

instruments and apparatus for his researches on nutrition.

(3) National Veterinary School of Toulouse: 3000 francs to Jean Lafon, for his researches on the comparative physiology of the secretions in different animal species.

II. Grants to Establishments Called to the Consultative Committee of the Foundation by the President of the Academy.

(1) Conservatoire national des Arts et Métiers: 6000 francs to Henri Chaumat, for his studies on the electrical and magnetic properties of electrolytic iron.

(2) Central Electrical Laboratory: 10,000 francs for the researches, under the direction of Paul Janet, on the absolute standards of the international ohm.

III. Grants Given on Personal Application.

(1) 10,000 francs to Charles Alluaud and to R. Jannel, for the study of the zoological and botanical material collected by them in the high mountains of eastern Africa and for the publication of the results.

(2) 5000 francs to Jules Baillaud, for the establishment of a recording microphotometer of the type suggested in 1912 by P. Koch.

(3) 3000 francs to Henry Bourget, director of the Marseilles Observatory, for the *Journal des Observateurs*.

(4) 2000 francs to Clément Codron, for his researches on the sawing of metals.

(5) 5000 francs to the School of Anthropology, for the publication of the *Revue d'Anthropologie*.

(6) 4000 francs to Justin Jolly, for the publication of a work on blood and hæmatoporesis.

(7) 7000 francs to Louis Joubin, for the publication of the results of the French Antarctic Expedition.

(8) 3000 francs to the late Jules Laurent, for the publication (under the direction of Gaston Bonnier) of a work on the flora and geography of the neighbourhood of Rheims.

(9) 3000 francs to Henri Brocard and Léon Lemoyne, for the publication of the second and third volumes of their work entitled "Courbes géométriques remarquables planes et gauches."

(10) 2000 francs to A. Menegaux, for the *Revue française d'Ornithologie*.

(11) 5000 francs to Charles Nordmann, for his researches on stellar photometry.

(12) 8000 francs to the Zi-Ka-Wei Observatory, in China (director, R. P. Gauthier), for recording time-signals from distant centres.

(13) 2000 francs to O. Parent, for his studies on a group of Diptera.

(14) 10,000 francs to G. Pruvot and G. Racovitza, directors of the *Archives de Zoologie expérimentale et générale*, for this publication.

(15) 6000 francs to Alcide Railliet, for the publication of researches on the parasites of the domestic animals of Indo-China.

(16) 4000 francs to J. J. Rey, for the publication of a botanical geography of the Central Pyrenees.

(17) 10,000 francs to Maximilien Ringelmann, for researches relating to the physical and mechanical constants of metals intended to be used in the construction of agricultural machines.

(18) 12,000 francs to the Academy of Sciences, for the establishment of a catalogue of scientific and technical periodicals in the libraries of Paris.

It was pointed out by the council in 1917 that, although the special object of this foundation was the promotion of original research, up to that time requests for assisting work to be carried out according to a well-defined scheme had been exceedingly few in number. For the three years 1914-17 the

majority of the requests had for their object the establishment or improvement of equipment more suitable for teaching than for personal work. These remarks still apply, and a possible modification in the method of dealing with the revenue of this foundation is foreshadowed.

University and Educational Intelligence.

BIRMINGHAM.—At a special degree congregation held in the Great Hall of the University on Saturday, February 5, the honorary degree of Doctor of Laws was conferred on the Prime Minister, the Right Hon. David Lloyd George, who had a most enthusiastic welcome. After receiving the degree the Prime Minister made a short speech in which he expressed his admiration of the way in which the universities of the country had come to her aid in the great war, and his own surprise at the discovery of the vital importance of the universities, not only as centres of culture and learning, but also as essential factors in the strength of the nation. He paid a generous tribute to the energy and foresight of the founder of the University of Birmingham (Mr. Joseph Chamberlain), and hoped that the Midland area generally, realising its obligation, would come to the assistance of the University in this its time of serious financial need.

