

1916, to Dr. Elihu Thomson for achievement in electrical invention, in electrical engineering and industrial development, and in scientific research.

1917, to Dr. Henry M. Howe for his investigations in metallurgy, especially in the metallography of iron and steel.

1918, to J. Waldo Smith for achievement as engineer in providing the City of New York with a supply of water.

1919, to General George W. Goethals for achievement as builder of the Panama Canal.

1920, to Orville Wright for achievement in the development of the airplane.

1921, to Sir Robert A. Hadfield for the invention of manganese steel.

1922, to Charles Prosper Eugene Schneider for achievement in metallurgy of iron and steel, for the development of modern ordnance, and for notable patriotic contribution to the winning of the great war.

1923, to Senator Guglielmo Marconi for the invention of wireless telegraphy.

1924, to Ambrose Swasey for achievement as designer and manufacturer of instruments and machines of precision, a builder of great telescopes, a benefactor of education, and the founder of Engineering Foundation.

1925, to John Frank Stevens for great achievements as a civil engineer, particularly in planning and organizing for the construction of the Panama Canal; as a builder of railroads, and as administrator of the Chinese Eastern and Siberian Railways.

1926, to Edward Dean Adams for great achievements as engineer, financier, scientist, whose vision, courage and industry made possible the birth at Niagara Falls of hydroelectric power.

1927, to Elmer Ambrose Sperry for the development of the gyrocompass and the application of the gyroscope to the stabilization of ships and aeroplanes.

1928, to John Joseph Carty for pioneer achievement in telephone engineering and in the development of scientific research in the telephone art.

SCIENTIFIC NOTES AND NEWS

THE National Academy of Sciences at its annual meeting held in Washington on April 22, 23 and 24 elected new members as follows: Dr. Roger Adams, professor of organic chemistry at the University of Illinois; Irving W. Bailey, associate professor of botany, Bussey Institution, Harvard University; Dr. A. F. Blakeslee, botanist at the Carnegie Institution's station for experimental evolution at Cold Spring Harbor; Dr. James B. Conant, associate professor of chemistry, Harvard University; Dr. Bergen Davis, professor of physics at Columbia University; Dr. C. J. Davisson, physicist at the Bell Telephone Laboratories, New York; Dr. Joel H. Hildebrand, professor of chemistry at the University of California; William Hovgaard, professor of naval design at the Massa-

chusetts Institute of Technology; Dr. Albert W. Hull, research physicist at the General Electric Company's Research Laboratory at Schenectady; Frank Leverett, geologist of the U. S. Geological Survey and lecturer in glacial geology at the University of Michigan; Dr. Paul W. Merrill, astronomer at the Mt. Wilson Observatory, Pasadena; Dr. David H. Tennent, professor of zoology at Bryn Mawr College; Dr. George H. Whipple, dean of the School of Medicine and Dentistry and professor of pathology at the University of Rochester, N. Y., and Dr. Clark Wissler, curator of ethnology at the American Museum of Natural History, New York, and professor of anthropology in the institute of psychology at Yale University.

FOREIGN associates elected at the Washington meeting of the National Academy of Sciences are: Frederick Orpen Bower, formerly Regius professor of botany at the University of Glasgow; Dr. Richard Hertwig, professor of zoology at Munich; Willem de Sitter, director of the observatory at Leiden, Holland; Dr. Arnold Sommerfeld, professor of physics at Munich, and C. de la Vallée-Poussin, professor of analytical mechanics at Louvain.

At the annual dinner of the National Academy of Sciences the Agassiz medal for oceanography was presented to Dr. J. Stanley Gardiner, professor of zoology and comparative anatomy at the University of Cambridge, and the Watson medal to Dr. Willem de Sitter, director of the observatory at Leiden and professor of theoretical astronomy in the university. The addresses of presentation were made, respectively, by Professor Frank Lillie, of the University of Chicago, and by Professor Ernest W. Brown, of Yale University, and the medals were received by the British ambassador and the Dutch minister.

THE degree of doctor of laws will be conferred on Dr. William S. Thayer, professor emeritus of medicine at the Johns Hopkins University, by McGill University on May 29.

THE Medical College of Virginia will confer the doctorate of science on Dr. Albert Compton Broders, pathologist to the Mayo Clinic, at commencement on May 28. Dr. Broders is an alumnus of the school of medicine of the Medical College of Virginia, Richmond.

