Ph.D. degree in 1896. In 1897 he founded *The Plant World* and was its editor for seven years. Official salaries were low and Knowlton was forced to do a vast amount of routine botanical work at that time for the Century, Standard and Webster's dictionaries and for the Jewish Encyclopædia.

Knowlton's youthful interest in ornithology culminated in "Birds of the World," published by Holt in the American Nature Series in 1909, a great up-to-date work of 873 pages, 236 illustrations and 16 colored plates, eloquent of the insight with which he had followed the expanding knowledge in all of the phases of avian study. Throughout those earlier years Knowlton was active in the meetings of the various scientific societies in Washington and held office in many of them. He was elected a fellow of the Geological Society of America in 1889, and was a charter member of the Paleontological Society and one of its first vice-presidents, serving as president in 1917. In 1921 his youthful alma mater conferred on him the degree of Sc.D.

As he came more fully into his powers a long series of memoirs on Mesozoic and Cenozoic floras flowed from his ever-active pen, and each winter season he reported on literally hundreds of collections of fossil plants made by the various survey field parties. Nor was this all—many ambitious works were partly completed and had to be laid aside because of more urgent duties, remaining unfinished.

Knowlton's health was never robust and only his great love for his work can account for an industry that was the marvel of all who knew him. It is too soon to attempt an evaluation of his contributions to science, but no one can gainsay that his keen chronologic sense has served in large measure to remove the prejudices with which his predecessors had handicapped paleobotanical studies.

For many years the Knowltons lived at Laurel, Maryland, and he was never happier than working in his garden or dispensing hospitality to his many scientific friends. A few years ago they moved to Ballston, Virginia—an easier journey from the museum. Knowlton's interests were broad—all phases of human activities—scientific, religious, political—were the themes of the lunch hour. He held decided opinions and was forthright in his likes and dislikes, but a kindlier spirit never lived, and he was never too busy or too ill to counsel and help his colleagues.

In 1913 we spent a memorable summer in the Rocky Mountain states, and Knowlton did not again go into the field until the past summer. This year he made a trip to the Pacific coast, collecting a large amount of material from the Puget group and the Spokane lake beds. The summer had been unusually good, but in November his chronic enemy, asthma, necessitated his remaining at home, as it had so often in the past, so that neither family nor friends were prepared for the end which came suddenly on November twenty-second, and was due to heart failure. He is survived by a sister, his devoted wife and two grown children—a son and a daughter.

E. W. B.

## SCIENTIFIC EVENTS

### PROGRAM FOR THE EXPANSION OF THE MEDICAL SCHOOL OF THE UNIVERSITY OF PENNSYLVANIA

AN extensive program for the expansion of the medical school and the hospital of the University of Pennsylvania has been announced by Dr. Alfred Stengel, professor of medicine at the university and chairman of a committee arranging for a conference on January 10 to discuss the subject.

Some of the objects included in the program are the establishment of an "out patient" department; erection of a hospital with 1,000 beds and a staff of 100 internes and 500 nurses, and the establishment of a "medical press," which would issue pamphlets on the latest developments in medicine and surgery for the information of the public.

As goals for immediate action Dr. Stengel suggested the establishment of the Martin Maloney medical clinic, provided for under the terms of a gift of $250,000 by Mr. Maloney; further development of the Henry Phipps Institute for the study and treatment of tuberculosis, in accordance with a gift of $500,000 from the Phipps family, an additional $500,000 to be raised by the university; establishment of a Philip Syng physical foundation, with an endowment of $500,000 as an adjunct to the department of surgery, and the establishment of a Joseph Leidy chair of anatomy.

The plans call for the erection of suitable buildings for the housing of these clinics. Each separate medical and surgical specialty would have a chief who would also be the senior professor of that subject in the medical school.

Plans are to be discussed at the coming conference, at which Dr. Hubert Work, secretary of the interior, and Dr. Henry S. Pritchett, president of the Carnegie Foundation, will be among the speakers.

### RESEARCH IN PURE CHEMISTRY AT THE MELLON INSTITUTE

ACCORDING to a statement by Dr. Edward R. Weidlein, director of the Mellon Institute of Industrial Research of the University of Pittsburgh, there has been established in the institute a definite department of research in pure chemistry, with Dr. Leonard H.

