

tory, and Dr. R. B. Brode, of the University of California, will describe the principal accomplishments in the physical sciences. The sound film of Sir William Bragg, "Arrangement of Atoms and Molecules in Crystals," and the film by C. W. Hewlett on "Radio-active Rays," have been secured for this opening session.

A feature of the meeting will be a symposium on trees, on Thursday morning. Among those taking part are Dr. Wilson Compton, secretary-manager of the National Lumber Manufacturers' Association, Washington, D. C.; Dr. Thornton T. Munger, Portland, director of the Pacific Northwest Forest Experiment Station, and Dr. A. E. Douglass, director of the Steward Observatory, University of Arizona. Dr. W. F. G. Swann, director of the Bartol Research Foundation of the Franklin Institute, Swarthmore, Pennsylvania, will address the meeting on Friday evening on "Philosophic Concepts of Modern Physics."

Friday afternoon will be devoted to a tour of inspection of the Oregon State Agricultural College at Corvallis. Several excursions have been planned to places of scientific and scenic interest. These include a trip to Coos Bay, where the university is contemplating the establishment of a biological laboratory; a trip over the McKenzie Highway to the summit of

the Cascade Range, to view geological features; a geographical trip to the coast to Newport and Yaquina Bay; a third trip will take in the various lumber mills and logging camps near Eugene; a paleobotany trip will be made to the fossil beds about eight miles south of Eugene; a tour of inspection to the Springfield Booth-Kelly lumber mill will be made; the new municipal power plant and dam recently completed at Leaburg will be the subject of the seventh trip. President and Mrs. Arnold Bennett Hall, of the University of Oregon, will hold a reception on Wednesday afternoon.

Members resident in Montana and Wyoming desirous of attending this meeting may benefit from the reduced transportation rates secured under the identification-certificate plan. These certificates may be secured from the secretary of the Pacific Division, American Association for the Advancement of Science, Stanford University, California. Requests should be made immediately. Identification-certificates to members resident in California, Oregon, Washington, Nevada, Utah, Idaho and British Columbia will be sent out with the programs. Identification-certificates to non-members of the association who propose to attend the meeting will be issued on request.

SCIENTIFIC NOTES AND NEWS

A SPECIAL feature of the meeting of the American Medical Association to be held at Detroit this month will be the presentation to all the living ex-presidents of the American Medical Association of an emblem significant of medical science. The four senior presidents are Dr. W. W. Keen, Philadelphia, president in 1900; Dr. Frank Billings, Chicago, 1902; Dr. W. J. Mayo, Rochester, Minnesota, 1906, and Dr. W. H. Welch, Baltimore, 1910.

A PORTRAIT bust of Professor James Henry Breasted, director of the Oriental Institute of the University of Chicago, will be cast in bronze by the French sculptor, Numa Patlagean, in Paris, and will be installed in the new building of the Oriental Institute.

THE engineering faculty of New York University gave a dinner on May 28 in honor of Dean Charles H. Snow, who is retiring after thirty-eight years with New York University, thirty-three of them as head of the Engineering College.

At the third organization dinner of the Brooklyn Botanic Garden an illuminated and framed parchment scroll was presented to the director, signed by the staff and employees of the garden, fifty-four in

number. The scroll reads: "Presented to Dr. C. Stuart Gager on May twenty-second, nineteen hundred and thirty, to mark the twentieth year of his association with the Brooklyn Botanic Garden as its director. This scroll is an expression of admiration for the work that he has accomplished and of the respect and affection with which he is regarded by the entire personnel of the Brooklyn Botanic Garden."

DR. FRANCIS E. LLOYD, Macdonald professor of botany at McGill University, has been elected a corresponding member of the Czechoslovak Botanical Society.

THE Royal Geographical Society has awarded its Cuthbert-Peel Grant for 1929 to Mr. Owen Lattimore for his travels in Mongolia and Sinkiang recorded in his recently published book "The Desert Road to Turkestan."

A PORTRAIT of Professor H. F. Newall, who recently retired from the chair of astrophysics at the University of Cambridge, was presented to the university on May 10. The portrait was painted by Mr. Fiddes Watt and the presentation was made by Sir J. J. Thomson. Sir Frank Dyson and Sir Joseph Larmor spoke in appreciation of Dr. Newall's work.

