

work; the Bordin prize to Szolem Mandelbrojt, for his memoir on the unicity of Fourier's series; the Lallemand prize to Alexandre Monnier, for his work on the physico-chemical mechanism of nerve action; the Petit d'Ormy prize (Mathematical Sciences) to Arnaud Denjoy, for the whole of his mathematical work and in natural science to Louis Léger, for the whole of his work on theoretical and applied zoology; the Estrade-Deleros prize to Ernest Vessiot, for the whole of his scientific work; the Le Conte prize to Eugène Bataillon, for his work on experimental parthenogenesis; the Parkin prize to René Hazard, for his work on the pharmacology of the alkaloids; the Saintour prize to Georges Giraud, for his work on partial differential equations and integral equations; the Lonchamp prize to Edmond Voisenet, for his work on the production of bitterness in wine and on the Adamkiewicz reaction; the Wilde prize to Mme. Irène Joliot-Curie and Frédéric Joliot, for their experimental work establishing the existence of neutrons; the Gustave Roux prize to Maurice Collignon, for his palaeontological work on the Madagascan fauna; the Charles Dupin prize to Bertrand Gambier, for his work on geometry; the Marquet prize to Alexandre Bigot, for his work on the geology of Normandy.

Special Foundations.—The Lannelongue foundation to Mmes. Gabriel Cusco and Raphaël Rück.

Prizes of the Grandes Ecoles.—The Laplace prize to Maurice Allais; the L. E. Rivot prize to Maurice Allais, Raymond Fischesser, Robert Paoli and Max Dumas.

Funds for Scientific Researches.—The Gegner foundation to Valerian Agafonoff, for his researches on French soils; the Hirn foundation to Paul Ditisheim, for his work on chronometry; the Henri Becquerel foundation to Ludovic Driencourt, for his work on navigation and geographical maps.

LOUTREUIL FOUNDATION

1. *Researches on Fixed Questions.*—Jean Basset (4,000 francs), for researches on the pathogeny and immunisation in anthrax; Charles Lombard (3,000 francs), for experimental researches on the pathogeny of cirrhosis; Pierre Pons (3,500 francs), for researches on wool products from central and southern France; James Basset (5,000 francs), for his studies on the influence of high pressures on physical and chemical phenomena; Jean Dufay and Daniel Chalonge (5,000 francs), for chemical and spectrographic researches on the atmosphere carried out at the Observatories at the Jungfrauoch and at Interlaken; André Charriou, for his researches on the latent photographic image; Paul Henri Fleuret, for his studies of the mechanism of the formation of ketonic and oxalic acids; Laboratoire central d'électricité (12,000 francs), for making the standard of inductance with a view to the measurement in absolute value of the unit of electrical resistance; Charles Marie (3,000 francs), for systematic researches in electro-chemistry; Henry Pollet (2,000 francs), for his studies of atmospheric electricity during dust winds in north China.

2. *Researches to be carried out in the French Colonies.*—Henri Humbert (15,000 francs), as a contribution to the cost of an expedition to Madagascar and southern Africa with a view to the study of various types of vegetation and their variations under the influence of the nature of the soil, altitude and climate; Louis Dubertret (7,000 francs), as a

contribution to an exploration of the volcanic desert region to the south-east of Damascus; Jean Piveteau (4,500 francs), to contribute to the cost of excavations in a deposit of vertebrates at Oranais.

3. *Purchase of Laboratory Material.*—Ecole nationale vétérinaire de Lyon (6,000 francs), for the purchase of a Phillips' portable apparatus for radiography and radioscopy; Léon Huillet (3,000 francs), for the purchase of a Chevenard temperature regulator; Jules Lemoine (2,000 francs), for the purchase of a microphone designed for the study of internal friction in metals; Henri Chaumat (2,000 francs), for the purchase of material for the construction of an electrostatic machine; Maurice Javillier (3,000 francs), for the purchase of an incubator; Raymond Ricard (3,000 francs), for the purchase of a Fabry and Pérot interference standard.

4. *Libraries.*—The following grants are given to libraries for the purchase of books: Ecole polytechnique (7,000 francs), Ecole national vétérinaire d'Alfort (10,000 francs), Ecole national vétérinaire de Toulouse (2,000 francs), Ecole supérieure de Chimie de Mulhouse (2,000 francs), Société française des Electriciens (1,500 francs), for the purchase of "Faraday's Diary".

Publications.—Archives de zoologie expérimentale (10,000 francs), for assisting the publication of a jubilee volume; Bibliothèque national et universitaire de Strasbourg (5,000 francs), as a contribution to the publication of the catalogue of scientific periodicals; Emile Mathias (4,000 francs), for the publication of two memoirs dealing with the action of lightning on man and animals.

MME. VICTOR NOURY FOUNDATION

Norbert Casteret (2,000 francs), for his hydrological and speleological explorations in the Pyrenees; Mlle. Madeleine Friant (2,000 francs), for her book on the dentition of mammals; Josué Hoffet (2,000 francs), for his study of the centre of Indo-China and his ethnological work in Annam; Nicolas Menchikoff (2,000 francs), for his numerous expeditions in the Sahara and the Libyan desert with resulting contributions to geology; Edouard Fischer (1,500 francs), for his researches on the marine fauna of the Channel.

OTHER FOUNDATIONS

Pierre Lafitte Foundation to René Mesny (3,000 francs), for the whole of his work on radio-electricity. The Roy-Vaucouloux Foundation to Philippe Lasseur, for his work in the laboratory of microbiology at Nancy. The Charles Frémont Foundation to Léon Pomey (2,500 francs), for his work on geology and analysis.

