on both crystals. The cube faces are all striated in the direction of the diagonals of the faces of the cube, and show, consequently, the tendency toward the octahedral form. The spinel was perfectly transparent, of a beautiful ruby colour. Its form was that of a hemitrope octahedron. —Prof. D. S. Martin exhibited specimens of a clay containing recent shells, from a deposit which had been the bed of a lagoon within quite a modern period, near the town of Lewes, Delaware. The shells are in very perfect preservation, though the epidermis is nearly gone, and the texture is becoming fragile and chalky. The principal species are *Sanguinolaria fusca*, *Nassa obsoleta*, and *Modiola plicatula*, of which the first two are now living on the beaches outside, and probably the last also. These specimens give an excellent illustration of the mode of formation of many of our fossiliferous clays and marls. The deposit may, perhaps, have value as a fertiliser. He also gave some description of the very remarkable sand-dunes or moving hills at Cape Henlopen, a mile or two east of Lewes. The sand brought down by the Delaware River accumulates at this point, and when thrown up on the beach, is taken in charge by the heavy east winds, and carried inland in a great line of drifting hills, which rises in a very long and gentle slope on the windward side, and falls off abruptly from the crest on the leeward, as is usual in wind drifts. The whole surface of the windward side is studded with the tops of dead tree trunks, the remnants of a pine forest, overwhelmed by the advance of the hill. The crest seems steadily approaching the lighthouse keeper's dwelling, and will, probably, necessitate its removal in the course of some few years. Prof. A. M. Edwards said the specimens just exhibited are of considerable interest, as they show very nicely the mode in which certain stratified rocks containing fossils are evidently formed. Under certain circumstances, say when formed in a locality like the tropics, where animal life abounded, and the mollusca especially occurred in large quantities, so that calcareous matter would accumulate, such a deposit might become, in time, converted into a limestone in which the forms of the enclosed shells and other organic remains would be preserved in a more or less perfect manner. If, on the other hand, calcium compounds were not present in abundance, but the particles of the deposit thrown down should consist of coarse and for the most part siliceous sand, sandstone, also enclosing fossils, would eventuate. But to me, the material of which the deposit exhibited consists, and which encloses the well-preserved remains of mollusca, is of more special interest, as this is the third time that such a formation has come under my observation, and I have studied one of these deposits with some care, as it proved to be, for the most part, made up of the siliceous skeletons of Diatomaceæ, to the consideration of which, both recent and fossil, I have devoted many years. All cases of marsh inversion are of interest to geologists, and the opportunities they present the microscopists of obtaining specimens for study makes them doubly attractive. The Hobokenand the Cape Henlopen specimens will be examined and reported upon hereafter.—Mr. Jas. Hyatt made some remarks on the occurrence of some plants in the vicinity of New York city. The cotton thistle, *Onopordon*, may be found at Fishkill Landing, on the Hudson River, a short distance from the railroad station, at the office of the iron works. He was able to secure flowers there for Dr. Torrey's collection. The plant has maintained itself there for several years. *Gentiana quinqueflora* abounds in South-Eastern Duchess County, and from thence he was able to furnish for Dr. Torrey's collection the only specimens from this State. *Viola rotundifolia* abounds at Weehawken, N.J., at the foot of the Palisades, west of the Ferry dock.

PARIS

Academy of Sciences, July 15.—M. de Pambour presented a further note on the reaction water wheel.—An important memoir by MM. Jamin and Richard on the cooling of gases was read.—M. A. Thenard described an apparatus for subjecting gases and vapours to the action of electricity.—M. Gaiffe described a new and cheap form of battery, consisting of a vessel in which are immersed a rod of lead and a rod of zinc, the former reaching the bottom, which is covered with a layer of aluminium; the exciting fluid in water containing 10 per cent of hydrochlorate of ammonia.—M. H. Sainte-Claire Deville communicated a note by M. J. M. Gaugain on the induction currents developed in M. Gramme's machine.—M. Faye presented a note by M. Respighi in reply to some criticisms of Father Secchi, upon his observations on the constitution of the sun.—M. J. A. Broun read a second note on the simultaneity of barometric variations between the tropics.—M. H. Tarry presented a note on the magnetic currents and solar explosions, which accompanied an aurora borealis observed on July 7. Upon this paper MM. C. Sainte-Claire Deville and Tissot made some remarks.—M. C. Sainte-Claire Deville also presented a note by M. J. Gay, describing cloud-shadows observed by him at the Grande Chartreuse, with reference to a recent balloon observation by M. Tissandier.—M. H. Sainte-Claire Deville communicated a note by M. A. Houzeau on the instantaneous oxidation of alcohol, in which the author described the conversion of alcohol into acetic acid and aldehyde by the direct action of ozonised oxygen.—M. C. Bernard presented a note by M. N. Gréhaut on the quantitative determination of urea by means of Millon's test and the mercurial pump.—M. C. Dareste communicated his discovery of the presence of starch in the young of the European fresh-water tortoise (*T. europæa*).—M. Des Cloizeaux read a further note upon amblygonite and montebrasite.—M. Daubrée reported upon a collection of minerals from Chili, offered by M. Domeyko to the School of Mines at Paris.—M. Sainte-Claire Deville read a paper on the absence of Combustible Gases in the emanations from the Caldeira of Furnas in St. Michael's. The same gentleman communicated an extract from a letter by M. H. de Saussure, giving an account of his observations upon the late eruption of Vesuvius in April of the present year, and made some remarks upon its contents. He also presented a note by M. Gorceix on the state of Vesuvius, and of the gaseous emanations of the Phlegræan fields in the month of June, 1869.—M. Milne Edwards presented a note by M. Wetelet upon the genus *Ovulites*, which the author regards as belonging to the Polyzoa. He describes a new form under the name of *Ovituba margaritula*. M. Milne Edwards also communicated a note by MM. A. Grandidier and L. Vaillant on the fossil crocodile of Amboulintsatre in Madagascar, which they regard as a new species, and name *Crocodilus robustus*.

BOOKS RECEIVED

ENGLISH.—The Thanatophidia of India: J. Fayrer (J. and A. Churchill).—Qualitative Analysis by Dr. C. R. Fresenius, translated by A. Vacher, 8th edition (Churchill).—The Battle of the Gauges renewed, 1872: R. T. Fairlie (E. Wilson).—Perspective, or the Art of Drawing what one sees: Lieut. W. H. Collins (Longmans).

AMERICAN.—Description of the *Balænoptera musculus* in the possession of the Boston Soc. Nat. Hist.: T. Dwight (Boston Soc. Nat. Hist.).—Embryological Studies on Hexapodous Insects: A. S. Packard, jun. (Peabody Academy of Science.)

FOREIGN.—Die Pflanzen Galiziens u. der Bukowina: J. A. Knapp.—(Through Williams and Norgate).—Révue d'Anthropologie, 1872, No. 1.—Zeitschrift der Biologie, 8 Band 2 Heft.—Ueber algenartige Einschlüsse in Diamanten u. über Bildung derselben: Dr. Göppert.

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