It is stated in *Nature* that the Royal Society of Edinburgh has made the following awards: Keith Prize for the period 1927-29, to Dr. Christina C. Miller, for her papers on the slow oxidation of phosphorus trioxide, published in the *Proceedings* within the period of the award, and in consideration of subsequent developments on slow oxidation of phosphorus, published elsewhere; the Neill Prize for the period 1927-29, to Professor E. B. Bailey, in recognition of his contributions to the geology of Scotland, two of which have recently appeared in the *Transactions* of the society; the James Scott Prize for the period 1927-30, to Professor Niels Bohr, who delivered an address, according to the terms of the award, on May 26.

At the anniversary meeting of the Royal Society of South Africa, Dr. W. A. Jolly, dean of the medical faculty at the University of Cape Town, was elected president.

At the seventh annual meeting of the American Society of Stomatology held in New York on April 10 and 11, elections were made as follows: Dr. Lloyd L. Baker, Eugene, Oregon, *president*; Dr. N. P. Norman, New York, *vice-president*; Dr. Alfred J. Asgis, New York, *editor-secretary*; Vida A. Latham, Chicago, and Dr. A. T. Rasmussen, La Crosse, Wisconsin, *fellows*; Professor Oliver T. Osborne, Yale University; Professor J. Chompret, director, stomatology division, St. Louis Hospital, Paris; Professor A. Herpin, Paris; Professor G. Coen-Cagli, University of Rome; Professor Antoni Cieszynski, University of Lwow, *honorary fellows*.

OFFICERS elected at the annual meeting in Atlantic City of the American Laryngological, Rhinological and Otological Society were: Dr. Max Goldstein, St. Louis, *president*; Dr. Coulter G. Charlton, Atlantic City, *vice-president*; Dr. W. Likely Simpson, Memphis, Tennessee, *chairman of the Southern Section*; Dr. Albert C. Furstenburg, Ann Arbor, Michigan, *chairman of the Middle Section*; Dr. Claudet Uren, Omaha, Nebraska, *chairman of the Mid-Western Section*; Dr. A. T. Wanamaker, Seattle, Washington, *chairman of the Western Section*; Dr. Robert L. Loughran, New York, *secretary*; Dr. Ewing W. Day, Pittsburgh, *treasurer*, and Dr. George I. Richards, Fall River, Massachusetts, *editor*.

DR. LOUIS KAHLENBERG, professor of chemistry at the University of Wisconsin, was elected president of the American Electrochemical Society at the recent meeting in St. Louis. Other officers elected were Bradley Stoughton, Hugh S. Taylor and George W. Vinal, *vice-presidents*; D. A. Pritchard, M. R. Thompson and Alexander Lowy, *managers*; Acheson Smith, *treasurer*, and Colin G. Fink, *secretary*.

DR. HOMER H. LOWRY, research chemist with the Bell Telephone Laboratories, Inc., New York City, has been selected as director of the recently founded Coal Research Laboratory of the Carnegie Institute of Technology.

DR. WILLIAM F. THOMPSON, director of the International Fisheries Commission, with scientific headquarters at the University of Washington, has accepted the newly created post of research professor of fisheries. His new work will not conflict with his duties on the commission, which is jointly supported by the United States and Canada for the study of the halibut fisheries, particularly in the North Pacific. Under the new plan, which will go into effect next October, the oceanographic work at the university will coordinate studies in the biology of the sea, including plant and animal life, the chemistry of the ocean waters and the geological structure of submarine areas and ocean currents. The present College of Fisheries will be consolidated with the College of Sciences to give students a more thorough scientific foundation for the study of marine animal life.

DR. H. E. WHITE, international research fellow at the Physikalisch-Technische Reichsanstalt, Charlottenburg, has accepted a position as assistant professor of physics at the University of California. Dr. White will begin his duties at California with the opening of the fall semester in August.

PROFESSOR MAX F. MEYER, of the University of Missouri, has been appointed research professor of psychology for one year, and has been relieved from all his teaching and administrative duties. His work will be concerned with methods of teaching the deaf and will be carried on with the clinical facilities of the Central Institute for the Deaf in St. Louis.

DR. J. E. W. WALLIN, director of special education in the Baltimore public schools and lecturer at the Johns Hopkins University and Morgan College, has been appointed head of the department of psychology at Atlantic University which was recently founded at Virginia Beach.

