specific restrictions prohibiting their allotment to either Current Funds or Investment Funds, and all other funds designated by the Council as Trust Funds. Trust funds shall be invested in securities or other income-producing properties, or held in cash while awaiting investment. The principal of every trust fund shall be maintained in perpetuity unless otherwise originally provided by the donor thereof or by the Council. Income from any trust fund shall be used only after special appropriation by the Council. Income from trust funds received as gifts or bequests may be appropriated only for purposes prescribed by the donors thereof, and income from other trust funds, except individual life-membership contributions while the contributors thereof are living, may be appropriated only for the support of research unless otherwise prescribed by the Council when the funds were established. It is provided that income from individual life-membership contributions may be appropriated by the Council for any purpose so long as the respective contributors are living.

Section 2. The Administrative Secretary shall be custodian of all Current Funds, which he shall collect and disburse under the direction of the Executive Committee. He shall collect life-membership and sustaining-membership contributions and shall transfer them to the Treasurer for allocation to Trust Funds. Every check issued by the office of the Administrative Secretary shall bear two signatures, those of the Administrative Secretary and the Assistant Administrative Secretary or those of the Treasurer and either the Administrative Secretary or the Assistant Administrative Secretary. The Administrative Secretary, the Assistant Administrative Secretary and the Treasurer shall be bonded in favor of the Association for such amounts as the Executive Committee shall have determined.

Section 3. The Treasurer shall be custodian of all Investment Funds, all Trust Funds, and all other funds placed in his charge by action of the Council. He shall administer gifts and bequests in accordance with such provisions as shall have been made by the donors thereof. Unless otherwise directed by the Council, he shall sell securities from the investment portfolio of the Association, and purchase securities for the investment portfolio, in accordance with such advice of the Finance Committee as shall have been formally recorded in the minutes of its meetings. He shall collect the income of all funds in his charge and shall dispose of it as directed by the Council. Every check issued by the office of the Treasurer shall bear two signatures, that of either the Treasurer or the Chairman of the Finance Committee and that of either the Administrative Secretary or the Assistant Administrative Secretary.

ARTICLE XI—RATIFICATION AND AMENDMENTS

Section 1. This Constitution shall become effective one month after it shall have been ratified in accordance with the procedure established for amending the Constitution of 1919. It shall invalidate the Constitution of 1919 and all amendments thereto.

Section 2. To become effective, any proposed amendment to this Constitution of 1944 shall be approved by the Executive Committee, published in the official journal of the Association at least one month prior to an annual meeting of the Association, and ratified either (a) by a nine-tenths vote of the Council members present in a Council session of that meeting or (b) by a two-thirds vote of the Council members present in each of two Council sessions held at consecutive annual meetings of the Association. Ratified amendments shall be published promptly in the official journal of the Association and shall become effective one month after ratification.

OBITUARY

PHILIP FOX

A COLORFUL career came to a close in the death of Philip Fox on July 21, 1944. He had been an observational astronomer, a popularizer of astronomy and other sciences, and an army officer in three wars.

Born in Manhattan, Kansas, on March 7, 1878, he grew up in that state and was graduated from Kansas State College in 1897. He continued for a year as graduate assistant in engineering and afterwards was commandant and teacher of mathematics in St. John's Military School in Kansas. In 1901, although he held both B.S. and M.S. degrees from Kansas State, he entered Dartmouth College as a senior to get the experience of undergraduate life in New England. Here he came under the tutelage of Edwin B. Frost and became interested in astronomy as a life work. At Dartmouth also at this time was his distinguished cousin, Ernest Fox Nichols, professor of physics, under whom Fox studied and also served for a year as graduate assistant after receiving the bachelor's degree from Dartmouth in 1902.

In 1903 Fox began his astronomical career at the Yerkes Observatory, where he was to remain for the next six years, with a year out for study at the University of Berlin and the Potsdam Observatory. At Yerkes his main duties were with the Rumford spectroheliograph which had been developed by Hale. Besides routine observations Fox published a series of papers on prominences and other solar phenomena; later his comprehensive monograph on the rotation of the sun appeared as a publication of the Yerkes Observatory.

