleum of Baku, at the eastern extremity of the Caucasus, are naphthenes, C_nH_{2n} , and naphthylenes, C_nH_{2n-2} ; and their salient characteristic is that they do not fix bromine.—On the heats of neutralisation of malic and citric acids and of their pyrogenated derivatives: remarks on the numbers obtained, by M. H. Gal and E. Werner.—On certain correlations between the modifications experienced by species of different genera subjected to the same influences, by M. Fontannes. Several analogous modifications are noted pervading many species of different genera throughout the geological record; but no theory is advanced to explain the coincidences.—On a new genus of parasitic Copepod, by M. Eugène Canu. This new genus is a parasite of the Synascidians, and abounds on the *Morchellium argus* (Milne-Edwards) frequenting the Wimereux district.—

On the anomalous formations of the Menispermeæ, by M. Gérard.—Observations on the plaster added to new wines in the South of France and other parts of Europe, by M. A. Audouy.—Note on the coarse marine limestone formation of the Provins district (Seine-et-Marne), by M. Stanislas Meunier.—On the Devonian system of the Eastern Pyrenees range, by M. Ch. Depéret.—On the pleromorphoses of the quartz of Saint-Clément (Puy-de-Dôme), by M. Ferdinand Gonnard.—Description of a variety of Carphosiderite, by M. A. Lacroix. The optical properties of this mineral, which was found in the neighbourhood of Mâcon (Saône-et-Loire), are described.—On the conditions of form and density of the terrestrial crust, by M. A. de Lapparent. It is argued that the generally-accepted views regarding the symmetrical flattening of the globe at the poles is far from proved, and it is suggested that in the southern hemisphere there exists an inaccessible antarctic continent presenting a different conformation in this respect from that of the northern hemisphere.—On the mode of formation of the Newfoundland banks, by M. J. Thoulet.—On the progressive desiccation of lacustrine basins in dry climates, by M. Venukoff.

BOOKS AND PAMPHLETS RECEIVED

Die Schiffsmachine; Atlas: Bushey (Lipsius and Fischer, Kiel).—Second Armagh Catalogue of 3300 Stars: Robinson and Dreyer (Thom, Dublin).—An Arctic Province; Alaska and the Seal Islands: H. W. Elliot (Low).—Wild Animals Photographed and Described: J. F. Nott (Low).—Quarterly Journal of the Geological Society, vol. xlii. part 4, No. 163 (Longmans).—Studies from the Biological Laboratory, Johns Hopkins University, vol. iii. No. 8.—Calendar of University College of South Wales, 1886-87 (Jwen, Cardiff).—Géologie de Jersey: Le P. C. Noury (Sary, Paris).—Memoirs of the Geological Survey of India—Palaeontologia Indica, ser. x.; Indian Tertiary and Post-Tertiary Vertebrata, vol. iv. part 2, The Fauna of the Karnul Caves: R. Lydekker (Trübner).—Descriptive Catalogue of a Collection of the Economic Minerals of Canada: A. R. C. Selwyn (Alabaster).—L'Égalité des Sexes en Angleterre: F. Remo (Nouvelle Revue, Paris).—Theory of Magnetic Measurements: F. E. Nipher (Van Nostrand, New York).—Outlines of the Geology of Northumberland and Durham: G. A. Lebour (Lambert, Newcastle-on-Tyne).—Lehrbuch der Histologie: Dr. P. Stohr (Fischer, Jena).—Lehrbuch der Entwicklungsgeschichte, Erste Abth.: Dr. O. Hertwig (Fischer, Jena).—Lunar Science, Ancient and Modern: Rev. T. Harley (Sonnenschein).—Hourly Readings 1884, part 1, January to March.—The Auk, October, vol. iii., No. 4 (New York).—Journal of Physiology, vol. vii., Nos. 5 and 6 (Cambridge).—Notes from the Leyden Museum, Nos. 1 to 4, 1886 (Brill, Leyden).—Observations Nouvelles sur le Tufeau de Ciple: A. Rutot and E. van den Broeck (Liège).—Proceedings of the Academy of Natural Sciences of Philadelphia, April to September 1886 (Philadelphia).—The Washoe Rocks: G. F. Becker.—On the Origin of Agriculture: H. Ling Roth (Harrison).

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