FELLOWSHIP IN MEMORY OF JAY BACKUS WOODWORTH

A JAY BACKUS WOODWORTH graduate fellowship in geology has been completed to a total of $25,009.98, by contributions from 85 persons, mostly former students of Professor Woodworth at Harvard. The committee consisted of Richard M. Field, Edward Mallinckrodt, Jr., Charles Palache, Thorndike Saville, R. W. Sayles, T. Wayland Vaughan, Robert DeC. Ward, Edward Wigglesworth and Charles F. Brooks, *chairman*.

It is the hope of the committee that the first award of this fellowship may be made for the coming academic year, even though the accumulated income by that date will not equal the full amount to be expected in later years.

The fellowship is in memory of Jay Backus Woodworth, distinguished Harvard seismologist, who died in 1925. Owing to Professor Woodworth's broad interest in the whole field of geology, the award of this fellowship is not to be restricted to any one phase of the science.

In the letter of gift to President Lowell, the committee expressed preference to have this fund used according to the following conditions:

> On the recommendation of the division of geology of Harvard University, or of such other body as may succeed to the functions of this division, the income of this fund is to be appropriated from time to time as a graduate fellowship in geology, preference being given to a candidate who has shown decided capacity in the pursuit of geology and good promise of advancing the science. However, if future conditions should be such that the foregoing directions can not be followed to advantage, the disposal of the income shall, by vote of the division of geology, or of such other body or bodies as may succeed to the functions of this division, with the approval of the corporation, be otherwise made in the interests of geological research or higher training in geology.

AWARD OF THE LEIDY MEDAL OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

THE Academy of Natural Sciences of Philadelphia announces the selection of Dr. William Morton Wheeler, professor of entomology at Harvard University and dean of the Bussey Institution for Applied Biology, as the recipient of the third Joseph Leidy Memorial Award. Dr. Wheeler was selected "in recognition of his comprehensive and exhaustive studies of the ants of the world, their structure, classification, social organization and behavior; his equally noteworthy contributions to our knowledge of animal psychology, and analyses of evolutionary processes."

The Joseph Leidy Memorial Award was founded in 1923, and consists of a bronze medal and honorarium, given every third year, "as a reward for the best publication, exploration, discovery or research in the natural sciences in such particular branches thereof as may be designated." The selection of the recipient of the award is placed in the hands of a committee of the academy, which body also determines the fields of activity to be considered.

The first award of the Leidy Medal was made in 1925 to Dr. Herbert Spencer Jennings, of the Johns Hopkins University, for his researches upon the Protozoa and the Rotatoria. The second award, in 1928, was made to Dr. Henry A. Pilsbry, curator of mollusks of the Academy of Natural Sciences of Philadelphia, in recognition of his researches upon the phylogeny of the terrestrial mollusca, and his work on the classification of the Cirripedia.

The committee on the Joseph Leidy Award for 1931 was composed of Dr. Witmer Stone, chairman, Mr. Childs Frick, Dr. Thomas Barbour, Dr. Herbert Spencer Jennings and Mr. James A. G. Rehn.

The award will be formally presented to Dr. Wheeler at the meeting of the academy to be held on April 21.

SCIENTIFIC NOTES AND NEWS

ON the occasion of the commemoration of the one hundred and fiftieth anniversary of the Manchester Literary and Philosophical Society on March 17, Sir J. J. Thomson made the address and the Dalton Medal was presented to him.

PRESIDING at the convocation of Calcutta University, Sir Stanley Jackson, the governor of Bengal, presented the Hughes Medal of the Royal Society to Sir C. V. Raman, who was recently awarded the Nobel Prize in physics.

THE Bessemer Gold Medal of the British Iron and Steel Institute has been awarded this year to Sir Harold Carpenter, professor of metallurgy in the Royal School of Mines, Imperial College of Science and Technology, London, in recognition of distinguished services in the advancement of metallurgical science.

DR. JOHN ALEXANDER LOW WADDELL, consulting engineer of New York City, was presented with the first award of the Clausen Gold Medal, "for distinguished service to the engineering profession in the field of welfare," at a dinner of the American Association of Engineers on March 12. Mr. James H. Griffin, president of the association, made the presen-

tation. Dr. David B. Steinman, consulting engineer, served as toastmaster. Other speakers included G. M. Butler, dean of the College of Mines and Engineering of the University of Arizona, and Francis H. Sisson, vice-president of the Guaranty Trust Company.