In 1909 Fox was called to be director of the Dearborn Observatory and professor of astronomy in Northwestern University, a post he held for twenty years. Many of the present generation of astronomers are unaware of the great influence exerted by S. W. Burnham on American astronomy. Working for the

most part as an amateur, Burnham initiated the practice of using a telescope during all of a good clear night. Previous to his time this procedure had been little followed anywhere in the world. The 18½-inch refractor at the Dearborn Observatory had had an illustrious history in double star astronomy, beginning with the discovery of the companion of Sirius in the tests of the objective by the maker, Alvin Clark. Then followed a number of discoveries by Burnham and a long list of investigations by G. W. Hough, director for thirty years until his death in 1909. It was therefore natural that Fox should start a program of double-star observations, influenced and inspired as he was by association with Burnham at Yerkes. After securing a new mounting for the telescope he measured double stars with unusual vigor and persistence for the next fifteen years, and the results are brought together in the first two volumes of the *Annals of the Dearborn Observatory.*

Concurrently with the double-star work Fox initiated the determination of stellar parallaxes by photography, following Schlesinger, who had achieved such revolutionary success by this method with the 40-inch Yerkes refractor. This program was carried on for nearly twenty years, the results appearing in Volume 3 of the Dearborn *Annals,* where on the title page are recorded the names of no fewer than twenty-four assistants and students who had been trained and had taken part in the work. Parallaxes were determined for nearly two hundred stars, a labor which only those experienced in this field can appreciate.

The major scientific investigations of Fox are thus recorded permanently in the three volumes mentioned, and the respective dedications of these volumes give an insight to his own appreciation of his debt to his astronomical forbears. The first volume was naturally dedicated to S. W. Burnham, the second to Edwin B. Frost, Fox's first teacher of astronomy, and the third to Henry Crew, colleague and friend, who had nominated him for the directorship of the Dearborn Observatory.

With the organization of the Adler Planetarium in Chicago in 1929 Fox entered a new field of activity. Selected as the director of the first planetarium in America he did much to establish and maintain the high standard which has come to be associated with these institutions for the dissemination and popularization of astronomy. Fox will be remembered by many radio listeners as the master of ceremonies on the occasion of the opening of the Chicago World's Fair in 1933 by the light of Arcturus which had left the star near the time of the previous World's Fair of 1893. Fox was active director of the planetarium for eight years and continued for some time later as consultant.

In 1937 he was appointed director of the Museum of Science and Industry of Chicago, and was active in the new developments of that institution. However, in 1940 owing to a change of policy of the governing board, Fox was suddenly ousted together with several department heads, some of long service. Whatever the reasons, it will be a long time, if ever, before the Museum of Science and Industry recovers from that black mark on American science.

With war coming on Fox was not long without something to do. He had been interested in military things since early youth. In 1898 he had gone to the Philippines as second lieutenant in a Kansas regiment and had remained there till the close of hostilities. Between wars he continued in the Officers Reserve Corps, and from 1917 to 1919 he was again active as major of infantry and assistant chief of staff of the Seventh Division in France. In peace time he maintained relations with the officers at nearby Fort Sheridan, Illinois. It was natural, therefore, that soon after the involvement of the United States in the present war he was recalled to active service as a full colonel in the army. His first duty was the supervision of athletics in the various camps, but he afterwards came to the appropriate post of commanding officer of the Army Electronics Training Center at Harvard. After some three years on this congenial task he was retired from the army on account of age, but he continued to lecture on electronics and to teach in the officers' training course at Harvard.

No brief account of Fox's career can cover his various activities. Besides teaching, research, athletics and military service, he was much interested in music and art. Within the last year amidst strenuous regular duties he was playing the violin in a small musical ensemble; he set some French poems to music; and made etchings of buildings at Harvard.

Fox was of course a member of many societies, national and international. He served as secretary and then vice-president of section D of the American Association for the Advancement of Science, and held the same offices in the American Astronomical Society. He was naturally the leading spirit in the Chicago Astronomical Society. He received honorary doctor's degrees from Drake University and from his alma mater, Kansas State College.

He maintained his unusual vigor of mind and body up to about a month before the end, when he was suddenly stricken with a cerebral hemorrhage and then a thrombosis caused his passing at the age of sixty-six. Though he did not reach the allotted span of three score and ten, measured in years of work and service, his was a long and useful life, and to very few is given the privilege of such a widespread circle of friends.