On behalf of the subscribers to the Poynting Memorial Fund, the portrait of the late Prof. J. H. Poynting (by Mr. Bernard Munns) has been presented to the University, and Mr. W. Waters Butler has presented the portrait of the late Prof. Adrian Brown by the same artist. The council has expressed its warm appreciation of these gifts, both of which now hang in the Great Hall of the University.

In response to the appeal for 500,000*l.*, the sum of 280,444*l.* has been received or promised.

CAMBRIDGE.—Dr. C. S. Myers, Gonville and Caius College, has been appointed reader in experimental psychology, and Mr. F. A. Potts, Trinity Hall, demonstrator of comparative anatomy.

A grant of 150*l.* from the Craven Fund has been made to the managing committee of the British School at Athens in aid of further excavations at Mycenæ.

A LECTURE on "The Innervation of Striped Muscle Fibres and Langley's Receptive Substance" will be given at the rooms of the Royal Society of Medicine, 1 Wimpole Street, W.1, by Dr. J. Boeke, professor of embryology and histology in the University of Utrecht, at 5 p.m. on Wednesday, February 16. This lecture has been arranged under a scheme for the exchange of lecturers in medicine between England and Holland. Four other Dutch lecturers will also give one lecture each, particulars of which will be announced later. The chair at the lecture of February 16 will be taken by Prof. W. M. Bayliss. Admission is free, without ticket.

THE University of Bristol will shortly possess as fine a block of university buildings as can be found in the United Kingdom outside Oxford and Cambridge. The entire expense of erecting these buildings was, from the outset, undertaken jointly by Mr. George A. Wills and Mr. Henry H. Wills. The cost of completing the work will vastly exceed even the liberal sum contemplated when the gift was originally made. Additional contributions were made by the two brothers during the course of the war, and since the present year commenced they have placed in the

hands of the University an additional benefaction of as much as 200,000*l.*, hoping to enable the buildings and design to be fully carried out. It is reassuring to note that these two public-spirited citizens are not allowing their munificent gift of 1913 to fail of fulfilment even in the difficult circumstances of the present time.

THE universities in Australia are apparently suffering, like our own institutions, from an inability to make their incomes meet their expenditures under post-war conditions. At Sydney the University authorities have decided to raise the fees in all the various schools, in some cases by as much as 50 per cent., in order to meet the increased cost of materials. Melbourne University has issued an appeal for 100,000*l.*, towards which it has obtained only the sum of 30,000*l.*, subscribed in small amounts; it hopes to raise a further sum of 20,000*l.* in a similar way, but no large gifts have yet been made. Sir W. H. Irvine, Lieutenant-Governor of Victoria, discussed the situation at Melbourne on January 31, according to a *Times* correspondent, and suggested that wealthy Victorians might well follow the example set by Sir J. Langdon Bonython in South Australia, who has presented the sum of 40,000*l.* to Adelaide University.

