

between physical reality and the profoundest characteristic of Newton's teaching—strict causality.

### THE FREEMAN FUND TRAVELING SCHOLARSHIP

THE American Society of Civil Engineers is about to take on a new activity as sponsor for a traveling scholarship in Europe. This was suggested in 1924 when Past-president John R. Freeman established a fund of the society "for the encouragement of young engineers," since designated as the "Freeman Fund." A part of the income, \$1,800, has been made available for special study abroad during one year beginning July 1, 1927.

This period is to be devoted to a study of the theory and practice of hydraulics particularly as exemplified in the hydraulic laboratories of Europe, more especially those of Germany. For the present, candidates for this scholarship will be limited to junior professors, instructors, or assistants in American technical schools of recognized standing in which the study of hydraulics forms an important part of the curriculum. Brief progress reports addressed to the secretary of the society must be submitted each month by the holder of the scholarship for the information of the committee. At the conclusion of the year of study the holder of the scholarship shall submit to the society in form suitable for publication a monograph on current hydraulic practice in Europe and the work of European hydraulic laboratories. A complete statement of the conditions under which the scholarship will be awarded and full details of the requirements may be obtained from the secretary, 33 West 39th Street, New York City.

Similar funds for the encouragement of young engineers have been established in the American Society of Mechanical Engineers and the Boston Society of Civil Engineers, from the income of which it is expected that similar scholarships will be provided by each of these three societies, once in three years, so that continuously there will be one such traveling scholarship available. The income from this fund to each of these three societies amounts to nearly \$1,700 per year.

Plans are now being formulated for utilizing that portion of the income which remains after providing for the scholarship once in three years by the society using it for special grants to aid in hydraulic research or for assistance in translating and publishing in English various useful engineering publications in foreign languages.

The first of these publications is to be that of a book on the hydraulic laboratories of Europe, written by fifteen of the foremost hydraulicians of Germany, Sweden, Russia, Austria and Czecho-Slovakia, and re-

cently published by the national German engineering society, the "Verein deutscher Ingenieure."

### AWARDS FROM THE MILTON FUND AT HARVARD UNIVERSITY

ANNOUNCEMENT is made at Harvard University of twenty-two awards to professors in the university in accordance with the provisions of the Milton Fund for research. This legacy, yielding an annual income of about \$50,000, became available to the university in 1924. The awards include the following for scientific work:

Gregory P. Baxter, professor of chemistry, for two years, to carry on the experimental determinations of the compressibilities and temperature coefficients of gases at low pressure.

Henry B. Bigelow, lecturer and research curator in zoology, to purchase apparatus to be used on an oceanographic expedition planned for next summer, to study the dynamic cause of the Gulf Stream current off the North Atlantic coast of the United States.

Charles T. Brues, associate professor of economic entomology, to obtain collections for a continuation of his work on the adaptations of aquatic animal life to high temperatures.

Richard C. Cabot, professor of social ethics, to complete the work begun under previous grants on the effects of a prison sentence on the after-lives of 500 men who have been released from the Concord, Mass., Reformatory.

James B. Conant, associate professor of chemistry, to investigate the nature of the linkage between the protein and pigment in hemoglobin and the nature of the changes involved in the oxidation and reduction of the pigment.

William J. Crozier, associate professor of general physiology, to pay the salary of an assistant and to defray expenses incurred in an investigation of the nature of central nervous processes.

Harvey N. Davis, professor of mechanical engineering, and Gregory P. Baxter, professor of chemistry, to pay the salary of an assistant, Dr. Howard W. Starkweather, and to defray the expenses incurred for apparatus and supplies, in determining the temperature of the ice-point on the absolute scale through measurements of the densities of argon and oxygen at various temperatures and pressures.

James A. Dawson, instructor in zoology, to pay the salary of a technical assistant and to purchase apparatus needed to investigate the nature and function of the so-called excito-motor apparatus in unicellular animals and also, by means of micro-injection, the nature of certain digestive processes in these animals.

Willard J. Fisher, of the Harvard Observatory, to develop and test apparatus for the photography of meteors.

Grinnell Jones, associate professor of chemistry, to continue his investigation of the properties of solutions of electrolytes. The sum will pay the wages of a glass-blower and a mechanic and will enable the purchase of new apparatus and chemicals.