Fox was married in 1905 to Ethel L. Snow, of Chicago, who survives. Their four children are Bertrand, of Washington, D. C., Stephen S., of Bethlehem, Pa., Captain Robert T. Fox, Army Medical Corps, and Dr. Gertrude Fox, of Glendale, Calif.

JOEL STEBBINS

WASHBURN OBSERVATORY,
UNIVERSITY OF WISCONSIN

RECENT DEATHS

MORTIMER E. COOLEY, from 1904 to 1928, when he became emeritus, dean of the College of Engineering of the University of Michigan, died on August 25 at the age of eighty-nine years.

DR. JOHN MEAD ADAMS, associate professor of physics at the University of California at Los Angeles, died on August 14 at the age of sixty-two years. The death was by suicide, the result of a period of ill health and despondency.

FREDERIC J. LE MAISTRE, consulting chemical engineer of Philadelphia, from 1930 to 1937 executive secretary of the American Institute of Chemical Engineers, died on August 25 at the age of sixty-five years.

SCIENTIFIC EVENTS

SCIENTIFIC RESEARCH FELLOWSHIPS IN GREAT BRITAIN

THE directors of Imperial Chemical Industries announce that they have offered for an initial period of seven years to provide at nine universities in Great Britain fellowships to be held by senior workers in certain sciences. The fellowships will be of the average value of £600 per annum, though the universities will have power to determine the emolument for each particular appointment.

The directors have described on broad lines the subjects in which the fellowships are to be held. Their administration rests wholly with the universities, which will select and appoint the fellows, subject only to such conditions as to duties and tenure as the universities themselves impose. According to *The Times*, London, the purpose of the directors is to strengthen the general provision in the British universities for scientific teaching and research. They believe that academic and industrial research are interdependent and complementary and that substantial advances in industry can not be looked for without corresponding advances in academic science.

In their view it is important that the immediate objective should be the strengthening of university scientific departments in whatever way each university thinks to be best. No conditions whatever are attached by the directors to the tenure of these fellowships. The fellows will be members of the university staffs and will be concerned only with the duties laid upon them by the universities. Their primary work will lie in research. But they must also take some part in university teaching. It is intended not to relieve the universities from the cost of maintaining any part of their normal work but to enable them to add to what they already do.

This offer has been made to the larger metropolitan universities and to those which have a close geographical relation to the main centers of the company's production. Twelve fellowships have been offered to the universities of Oxford, Cambridge and London; eight to the universities of Glasgow, Edinburgh, Manchester, Birmingham and Liverpool, and four to the University of Durham.

The directors believe that a rational policy of this character, together with a wise selection of men as regards both capabilities and tenure of office, will lead to the emergence of a body of men capable of taking high academic or industrial positions, thereby advancing academic and industrial research.

Lord McGowan, chairman of Imperial Chemical Industries, in a letter to the chancellors of the universities concerned, states that in launching the scheme the directors hoped that the fellowships would lead to a reasonable cooperation among the beneficiaries, which would among other things do something to overcome the disadvantages of a man spending his whole career at one university. "We hope that fellows will be elected in such a manner as will strengthen a school of an essential subject which is temporarily weak, adequately assist one already strong, and not attempt to do something which is manifestly much better done elsewhere. It is reasonable to assume that if our scheme works well others may feel disposed to make similar subventions."

It is understood that the subjects laid down are physics, chemistry and the sciences dependent thereon, including chemotherapy—that is to say, any branch of physics or chemistry may be included as well as applied sciences, such as metallurgy and engineering. The importance of these sciences may be appreciated by the fact that they constitute the background of modern industry.

THE REGISTRY OF VETERINARY PATHOLOGY AT THE ARMY INSTITUTE OF PATHOLOGY

RECENTLY an arrangement was approved by the Surgeon General of the U. S. Army and the Board of Governors of the American Veterinary Medical Association for the establishment and maintenance at the Army Institute of Pathology, Army Medical Museum, Washington, D. C., of a Registry of Veterinary Pathology. This registry will become a unit of the American Registry of Pathology, an organization operating by the authority of the Surgeon General under the sponsorship of the National Research Council.

The purpose of the American Registry of Pathology