We learn from an article in the *Times Educational Supplement* that the Vice-Chancellor of the University of Madras, Mr. K. Srinivasa Iyengar, who is now a member of the Madras Executive Council, laid great stress on the neglect of science and technology in India in his recent convocation address. The careers of 18,500 graduates of the University had been traced, and of this number about 3700 were engaged in teaching, 765 had taken up medicine, while only 56 had devoted themselves to science; the remaining 14,000 were divided between law and Government administrative service, with a big majority for the former. The Vice-Chancellor concluded his account of the statistics he had accumulated with the words: "You will search in vain for any solid contribution to the sum of human knowledge among the magnificent number." These facts have been appreciated by many leaders of Indian thought, and several of the more wealthy men have endeavoured by their munificence and influence to create a stronger feeling for science. The Indian Institute of Science at Bangalore owes its existence to the late Jamsetji Tata, and some eight years ago the late Sir Taraknath Palit made over money and land of the aggregate value of 15 lakhs of rupees (100,000*l.*) to the University of Calcutta for the promotion of scientific and technical education in Bengal. University chairs of chemistry and physics which can be filled only by persons of Indian birth were created from this fund. In 1913 Sir Rash Behary Ghose gave 10 lakhs of rupees (66,666*l.*) to the University for the establishment of chairs of applied mathematics, physics, chemistry, and botany, all in relation to agriculture; these again can be held only by Indians. A year or so ago this gift was supplemented by a further sum of 11 lakhs of rupees (73,332*l.*), given by Sir Rash Ghose for the proposed technological branch of the College of Science. This gift enabled the University to send Sir Prafulla Chandra Rây, the dean of the faculty of science, on a three months' tour of the universities of Great Britain. Sir P. C. Rây is a distinguished chemist who has been closely associated with numerous industrial concerns in Bengal, and he has been appointed to supervise the equipment of the technological department, while four young research workers are being trained in London under the terms of Sir Rash Ghose's gift.

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Calendar of Scientific Pioneers.

February 10, 1868. Sir David Brewster died.—A founder of the British Association and the biographer of Newton, Brewster made important discoveries in optics, for which he was awarded the Rumford, Royal, and Copley medals of the Royal Society.

February 10, 1878. Claude Bernard died.—A great physiologist, Bernard for many years held the chair of experimental physiology at the Collège de France.

February 10, 1891. Sonia Kovalevsky died.—One of the best known of women mathematicians, Sonia or Sophie Kovalevsky studied under Weierstrass, and after her husband's death in 1883 became professor of higher mathematics at Stockholm.

February 11, 1650. René Descartes died.—Born in 1596, and educated by the Jesuits, Descartes served for a while in the Army, and in 1629 settled in Holland, where his principal works were written. He has been called "the father of modern philosophy." He made many improvements in mathematics, and is regarded as the founder of analytical geometry. His theory of vortices, devised to explain the motion of the heavenly bodies, held the field until it was superseded by the Newtonian philosophy. He died at Stockholm, but his remains now rest in Paris. On the pedestal of his statue at Tours is inscribed, "Je pens, donc je suis."

February 11, 1868. Jean Bernard Léon Foucault died.—To Foucault we owe the demonstration, by means of the pendulum and the gyroscope, of the rotation of the earth. In 1850 he showed that light travelled more slowly through water than through air. He was physicist to the Paris Observatory.

February 12, 1787. Ruggiero Giuseppe Boscovich died.—The Society of Jesus has produced many notable workers in science, but none with a wider reputation than Boscovich. He was a mathematician, physicist, and astronomer, and is remembered for the famous theory of matter which he propounded. For some years he resided in Paris. His last days were passed in neglect and misery, and he died insane at Milan.

February 12, 1799. Lazaro Spallanzani died.—Holding various chairs at Modena and Padua, Spallanzani was interested in all branches of science, but his main discoveries related to physiology. He especially studied digestion and fertilisation.

February 13, 1839. Edward Turner died.—The first professor of chemistry in the University of London, Turner made many accurate determinations of atomic weights.

February 13, 1909. Hans Peter Jürgen Julius Thomsen died.—An educationist, administrator, and technologist, Thomsen held the chair of chemistry at Copenhagen. He made long and important investigations in thermo-chemistry, comparable with those of Berthelot.

February 14, 1744. John Hadley died.—A mathematician and scientific mechanist, Hadley produced the first serviceable reflecting telescope and invented the reflecting quadrant.

February 15, 1680. Jan Swammerdam died.—While practising as a doctor at Amsterdam and Leyden, Swammerdam became one of the earliest and most successful entomologists. He especially studied the anatomy of the bee.

February 15, 1736. Stephen Gray died.—The first recipient of the Copley prize of the Royal Society, Gray was a pensioner in the Charterhouse, London, where he made many successful electrical experiments.

E. C. S.