University and Educational Intelligence

CAMBRIDGE.—A lecture on the Liversidge Foundation will be delivered by Prof. R. H. Fowler in the Lecture Theatre of the Engineering Laboratory on Friday, February 2, at 5 p.m. The subject of Prof. Fowler's lecture will be "Heavy Hydrogen".

A LIBERAL education as a prophylactic against the manifold ills that threaten the very existence of western civilisation is the theme of an address

delivered at Lehigh University on October 4 by Prof. Hans Zinsser and entitled "None of my Business: or Thoughts of a Biologist on Education". The address is printed in *School and Society* of November 25. The old problem of the relative cultural values of science and the traditional humanities is merged at the present day in another: how to determine the limits of the non-specialist and non-vocational parts of both, for a cultivated man of to-day should possess as clear a comprehension of the fundamental laws of science as he does of classical culture and of the language and literature of his own country. The great freedom of choice at present allowed in the earlier college years in the United States needs to be curtailed and there should be a far more rigid insistence than at present on a substantial minimum of mathematics distributed between those years and the high school, and general courses in the history of science, in physics, chemistry and biology should be combined with so much of the humanities as is indispensable for intelligent appraisal of the civilisation of our time.

THE annual report of the University of Bristol records a small increase in the number of students and several interesting developments in the course of the year 1932-33. A link with New Zealand was established by the foundation of a Hiatt Baker memorial research scholarship of £200 a year tenable for two or three years by a graduate from New Zealand. At a celebration of the centenary of the foundation of the medical school, the history of which by Dr. G. Parker was published without charge to the University by Messrs. John Wright and Sons, Lord Dawson of Penn paid a tribute to the work of Prof. Fawcett in the faculty of medicine over a period of nearly forty years. In co-operation with the City Council, the University established a department of preventive medicine which undertakes all the bacteriological, pathological and chemical examinations and research required from time to time by the corporation or its medical officer of health, who is ex-officio professor of preventive medicine. A faculty of law was established with the help of contributions from local solicitors and others. The university halls of residence were all full throughout the year.

THE dispersal of German scholars frowned on in their own land for reasons connected with their political affiliation or racial origin has led to the establishment by the Institute of International Education in New York of a graduate faculty in political and social science comprising Profs. Lederer, Brandt, Speier, Wunderlich and von Hornhostel of Berlin, Heimann of Hamburg, Feiler of Königsberg, Colm and Kantorowicz of Kiel and Wertheimer of Frankfurt. It is hoped that in the near future this faculty will be matched with others so as to form a general "university in exile", a rallying point for distinguished scholars displaced by political intolerance in Europe, and a medium for cross-fertilisation of American and European scholarship. For the American student it would perform, by reason of its reproducing the spirit and method of German educational organisation, much the same service as he secured from one or two years of study in a German university. The scheme is described in the Institute's News Bulletin and a summary of it appears in *School and Society* of December 16.

Science News a Century Ago

Insects in the Heads of Mummies

The Rev. F. W. Hope read a paper on January 27, 1834, before the Entomological Society (*J. Proc.*) in which he described several species of insects found in the heads of Egyptian mummies, some of which had been extracted from the head of a female mummy with plaited hair. This was exhibited at the meeting by Mr. Wilkinson, the celebrated Egyptian traveller, by whom it was brought from Thebes. In the head of one mummy was found, it was said, a considerable quantity of the pupae of dipterous insects . . . and from their appearance Mr. Hope was led to remark that the process of embalming could not possibly have been a rapid one. Mr. Pettigrew observed that in some mummies, however, no insects were discovered, as in the one recently opened at the College of Surgeons (see *NATURE*, Jan. 13, p. 74).

Currency Problems in the United States

Throughout the year, the United States continued to be agitated by the contest which had begun in the preceding year as to the legality of the conduct of the President in withdrawing the public deposits from the national banks. Meanwhile, the importation of gold into the United States went on to an unprecedented extent. The increase of specie between the beginning of January 1833 up to June 11, 1834, exceeded 20,000,000 dollars, and the excess of specie imported during the next nineteen days, above what was exported during the same period, came to about 2,000,000 dollars. The result of this crisis was that a metallic currency was established for paper money ("Annual Register", 1834).

Drought in England

On the last day of January 1834 a drought began in England and Wales, and from that date until July 4 the rainfall was very limited. At Chiswick the total fall for the whole period amounted to only 4.7 inches, and over England and Wales as a whole the rainfall in the months of February to May inclusive was only 58 per cent of the normal. In the early months high temperatures following a wet January caused the vegetation to be very forward, but a series of north-easterly winds and severe frosts in April brought disaster to the fruit crops. July was rainy and thundery, but the drought returned in September and was severe in October, November and December. October 1834 appears to have been the driest month of that name in England and Wales between 1810 and 1933 inclusive.

Lyell's "Principles of Geology"

In January 1834 the *Gentleman's Magazine* printed the following notice of vol. 3 of Lyell's "Principles of Geology":—

"Those who have read the former volumes of Mr. Lyell will have recognised the great alteration and improvement which has taken place in the theory of Geology. The older geologists were more fitted for the island of Laputa than for a Philosophical Society, and even some of the latter were not far behind in pushing forward their crude fragments of discovery. With them it was assumed that enormous changes and sudden and violent catastrophes, confounding and dislocating all the