

interest:—On some cinchonin compounds, by M. A. Wischnegradsky.—On the origin of milk, by M. L. Schichkoff.—On isotributylene by M. A. Butlerow.—Researches on the nucleine of milk, by M. N. Lubavin.—Analysis of the water of the Oka river, as well as of the sources which supply the aqueduct of Nishnii Novgorod, by M. N. Socoloff.—On  $\beta$  chloropropionic aldehyde, by M. G. Krestownikoff.—On  $\beta$  chlorobutyric aldehyde, by M. J. Karetnikoff.—On homoitaconic acid, by MM. G. Krestownikoff and W. Markownikoff.—On the products of dry distillation of phthalate of calcium, by M. O. Miller.—On the tenor of nitrogen in the detonating nitroethers, by M. J. Tcheltzoff.—On some applications of the mechanical theory of heat to the variations in the state of an elastic body, by N. Schiller.—On the influence of hydrogen on the volumes and on the elasticity co-efficients of palladium and its alloys, by N. Hesehus.

THE *Rivista Scientifico Industriale* (Nos. 14 and 15).—From these parts we note the following papers:—On the subdivisibility of the electric light, by Prof. Rinaldo Ferrini.—Observations of Swift's comet, made at the Royal Observatory of Brera, at Milan, by Prof. G. V. Schiaparelli.—On the non-existence of nascent hydrogen and the reduction of perchlorate of potash, by Dr. D. Tommasi.—On the smallest species of the Araceae family, by Prof. O. Beccari. The name given to the new species by the professor is *Microcasia pygmaea*.—On the presence of lithium salts in the sea-water between Pozzuoli and Castellammare, by Prof. S. de Luca.—On the synthesis of sulphuretted and seleniuretted hydrogen, by Prof. A. Januario.—On red amber, by Prof. Capellini.—On the phenomena of acoustic attraction and repulsion, by Prof. Tito Martini.—On a new seismological instrument called "Ascoltatore endogeno" (endogenous listener), constructed by Prof. Giovanni Mugna.

SOCIETIES AND ACADEMIES

PHILADELPHIA

Academy of Natural Sciences, January 7.—Description of a new species of goniobranchus, by Andrew Garrett.  
 January 14.—List of land shells inhabiting Ruruntu, one of the Austral Islands, by A. Garrett.  
 January 21.—Notes on some Pacific Coast fishes, by W. N. Lockington.  
 January 28.—Further notes on the mechanical genesis of tooth-forms, by J. A. Ryder.—Note on hydraceum, by Drs. Greene and Parker.—Morphological notes on the limbs of the amphiumide, by J. A. Ryder.—The land shells of the Mexican Island of Guadeloupe, by W. G. Binney.  
 February 4.—Prof. Leidy on fossil remains of a caribou deer.  
 February 11.—On the parasol ant, by Rev. H. C. McCook.  
 February 18.—Structure of chimpanzee, by Dr. Chapman.  
 February 25.—Descriptions of three new species of calceolidae from Upper Silurian, by V. W. Lyon.  
 March 11.—Nudibranchiate gasteropods of North Pacific, by Dr. R. Bergh.—On the variability of *Spheria quercuum*, by J. B. Ellis.—Notes on *Opuntia prolifera*, by T. Meehan.  
 March 25.—Notes on *Amphiuma*, by Dr. Chapman.—On a new genus and species of *Scombridae*, by W. N. Lockington.

PARIS

Academy of Sciences, September 1.—M. Daubrée in the chair.—M. Faye presented, in the name of the Bureau des Longitudes, the *Connaissance des Temps* for 1881, and mentioned the improvements introduced.—The following papers were read:—Mathematical theory of the oscillations of a double pendulum by Mr. Peirce; note by M. Faye.—Note on solar temperatures, by M. Janssen. The expression, *temperature of the sun*, is wanting in precision, and the methods of measurement adopted are faulty, in view of the want of homogeneity in the solar surface, and the vast envelopes which prevent the radiation reaching us in all its force. To conclude the temperature of the photosphere from its radiating power, one should know the emissive power (which is, however, unknown to us). The common methods may give truly the calorific force of solar radiation which reaches the earth's surface, but they give no exact notions of even an average temperature (which expression, indeed, is inapplicable to the sun). M. Janssen's efforts are now directed to a study of the sun in each of its distinct parts, employing analytical methods, and especially photography of the spectra of portions studied.—On the chemical constitution of alkaline

amalgams, by M. Berthelot. The addition of solid mercury to amalgams containing already several equivalents of this metal liberates little or no heat, just as in the addition of solid water to saline hydrates, which already contain several equivalents of water; nearly all the heat or work having been developed in the previous combination. This gives a new relation between saline hydrates and metallic alloys.—On the projects of an American maritime canal, and of communication between Algiers and Senegal, by M. de Lesseps. He presented a volume of proceedings of the International Congress and reports relating to the former scheme. As to the latter, he thinks it would be well to commence by establishing telegraph stations at various points where water is obtainable.—On a means of diminishing the loss of *vis viva* in a divergent ajutage of large dimensions, the angle of which is too open, and which may be divided into several by conical surfaces having the same axis, by M. de Caligny.—On a process of obtaining in any ball governor the degree of isochronism desired, &c.; practical rules, by M. Leauté.—Anatomical and morphological researches on the nervous system of insects, by M. Brandt. *Inter alia*, it is untrue that all insects have a sub-oesophagean ganglion separate from the others (*Rhizotrogus*, *Stylops*, and *Hydromedra* have not). The circumvolutions of the brain are found in all insects, in various development, and the development differs in individuals of the same species. In general, the development of the hemispheres, but not of the whole brain, is related to instincts and habits. In some insects having two thoracic ganglions, the first is simple, the second compound; in others both are compound. The transformation of the nervous system takes place in some insects by reduction of the number of ganglions; in others by an opposite process.—On two new elements in erbine, by M. Cléve. The spectrum of the old erbine is attributed to three distinct oxides. The two new elements he designates *Thulium* (from Thule, the old name of Scandinavia) and *Holmium* (a derivative from the Latinised name of Stockholm).—Prof. Lawrence Smith remarked on the doubts of some *savants* as to the results of recent study of earths of the yttrium and cerium group.—Partial synthesis of milk-sugar and contribution to synthesis of cane-sugar, by M. Demole.—Reaction of tungstates in presence of mannite, by M. Klein.—On the determination of urea; reply to M. Esbach, by M. Méhu.—On the physiological effects of formiate of soda, by M. Arloing. It lowers the animal temperature, accelerates the respiratory movements, &c., is poisonous when the dose exceeds 1 gr. per kilog. of weight of the animal. It might be advantageously used for salicylate of soda in some cases.—On some facts relating to contraction, by MM. Brissand and Richet.—Morphological and zoological researches on the nervous system of dipterous insects, by M. Künckel.—On the plurality of nuclei in certain plant cells, by M. Treub.

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