determine the true character of the doubtful fossil organisms still by many naturalists classed with the Algæ, the author has carefully studied the traces of all kinds observed especially at points on the coast of Brittany, where extensive tracts are exposed at low water. Impressions have been taken of marks due to animals, yet exactly resembling the forms occurring in Secondary and even Primary formations often described and figured as belonging to the vegetable kingdom.—On the means of reducing momentary accelerations of velocity in machines fitted with regulating gear acting indirectly, by MM. A. Bérard and H. Léauté. The object of this memoir is to supply trustworthy governors, applicable especially to machinery used in the manufacture of gunpowder. For the apparatus here described, it is claimed that, while giving the required uniformity of action, it checks all abnormal increase of speed, so dangerous in this industry.—Observations of Finlay's comet (1886), made at the 0·38 m. equatorial of the Bordeaux Observatory, by M. F. Courty. The tabulated results of these observations include the mean position of the stars taken as points of comparison borrowed from Schœnfeld's Catalogue, published in the eighth volume of the "Bonn Observations," 1886.—A practical demonstration of the existence of diurnal nutation, by M. Folie. The remarkable agreement of the results here recorded, deduced from observations made at various points of latitude and longitude, is considered sufficient to prove the existence of the diurnal nutation of the terrestrial axis, and to determine its constant at about 0·2″.—On certain problems of isochronism, by M. G. Fouret.—On a theorem relating to the permanent movement and flow of fluids, by M. Hugoniot. The curious relation which is shown to exist between the permanent movement of fluids and that of the propagation of sound is here investigated.—On the coefficient of explosion for a perfect gas, by M. Félix Lucas. Various arguments are advanced to show that this coefficient is 1·40, not 1·41, the number generally adopted. — On the coefficient of pressure for thermometers, and on the compressibility of liquids, by M. Ch. Ed. Guillaume. The probable coefficient resulting from M. Descamps' experiments is shown to approximate very closely to that of Regnault, and the coefficients of compressibility must be corrected accordingly.—On the nature of electric actions in an insulating medium, by M. A. Vaschy. Assuming that the reciprocal actions of two electrified bodies are exercised through the intermediary of the intervening medium, and not directly at a distance, the author endeavours here to determine the part played by this medium in the transmission of the electrostatic actions. The medium itself is regarded as a combination of the ether and ponderable matter in relations to be subsequently determined.—Note on an absolute electro-dynamometer, by M. H. Pellat. By means of this instrument, which has been constructed by M. Carpentier, the intensity of a current may be determined directly in absolute value with an error less than 1/2000.—Note on steno-telegraphy, by M. G. A. Cassagnes. By this combination of mechanical stenography and telegraphy the operator is enabled to record and transmit along a single wire a considerable number of words instantaneously. Numerous experiments on the French lines have yielded the following results for a single wire: (1) 400 words a minute to a distance of 350 kilometres (with two finger-boards 24,000 words an hour); (2) 280 words a minute to a distance of 650 kilometres (with two boards 16,000 to 17,000 words an hour); (3) 200 words a minute to a distance of 900 kilometres (with one board 12,000 words an hour). Messages may even be forwarded simultaneously in both directions, and the system offers other advantages greatly accelerating and simplifying telegraphic work.—On a process of rock-erosion by the combined action of the sea and frost, by M. J. Thoulet. Certain results observed on the Newfoundland coast are attributed to the combined action of liquid and frozen water.—On some coloured reactions of arsenic, vanadic, molybdic, and arsenious acids, as well as of the oxides of antimony and bismuth, by M. Lucien Lévy.—Thermic phenomena accompanying the precipitation of the bi-metallic phosphates and allied salts, by M. A. Joly. Here are studied the extremely complex relations of bicalcic, bibarytic, distrontianic, and other phosphates, bibarytic arseniates, and monobarytic hypophosphate.—Heat of neutralisation of glyceric and camphoric acids, by MM. H. Gal and E. Werner.—On the water-bearing apparatus of *Calophyllum*, by M. J. Vesque. A study of this highly specialised apparatus enables the author to classify the twenty-five known species of the genus *Calophyllum*.—Analysis of the Javanese mineral waters, by M. Stanislas Meunier. The specimens here examined were brought from the Kuripan district, near Boghor, and yielded 54·203 per cent. of chloride of calcium, 40·651 of chloride of magnesium, 2·860 of chloride of sodium, 1·104 of chloride of potassium, and 1·924 residue insoluble in water.—On a new locality containing the nummulitic formations of Biarritz, by M. de Folin.—On the importance and duration of the Pliocene period studied in connection with the Roussillon basin; fresh documents relating to the Pliocene mammiferous fauna of this district, by M. Ch. Depéret. In the discussion which followed the reading of this paper, both M. Gaudry and M. Hébert argued that the Pikermi and Léberon deposits should be referred, not to the Pliocene, but to the Upper Miocene epoch.—Note on the reptiles and fishes found in the caves of Mentone, by M. Emile Rivière.—On the storm of December 8, by M. Fron.—The Föhn and its cosmic origin, by M. Ch. V. Zenger. It is argued that this wind is a cyclonic movement of cosmic origin, allied to such phenomena as the aurora borealis, electric and magnetic storms, terrestrial currents, and the seismic waves which so often accompany violent tempests.

BOOKS AND PAMPHLETS RECEIVED

Crustacea and Spiders: F. A. A. Skuse (Sonnenschein).—The Queen's Jubilee Atlas of the British Empire: J. F. Williams (Philip).—A Concise History of England and the English People: Rev. Sir G. W. Cox (Hughes).—The Tea-Planter's Manual: T. C. Owen (Ferguson, Colombo).—Disease and Sin (Wyman).—Hours with a 3-inch Telescope: Capt. W. Noble (Longmans).—Proceedings of the Davenport Academy of Natural Sciences, vol. iv. (Davenport, Iowa).—Zeitschrift für wissenschaftliche Zoologie, Vierundvierzigster Band, Drittes Heft (Engelmann, Leipzig).—Differential Calculus: J. Edwards (Macmillan).—Proceedings of the American Philosophical Society, vol. xxiii. No. 123 (Philadelphia).—Report of the National Academy of Sciences, 1885 (Washington).—Bulletin of the U.S. Geological Survey, Nos. 27, 28, 29 (Washington).—Morphologisches Jahrbuch, 12 Band, 3 Heft: Prof. Gegenbaur (Engelmann, Leipzig).—Bulletin de la Société Impériale des Naturalistes de Moscou, No. 2, 1886 (Moscou).

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