

ground squirrels of the Mississippi Valley he has prepared special publications based on his field work, and has revised the classification of rodents in these and other genera. Only recently the bureau added to the list of publications written by Mr. Bailey the "Mammals of New Mexico," in its North American Fauna Series. At present, as joint author with Dr. Florence Merriam Bailey, his wife, he has in press a work on the wild life of the Mammoth Cave region of Kentucky. His work on Oregon has not yet been published. Mr. Bailey has also been widely recognized for his efforts in behalf of the humane treatment of animals, especially because of the traps he has invented to capture them alive and unhurt.

A native of Michigan, Mr. Bailey was first employed in the Department of Agriculture as a special field agent in 1887, when he was twenty-four years old and living in Minnesota. In 1890 he gained his present title of chief field naturalist. From 1906 to 1913 he was in charge of what is now the division of biological investigations of the survey.

Mr. Bailey is president of the American Society of Mammalogists and a former president of the Biological Society of Washington.

Dr. Theodore Sherman Palmer is known as a zoological historian and biographer, as an authority on the nomenclature of mammals and also for his activities in game protection. He was chairman of the committee that prepared regulations under the migratory-bird law of 1913, and he also prepared the preliminary draft of the Migratory Bird Treaty of 1916 between the United States and Great Britain.

He was instrumental in initiating legislation governing importations of game and other wild animals and birds from foreign countries and has cooperated with officials of the Customs Service in drafting regulations. He originated the present system of Federal publication of the game laws and open-season posters and of directories of game-protective officials and organizations, and the numerous official publications of the Biological Survey on trends in game conservation and in legislation for the protection of wild

life, some of which have been translated and published abroad. Monumental among his published writings is his "Index Generum Mammalium," issued by the Biological Survey in 1904 as North American Fauna No. 23. He is now completing a supplement to it.

Dr. Palmer, a native of California, was graduated from the University of California in 1888 and came to the Department of Agriculture the following year, at the age of 21. In 1895 he completed medical studies and was granted the M.D. degree by Georgetown University. He early engaged in field studies and has visited most parts of the United States, and for five months in 1891, as first assistant ornithologist, he was acting in charge of the Death Valley Expedition. He was assistant chief of the Biological Survey from 1896 to 1902, and from 1910 to 1914, and acted as chief over extended periods, including the time when the chief, Dr. C. Hart Merriam, was in Alaska as a member of the Bering Sea Commission. From 1900 to 1916, Dr. Palmer was in charge of the bureau's division of game preservation, and since the passage of the Lacey Act in 1900 he has been in charge of the regulation of the importation of foreign birds and mammals.

OBITUARY

FRANK WILLIAM PEEK, JR., chief engineer of the Pittsfield works of the General Electric Company, was killed at Gaspé, Quebec, on July 27, when the automobile he was driving was struck by the locomotive of a Canadian Railway train at a grade-crossing. Mr. Peek was in his fifty-second year.

DR. EDWARD CAMERON KIRK, seventy-seven, professor emeritus of the School of Dentistry of the University of Pennsylvania, died on July 21.

THE death is announced of John Eliot Thayer, member of the Museum of Comparative Zoology of Harvard University. Mr. Thayer built a museum in Lancaster, Massachusetts, for the public with one of the best collections of birds in North America.

SCIENTIFIC NOTES AND NEWS

WITHIN the last few months Professor John J. Abel, director of the Laboratory of Endocrine Research at the Johns Hopkins University, has been made an honorary member of the American Association of Physicians and of the Pharmacological and Physiological Societies of Great Britain. He has also been made an honorary fellow of the Royal Society of Edinburgh.

PROFESSOR EDWIN GRANT CONKLIN, of Princeton University, has been elected an honorary fellow of the Royal Society of Edinburgh.

DR. THOMAS B. NOLAN, geologist of the U. S. Geological Survey, has been awarded the Spendiarioff Prize of the International Geological Congress in recognition of his studies of the complex earth structure of western mining districts of the United States.

THE daily press reports that a bill now before the House of Commons will enable Professor Albert Einstein to acquire British citizenship.

SIR COLIN MACKENZIE, director of the Australian Institute of Anatomy, has been elected president of the Royal Society of Australia. The society has its

headquarters in the national capital and branches in the various states.