DR. HERBERT C. HANSON, of the Colorado Agricultural College, has been appointed professor of botany and head of the department of botany in the School of Science and Literature and botanist in the Experiment Station in the North Dakota Agricultural College at Fargo. He will take up his new duties on July 1.

DR. CLARENCE A. MORRELL, formerly of the department of biochemistry of the Harvard Medical School, has taken the position of chemist-pharmacologist in the laboratory of hygiene of the Department of National Health at Ottawa, Canada.

DR. HENRY S. SHARP, instructor in geology at Columbia University, has been appointed assistant professor of geology in Denison University, Granville, Ohio.

DR. JULIA M. SHIPMAN, instructor of geography at the University of Nebraska, has been appointed assistant professor of geography at Mount Holyoke College.

THE following appointments are announced at the Iowa State College: Francis Ellis Johnson, head of the department of electrical engineering at the University of Kansas, head of the department of electrical engineering; G. W. Fox, of the University of Michigan, assistant professor of physics; H. V. Gaskill, of the Ohio State University, assistant professor of psychology; James F. Yeager, of New York University, assistant professor of physiology.

AT the University of Michigan Professor E. B. Mains, of Purdue University, has been appointed professor of botany and acting director of the herbarium, effective in September. He will offer advanced work in mycology and in plant breeding for disease resistance. Professor Wm. Randolph Taylor, of the University of Pennsylvania, has been appointed professor of botany and curator of algae in the herbarium. He will remove to Ann Arbor in September. He will continue, as in the past, to conduct the summer course in algae at the Woods Hole Biological Laboratory.

AT the College of the City of Detroit, Mr. and Mrs. William Borgman, Jr., instructors in the department of mathematics, have been given leave of absence for 1930-31. They expect to spend the year in graduate study in Munich, Germany. New appointments to instructorships in this department are those of Mr. William L. Duren, Jr., formerly of Tulane University, and Mr. H. H. Pixley, formerly of Bryn Mawr College.

DR. NELS A. BENGTSON, chairman of the department of geography, the University of Nebraska, will give the work in economic geography in the summer session of Columbia University. E. E. Lackey, associate professor of geography, will give courses in geography in the summer session of Western Reserve University at Cleveland.

THE Kaiser Wilhelm Institute for Medicine at Heidelberg was opened on May 25. It has departments of pathology, physiology, physics and chemistry under the direction of Dr. L. von Krehl, Dr. Otto Meyerhoff, Dr. Hauffer and Dr. Kuhn, respectively.

DR. BRUCE MAGILL HARRISON, professor of biology at the University of Southern California, will spend the summer in the interior of Borneo on a scientific

expedition sponsored jointly by the University of Southern California and the Universal Pictures Corporation. Dr. Harrison will leave Los Angeles about June 5.

DR. HERBERT S. REICHLE, of the department of pediatrics of the School of Medicine of Western Reserve University, has leave of absence for six months and has gone to Leipzig, where he will study under Professor Bessau. Dr. G. Richard Russell and Dr. L. P. Harsh, of the same department, are starting on August 1 for a year of European study. Dr. Russell will spend most of the time with Professor Ernst Freudenberg at the University of Marburg. Dr. Harsh will do most of his work with Professor Birk at the University of Tübingen. The department of pediatrics of the School of Medicine of Western Reserve will have two guests, beginning on September 15, Dr. Otto Beck, of the University of Tübingen, and Dr. H. Brühl, of the University of Marburg.

DR. G. H. HART, head of the divisions of animal husbandry and poultry husbandry of the University of California, expects to take a six months' trip in Europe. He will leave New York on June 13 with the official tour of the American Veterinary Medical Association through European countries for the purpose of studying research methods and equipment, attending the eleventh International Veterinary Medical Congress in London from August 4 to 9.

DR. WILLIAM ANDERSON, of the University of Aberdeen, Scotland, recently spent a week in lecturing before clinics of the School of Medicine of Western Reserve University as the guest of Dr. Elliott C. Cutler, head of the department of surgery. Before sailing Dr. Anderson planned to spend a week at the Peter Bent Brigham Hospital in Boston with Dr. Harvey Cushing.

A JOINT open meeting of the Eta chapter of the Sigma Delta Epsilon fraternity and the Kappa Mu Sigma was held on May 23 at the department of pathology of the University of Chicago. The speaker, Mrs. Dorothea Waley Singer, gave an address entitled "Folk Medicine." Dr. Charles Singer is giving lectures on the history of medicine at various universities in the United States.