DR. ROY CHAPMAN ANDREWS, of the American Museum of Natural History, was on March 13 awarded the Hubbard Gold Medal by the National Geographic Society for his geographical discoveries in Central Asia. Dr. Andrews, who discovered fossils of nearly a hundred species of prehistoric animals in the Gobi desert, will be the ninth man to receive the medal, the highest honor the society bestows. The medal was presented by Dr. Gilbert Grosvenor, president of the society.

CAPTAIN SIR GEORGE HUBERT WILKINS, who took the remodeled navy submarine *0–12* on its trial run on March 16, in preparation for his underseas Polar trip, received the Elisha Kent Kane Medal from the Geographical Society of Philadelphia on March 11 for "outstanding achievement in exploration." The medal was awarded at the society's annual dinner. Sir Hubert was the principal speaker. Dr. Roy Chapman Andrews was the recipient of the medal two years ago, and Rear Admiral Richard E. Byrd received it in 1927.

THE *Journal* of the American Medical Association reports that Dr. John Chalmers Da Costa, Samuel D. Gross professor of surgery, Jefferson Medical College, delivered a lecture reviewing his forty years' active work in surgery as the principal feature of the first observance of Da Costa Day by the Philadelphia County Medical Society on March 11. There was an attendance of over one thousand. Da Costa Day was inaugurated last year with the establishment of the John Chalmers Da Costa Foundation for the purpose of furthering postgraduate teaching under the auspices of the society.

DR. GEORGE W. CRILE, head of the Cleveland Clinic and professor emeritus of surgery at Western Reserve University School of Medicine, was the guest of honor at a dinner given by about 400 physicians on February 23. Dr. Charles H. Mayo was the principal speaker.

DR. WALTER LAWRENCE BIERRING, Des Moines, for many years secretary of the Federation of Medical Boards of the United States, was the guest of honor at a dinner given by the Des Moines Medical Library Club on March 7.

THE William H. Nichols Medal of the New York section of the American Chemical Society for 1931 was presented on March 13 at the Engineering Societies Building to Dr. John Arthur Wilson, of Milwaukee, "for outstanding achievement in colloid chemistry, applied particularly to leather and sanitation." The presentation was made by Dr. J. G. Davidson, of the Carbide and Carbon Chemicals Corporation, chairman of the jury of award and past president of the New York section. D. P. Morgan, Jr., secretary of the section, read an address by Dr. Clarke E. Davis, production manager of the National Biscuit Company, on the life of the medalist, and Professor Arthur W. Thomas, of Columbia University, spoke on the recipient's scientific accomplishments. Professor Arthur E. Hill, of New York University, chairman of the section, presided. Dr. Wilson responded with an address on "Leather, Sanitation and Colloid Chemistry."

AT the annual meeting of the American Society of Naturalists in Cleveland, Dr. J. Playfair McMurrich, professor of anatomy at the University of Toronto, was elected an honorary member of the society. The American Society of Naturalists was founded in 1883, and Dr. McMurrich has been a member since 1884. He was president at the Chicago meeting in 1907 and has served the society from time to time in various other capacities.

THE title of "professor emeritus" has been conferred upon Dr. Walter Ramsden, who resigned from the Johnstone chair of biochemistry at the University of Liverpool last December.

DR. HOWARD MCCLENAHAN, secretary of the Franklin Institute, Philadelphia, has been elected to the council of the American Association of Museums. Dr. McClenahan fills the vacancy created by the resignation of Mr. Waldemar Kaempffert, who is leaving the directorship of the Museum of Science and Industry at Chicago to become a member of the staff of the New York *Times*.

DR. LOUIS I. HARRIS, who resigned as health commissioner of New York City to become health expert for the National Dairy Products Corporation, has dissociated himself from the latter corporation.

AFTER serving for more than ten years as secretary-treasurer of the New York State Forestry Association, James R. Simmons resigned his position on March 5. John C. Sammi, instructor in the department of engineering at the New York State College of Forestry, has been appointed temporarily to fill the office vacated by Mr. Simmons.

