

Subjoined are the names of the successful competitors for the annual prizes. *Geometry*: Prix Francœur, M. Emile Barbier; Prix Poncelet, M. Appell. *Mechanics*: Extraordinary Prize of 6000 francs, divided between MM. Héraud, Dubois, Rouvier, and Moisson; Prix Montyon, M. Paul Vieille; Prix Plumey, M. Guyou. *Astronomy*: Prix Lalande, M. Dunér; Prix Valz, M. Perigaud; Prix Janssen, the late M. Kirchhoff. *Physics*: Grand Prize for the Mathematical Sciences, M. Willotte; Prix La Caze, MM. Paul and Prosper Henry. *Statistics*: Prix Montyon, MM. Victor Turquan, de Saint-Julien, and G. Bienaymé. *Chemistry*: Prix Jecker, MM. Arnaud and A. Haller; Prix La Caze, M. Moissan. *Geology*: Prix Delesse, M. Gorceix. *Botany*: Prix Barbier, MM. Edouard Heckel and M. Schlagdenhauffen; Prix Desmazières, MM. Ardissonne and Dangeard; Prix Montagne, M. Boudier. *Anatomy and Zoology*: Grand Prize for the Physical Sciences, M. Raphael Dubois. *Medicine and Surgery*: Prix Montyon, Drs. Henri Leloir and E. Motais, and MM. Nocard and Mollereau; Prix Bréant, MM. Galtier, Chantemesse, and Vidal; Prix Godard, M. Azarie Brodeur; Prix Chaussier, Dr. Jaccoud; Prix Serres, M. Alexandre Kowalevsky; Prix Lallemand, MM. Pitres, Vailard, and Van Lair. *Physiology*: Prix Montyon, M. Ch. E. Quinquaud; Prix L. La Caze, Dr. Ch. Rouget. *Physical Geography*: Prix Gay, MM. Alfred Angot and Wilhelm Zeuker. *General Prizes*: the Arago Medal, M. Raphael Louis Bischoffsheim; Prix Montyon (Unhealthy Industries), Dr. Edouard Heckel; Prix Trémont, M. Jules Morin; Prix Gegner, M. Valson; Prix Petit d'Ormoy (Mathematical Sciences), the late M. Laguerre; Prix Petit d'Ormoy (Natural Sciences), M. Balbiani; Prix Laplace, M. Jules E. R. de Billy.—Honourable mention was made of the two English physiologists, Drs. Augustus D. Waller and E. Waymouth-Reid, for their memoir on the excised heart of mammals, published in the *Comptes rendus* for May 31, 1887. This study contains a number of new and highly interesting facts regarding the electric phenomena of the heart, the duration of the regular action of its four parts after excision, and the slowness acquired under certain circumstances by the wave of cardiac contraction.—Amongst the more important prizes offered for competition under the usual conditions during the years 1888 and 1889 are the following:—*Geometry*: Grand Prize for the Mathematical Sciences, to complete the theory of algebraic functions of two independent variables; Prix Bordin, to complete in some important particular the theory of the movement of a solid body. *Mechanics*: Prix Fourneyron, theoretic and practical essay on the progress of aerial navigation since 1880. *Astronomy*: Prix Damoiseau, to complete the theory of the irregularities occurring at long intervals in the motion of the moon caused by the planets. *Physics*: Grand Prize for the Mathematical Sciences, to complete in some important particular the theory of the application of electricity to the transmission of labour. *Agriculture*: Prix Vaillant for the best work on the diseases of cereals. *Anatomy and Zoology*: Grand Prize for the Physical Sciences, a complete study of the embryology and evolution of any animal, at the option of the candidate; Prix Bordin, comparative study of the auditory apparatus in warm-blooded Vertebrates, mammals and birds. *Physical Geography*: Prix Gay, to prepare monthly charts of the surface currents in the Atlantic, with a survey of the movement of drift ice in the waters about the Arctic regions; Prix Gay, to determine by a comparative study of their respective faunas and floras the relations formerly existing between the Polynesian Islands and the neighbouring lands.

Astronomical Society, November 9, 1887.—M. Flammarion, President, in the chair.—The President read a paper on some observations on the relative colours of stars, which he had made in 1875 by means of a specially constructed sextant in which the images of two stars wide apart could be brought into the same field.—M. Detaille read a paper on the photography of the solar spectrum with a direct-vision spectroscope, and stated that this subject was quite within the reach of amateurs, on a small scale of course, and presented many interesting points. He showed some negatives and positives obtained with a small instrument.

December 14.—M. Flammarion, President, in the chair.—The meeting was opened by the distribution of the calendar reform prizes, amounting, in medals and money, to the value of 5000 francs (an anonymous gift):—1st prize, 1500 francs, M. Gaston Armelin, of Paris; 2nd prize, 1200 francs, M. Hanin, of Auxerre; 3rd prize, 1000 francs, M. Francis de Roucy, of

Compiègne; 4th prize, 800 francs, M. Barnout, of Paris; 5th prize, 250 francs, M. Remy Thouvenin, of Nancy; 6th prize, 250 francs, M. Blot, of Clermont (Oise).—M. Flammarion read a paper on some probable common proper movements of certain stars. In looking over the catalogue of the Paris Observatory, he had observed that several stars in Taurus—namely, Lalande 8178, 8209, 8237, 8256, 8297, 8404—had no motion in declination, and had all about the same proper motion in R.A. The same remarks apply to θ^1 and θ^2 Tauri. The two stars γ Leporis and Lalande 10931 seem also to be connected.—Colonel Lausse-dat, Director of the Conservatoire des Arts et Métiers, exhibited a curious binocular glass, constructed for Louis XIV. by Father Seraphin in 1681. This huge instrument comprises three rectangular bows which slide into each other. The length of the whole affair is no less than 3 metres 10 centimetres.—M. Neuville, in a letter, notices that the minimum of Algol seems longer than 6 minutes as given by several authors. He adopts 18 minutes, and gives a probable size of Algol's dark companion.—MM. Paul Henry and Detaille remark that Webb gives 18 minutes as the duration of Algol's minimum.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Birds of Wiltshire: Rev. A. C. Smith (Porter).—Arithmetic Papers: S. J. D. Shaw (Deighton, Bell, and Co.).—Major Lawrence, F.L.S., 3 vols.: Hon. E. Lawless (Murray).—Catalogue of the Fossil Mammalia in the British Museum; Natural History, Part v.: R. Lydekker (London).—Prodromus of the Zoology of Victoria, Decades 1-14: F. McCoy (Melbourne).—The Theory and Use of a Physical Balance: J. Walker (Clarendon Press).—Journal of Anatomy and Physiology, January (Williams and Norgate).

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