

tend to overthrow the fundamental principles of the views generally held regarding the part played by both hemispheres in producing voluntary movements. Several interesting manifestations are described, proving that the motor effects of cerebral irritations are in absolute contradiction to the current theories.—On the *Elasmotherium*, by M. Albert Gaudry. In connection with some remains of this extinct mammal recently found on the River Kinel in the government of Samara (Russia), and presented to the Academy by M. Paul Ossoskoff, some remarks are made by the author, who assigns to the *Elasmotherium* a position intermediate in size between the mammoth and *Rhinoceros tichorhinus*, his contemporaries. In his general structure he appears to have approached more nearly to the latter animal, the radius, tibia, cubitus, calcaneum, and some other bones presenting the closest resemblance to those of a gigantic rhinoceros.—On a geometric form of the effects of radiation in the diurnal motion of the stars, by M. Gruyer. A number of propositions are here announced, whose further development and demonstration are reserved for a future number of the *Bulletin Astronomique*, where a full demonstration will be given of the theorem that, in a sidereal day the apparent position of a star describes a conic section round its true position.—On the internal temperature of glaciers, by MM. Ed. Hagenbach and F. A. Forel. The different temperatures determined by careful experiment in the Arolla glacier are explained by the varying pressure to which different parts of the glacier are subjected. The normal temperature below zero is shown to be the effect of pressure, which lowers the melting-point of ice, thus verifying in Nature facts already theoretically demonstrated by Sir W. Thomson and others, but hitherto studied only in the laboratory.—Remarks on the Gulf Stream, by M. J. Thoulet. Comparing his own observations made on board the *Clorinde* in 1886 with those of Mr. Buchanan during the *Challenger* Expedition, the author finds that the Gulf Stream is comparable to a river with a greater fall in its upper than in its lower reaches. A relatively steep valley separates it on the left from the United States current setting southwards from Newfoundland, while its more gently sloping right bank skirting the ocean presents a much broader expanse. Thus is explained the direction of the driftwood carried from America towards the north-west coast of Europe.—Researches on the distribution of temperature and of barometric pressure on the surface of the globe, by M. Alexis de Tillo. The author describes some general charts which he has prepared, based on the labours of M. Léon Teisserenc de Bort, and of Herr J. Hann, of Vienna, showing the mean isobars and isothermal lines for the year, and the months of January and July, for the whole world. For the general conditions of the terrestrial atmosphere he finds that, when the mean temperature falls } within the limits of 1°·6 and 4°·7, the pressure rises } increases } to the extent of 1 millimetre.—On the metallic derivatives of acetylacetone, by M. Alphonse Combes. From the researches here described, the author concludes that this substance decomposes all the carbonates, even that of potassa; that it displaces the acetic acid of the acetate of copper, and even the hydrochloric acid; that it consequently acts as a strong acid on the metallic salts. Nothing, so far, distinguishes its action from that of a monobasic acid, although this function is clearly distinguished by certain properties of its salts from the acid function properly so called.—On the part played by the stomata in the inspiration and expiration of gases, by M. L. Mangin. From the experiments here described the author concludes generally that the stomata are indispensable for the circulation of the gases in aerial plants, the occlusion of these orifices bringing about a greater or lesser diminution in the exchanges of the respiratory gases, and a very considerable decrease in the exchanges of chlorophyllian gases.—On the invasion of *Coniothyrium diploidiella* in 1887, by MM. G. Foex and L. Ravaz. This organism, already observed in 1879 by Spegazzini in Italy, and in 1885 by Viala in the department of the Isère, has this year invaded an extensive region in the South of France. Whether it is a true parasite, or a saprophyte, or whether it assumes both of these characters according to circumstances, is a point which has not yet been decided.

BERLIN.

Meteorological Society, November 1.—Prof. von Bezold, President, in the chair.—Dr. von Helmholtz discussed his most

recent researches on the formation of mist under the influence of chemical processes, and laid stress at the same time upon the relation of his results to the phenomena of meteorology.—Dr. Sprung gave an account of observations made with thermometers attached to various barometers. During a comparison of the barometers from various stations with a normal barometer, the experiments being conducted in a cellar, he found that the thermometers showed considerable differences in their readings; their differences were still observed when the comparison of the barometers was made in a room at the surface of the earth, and the barometers were placed side by side in the same frame. The speaker was hence led to compare three thermometers, of which one was surrounded by a nickel-plated cylinder; the second was surrounded by a varnished cylinder, and the third had no covering at all. When placed near an open window the instrument with the nickel-plated covering registered the highest temperature, but when placed near a hot stove it recorded the lowest. The differences in reading varied at different times of the year, and amounted to several degrees. In practice these differences of the thermometer-reading can have no influence on the reading of the barometer, since it may be assumed that the mercury in the barometer has always the same temperature as that indicated by the thermometer, and that the reading of the barometer is reduced to zero.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

A Practical Treatise on Bridge Construction: T. Claxton Fidler (Griffin). The Real History of the Rosicrucians: A. E. Waite (Redway).—Calendar of University College, Nottingham, 1887-88.—Totemism: J. G. Frazer (Black).—Animal Magnetism: Binet and Féré (Kegan Paul).—Living Lights: C. F. Holder (Sampson Low).—L'Homme avant l'Histoire: Ch. Debierre (Baillière).—The Flora of Howth: H. C. Hart (Hodges, Figgis, and Co.).—Lectures on Bacteria: A. De Bary; second improved edition, translated by H. E. F. Garnsey, revised by I. B. Balfour (Clarendon Press).—The Final Results of the Triangulation of the New York State Survey (Albany, N.Y.).—Catalogue of the Moths of India, part 1: Cotes and Swinhoe (Calcutta).—China in America; a Study in the Social Life of the Chinese: S. Culin (Philadelphia).—Catalog der Conchylien-Sammlung, Vierte Lief (Paetel, Berlin).—Fishery Barometer Manual: R. H. Scott (Eyre and Spottiswoode).—Folk-lore Journal, vol. v. part 4 (Stock).—Proceedings of the Royal Society of Edinburgh, No. 123.—Journal of the Royal Agricultural Society, October (Murray).—Archives Italiennes de Biologie, tome viii. fasc. iii. (Loescher, Turin).

CONTENTS.

	PAGE
"M.P., P.R.S."	49
The Storage of Electrical Energy. By Prof. John Perry, F.R.S.	50
Fritsch's Crustacean Fauna of the Chalk of Bohemia	51
Our Book Shelf:—	
Dana: "Manual of Mineralogy and Petrography"	53
Letters to the Editor:—	
"A Conspiracy of Silence."—The Duke of Argyll, F.R.S.	53
The Theories of the Origin of Coral Reefs and Islands. T. Mellard Reade	54
Earthquake at the Bahamas.—Robert H. Scott, F.R.S.; G. R. McGregor; Byron N. Jones and Cornelius S. E. Lotman	54
Researches on Meteorites. I. (Illustrated.) By J. Norman Lockyer, F.R.S.	55
Fairy-Rings	61
Notes	63
Our Astronomical Column:—	
The Astronomical Society of France	66
The Lick Observatory	66
Astronomical Phenomena for the Week 1887	
November 20-26	66
Geographical Notes	66
Meteorological Notes	67
Gems and Ornamental Stones of the United States. By Dr. A. E. Foote	68
The October Meteor-Shower of 1887. By W. F. Denning	69
On some of the Affinities between the Ganoidei Chondrostei and other Fishes. By Dr. Nicholas Zograf	70
Scientific Serials	71
Societies and Academies	71
Books, Pamphlets, and Serials Received	72