stitute of Agriculture, citizens of the United States and other countries who are in sympathy with the purposes of the institute have an opportunity to contribute to its support and development and to receive permanent recognition therefor as "donating members" by having their names and nationality and the date of their donation inscribed on a marble tablet which will be placed in a conspicuous position in the halls or vestibule of the marble palace occupied by the institute, situated in a beautiful park on an elevation overlooking the Eternal City. Such donations can be made either through the Secretary of Agriculture, the Secretary of State, or the American delegate to the International Institute of Agriculture, Rome, Italy.

THE EDINBURGH MEETING OF THE BRITISH ASSOCIATION

As has already been noted here the British Association meets at Edinburgh beginning on September 7. It last met in that city in 1892 under the presidency of Sir Archibald Geikie. The president, Sir Edward Thorpe, will address the association on aspects and problems of post-war science, pure and applied. An evening discourse will be given by Professor C. W. Inglis on a comparison of the Forth and Quebec Bridges, and there will be an opportunity to visit the former. Another discourse will be given on Edinburgh and oceanography by Professor W. A. Herdman, who, as president of the association at Cardiff last year, proposed a new exploration of the oceans like that of the *Challenger*. Sir Oliver Lodge will give the opening of the three lectures to the citizens on "Speech through the ether, or the scientific principles underlying wireless telephony"; Professor Dendy will lecture on "The stream of life"; and Professor H. J. Fleure on "Countries as personalities." A special lecture, arranged in collaboration with Section M (Agriculture), for agriculturists will be given by Dr. E. J. Russell on "Science and crop production." Hitherto all addresses of the presidents of sections have been formally read, and never discussed, but in the present program, the following addresses are announced to initiate debates: Sir W. Morley Fletcher, on the boundaries of physiology; Professor Lloyd Morgan, on consciousness and the unconscious, opening the newly established section of psychology; Dr. D. H. Scott, on the present position of the theory of descent in relation to the early history of plants; Sir Henry Hadow, on the place of music in a liberal education; and Mr. C. S. Orwin, on the study of agricultural economics. Other addresses will be given on the problems of physics by Professor O. W. Richardson, on the laboratory of the living organism by Dr. M. O. Forster, by Dr. J. S. Flett on experimental geology, by Professor E. S. Goodrich on some problems in evolution, by Dr. D. G. Hogarth on the application of geography, by Mr. W. L. Hichens on principles by which wages are determined, and by Professor A. H. Gibson on water power.

SCIENTIFIC NOTES AND NEWS

THE South African Association for the Advancement of Science will meet next year at Lorenço Marques under the presidency of Dr. A. W. Rogers, director of the Geological Survey of the Union of South Africa.

THE council of the Royal Society of Medicine made, on July 6, the first award of its gold medal to Sir Almroth Wright, F.R.S., in recognition of his services to medicine during the war. The medal is awarded for original discovery in medicine and other allied sciences, or for the practical application of the results of previous investigations of other scientists, or for the most valuable contribution in any other way towards the progress of the art and science of medicine, preventive medicine, or surgery.

IT is reported that Professor Edouard Branly, of Paris, is to receive this year's Nobel prize for physics.

WE learn from *Nature* that the French Société de Géographie has celebrated its centenary. There was a reception for delegates at the house of Prince Roland Bonaparte, president of the society, and M. Millerand,

president of the French Republic, presided at the opening meeting, a gathering at which explorers and geographers from various parts of the world were present.

Dr. E. J. Russell, director of the Rothamsted Experimental Station, has been appointed a foreign corresponding member of the Reale Istituto Lombardo di Scienze e Lettere di Milano.

W. M. Smart, chief assistant at the Cambridge Observatory, has been appointed to the John Couch Adams Astronomership, recently founded in Cambridge University under a bequest from the late Mrs. Adams.

The board of regents of the University of Michigan has adopted congratulatory and laudatory resolutions in recognition of the services of Professor W. W. Beman, who has for fifty consecutive years been a member of the literary faculty and for thirty-four years head of the department of mathematics.

Professor Herbert E. Gregory, of Yale University, director of the Bishop Museum in Honolulu, has been awarded life membership in the National Geographic Society for his original contributions to geographic science.