DR. J. ROSSLYN EARP, lecturer in the University of Colorado, has been appointed director of the bureau of public welfare of New Mexico, succeeding Dr. George Sparr Luckett, who resigned several months ago.

MR. HAROLD J. COOK, curator of paleontology in the Colorado Museum of Natural History, Denver, is resigning from the active staff of the museum to give full time to private affairs and to the active development of the Cook Museum of Natural History at Agate, Nebraska.

CAPTAIN W. P. B. BEAL, formerly principal veterinary officer of the Gold Coast, has been appointed superintendent of the new zoological park of the Zoological Society of London at Whipsnade. It is expected that the park will be opened this spring.

DR. WILLIAM W. CORT, professor of helminthology in the Johns Hopkins Medical School, and Dr. George E. Nichols, professor of botany and director of the Marsh Botanical Garden of Yale University, will during the coming summer be members of the staff of the Douglas Lake Biological Station of the University of Michigan.

PROFESSOR HENRY B. BIGELOW, of Harvard University, scientific adviser to the International Ice Patrol, sailed on March 11 for Copenhagen to attend the conference of the International Council for the Exploration of the Sea, to be held from March 23 to 30.

DR. ALBERT W. HERRE, curator of the zoological museum of Stanford University, left on March 9 for an extended collecting tour among the islands about the Sulu and Celebes Seas. From Mindanao and Borneo he plans to go to Canton, China, to collect fishes in that region.

DR. J. HENDERSON SMITH, in charge of the plant virus disease research at the Rothamsted Experimental Station, Harpenden, England, is at present making an extended tour of the botanical institutions of America in relation to his investigations in plant pathology. On March 9 he gave an illustrated lecture with motion pictures on "Intracellular Inclusions in Plant Virus Diseases" before the department of botany of Columbia University, under the auspices of the Institute of Arts and Sciences of that institution.

PROFESSOR RICHARD COURANT, of the University of Göttingen, will join the faculty of the University of California at Berkeley for the summer session of 1932. Professor Paul S. Epstein, of the California Institute of Technology, Pasadena, will arrange for lectures at other institutions by Professor Courant during the spring of 1932.

DR. DONALD H. ANDREWS, of the department of chemistry of the Johns Hopkins University, recently gave a series of three lectures at the University of Minnesota on: "Seeing Inside the Molecule"; "Thermal Energy in Organic Molecules," and "The Leiden Low Temperature Laboratory."

THE annual meeting of the Illinois State Academy of Science will be held in Peoria on May 8 and 9 under the presidency of Dr. Fred R. Jelliff. The general program of the forenoon of May 8 will consist of addresses by Dr. William Hoskins, of Chicago; Dr. T. R. Hogness, of the University of Chicago, and Dr. A. C. Ivy, of Northwestern University, on various phases of chemical development, while the addresses that evening will be by President H. W. Chase, of the University of Illinois, and by Dr. Francis G. Blair, state superintendent of public instruction. The afternoon of the eighth will be devoted to sectional meetings. On Friday the Junior State Academy will also meet and will have its own program. Saturday will be largely given over to field trips.

THE Kansas Academy of Science will hold its sixty-third annual meeting at the University of Kansas on April 24 and 25. General papers and business will occupy the forenoons while the afternoons will be devoted to sectional programs in biology, entomology, physics, chemistry and psychology. A banquet will be held in the evening of April 24 and will be followed by the address of the president, Dr. Hazel E. Branch, of the University of Wichita. Later in the evening there will be a public address. Scientific men of neighboring states are cordially invited to attend the sessions of the academy and may appear on the program if they will send their titles of papers to the secretary, Dr. George E. Johnson, at the Kansas State Agricultural College, Manhattan, Kansas.

THE monthly meeting of the Torrey Botanical Society of America, held on March 3 at the department of botany of Columbia University, was devoted to demonstrations and methods of biological teaching in high schools and undergraduate colleges. More than a hundred exhibits and demonstrations ranging from elementary biology, mycology, medical and plant pathology, morphology and physiology illustrating favorable materials and methods for teaching had been set up for the occasion. This meeting also marked the official opening of the new quarters of the department of botany at Columbia University.