Cretcher as the head. As a senior fellow of the institute, Dr. Cretcher (A.B., Michigan, 1912; Ph.D., Yale, 1916) has been in charge of the institution's fundamental chemical studies since 1922, and has published jointly with several assistants and other members of the institute a number of papers on the results of their organo-chemical researches.

As head of the new department, Dr. Cretcher will have supervision over all investigations in pure chemistry and will also serve as an adviser to industrial fellows who are carrying on research on problems in synthetic organic chemistry. Dr. Cretcher's activities will be operated as an integral part of the institute and will be sustained by institutional subsidy. Dr. William L. Nelson (B.S., Trinity, 1920; Ph.D., Pittsburgh, 1926), who has been named as the first fellow in the department, was a member of the staff of the department of chemistry of the University of Pittsburgh during the period 1922–26.

Dr. Weidlein states that while Mellon Institute is primarily an industrial experiment station, it has always recognized the need of fundamental scientific research as a background and source of stimulus for investigation on behalf of industry. During the past five years the institute has been giving a constantly increasing amount of attention to the encouragement and support of research in pure chemistry, and has been progressively successful in arranging for funds to devote to the prosecution of investigations not suggested by industry, but planned within the institute and aimed towards the study of more basic problems than those usually investigated for direct industrial purposes. In the institute's new department of research in pure chemistry this interest and work will be nurtured and given opportunity to expand.

## THE AMBROSE SWASEY PROFESSORSHIP OF PHYSICS

As has been noted in SCIENCE a chair in physics at the Case School of Applied Science has been endowed by Mr. Ambrose Swasey. On December 19, his eightieth birthday, he sent the following letter to Case School:

> For many years, as you know, I have been greatly interested in your institution and those who have been responsible for its progress and the high standard of its work.
>
> As the years have gone on I have been especially attracted to the department of physics and the splendid men who are known throughout the world because of their work in scientific research.
>
> It gives me much pleasure to advise you that I have to-day set over to the Cleveland Trust Company, securities amounting to one hundred thousand dollars ($100,000) as an endowment fund for a chair of physics at Case School of Applied Science. It is my belief that in the future, as in the past, your institution will render a great service for the benefit of science and engineering.

This is the second valuable gift which Mr. Swasey has made to Case School. A number of years ago he and his partner presented to it the Warner and Swasey Astronomical Observatory with its complete equipment. The first gift indicated his interest in astronomy and this second gift shows his interest in physics.

Mr. Swasey was one of the founders of the American Society of Mechanical Engineers and is a past president as well as an honorary member of that institution. He is also a member of the American Philosophical Society and the National Academy of Sciences. The state of Ohio has but two members in the academy—Dr. Swasey (for the doctorate has been conferred upon him by several institutions of learning) a member of the corporation of Case School, and Dr. Miller, professor of physics in the same college.

There are no conditions attached to this donation except that it shall be used for a chair in physics; but the trustees, in accepting the gift, have taken certain steps which they think will be agreeable to the donor. Dr. Dayton C. Miller has been appointed to the Ambrose Swasey Professorship of Physics and has been relieved of all teaching duties so that he may devote his entire time to research work.

## OFFICERS OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

A FULL account of the Philadelphia meeting of the American Association for the Advancement of Science prepared by the permanent secretary will be printed in the issue of SCIENCE for January 28. Officers were elected as follows:

*President*

A. A. Noyes, professor of physical chemistry, the California Institute of Technology.

*Vice-presidents and Chairmen of the Sections*

*A—Mathematics:* Dunham Jackson, University of Minnesota.

*B—Physics:* A. H. Compton, University of Chicago.

*C—Chemistry:* Roger Adams, University of Illinois.

*D—Astronomy:* W. S. Adams, Mount Wilson Observatory.

*E—Geology and Geography:* Charles Schuchert, Yale University.

*F—Zoological Sciences:* C. E. McClung, University of Pennsylvania.

*G—Botanical Sciences:* William Crocker, Thompson Institute for Plant Research.