THE decoration of grand officer of the Crown of Italy was presented by Count Marchetti, of the Italian Embassy, on April 8 to Dr. William F. Verdi, clinical professor of surgery, Yale University School of Medicine. The speakers included Governor Trumbull, Mayor Tully and President Angell.

THE Research medal of the Research Corporation of New York will be presented on May 10 to Dr. Werner Heisenberg, associate professor of theoretical physics in the University of Leipzig, for "brilliant scientific achievement." Dr. Heisenberg is lecturing at the University of Chicago.

SIR RONALD ROSS, director-general of the Ross Institute and Hospital for Tropical Diseases, has been awarded the Manson medal given triennially by the Royal Society of Tropical Medicine and Hygiene to those of outstanding eminence in the field of tropical medicine and hygiene.

It is reported in *Nature* that the gold medal of the British Institution of Mining and Metallurgy has been awarded conjointly to the Honorable William Lawrence Baillieu and William Sydney Robinson "in recognition of their services in the development of the mineral resources of the Empire, with special reference to the zinc and lead industries of Australia." The medal, in duplicate, will be presented at the annual general meeting of the institution to be held at Burlington House, London, on May 16.

IN celebration of the fiftieth anniversary of the doctor's examination of Professor Raffaello Nasini, of the University of Pisa, funds have been collected for two periodical prizes of 5,000 lire each to be awarded, one in hydrology and one in chemistry.

THE American Pharmaceutical Association has awarded the Remington medal to Dr. Wilbur L. Scoville, chief of the analytic department of Parke, Davis and Company, in acknowledgment of his work as chairman of the National Formulary Committee. Dr. Scoville has served on the National Formulary Committee for three revisions of the formulary, and was a member of the revision committee of the U. S. Pharmacopeia for the 1900 and 1920 revisions. The association in 1922 awarded him the Ebert prize for the most outstanding article presented in its annual meeting.

DR. CHARLES E. CASPARI, dean of the St. Louis College of Pharmacy, was tendered a testimonial dinner on April 4 in commemoration of his twenty-fifth anniversary as professor of chemistry in the college. A picture of Dr. Caspari was presented to the college by the alumni in honor of the occasion. The speakers of the evening represented the college, the alumni, the faculty, the American Pharmaceutical Association and American Association of Colleges of Pharmacy, the City of St. Louis and the industry. Dr. Caspari responded by reviewing the progress of teaching in pharmacy schools during the past twenty-five years.

DEAN VIRGINIA C. GILDERSLEEVE, of Barnard College, Columbia University, has been elected president

of the Association to Aid Scientific Research by Women.

AT the recent annual meeting of the American Association of Pathologists and Bacteriologists in Chicago, Dr. George H. Whipple, professor of pathology and dean of the school of medicine and dentistry of the University of Rochester, was made *president*; Major George R. Callender, of the Army Medical School, *president elect*, and Dr. Howard T. Karsner, professor of pathology in the school of medicine of Western Reserve University, *secretary*. The next annual session will be in New York on April 17 and 18, 1930.

As the position of chief of the Weather Bureau is filled by presidential appointment, Professor Charles F. Marvin, who has held this post since 1913, tendered his resignation, in accordance with custom, to President Hoover. Professor Marvin's resignation was returned by President Hoover unaccepted, with the President's assurance that he was anxious that Professor Marvin should continue the distinguished services he had been rendering.

DR. LAUDER W. JONES, of Princeton University, has been appointed associate director for the natural sciences of the Rockefeller Foundation. He will have his headquarters in Paris carrying on the work as successor to Dr. Augustus Trowbridge, now dean of the graduate school of Princeton University.

DR. ALLEN K. KRAUSE, associate professor of medicine and director of Kenneth Dows Tuberculosis Research Laboratory of the Johns Hopkins University, has been selected as director of the Sanitarium and Research Institute near Tucson.

DR. MARK F. BOYD has been appointed director of the division of malaria control of the Mississippi State Board of Health. Dr. Boyd previously was associated with the International Health Board of the Rockefeller Foundation and was director of the station for field studies in malaria at Edenton, N. C.

F. M. RUSSELL, assistant to the Secretary of Agriculture, has submitted his resignation to become vice-president of the National Broadcasting Company, in charge of its affairs in Washington, D. C.

DR. EDWARD HARVEY CUSHING, clinical instructor in medicine in the school of medicine of Western Reserve University, son of the late Professor Henry Platt Cushing, has been appointed a member of the board of the Case Library, Cleveland.

