

M. S. Arloing. Prix Pourat, M. Gley. Prix Martin-Damourette, M. Gley. *Physical Geography*.—Prix Gay (not awarded). *General Prizes*.—Prix Montyon (unhealthy industries): the principal portion of this prize was awarded to M. Gréhan, and the remainder was divided equally between MM. Bay and Brousset; honourable mention was made of MM. Bédoin and Lechien. Prix Cuvier, the Geological Survey of the United States. Prix Frémont, M. Emile Rivière. Prix Gegner, M. Paul Serret. Prix Jean Reynaud, the late M. George-Henri Halphen. Prix Petit d'Ormy (Sciences Mathématiques), M. Edouard Goursat. Prix Petit d'Ormy (Sciences Naturelles), M. Léon Vaillant. Prix de la Fondation Leconte: a grant was accorded to M. Douliot. Prix Laplace, M. Champy.—The following prizes were proposed for the years 1892-1896:—*Geometry*.—Grand Prize for Mathematical Sciences: determination of the number of prime numbers inferior to a given quantity. Prix Bordin: study of the surfaces of which the linear elements may be reduced to the form

$$ds^2 = [f(u) - \phi(v)](du^2 + dv^2).$$

Prix Bordin: applications of the general theory of Abelian functions to geometry. Prix Franceur. Prix Poncelet. *Mechanics*.—Extraordinary Prize of 6000 francs: any improvements tending to increase the efficiency of the French naval forces. Prix Montyon. Prix Plumey. Prix Dalmont. Prix Fourneryon: historical, theoretical, and practical study of the bursting of fly-wheels. *Astronomy*.—Prix Lalande. Prix Damoiseau: improvements of the lunar theory with reference to secular inequalities caused by planets; to see also if any sensible inequalities exist in addition to those already known. Prix Damoiseau: improvements in the methods of calculating perturbations of asteroids which are necessary for the representation of their position within a few minutes of arc, in an interval of fifty years; also to construct numerical tables which will allow the quick determination of the principal parts of the perturbations. Prix Valz. Prix Janssen. *Physics*.—Prix L. La Caze. *Statistics*.—Prix Montyon. *Chemistry*.—Prix Jecker. Prix L. La Caze. *Mineralogy and Geology*.—Grand Prix des Sciences Physiques: an exhaustive study of a question relative to the geology of a part of France. Prix Bordin: the genesis of rocks, exemplified by experimental synthesis. Prix Vaillant: applications of the examination of optical properties to the determination of mineral species and rocks. Prix Delesse. Prix Fontannes. *Botany*.—Prix Barbier, Desmazières, Montagne, de la Fons Melicocq, and Thore. *Agriculture*.—Prix Morogues. *Anatomy and Zoology*.—Prix Thore, Savigny, and Da Gama Machado. *Medicine and Surgery*.—Prix Montyon, Barbier, Bréant, Godard, Serres, Chaussier, Parkin, Bellion, Mège, Dugate, and Lallemand. *Physiology*.—Prix Montyon. Prix L. La Caze. Prix Pourat: experimental and chemical researches on the inhibition phenomena of the nervous shock. Prix Pourat: researches on the effects of subcutaneous or intra-vascular injections on the normal liquids of the organism or on liquid extracts from different tissues or organs. Prix Martin-Damourette. *Physical Geography*.—Prix Gay: study of terrestrial magnetism, and, in particular, the distribution of the magnetic elements in France. Prix Gay: study of the trajectory of cyclones moving from North America or the West Indies. *General Prizes*.—Prix Montyon (unhealthy industries), Cuvier, Trémont, Gegner, Delalande-Guérineau, Jean Reynaud, Jérôme Ponti, Petit D'Ormy, Leconte, Tchihatchef, and Laplace.

BRUSSELS.

Academy of Sciences, October 10.—M. F. Plateau in the chair.—Note on a number of Hyperoodons stranded in the Thames and on the Normandy coast, by P. J. Van Beneden.—Study of heat and light phenomena accompanying electrolysis, by E. Lagrange et Hoho. In an electrolyte of dilute sulphuric acid, a positive electrode having an area of 180 sq. cm. was immersed, whilst the negative electrode consisted of a wire of copper 0.25 mm. in diameter, submerged to a depth of 0.5 mm. below the level of the liquid. On passing a current from accumulators through the electrolyte, the ordinary phenomena of electrolysis were observed. When the electromotive force was increased, a kind of decrepitation, resembling the fizzing noise which is heard when drops of water fall on a hot metal plate, was produced at the negative electrode. The liquid about this electrode appears to be in a state of ebullition. The phenomena increased in distinctness as the difference of potential between the negative electrode, and a point in the liquid 3 mm. from it, approached

16 volts. At intervals, when the difference of potential had reached 16 volts, a number of luminous points were produced between the electrode and the liquid, and their frequency was found to increase with the difference of potential. The author has studied the phenomena, using electrodes of Pt, Cu, Zn, Sn, Fe, and C of different diameters, and electrolytes of different degrees of dilution and different natures. He finds, among other things, that the phenomena commence when the electromotive force is the same (for a given degree of acidity) whatever the nature of the electrolyte. The intensity of the current increases, *ceteris paribus*, with the sections of the electrodes, and varies with the nature of the electrode. For the same degree of acidity, the same electrode, and the same amount of immersed surface, the intensity of the current tends to remain constant, although the electromotive force varied from 76 to 98 volts.—On the case in which two hemihedric conjugate forms are not superposable; conditions necessary and sufficient for a polyhedron to be superposable on its image seen in a plane mirror; possible existence in crystals of a class of hemihedra giving superposable conjugate forms, although possessing neither centre nor plane of symmetry; direct and inverse symmetry; tetrahedric group of the quadratic system represented by A₄, by C. Cesaro.

BOOKS AND PAMPHLETS RECEIVED.

BOOKS.—Die Elementarstruktur und das Wachstum der Lebenden Substanz: Dr. J. Wiesner (Wien. Hölder).—Magnetism and Electricity; 2nd edition, elementary stage: J. Spencer (Percival).—Arithmetic for Schools: C. Smith (Cambridge University Press).—The Story of the Hills: Rev. H. N. Hutchinson (Seeley).—A History of Epidemics in Britain from A.D. 664 to the Extinction of the Plague: C. Creighton (Cambridge University Press).—Indigestion: Dr. T. Dutton (Kimpton).—Studies in Ratacatching: H. C. Barkley (Murray).—The Century Dictionary, 6 vols. (Unwin).—Year-book of Pharmacy, 1891 (Churchill).—Società Reale di Napoli; Atti della Reale Accademia delle Scienze Fisiche e Matematiche, serie seconda, vol. 4 (Napoli).—Theory of Heat: J. Clerk Maxwell, 10th edition (Longmans).—Journeys in Persia and Kurdistan, 2 vols.: Mrs. Bishop (Murray).—The Fauna of British India: Mammalia, part 2: W. T. Blanford (Taylor and Francis).—The Collected Mathematical Papers of Arthur Cayley, vol. 4 (Cambridge University Press).

PAMPHLETS.—Old Glasgow, Greater Glasgow: J. B. Russell.—The Character and Influence of the Indian Trade in Wisconsin: Dr. F. J. Turner (Balt).

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