A CORRESPONDENT writes: "After many years of distinguished service, Geheimrat Professor Otto Appel has resigned the directorship of the 'Reichs' Biological Institute of Agriculture and Forestry, Berlin-Dahlem, Germany. Dr. Appel continued in office for a time after reaching the statutory age limit, but has now finally severed his connection with the institution, which owes so much to his indefatigable activities and ability for organization. On his retirement, Dr. Appel, who has made many friends on this Continent, both during his frequent visits here and by his unfailing courtesy and helpful advice to colleagues visiting him in Dahlem, was signally honored by President von Hindenburg, who, in a personal letter of thanks to Dr. Appel, wrote: 'I am highly grateful to you for your loyal service to your country and especially appreciative of your life's work devoted to the welfare of German agriculture. The Biological Reichsanstalt owes to you its present organization, which has brought the highest praise from home and abroad, to the entire German phytopathological service.' Dr. Appel will continue his academic teaching in connection with the Agricultural Academy at Dahlem."

DR. HERBERT OSBORN, of the Ohio State University, has been made emeritus professor in zoology and entomology and retires from active teaching in conformity with provisions of the state teachers retirement system. He will continue his research work with facilities of the department and as director of the Ohio Biological Survey.

At Oberlin College, the retirement is announced of Professor Frederick Orville Grover, head of the department of botany. Professor Grover became associate professor at Oberlin in 1898 and was appointed professor in 1900. The retirement is also announced of Dr. S. F. MacLennan, professor of philosophy and comparative religion, who joined the faculty thirty-six years ago.

FOLLOWING the election of Dr. Arthur H. Daniels, who had been dean of the Graduate School and acting dean of the College of Liberal Arts, as acting president of the University of Illinois, Professor R. D. Carmichael, head of the department of mathematics, has been made acting dean of the Graduate School and Professor M. T. McClure, head of the department of philosophy, acting dean of the College of Liberal Arts. To fill a vacancy caused by the retirement of Dean M. S. Ketchum, of the College of Engineering, Professor Arthur Cutts Willard, head of the department of mechanical engineering, has been ap-

pointed acting dean. Dr. Ketchum will retain a research professorship in civil engineering.

H. C. GEORGE, who took charge of the newly established School of Petroleum Engineering at the University of Oklahoma in 1924 and who has been director of the school since that time, has resigned to become head of the department of oil and gas production at the University of Pittsburgh.

DR. ROBERT ALLAN MOORE, instructor in pathology in the School of Medicine of Western Reserve University and assistant pathologist of the Lakeside Hospital, Cleveland, has been appointed assistant professor of pathology in the Cornell University College of Medicine, New York City.

DR. KURT WACHHOLDER, of Breslau, has been appointed professor of physiology at Rostock, Dr. Oskar Seifried professor of pathology at Munich and Dr. Eduard Pernkopf professor of anatomy at Vienna.

THE officers, executive committee and members of the Division of Geology and Geography, National Research Council, for the year 1933-1934 are as follows: *Chairman*, W. H. Twenhofel; *Vice-chairman*, W. L. G. Joerg; *Executive Committee*, W. H. Twenhofel, W. L. G. Joerg, James Gilluly, R. S. Knappen and Morris M. Leighton; *Representatives of Societies*, E. H. Sellards and E. C. Case, Geological Society of America; W. F. Foshag, Mineralogical Society of America; August F. Foerste, Paleontological Society; K. C. McMurtry and Nevin M. Fenneman, Association of American Geographers; W. L. G. Joerg, American Geographical Society; James Gilluly, Society of Economic Geologists; R. S. Knappen, the American Association of Petroleum Geologists; *Members at large*, W. H. Twenhofel, Mark Jefferson and Morris M. Leighton.

DR. HENRY CHARLES TAYLOR, who was until 1931 research professor of agricultural economics at the University of Vermont, has been designated by President Roosevelt to represent the United States on the permanent committee of the International Institute of Agriculture at Rome. His appointment revives an office which has remained unfilled for several years.

NELSON C. BROWN, professor at the State College of Forestry at Syracuse, New York, is one of those named as special inspectors during July and August for the forestry camps of the Civilian Conservation Corps.

JAMES H. CISSEL, professor of structural engineering in the College of Engineering of the University of Michigan, has been named bridge designer in the Department of the State Highway Commissioner. He took office on July 1. Professor Cissel has been granted leave of absence from the university.