THE one hundred and eighty-sixth meeting of the Medical Research Club of the University of Illinois College of Medicine was held in Chicago on May 16. This was the annual business meeting and the guest of honor was Dr. Walter H. Eddy, professor of physiological chemistry, Teachers College, Columbia University, who spoke on the "Present Status of Vitamin B." Dr. Eddy was elected to honorary membership in the club. At the business meeting which followed, Dr. Walter J. R. Camp, assistant

professor of pharmacology, was elected president for the coming year.

PROFESSOR G. W. STEWART, of the State University of Iowa, recently gave a series of four general lectures on "Modern Acoustics" to the graduate students in communication engineering, Yale University.

DURING the session of 1929-1930, the Mayo Foundation Chapter of Sigma Xi held seven regular meetings, the speakers and subjects being as follows: Dr. D. W. Morehouse, astronomer, Drake University, "What is Outside of Space"; Dr. George H. Parker, Harvard University, "Secretory Activity of the Nervous System"; Dr. Major G. Seelig, Washington University, St. Louis, "Animal Behavior in the Development of Medicine and Surgery"; Mr. Vilhjalmur Stefansson, "Experiences in the Arctic Region"; Dr. Harry Miles Johnson, psychologist and senior fellow, Mellon Institute, "Experimental Studies on Sleep"; Dr. Robert G. Green, associate professor of bacteriology, University of Minnesota, "Epizootic Encephalitis of Carnivorous Animals"; Dr. H. E. Robertson, Mayo Clinic, "The Colorado River."

APPLICATIONS for park naturalists of various grades must be on file with the Civil Service Commission at Washington, D. C., not later than June 25, 1930. The examinations are to fill vacancies in the National Park Service of the Interior Department, for duty in the field and in positions requiring similar qualifications. The entrance salaries are \$3,800 a year for park naturalist, \$3,200 a year for associate park naturalist, \$2,600 a year for assistant park naturalist. Higher-salaried positions are filled through promotion. 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 publications.

By the will of the late Fridtjof Nansen, \$25,000 is bequeathed to the Nansen fund of the Norwegian Society of Science.

YALE UNIVERSITY has been made the residuary legatee of the estate of Miss Mary E. Hawley, of Newtown, Connecticut, from which it is estimated that it will receive \$2,000,000. There are no limiting conditions except that the income from the fund shall be applied to the "general uses and purposes of the university."

THE Massachusetts Institute of Technology is the remainder legatee of the residue of the fortune of Harry B. Hunt, whose estate was appraised at \$510,979 net. Mr. Hunt, who died on July 25, 1929, was for many years connected with the American Locomotive Company.

By the will of Dr. William J. Matheson, formerly president of The National Aniline and Chemical Company, \$600,000 is bequeathed for medical research. In 1927 Dr. Matheson provided funds for an international survey of sleeping sickness. In his will, dated October 10, 1929, he bequeaths 4,200 shares of stock of the Corn Products Refining Company (with a present market value in excess of \$400,000) to the William J. Matheson Foundation, a corporation for charitable and educational purposes which the testator intended to organize. The management of the foundation is authorized to apply the income to the encouragement and support of medical research and for any other charitable or educational purpose. Among the foundation's first activities, the will states, should be to take over or contribute to the expenses of the survey of epidemic encephalitis and similar research work now carried on by a committee of which Dr. William Darrach is chairman. The principal of a \$200,000 trust fund is to be paid later to the Matheson Foundation.

To provide for a complete museum of the graphic arts in the Benjamin Franklin Memorial to be erected on the Philadelphia Parkway, Mr. A. Atwater Kent has contributed \$220,000 toward the \$5,000,000 fund being raised for the memorial. The section is designed to show how modern methods of recording and transmitting information have developed from the crudest efforts of mankind. It will be housed in a section of the building at the front and immediately adjacent to the memorial chamber, extending from the ground floor to the roof, and consisting of a lower floor and an upper floor with two galleries. The ground floor will contain printing presses and other heavy machinery used in the graphic arts. Above will be an exhibition starting with the earliest recorded writing of man, crude sketches on the walls of caves, the various forms of writing to be illustrated up to the invention of printing by Gutenberg, and then to present-day means and methods. Among the original exhibits will be Franklin's own composing table, original press, now owned by the Franklin Printing Company, and some of his books and the manuscripts that he printed.