Henry E. Allanson has been appointed assistant to the chief of the bureau of plant industry, Department of Agriculture. He is a graduate of Cornell University, and came to the bureau in 1911.

Professor Alexander M. Gray, director of the school of electrical engineering of Cornell University, has been granted leave of absence for the year 1921–22, because of ill health.

Dr. Walter Long Williams, professor of obstetrics and research in the diseases of breeding animals, has retired from the faculty of the New York State Veterinary College at Cornell University. Dr. Williams was a member of the original faculty of that college. For eighteen years he was professor of veterinary research and obstetrics and for the last seven years has devoted his time to the study of the diseases of breeding animals.

Dr. Edward Phelps Allis, Jr., has returned to his biological laboratory at Mentone, France, after some nine months in America.

An expedition on behalf of the State University of Iowa to the gulf coast of Florida was conducted by Professor H. R. Dill in the latter part of May. A collection of marine fishes was made which will be mounted for the museum.

The Hugo Müller lecture of the Chemical Society, entitled "The natural photosynthetic processes on land and in sea and air, and their relation to the origin and preservation of life upon the earth," will be delivered by Professor Benjamin Moore on June 16.

The geological library of 4,000 volumes and 15,000 geological specimens collected by the late Professor H. P. Cushing and his father-in-law, the late S. G. Williams, have been presented to Western Reserve University by Mrs. Cushing.

A monument in memory of the French chemist, Adolphe Wurtz, was unveiled at Strasbourg on July 5.

The death is announced at eighty-three years of age, of Professor Viktor von Lang, formerly professor of physics at Vienna.

The Mathematical Association of America and the American Mathematical Society will hold their summer meetings at Wellesley College, September 6–7 and 7–9, respectively. Two joint sessions will be devoted to a symposium on "Relativity." On the afternoon of the seventh, Professor Pierpont, of Yale University, will give a paper entitled "Some mathematical aspects of the theory of relativity," while on the forenoon of the eighth, Professor Lunn, of the University of Chicago, will speak on "The place of the Einstein theory in theoretical physics."

The regents of the University of California have granted $20,000 from the campus improvement fund to the Lick Observatory for the improvement of the grounds and buildings at Mount Hamilton.

The American Pharmaceutical Association

has available a sum amounting to about $360, which will be expended after October for the encouragement of research. Investigators desiring financial aid in their work should communicate before September 1 with Professor H. V. Arny, chairman A. Ph. A. Research Committee, 115 West 68th St., New York, giving their past record and outlining the particular line of work for which the grant is desired.

WE learn from the *Bulletin* of the Bureau of Fisheries that the first meeting of the International Committee on Marine Fishing Investigation was held at Montreal, on June 23, at the call of the Canadian representatives. The members present were: Representing Canada—W. A. Found and A. G. Huntsman; representing Newfoundland—James Davies; representing the United States—H. F. Moore, R. E. Coker and H. B. Bigelow. The committee adopted resolutions recommending the coordination of the statistical data collected by the several countries represented in respect to the offshore fisheries, particularly those for cod and haddock; that studies of the cod, including tagging experiments, be undertaken; and that the methods of marine research of the several countries be standardized. Tentative steps were taken toward giving effect to these recommendations. The next meeting of the committee will be held in Boston, on November 4.

A CONSERVATION conference, called by the Secretary of Commerce, met at the United States fisheries biological station, Fairport, Iowa, from June 8 to 10, 112 delegates having registered. The states represented were Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, New York, Ohio, Pennsylvania, South Dakota, Wisconsin, and the District of Columbia. The attendance consisted of fishermen, fish dealers, button manufacturers, engineers, sanitarians, conservationists, state and national fishery officials, and biologists interested in the study and conservation of the life of fresh waters. A number of resolutions were adopted advocating various measures for the conservation of interior waters for economic, æsthetic, and recreational purposes.