Nature reports that Professor Julian S. Huxley has accepted the invitation of Messrs. Thornton Butterworth, Ltd., to become science editor of the "Home University Library," in succession to the late Sir J. Arthur Thomson. The "Library," founded in 1911, and added to each year, now consists of more than 160 volumes covering the chief subjects in history and geography, literature and art, science and social science, philosophy and religion. Professor Huxley joins the Right Honorable H. A. L. Fisher and Professor Gilbert Murray on the editorial side.

DR. ERMA A. SMITH, associate professor of physiology at the Iowa State College, has been allotted a grant by the American Medical Association to be used in a study of the effects of sublethal percentages of illuminating gas.

DR. AMADEUS W. GRABAU, chief paleontologist of the Chinese Geological Survey, professor of paleontology at Columbia University for eighteen years prior to his going to the National University of Peiping, China, is visiting New York. He is accompanied by Dr. V. K. Ting, the assistant director of the Geological Survey of China. Dr. Grabau expects to return to China in September.

DR. F. B. SUMNER, professor of biology at the Scripps Institution of Oceanography, University of California, has been granted leave of absence until December 31, which he will spend in study and writing in the San Felipe Valley, Tucson, and at the University of California.

At the recent Chicago meeting of the American Society for Testing Materials, Herbert J. Gough, superintendent of the engineering division of the British National Physical Laboratory, delivered the 1933 Marburg Lecture.

At the closing session on July 29 the International Geological Congress approved the action of the council to hold the next International Geological Congress in Soviet Russia. Professor Waldemar Lindgren, of the Massachusetts Institute of Technology, president of the congress, read before the closing session a letter from President Roosevelt, greeting the congress officially on behalf of the United States and expressing his regret at his inability, "due to the extreme pressure of public duties," to convey his greetings personally. He added that it was "a source of great pride to the people of this country" that the delegates should have chosen the United States for their meeting place.

DR. ROBERT E. WILSON, vice-president of the Standard Oil Company of Indiana, has been appointed general chairman of a committee to make plans for the

eighty-sixth meeting of the American Chemical Society in Chicago from September 10 to 15. Dr. Wilson is in charge of the company's research and development activity, and is a director-at-large of the society. The meeting will trace a century of progress in chemistry, and is expected to attract more than 3,000 scientific men from all over the world. Among the speakers will be distinguished chemists of Great Britain and the Continent. Development of the chemistry of petroleum and of the petroleum industry will feature the discussions. The Division of Petroleum Chemistry, of which F. W. Sullivan, of the Standard Oil Company of Indiana, is chairman, will hold five sessions, three of which will be given over to a symposium on "Hydrocarbon Decomposition," under the chairmanship of E. M. Clark. The Division of Gas and Fuel Chemistry, of which Professor A. W. Gauger, of the Pennsylvania State College, is chairman, and the Division of Organic Chemistry, headed by Professor C. S. Marvel, of the University of Illinois, will participate in the symposium. Leading oil chemists from the industry and the research laboratories of the nation will present papers.

A QUARTER of a century of teaching and research in natural science under natural conditions will be marked when the University of Michigan Biological Station at Douglas Lake holds its annual visitor's day from 2 to 5 o'clock on Sunday, August 6. In recent years visitor's day has become an event for residents and tourists in the Douglas Lake area. In addition to an invitation to the general public, visitor's day this year will feature a special program for Michigan alumni, with Northern Michigan Alumni Clubs participating. Professor George R. LaRue is director of the station. Beginning in 1909 with a log cabin laboratory and a few tent homes, the station has developed into the largest fresh-water center in the world for study of plant and animal life under natural conditions. There are now one hundred and thirty buildings, housing students and investigators from all parts of the country and twenty-five to thirty articles are published each year, describing scientific investigations, and circulated to all parts of the world. Although primarily a teaching branch of the university, much independent research is also carried on in Douglas Lake and the surrounding country. Often this is of economic importance, such as the studies of parasitic worms which nineteen persons are carrying on this year. The George Washington Memorial Forest, established by the station with the co-operation of Cheboygan County schools, and a planting of 600,000 trees in a reforestation project, are other activities of the station. On August 6 all the exhibits of the station will be thrown open and faculty and students will serve as guides to visitors.