THE first award of the J. T. Baker Chemical Company Analytical Fellowship, Eastern Division, has been made for the academic year 1929-1930 to Mr. Charles H. Greene, who will investigate the solubility

of precipitates in dilute solutions of the precipitant at Harvard University under the direction of Professor G. P. Baxter. Mr. Greene is a graduate of Haverford College, 1926, and received the M.A. degree from Harvard University in 1927.

To carry on work established four years ago and to further the object of relief of famines in China, Professor Harry H. Love, of the department of plant breeding of Cornell University, sailed on March 28. He will establish headquarters at the University of Nanking.

EDWIN W. JAMES, chief of the division of design of the Bureau of Public Roads, whose services have been lent to the government of the Republic of Colombia, South America, at the request of that government, will serve on a commission of five engineers who will endeavor to assist Colombia in improving her entire system of road, rail and water communications.

DR. HERBERT SPENCER DICKEY left on April 25 for the Upper Orinoco Valley as head of an expedition under the auspices of the Museum of the American Indian of the Heye Foundation, to study the tribe of White Indians that is reported to be found there.

DR. HENRY G. KNIGHT, chief of the bureau of chemistry and soils of the U. S. Department of Agriculture, is in the Pacific coast states investigating special agricultural problems in the solution of which the department seeks to aid the farmers of the region.

FRANK REEVES and C. P. Ross, of the U. S. Geological Survey, have returned from two months' work on the Panama Canal Zone, where they examined the proposed Alhajuela dam and reservoir sites for the Panama Canal.

AN Associated Press dispatch reports that W. T. Cox, superintendent of the Upper Mississippi Wild Life and Fish Preserve of the U. S. Biological Survey, is being considered for the post of head of the Forestry Service of Brazil.

PROFESSOR HUGH S. TAYLOR, of Princeton University, left for Germany on April 26. He expects to address the German Bunsen Society at its annual convention, which will be held from May 9 to 12.

DR. P. W. BRIDGMAN, Hollis professor of mathematics and natural philosophy at Harvard University, gave the Guthrie lecture at the Imperial College of Science at South Kensington, London, on April 19. His subject was "The Properties of the Elements under High Pressure."

THE annual Sigma Xi lecture in the University of Iowa was given on April 13 by Professor R. A. Millikan, of the California Institute of Technology, on "Available Energy."

PROFESSOR ALEXANDER SILVERMAN, head of the department of chemistry of the University of Pittsburgh, addressed the Sigma Xi Association at Columbia University at a banquet that was held at the Faculty Club of Columbia on May 2. His topic was "The Romance of Glass."

DR. MAX MASON, director for the natural sciences at the Rockefeller Foundation, will address the Phi Beta Kappa Alumni in New York at the University Club on Thursday evening, May 9. His subject is "Highest Common Factors."

DR. FREDERICK E. WRIGHT, of the Geophysical Laboratory, Washington, D. C., gave a lecture before the Franklin Institute, Philadelphia, on April 11, entitled "The Gravity-Measuring Cruise of the Submarine U. S. S. S-21."

THE deans of the University of Minnesota recommended to the president that Dr. Albert Ernest Jenks, professor of anthropology, represent recent research work of the faculty in an address before the university convocation on April 18. The address given was entitled "Field Researches in the Culture of Prehistoric Americans," and dealt with the field work in Mimbres culture carried on last summer in New Mexico by Dr. Jenks and four graduate students, in cooperation with Mr. Wesley Bradford, of the Santa Fé Museum. On February 15 the annual Sigma Xi address at the University of Minnesota was delivered on the same subject by Dr. Jenks.

PROFESSOR F. O. BOWER, emeritus professor of botany in the University of Glasgow, gives the Huxley Memorial Lecture at the Imperial College of Science and Technology, London, on May 3. His subject is "The Origin of a Land Flora Reviewed Twenty-one Years after Publication."

DR. JOHN W. HARSHBERGER, professor of botany at the University of Pennsylvania, where he had taught since 1892, died on April 28 at the age of sixty years.

DR. CHARLES E. DE MEDICIS SAJOUS, professor of applied endocrinology in the graduate school of medicine of the University of Pennsylvania, died on April 27. He was seventy-six years of age.

DR. JOHN A. WITHERSPOON, a past president of the American Medical Association and one of the founders of the medical department of Vanderbilt University, died at Nashville on April 25.