THE fourth annual meeting of the Texas Entomological Society was held on March 9 in San Antonio, Texas. This organization is unique in that it is composed of seventy-five members, each one of which holds either a federal or state entomological position. A very full program was given consisting of papers reporting upon original research or progress made on field control of economic insects. Resolutions were passed supporting the bill for a state museum now before the legislature; providing for a committee to formulate a bill providing for laws regulating the

sale of insecticides, vermifuges and fungicides, and to provide for licensing firms attempting to put on campaigns against insects. Action was taken completing the affiliation of the Texas Entomological Society with the Texas Academy of Science. A committee was provided to plan for the erecting of a memorial to Belfrage, the pioneer Texas entomologist. S. W. Bilsing, M. A. Stewart and F. L. Thomas were reelected as president, secretary-treasurer and vice-president. A feature of the program was a visit to the U. S. Pink Boll Worm Laboratory, where Mr. R. E. McDonald, who is in charge of this work, conducted the party through the laboratory and explained the work of the collection of something more than a million cans of cotton bolls from all districts of the United States and of their subsequent examination for the pink boll worm.

THE American Public Health Association announces that its sixtieth annual meeting will be held in Montreal from September 14 to 17, with the Windsor Hotel as headquarters. The association has not held a meeting in Canada since 1908 and public health workers from the Dominion and from the United States are invited to take advantage of this opportunity for closer contact. The program is being planned with the progress and needs of both countries in mind. Such subjects as toxoid immunization; rural sanitation, particularly the organization of a practical program for county health units; health education for a large city, for a small city, and for a rural community; camp and resort sanitation, including fungus skin infections, particularly those transmitted in swimming pools, and general sanitation of auto camps, have been considered so important by the program committee that special sessions will be devoted to them. Each section of the association will arrange individual programs, covering public health administration, laboratory research, vital statistics, public health engineering, food, drugs and nutrition, child hygiene, public health nursing, health education, epidemiology and industrial hygiene. Meetings of four other organizations, the American Association of School Physicians, the Conference of State Sanitary Engineers, the International Society of Medical Officers of Health, and the International Association of Dairy and Milk Inspectors—will take place during or immediately preceding the sessions of the association. For further information address the American Public Health Association, 450 Seventh Avenue, New York, N. Y.

THE California Academy of Sciences announces a special course of four free public lectures on the general subject, "The Beauties of Nature and the Forces Which Have Had to Do with Making This World the Interesting and Beautiful World That It Is." The lectures, which will be given on the evenings of April 1, 8, 15 and 22, are: "The Growth of the Earth as an Abode of Land Life," by Dr. Bailey Willis, professor emeritus of geology, Stanford University. "The Age of the Earth as Taught by the Grand Canyon of the Colorado," by Dr. William Morris Davis, professor emeritus of geology, Harvard University. "The Origin and Development of Land Plants," by Dr. Douglas Houghton Campbell, professor emeritus of botany, Stanford University. "The Origin, Distribution and History of the Giant Sequoias, the Oldest Living Things in the World," by Dr. Willis Linn Jepson, professor of botany, University of California.

THE Second International Congress of Linguists will meet at Geneva From August 25 to 29, 1931. The first congress was held from April 10 to 15, 1928, at La Haye. Those interested in the congress should communicate with M. Albert Sechehaye, Rue de l'Université 5, Geneva, Switzerland.

THE American School of Prehistoric Research, jointly with the British School of Archeology at Jerusalem, will begin on April 1 excavations at the foot of Mount Carmel, near Athlit, Palestine. Work will be carried on simultaneously at two caves in the Wady el Mughara and at another site near by. Miss Dorothy Garrod, of the British School, will be in charge. The eleventh annual summer session of the American School of Prehistoric Research will open in London on July 1. Dr. V. J. Fewkes, of the University of Pennsylvania, will be in charge. The itinerary includes London, East Anglia, Paris, Brittany, Charente, Dordogne, the Pyrenees, Lyons, Neuchâtel, Zurich, Vienna, Budapest, Bratislava, Brno and Prague. The rest of the term, from August 1 to September 16, will be devoted to excavations at Homolka, near Prague. It is also planned to have a second group of students for a shorter term (July 1 to August 1) and a less intensive program. Further information may be obtained from Professor George Grant MacCurdy, Peabody Museum, New Haven, Connecticut.