THE purchase of 422,737 acres of forest land at a cost of \$1,202,172 has been approved by the National Forest Reservation Commission. The commission has also approved the establishment of new federal purchase units in Kentucky, Arkansas, Mississippi and Louisiana. The purchase program provides for the acquisition of a total of 539 tracts of land at an average cost of \$2.84 per acre in Alabama, Pennsylvania, North and South Carolina, Tennessee, Louisiana, Georgia, Florida, Wisconsin, Michigan, West

Virginia, Virginia, Arkansas, Minnesota and New Hampshire.

PRELIMINARY examinations of eight rivers in various parts of the United States with a view to the control of their floods would be authorized under the provisions of a bill reported from the House Committee on Flood Control. The preliminary examinations, according to the accompanying report, would be made for the purpose of ascertaining what a detailed survey would cost; what federal interest, if

any, is involved, and what share of the expenses, if any, should be borne by the United States. The following streams and rivers would be included in those on which the examinations would be made: The Tittabawassee and Chippewa rivers in Michigan, the Mohican River in Ohio, the Hocking River in Ohio, the Mokelumne River and its tributaries in California, the Waccamaw River in North and South Carolina, the French Broad River in North Carolina, the Fox River in Wisconsin and the Cumberland River and Yellow Creek in Kentucky.

DISCUSSION

HOW OLD IS THE PLEISTOCENE?

THE exploration of the cavern known as Gypsum Cave near Las Vegas, Nevada, is yielding important information concerning those hazy and nebulous years that separate the Pleistocene and Recent periods, in other words, the domains of paleontology and archeology.

The Southwest Museum of Los Angeles and the California Institute of Technology are cooperating in this work, which is in charge of Curator M. R. Harrington, of the former institution, with Dr. Chester Stock and Dr. E. L. Furlong, of the latter, in frequent consultation.

On the paleontological side the most interesting finds thus far have been in connection with the extinct ground-sloth *Nothrotherium*, which is one of the typical animals of the Pleistocene. Not only the bones but also large claws with horny covering still intact have been recovered, as well as its long, coarse, tawny hair and even bits of skin all preserved by the dryness of the cave. Very unusual also are the large beds of sloth dung in which the remains of the animal are usually found imbedded. Among other Pleistocene species represented in the cave are indigenous horses and an American camel.

On the archeological side, although some remains have been found left by Early Pueblo visitors probably from the settlements in the Moapa Valley thirty or forty miles eastward and even by the more recent Paiute, most of the artifacts thus far recovered from the cave may be attributed to the Basket-makers. These are the earliest people hitherto known to have occupied the Southwest and are supposed to have flourished about 1500 B. C.

It now appears that even earlier people had visited the cave, for pieces of painted wooden dart shafts unlike Basket-maker products have appeared at considerably greater depths than the deposits yielding typical Basket-maker artifacts.

Most important of all is the gradually accumulating evidence suggesting that the earliest human visitors and the last of the sloths may have occupied the cave at the same time. None of the evidences in themselves can be called conclusive, but taken together they merit serious consideration.

For example, we have in one archeological deposit a deeply buried stratum containing large pieces of sloth dung, charcoal and scattered artifacts. In another instance we have specimens of the painted broken darts mentioned before recovered at depths below the surface of from eight to ten feet, beneath a stratum of sticks containing sloth dung and hair, and in still another instance quartzite dart points of archaic form buried in the bottom of a rockslide near the surface of which, beneath a large slab, was found a nearly perfect sloth skull.

Farther back in the cave the compact layers of sloth dung have yielded a few pieces of dart-shafts and of burnt sticks once apparently used as torches; and in the crevices of the rocks, sloth dung, bones of the sloth and artifacts have frequently been found in association, but in the last case the evidence is of less value than in the previous instances.

Should the association of man and sloth be finally established beyond doubt an interesting question arises. Shall we postulate that man existed in America twenty or thirty thousand years ago, which is the age generally attributed to the last phases of the Pleistocene, or shall we assume that Pleistocene animals and possibly conditions persisted until within ten or fifteen thousand years or possibly even less? In other words, just when did the Pleistocene end?

M. R. HARRINGTON

Since the foregoing article was written, Mr. Harrington has discovered in Gypsum Cave evidence which to his mind "establishes the association of man and the sloth beyond question." The Southwest Museum, which owns Gypsum Cave, will endeavor to preserve the evidence *in situ*, without disturbance, so