dor. The biological survey of Amazonian waters was continued by Harry Watkins in Peru, while Ernest Holt collected birds in the mountains of eastern Brazil.

G. K. Noble spent three months in Santo Domingo collecting reptiles and amphibians and studying their life histories. He secured several thousand specimens, including nine new species. He observed the life histories of many species and procured specimens and material for habitat groups of the largest tree frog in the world and the largest lizard in the Americas.

Within the United States geological studies were carried on by E. O. Hovey in Colorado, California and Oregon; by C. A. Reeds in New York state; and by E. A. Foyles in the Lake Champlain region. A reconnaissance trip during the summer was conducted through northwestern Nebraska southward to Pawnee Buttes by W. D. Matthew and Childs Frick, who observed chiefly the stratigraphy of these formations and secured a few specimens of rare fossil animals. A valuable collection of fossil mammals was secured by Albert Thomson near Agate, Nebraska; Messrs. Olsen and Miller collected fossils in the Bridger formation of Wyoming; Messrs. Mook and Kaisen worked in the Cretaceous of New Mexico, from which they obtained a new type of Horned Dinosaur discovered by Charles H. Sternberg. Valuable exchanges were arranged with the Colorado Museum of Natural History, and through the visit of Charles Lang to the museum of the University of California material to complete a mounted skeleton of the Giant Ground Sloth *Mylodon* from the Rancho La Brea deposits was secured.

Roy W. Miner, in cooperation with Frank J. Myers, continued his field studies in southern New Jersey in connection with the new Rotifer group, which will show the animals and plants of a half-inch portion of pond bottom magnified to an area five feet square. F. E. Lutz spent the summer near Boulder, Colorado, continuing the field work which he has been doing in connection with the wild bees of Colorado and carrying on investigations as chairman of the National Research Council committee on the biological relations between flowers and insects. Seven species, two new to science, were added to the list of about eight hundred different kinds of wild bees in Colorado. Through the generous cooperation of B. Preston Clark, Frank E. Watson collected about 11,000 specimens of insects, lower invertebrates, fishes and reptiles in Haiti and also enriched the museum exhibition and study series of insects by field work near New York City.

Work on the anthropology of the Southwest, which was commenced in 1909, was continued by Earl H. Morris, especially in Aztec, New Mexico. This work has followed exploration of the Pueblo Bonito through the gift of Mr. Frederick E. Hyde and Mr. B. T. B. Hyde, the results of which were published in 1920 in the volume on the Pueblo Bonito and furnish important data for comparative study of these cultures. This work has yielded results of great interest and the ruins have proved in many ways the most complete record of the past history of this region. It was early decided not to destroy these ruins but to preserve them and the excavation was carried on with utmost care, preservation proceeding step by step with the digging. As a result, the museum was able to present this monument of Aztec to the United States, in the name of Archer M. Huntington. Clark Wissler examined some archeological sites in New York State along the Hudson, where evidences of prehistoric occupation were discovered and some curious stone works uncovered. Arrangements have been made for more extensive excavation. Earl H. Morris, accompanied by Charles L. Bernheimer, explored part of southern Utah, located a number of heretofore unknown prehistoric ruins there which will be thoroughly examined in the near future and made a general reconnaissance of the Navajo Mountain region of New Mexico.

HENRY FAIRFIELD OSBORN
AMERICAN MUSEUM OF NATURAL HISTORY
MAY 29, 1923

## THE EDWARD K. DUNHAM LECTURESHIP FOR THE PROMOTION OF MEDICAL SCIENCE

EDWARD KELLOGG DUNHAM died on April 15, 1922. He was a pathologist and bacteriologist whose training, as subsequent events were to show, was much in advance of his period.

Profiting in an unusual degree from his undergraduate studies at the School of Mines of Columbia University, he carried with him, first to the Harvard Medical School and later into his teaching and research, a proficiency in the fundamental sciences of mathematics, chemistry and physics possessed by few of his contemporaries.

The Edward K. Dunham lectureship has been established at Harvard University by his wife, Mary Dows Dunham, through a gift of $50,000 in conformity with the following provisions:

It would be my hope, that in addition to other useful purposes, this Foundation would serve to bind closer the bonds of fellowship and understanding between students and investigators in this and foreign countries.

The lecturers chosen under this Foundation should be eminent investigators and teachers in one of the branches of the medical sciences, or of the basic sciences which contribute towards the advance of medical science in the broadest sense.

While I assume that the lecturers may be expected to be drawn chiefly from among the leaders of foreign medical research, it is my desire that the lectureship be open also to persons eminent in their respective subjects residing within the United States.

The selection of the lecturers shall be determined by a suitable committee of the Harvard Medical School, of which the Dean of the Medical School is a member, the other members being chosen from departments of pathology, physiology, bacteriology, biochemistry and medicine, or their future equivalents.

The lectures shall be given annually. The income of the fund is to be used in defraying the expenses of the lecturer and for an honorarium for the lectures.

In the event of the lectures given under the Foundation being published, it is my wish that they carry a suitable inscription indicating that they were delivered under the Edward K. Dunham lectureship of Harvard University.

The lectures are to be free and open to the faculty and students of the Harvard Medical School and College, and all other interested professional persons who may profit by them.