ON March 5 the governor of Kansas approved a bill changing the name of Kansas State Agricultural College to Kansas State College of Agriculture and Applied Science. The adoption of the more inclusive name is said not to involve or imply any change in the aims, character or work of the college.

THE *Journal* of the American Medical Association says: "When the University of Southern California Medical School was first opened the dean was enabled to secure a corps of well-qualified teachers, under the belief that other needed improvements would be made. For that reason, at a business meeting of the Council on Medical Education and Hos-

pitals of the American Medical Association held in June, 1930, the council voted that an acceptable rating be granted for the students who had completed their first two years of medical work during the years 1928–1929 and 1929–1930 under the faculty thus secured, but that an acceptable rating for the medical school be withheld in the hope that further improvements deemed essential would be made. Recent information obtained from reliable sources, however, indicated that, instead of making further improvements, actually retrogressive measures had been adopted. At a business meeting of the council held on February 15, therefore, the council had no other alternative than to vote that an acceptable status for this medical school be not granted."

IT is announced that a school of medicine will be organized as a part of the Louisiana State University. Premedical work and the first two years for the medical work will be given at Baton Rouge, and the last two years will be given in connection with the Charity Hospital at New Orleans. Dr. Arthur A. Vidrine, superintendent of Charity Hospital, has been named dean.

THE U. S. Civil Service Commission announces the following competitive examinations: physicist, at $3,800 a year, associate physicist, $3,200, and assistant physicist, $2,600. The optional subjects are: Heat, electricity, mechanics, light, radio, physical metallurgy, thermodynamics and aerodynamics, and any specialized work in the field of physics not included in any of the above. Applications for these positions must be on file not later than March 25. The examinations are to fill vacancies in the Bureau of Standards and Bureau of Mines, and under the National Advisory Committee for Aeronautics. Applications for the position of park historian, $3,800 to $4,600 a year, associate park historian, $3,200 to $3,800, and assistant park historian, $2,600 to $3,200, must also be received not later than March 25. The examinations are to fill vacancies occurring in the National Park Service. There are present vacancies at the Colonial National Monument, Yorktown, Virginia. The duties are to carry on historical, educational and museum work in the fields of history. In the case of all these examinations competitors will not be required to report for examination at any place, but will be rated on their education and experience, and on a thesis or published writing.

PLANS have been announced for the annual trip of the Harvard Summer School of Geology. The locality which will be studied in detail will be the north central part of New Mexico, in the Nacimiento and Jemez Mountains. Instruction will be conducted by Professor Kirk Bryan, who has made a geological study of this area. Six days a week will be devoted to mapping and to studies of land-forms in this part of the country. The second part of the summer will be spent in a rapid reconnaissance, covering 1,500 miles in New Mexico, Colorado and the north of Texas. The traveling will be done by truck, and the party will usually camp out. The first place that will be visited is the northern basin of the Rio Grande, where ancient lakes will be studied. From there the party will go to the salt lakes in the enclosed basin of the Estancia, and across the plains of eastern New Mexico, ending at the Carlsbad Caverns. The trip will cost $175, meals included, starting at Albuquerque, and it will count as a half course in the university. Enrolment is limited to those who have completed at least a full year of study in geology.

ACCORDING to a report in the *Journal* of the American Medical Association, obtained from the American representative of the Soviet Red Cross Societies, medical education in the Union of Socialist Soviet Republics, which was reorganized in 1930, now has three divisions, or faculties. These are (1) the curative-prophylactic faculty, which is divided into surgical, therapeutic and stomatologic departments; (2) the sanitary-prophylactic faculty, which is divided into epidemiologic, communal housing, nourishment and sanitary-industrial departments, and (3) the faculty for the protection of motherhood and childhood, which has two departments, one for mothers and infants, the other for children and adolescents. Except in the second division and the stomatologic department of the first, medical instruction covers four years. After a year's internship, graduates of the curative-prophylactic faculty and of the faculty for the protection of motherhood and childhood have the right to practice medicine independently. Physicians who have received their medical training outside of Russia may practice only after they have completed one year of practical medical work in institutions controlled by the commissariat of health. Applicants must also pass examinations on the principles of Soviet health protection.