DR. S. WATASE, professor emeritus of zoology at the Tokyo Imperial University, died on March 8 at the age of sixty-six years.

THE death is announced of Professor Enrico Morselli, director of the psychiatric clinic of the University of Genoa.

THE seventh annual meeting of the Virginia Academy of Science will be held at the Staunton Military Academy, Staunton, Virginia, on May 10 and 11.

THE building and equipment of the new Chemical Laboratory at Princeton University is now sufficiently advanced that its completion during the coming summer is assured. It is planned to hold the formal opening of the new laboratory on September 26. This will be followed by a two-day conference on the subject of "Catalysis and the Mechanism of Chemical Reactions." Princeton University is inviting on this occasion a number of foreign guests prominent in the field of chemistry to be discussed at the conference and it is expected that their contributions to the discussion will yield an important summary of the present state of knowledge in this field. The details involved in the organization of the conference are in the hands of a committee of the Princeton department of chemistry of which Professor R. N. Pease is the secretary.

FIFTY members of the English Ceramic Society of Stoke-on-Trent have arrived in New York on a three weeks' tour of the United States, the trip being the outcome of an invitation by the American Ceramic Society which visited England last year. It will permit the English ceramists to see at first hand American processes by mass production methods. Many of the earliest potters, craftsmen and designers in the United States came originally from Staffordshire.

FORTY-FIVE geologists from Oklahoma and Texas, under the guidance of members of the staff of the Oklahoma Geological Survey, attended the fifteenth Oklahoma Field Conference, which was held from April 11 to 14 in the Arbuckle Mountains of southern Oklahoma. The civic clubs of Ada tendered the visiting geologists a complimentary dinner, this being the fourth annual dinner so given. The chief object of the conference this year was to study type localities of geological formations, chiefly of lower Paleozoic formations, in the Arbuckles, the greater number of which were first proposed by Taff thirty years ago.

AMHERST COLLEGE has announced plans for its fifteenth geological and mineralogical expedition to the western area of the United States, under the direction of Professor Frederic B. Loomis.

A GEOLOGICAL field study expedition, under the auspices of the Summer Session of Columbia University and the University of Wyoming, will explore some of the highest ranges of the Rocky Mountains from June 17 to July 20. The headquarters will be in Medicine Bow Range, near Laramie, Wyoming, 10,000 feet up, and from this point weekly field trips for detailed

geological observations will be made, at altitudes of 7,000 to 8,000 feet, the territory covered extending from the Continental Divide westward through Laramie Basin. The pre-Cambrian of the Front Range, the great Sherman batholith, 2,000 feet of Paleozoic red beds, the marine and continental deposits of the Mesozoic age as exposed in the Freeze-out Hills and at Como Bluff, the Oligocene of Central Wyoming at Bates's Hole and the precipitous 1,500 foot canyon of the Platte, will be used as the basis of field instruction in structural geology, stratigraphy and physiography. Studies will be made of oil domes, alpine glaciation and the Rocky Mountain peneplane. Professor Roy J. Colony, of Columbia University, and Professor Samuel H. Knight, of the University of Wyoming, will have charge of the expedition, in which many advanced students of geology will take part.

REPRESENTATIVE WM. I. SIROVICH, of New York, has reintroduced his bill to establish and operate a National Institute of Health, authorizing the government to accept donations for use in ascertaining the cause, prevention and cure of disease affecting human beings. He will introduce the bill again next session, if no hearings can be had before the close of this session. Senator Joseph E. Ransdell, of Louisiana, will introduce the bill in the Senate. Representative William B. Bankhead, of Alabama, has introduced a bill authorizing special appropriations for cooperation of the federal government with the states in promoting the health of the rural population of the United States.

UNIVERSITY AND EDUCATIONAL NOTES

THE new building for physics and geology at the University of Tennessee, built at a cost of \$200,000, has been completed and is now ready for occupancy. The chemistry building is nearly completed. Additional buildings which will soon be under way comprise a library, an administrative and a memorial assembly building, which is to be erected jointly by the university, the City of Knoxville and Knox County. It is planned to spend \$2,500,000 in all on the buildings.

THE corner-stone of the John Markle Mining Engineering Hall of Lafayette College will be laid on June 6.

DR. ROBERT MAYNARD HUTCHINS, dean of the law school of Yale University, has been elected president of the University of Chicago to succeed Dr. Max Mason, now director of the division of natural sciences of the Rockefeller Foundation. Dr. Hutchins, who is thirty years old, will assume office on July 1.