A CORRESPONDENT writes: "The Bureau of Economic Geology and Technology of the University of Texas faces the probability of a total suspension of its activities for the next two years, on account of the elimination of its appropriation by the university authorities, as a result of the reduced appropriation allotted to the university by the Finance Committee of the State Legislature, which is now in session. There is still a possibility that some money may be assigned to the bureau from the contingent fund of the university, and this may prevent its entire suspension. This bureau has produced in the last few years a considerable amount of stratigraphic and paleontological work, and is at present the most important agency in advancing the knowledge of the geology of Texas. During 1919–1921 it produced 14 bulletins, aggregating 1,979 pages. The publication of several important works will be indefinitely postponed in case of elimination of the appropriations. In addition to its purely scientific activities, the bureau maintains a department for the examination of well samples, a testing laboratory for structural and road materials, and a chemical laboratory which is carrying out an extensive research program on lignite, oils and clays."

THE *American Journal of Insanity*, Johns Hopkins Press, Baltimore, will hereafter be the official organ of the American Psychiatric Association (till now the American Medico-Psychological Association) and will be published as the *American Journal of Psychiatry*.

THERE has been organized at the University of Minnesota and the affiliated Mayo Foundation a branch of the Society for Experimental Biology and Medicine which will be known as the *Minnesota Branch* of the society. At the present time there are 23 members of this society in the University of Minnesota. It is planned to arrange regular meetings throughout the academic year for the presentation and discussion of original papers falling within

the general field of experimental biology and medicine. Abstracts of the papers presented will appear in the *Proceedings* of the parent society.

The graduate women in the science departments at Cornell University have recently organized a sorority under the name of Sigma Delta Epsilon. The membership is primarily limited to women engaged actively in research work; honorary membership has been extended to several women who have gained recognition in the scientific world. The society will have a house at which the members may live while at Cornell. The organization at present consists of twenty-five active members and eight honorary members. The officers are: Adele Lewis Grant, *president;* Katherine Van Winkle, *vice-president;* Josephine Overton Souders, *secretary;* Hazel Elizabeth Branch, *treasurer.*

UNIVERSITY AND EDUCATIONAL NEWS

About $400,000 of the $500,000 appropriated for building purposes at the University of Iowa by the last general assembly is to be expended for the erection of the first units of a new chemistry building. When completed the building will cost $1,000,000.

Dr. C. L. Metcalf, for the past seven years professor of entomology in the Ohio State University, has resigned to accept the position of professor of entomology and head of the department of entomology in the university of Illinois.

Herschel C. Smith, formerly deputy state highway engineer of Oklahoma, has been appointed assistant professor of highway engineering and highway transport at the University of Michigan, from which institution he graduated in 1913.

Dr. Alfred H. W. Povah, assistant professor of forest botany and pathology in the New York State College of Forestry since 1918, has resigned to accept the position of associate professor of plant pathology and associate pathologist in the Alabama Polytechnic Institute.

Cleveland P. Hickman, M.A. (Michigan), has been appointed instructor in zoology in West Virginia University.

Dr. John Howland, professor of pediatrics at the Johns Hopkins Medical School and pediatrician-in-chief of the Johns Hopkins Hospital, has declined the offer of the Medical School of Harvard University to become professor of children's diseases at that institution. He will remain at Johns Hopkins.

DISCUSSION AND CORRESPONDENCE

A LIVING GALVANOMETER

That differences in electrical potential are produced by protoplasmic activity is a well-known fact. This is especially true of muscular activity. The existence of electrical currents in tissues was proved by Schweiger in 1824 and by Nobili, who discovered the galvanometer. The string galvanometer was first used to detect these currents, although it was reasonably believed that such currents were present before the galvanometer was discovered. Such evidence was correctly given in a more rudimentary way by Galvani and Volta. With the introduction of the various kinds of galvanometers these electrical currents were easily demonstrated. At the present the various modifications of Einthoven's galvanometer are used in detecting electrical currents produced by the activity of various muscles and especially the heart and in obtaining electrocardiograms. In fact it is a very accurate method of obtaining a clinical picture of the condition of the heart in man.

The discussion and demonstration of the production of electrical currents by living organisms and especially man, never fail to fascinate students, however teachers have found themselves handicapped by the lack of a suitable galvanometer. In laboratory experiments of this kind, such as Galvani's experiment and the rheoscopic frog experiment an outside stimulus is necessary to demonstrate this. In the experiment where the sciatic nerve of a muscle nerve preparation is laid across the beating heart, the results are very