THE National Tuberculosis Association announces a limited number of fellowships in social research as related to tuberculosis, open to graduate students who have had special training in statistics, social science or public health. Preference will be given to candidates who are interested in pursuing research in public health after the completion of this fellowship. Researches on topics selected by the National Tuberculosis Association will be conducted in collaboration with colleges and universities, and each study will be under qualified academic leadership. Academic credit

may be allowed for this research according to arrangement with the individual universities under whose supervision they are undertaken. Each fellow will be required to submit a written report at the completion of his fellowship grant and the text of that report shall remain the property of the National Tuberculosis Association. Candidates will be considered not alone on academic standing, but on experience and general fitness for research work. The fellowship grants will date from the beginning of the academic year in the fall of 1931. They are for a twelvemonth period and the fellowship grant amounts to $1,500 for that period with a month's leave for vacation. Interested candidates should write to Jessamine S. Whitney, Statistician, National Tuberculosis Association, 370 Seventh Avenue, New York City, for further information.

ACCORDING to the London *Times* an advisory Standing Commission on the British National Museums and Galleries is in process of formation. It is understood that the following have been invited to serve upon the commission: The Earl of Harewood, Lord Hanworth, Mr. C. R. Peers, Sir Richard Glazebrook and Sir Henry Miers. The creation of such a standing commission, which should review each year the draft estimates of the National Museums and Galleries, and advise generally upon the position, was among the recommendations of the Royal Commission on National Museums and Galleries. While such a body is intended principally to act as mediator between the various institutions and the treasury with a view to discouraging extravagance and assessing rival claims, it was suggested by the Royal Commission that it could also promote coordination between the national and provincial museums, and incidentally stimulate private benefactions. The function of the commission will, it is understood, be purely advisory, and it will not have executive control, apart from any influence exercised through the treasury or other government offices, over the trustees and similar bodies which at present govern the various institutions.

DISCUSSION

DEPOSITION OF SEDIMENT IN LAKES BY GLACIAL STREAMS

ON June 13, 1930, the writer had the opportunity to observe, from the deck of a steamer, the discharge of the Rhone River into Lake Geneva. At this time there was rapid melting of snow from the mountains and of the ice of the Rhone Glacier (seen about a week later) and the river was a yellow flood of cold water. From thermometric observations made on similar streams in Alaska, in 1909, it may be inferred that these snow and glacially derived waters of the Rhone had a temperature only a few degrees Fahrenheit above the freezing point, that is, they were within the temperature range where fresh water is most dense. The surface waters of the lake, on the other hand, were sufficiently warm to attract a few bathers to a beach at the head of the lake, a mile or two distant from the Rhone outlet.

Immediately on coming in contact with the lake waters, at what was evidently the edge of the steep, fore-set slope of the delta, the river waters sank beneath the surface. The demarcation between the blue waters of the lake and the yellow waters of the river flood was of line-sharpness; no zone or belt of turbidity could be seen, nor was there any turbidity of the surface waters of the lake at distances farther out in the lake. At the line of disappearance the yellow river waters had still a strong current, to the degree of being rippled on the surface; a current probably competent to transport coarse sand in suspension. The line of separation between the lake and river waters made the pattern of a delta with the base, in the lake, generally straight, and several times longer than the stream width at the apex of the triangle. In detail this base-line front of the delta had a crenate outline; a pattern that served to round off the angles between the base and the other two sides of the triangle.

From these observations it would appear that where the waters of a glacial stream, at temperatures where water is of maximum density, empty into a body of fresh water with relatively warm surface layers, sinking of the cold waters, together with their sediment load, is abrupt and complete at the outer edge of the top-set beds. Accordingly, if the water of the lake is of adequate depth in relation to the developed thickness of the delta deposit the fore-set beds should be of the maximum steepness permitted by the angle of rest under water of the material deposited. Further, their composition and cross bedding should be comparably heterogeneous to that of the top-set beds.

These deductions are fulfilled in a marked degree by the form and composition of the hanging deltas built into proglacial lakes at various levels, as found in the Finger Lakes district of central New York. The higher levels of such deltas quite invariably have very steep fronts, forty and more feet high, with straight rather than curved or serrate outlines. Where such delta terraces have been cut through in building operations or for use as a source of sand and gravel they show little difference in composition or coarseness of materials between the top-set and fore-set beds.

While there is such correspondence between the