Alexander G. McAdie, Rotch professor of meteorology and director of the Blue Hill Observatory, to make a study of the electrification of clouds and fogs, part of a study of clouds and cloudy condensation in free air, the results of which it is hoped will contribute to the improvement of weather forecasts.

Frederick A. Saunders, professor of physics, to purchase a Moll recording microphotometer for use in research on the structure of spectra.

Alfred M. Tozzer, professor of anthropology and curator of Middle American archeology and ethnology, to pay the salary of a graduate student, working under the direction of Professor G. P. Baxter, who will chemically analyze metal objects from Yucatan.

William H. Weston, Jr., assistant professor of botany, to continue an intensive comparative study of a group of parasitic fungi which cause the several downy mildew diseases of important food crops.

Ralph H. Wetmore, assistant professor of botany, to assemble the more extensive collection of the genera *Aster* and *solidago*, to be studied later in the laboratory for the purpose of adding information to knowledge of cytology of hybrids and to the methods nature adopts in producing new forms.

The awards were made by the President and Fellows on the recommendation of a committee, the members of which are: Frank B. Jewett, electrical engineer, New York City; Professor Edwin F. Gay, of the Harvard Department of Economics, and Dr. W. J. V. Osterhout, formerly a member of the Harvard Faculty, but now botanist for the Rockefeller Foundation.

## OHIO UNIVERSITY

### RENO MEETING OF THE PACIFIC DIVISION OF THE AMERICAN ASSOCIATION

THE University of Nevada will act as host for the annual meeting of the Pacific division of the Association for the Advancement of Science to be held June 22 to 24 at Reno, Nevada. Preparations for this meeting are proceeding satisfactorily. President Arthur A. Noyes will attend the meeting as the president of the Pacific division and will deliver an address on "The Periodic Relations of the Elements." The selection of Dr. Noyes as president of the national association at the Philadelphia meeting in December followed his election as president of the Pacific division in June, 1926, so that he has the unique distinction this year of presiding over the general association as well as over its most considerable "division."

The membership of the Pacific division now includes about 1,500 members, a far larger number in proportion to population than that representing the rest of the country. The Reno meeting will be the eleventh annual meeting, previous meetings having been held in the order named at San Diego, 1916; Stanford University, 1917; Pasadena, 1919; Seattle, 1920; Berkeley, 1921; Salt Lake City, 1922; Los Angeles, 1923;

Stanford University, 1924; Portland, Oregon, 1925, and Mills College, 1926.

At a recent meeting of the executive committee various details of the program for the Reno meeting were determined. A symposium on "The Scientific Problems of an Arid Region" will be presented by specialists under the subheadings of geology, physical chemistry of soils, botany and zoology. Research activities on the Pacific Coast will be considered at a conference when achievements in physics, chemistry, zoology, botany, astronomy and medicine will be reported. The personnel of these programs will be given in the preliminary announcement to be issued shortly.

Among other features of the general program will be an address by Professor Henry H. Dixon, of the University of Dublin.

The completion of the great national highway through Reno to the Pacific Coast makes this point accessible by automobiles. Eastern members who are enthusiastic motorists will be tempted to make the cross country trip. Auto camps, equipped with cabins and tents, are available in Reno for visitors who wish to use them. The usual summer tourist rates will apply from eastern points to the Pacific Coast with stop-over privileges at Reno. Further details regarding rates will be given in the preliminary announcement.

Nevada's Transcontinental Highway Exposition, to commemorate the completion of an improved road from the Atlantic to the Pacific, will open immediately following the meeting of the association. In a beautiful setting in Idlewild Park the exposition will offer displays of the varied resources of the western states. Nevada and California already have erected buildings to house their exhibits, while structures are being built to furnish space for other western states. Visitors to the association meeting will find much of interest at the exposition.

The entertainment committee of the University of Nevada have planned many excursions to points of scientific and scenic interest in the vicinity, while unsurpassed opportunities for fishing and sports will be available for those so inclined. Arrangements for the meeting are in charge of the executive committee of the Pacific Division constituted as follows:

Joel H. Hildebrand, *chairman*, professor of chemistry, University of California.

Arthur A. Noyes, director, Gates chemical laboratory, California Institute of Technology.

Walter S. Adams, director, Mount Wilson Observatory.

Bernard Benfield, consulting engineer, San Francisco.

Leonard B. Loeb, professor of physics, University of California.

E. G. Martin, professor of physiology, Stanford University.