By the will of J. DeW. Sterry public bequests are made amounting to \$103,000. These include \$11,000 to Princeton University and \$10,000 to the American Museum of Natural History.

THE New Hampshire Forestry Commission has recently received through a bequest of Miss Caroline A. Fox, of Hillsboro, New Hampshire, a trust fund of approximately \$200,000, the income from which is to be devoted to forest research and demonstration at Hillsboro and elsewhere in New Hampshire. Research at Hillsboro will be centered on the Caroline A. Fox Reservation, which was donated to the state by Miss Fox. Dr. Henry I. Baldwin, formerly research forester for the Brown Company, Berlin, New Hampshire, has been appointed resident forester. Dr. Baldwin has been a member of the faculty of the Pennsylvania State College during the past year, and takes up his new work on August 1.

A RESOLUTION was recently passed by the Court of the University of London conveying cordial thanks to the Rockefeller Foundation for a further generous donation to University College of £4,000 for the reconstruction and equipment of additional laboratories for the department of physiology at the college, to accommodate an expansion of the work in biophysics.

By action of the Board of Regents of the University of Texas, the old Engineering Building, vacated by the College of Engineering in favor of the new \$400,000 structure which adjoins the power plant, has been officially named "The Journalism Building." It will house the department of journalism, the student publications and the university office of publicity in the autumn. The building was erected in 1904.

THE National Geographic Society has leased space on the fifty-fourth floor of the RCA Building in Rockefeller Center. Early next month it will move from 350 Madison Avenue to the new quarters, which will be approximately twice as large as the space now occupied.

THE Ohio Academy of Science assembled for the annual field excursion under the direction of Dr. Karl Ver Steeg, chairman of the Section of Geology, on May 27 and 28, at Millersburg, Ohio. The trip was devoted to a field study of the glacial features, stratigraphy and physiography of Holmes County. The area examined in the vicinity of Millersburg and Loudonville afforded an excellent opportunity to see the glacial boundaries of the Illinoian and Wisconsin ice-sheets. The problem of glacial stagnation in the valleys in Holmes County and drainage changes, resulting from glaciation, are of considerable interest. The first day the area west of Killbuck Creek, in the vicinity of Millersburg, was examined. Here the results of glacier stagnation, moraines, kame terraces, varved clays, outwash deposits, drainage changes, the contact between the Waverly and Pennsylvanian series and the Harrisburg erosion surface were studied. On the next day the region northwest of Millersburg and in the vicinity of Loudonville was inspected. The evidences of glacier stagnation in the broad valley in the vicinity of Loudonville were investigated. George W. White, professor of geology at the New Hampshire University, who has made an intensive study of the region for a number of years, was the guide. After dinner in the evening the party gathered for a discussion. About thirty-five members, mainly from the colleges and universities in the state, attended the excursion.

DISCUSSION

NOTES ON THE FALL OF COLUMNS DURING THE LONG BEACH EARTHQUAKE

THE use of overthrown columns for determining the position of seismic focus, developed by Robert Mallet in his study of the Neapolitan earthquake of 1857 and later used by Omori¹ and others, has been invoked by the writer in a study of the recent earthquake in Long Beach, California. It is interesting to compare the results obtained by this older method with those of the highly organized system of seismological stations maintained by the California Institute of Technology and the Carnegie Institution of Washington throughout southern California.

The earthquake occurred at approximately 5:55 P. M., Pacific Standard Time, on March 10, 1933, the

greatest amount of damage being done in the cities of Long Beach and Compton, although other neighboring towns had many buildings destroyed, and a large part of southern California was distinctly shaken. The writer visited the damaged area shortly after the shock and at that time gathered the data here set forth. He wishes to acknowledge the assistance rendered by two of his students, Mr. Duncan A. McNaughton and Mr. Diamond Kimm.

The method of procedure was simple. Since it was desired to observe the direction of propagation of the earthquake waves as indicated by their effect on free-falling columns, work was confined to cemeteries. Fourteen cemeteries in the general vicinity were visited by the writer or his assistants, but in most of these either there were no monuments at all or none had been thrown down. In five, however, data were collected.

¹ C. Davison, "A Manual of Seismology," pp. 51-52, 119-121. Cambridge University Press, 1921.