Of Dr. Dunham himself it may be said that the basic training which he enjoyed determined in a large measure the nature of his profounder interests and the character of his individual pursuits in pathology and bacteriology, subjects which he elected as his life's work.

The first fruits almost of his unusual preparation in chemistry came while he was still studying bacteriology in Koch's laboratory in Berlin, where he discovered the well-known "Cholera-red" reaction which has played and still plays a large and important part, not only in the identification of bacterial types, but also in the determination of their metabolic activities. It is again to be detected in his studies of the lipoids occurring in glandular organs, which he pursued actively for several years and at a period when their fundamental significance had not yet come to be appreciated.

While Dr. Dunham was a persistent student and investigator, he was not a prolific writer. This is a circumstance much to be regretted because it tended too much to limit the knowledge of his work and his pregnant points of view which he shared freely with his associates and intimate friends. It was he, for example, who discovered the spore-bearing propensity of the *Bacillus aerogenes capsulatus* or, as commonly called, the gas bacillus of Welch. This discovery revealed an important event in the life history of the bacillus and the large group of affiliated micro-organisms. But it did more than this, since it provided a new method of wide application. The discovery, moreover, was not accidental but arose out of a well-considered plan of study of the conditions—chemical and physical—surrounding the manner of growth, survival, etc., of the Welch bacillus. Likewise his studies of the meningococcus, undertaken while a member of the Board of Health Commission created during the epidemic of meningitis which prevailed severely during a decade beginning about 1904, had as their object not so much the identification of that micro-organism through its cultural characteristics as through its chemical effects. He determined the limits of its fermentative power over a wide range of carbohydrates and thus was enabled to bring about its separation from certain other diplococci with which confusion easily occurs.

This bias toward the more exact or mathematical, chemical and physical aspects of bacteriology and pathology is evident in all Dr. Dunham's investigations and appeared constantly in his expressed opinions on scientific questions. Its possession enabled him easily

and in an altogther remarkable degree to turn from one kind of scientific pursuit to another and afforded him a versatility and a resource in experiment and in action which few enjoy. He became, through this circumstance and by virtue of an unfailing and exceptionally sympathetic nature and manner, a dispenser of knowledge and help to an ever-widening circle of scientific workers who drew freely on his rare stores of information and wisdom.

The great war engaged profoundly his emotions and his scientific faculties. He at once threw himself into those activities in which he was qualified to render service. No duty, no demand to aid was too severe for him to undertake with the full extent of his powers. His services on the "Empyema Commission," created by the Surgeon-General, and of which he was made chairman, were numerous and invaluable. No one could have devoted himself more unsparingly, more unselfishly and more skillfully to the unravelling of the intricate problems which arose or brought to their consideration so many and varied scientific resources. He approached the problem as pathologist, bacteriologist and chemist and later and in due course of events, as would the surgeon and therapeutist as well. This great undertaking, ramifying as it did along almost endless lines of causation, prevention, treatment, immediate and end results, claimed his last days and too often his last nights also, and preoccupied and absorbed him to an extreme degree. Fortunately, the manuscript covering this study has been brought almost to conclusion. That its publication will reflect credit on his efforts and honor on American medicine is the conviction of all who knew the nature and the extent of Dr. Dunham's labors.

Dr. Dunham was for many years professor of pathology in the Bellevue and University Medical College of New York City. On relinquishing this connection, a few years before his death, he became emeritus professor, continuing active by giving occasional lectures and in divers ways promoting the work of the college.

SIMON FLEXNER

THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH
NEW YORK CITY

# SCIENTIFIC EVENTS

## MEMORIAL TO SHACKLETON

THE following statement has been made public in England:

At a meeting held at the Mansion House on May 8 a committee was constituted with the object of promoting a national memorial to Sir Ernest Shackleton.

The voyages which he planned in the Nimrod, the Endurance and the Quest covered almost every side of Antarctic exploration. The history of the first two expeditions is the story, on the one hand, of originality and resourcefulness carrying him far beyond his predecessors, and on the other, of apparent failure triumphantly retrieved. In spite of the colossal risks undertaken, and the disasters faced and overcome, every man who sailed under Shackleton's direct command on either of these expeditions to the Antarctic was brought safely back; and had Shackleton lived to carry out the program of the Quest a new chapter in the history of the exploration of the Southern Seas might well have been the result.

We feel strongly that, in the case of one who displayed such brilliant qualities of courage and leadership, it is a national duty that his memory should be perpetuated by some suitable memorial of a permanent nature, so that his example should be forever an incentive to the youth of the Empire.

For this object we anticipate wide sympathy and support; but there is another basis for our appeal. It is known that Sir Ernest Shackleton was a successful lecturer, and that he received large sums for film rights and for his books, but the money he obtained from these sources was never sufficient to meet the obligations he had himself incurred in endeavoring to complete the finance of his various expeditions. The Endurance expedition, though providing probably the greatest feat of successful leadership in the history of exploration, left Shackleton heavily in debt at a time when his sole thought, directly he returned, was to participate in the Great War.

The second object, therefore, for which we appeal for funds is to provide for the education of his children, and to take his place in supporting his mother. The balance that remains, after meeting these two obligations, will be devoted to the encouragement of exploration.

Checks for donations may be made payable to the National Provincial and Union Bank of England, Limited, for credit of "Shackleton Memorial Fund," and may be paid into any branch of that bank, or may be sent direct to the honorary