his Ph.D. degree at Washington University. From 1903 to 1907 he was instructor in general biology there. In the latter year he became investigator at the Station for Experimental Evolution (Carnegie Institution of Washington) at Cold Spring Harbor, Long Island, and continued there for seventeen years. In 1924 he was called to the chair of botany at the University of Minnesota where, as head of the department, he developed it in masterly fashion.

From the time of his attachment to the Carnegie Institution, Harris spent some time in other institutions and in the field. During 1908–09 he studied biometry under Karl Pearson at London. In the winters of 1912–13 he worked at the Desert Laboratory, Tucson, of the institution, and thereafter spent winter months at Tucson, at Jamaica, South Florida, and, in collaboration with the Bureau of Plant Industry, in the cotton experimental fields of the Southwest. This last work he continued after going to Minnesota. The Weldon medal and memorial prize of the University of Oxford were awarded to him in 1921.

Harris was one of the most industrious of investigators and prolific of writers in biology. Not infrequently he published fifteen or more papers in a single year. These covered a great range in detail, but fell into the following general classes: ecology, experimental evolution, biometry. His first paper, published in Kansas, 1900, was an annotated "Catalogue of the Crayfishes of Kansas," and this was followed by several papers on the crayfishes, culminating in his "Ecological Catalogue of the Crayfishes belonging to the genus Cambarius, 1903," which was, apparently, his doctor's thesis. In 1901 he published his first botanical paper ("Normal and Teratological Thorns of Gleditschia"). In 1903 he published on floral abnormalities and this topic interested him for many years; it led him particularly to consider the subject of variation in seeds in capsules. He became much interested in the pure-line theory and tested it out with beans. This led him to grow over a million seedlings. He discovered biotypes that had extra cotyledons.

A second series of papers grew out of his ecological interest. With R. A. Gortner he worked out a method of determining density of plant saps. This led to observations in the tropics and elsewhere and to the discovery of the greater sap density of parasitic plants over their host plants. It led to a study of the chemical differences in races of cottons corresponding to their morphological differences.

The third great interest of Harris was biometry. He had the statistician's love of numbers and he applied the Pearsonian methods to a great variety of animal and plant data, such as the egg laying of fowls, basal metabolism in man (with F. G. Benedict), and seedlings of the bean. His biometric work led him to work out new formulae of which many are of particular interest to geneticists.

Through all of Harris's work runs evidence of his interest in problems of evolution. He published not only on organisms in relation to environment, but also repeatedly on natural selection and on assortative mating (in man).

Of the personal traits shown by Dr. Harris, unlimited industry is one of the most striking. He never spared himself, and on one occasion when the nature of his research demanded continuous observation he worked during the midnight and early morning hours throughout the winter. He organized a biometric laboratory at Cold Spring Harbor and supervised the work of a large corps of assistants. In the field his energy was boundless. At Minneapolis he catalyzed a somewhat dormant botanical group, so that his department soon rose to a high rank. Harris had remarkable social traits. He inspired loyalty in his associates in the laboratory and in the field. His hospitality, with that of Mrs. Harris, was unbounded, and their home was the center of many social meetings of his associates. He was particularly happy in his married life. Mrs. Harris (Emma Lay) was also a naturalist. They had four sons in whom the family traits will, we feel sure, be continued. But the numerous societies in which he participated, often as officer, will miss him sorely. The loss brought by his death to his scientific associates will be only second to that suffered by his family.

C. B. DAVENPORT

RECENT DEATHS

DR. ALLERTON SEWARD CUSHMAN, chemist and founder of the Institute of Industrial Research in Washington, died on May 1, at the age of sixty-two years.

DR. CHARLES FRANCIS MCKENNA, consulting chemist of New York City, died on April 25, at the age of sixty-nine years.

MEMORIALS

A CENTENNIAL anniversary dinner in memory of the late Dr. Abraham Jacobi, who was born on May 6, 1830, and died on July 10, 1919, was held on May 2 at the New York Academy of Medicine. Professor Franz Boas, of Columbia University, was chairman of the committee of arrangements. The speakers announced were Dr. J. A. Hartwell, Dr. William H. Welch, Dr. Fielding Garrison, Miss Lillian Wald and Mr. George McAneny. Dr. Mary Putnam Jacobi, widow of Dr. Jacobi, was expected to attend. Dr. Jacobi became in 1860 the first professor in America of diseases of children, a subject which he taught for nearly fifty years.

A TABLET in memory of Dr. John E. Sweet, professor of mechanical engineering at Cornell University from 1872 to 1879, was unveiled on April 5 at the Engineers' Club, New York. The tablet is the gift of the American Society of Mechanical Engineers in tribute to one of its founders and presidents. Dr. Sweet, who died May 8, 1916, was the inventor of the straight-line engine and, at the time of his death, one of the most widely known mechanical engineers in the United States.

SCIENTIFIC EVENTS

EXHIBIT OF WEIGHTS AND MEASURES AT THE SOUTH KENSINGTON MUSEUM

A NEW and permanent exhibition has been opened at the Science Museum, South Kensington, to illustrate the historical development of standards of weights and measurement. The London *Times* states that the exhibit occupies the whole of the entrance hall facing Imperial Institute Road and the long ground-floor gallery which leads into it. In the vestibule is a series of instruments arranged to display the principles of the equal-arm balance, the steel-yard and the more complicated recent mechanisms which extend the applications of the lever principle.

The earliest exhibit is an authentic Egyptian equal-arm balance of 1350 B. C., with a wooden beam and a cord pivot suspension, such as is still used in the bazaars of India and in China. One of the original stone weights accompanies it. A Roman bronze balance and steel-yard are shown (both in replica), and a number of glass weight standards of the Early Middle Ages. The methods of suspension by cord, by the less accurate ring device, by the gallows-and-pin, and by the knife-edge are shown both in the working specimens and in a series of transparencies in the adjoining gallery, while a number of skeleton models designed by Mr. W. A. Benton, of the Avery Historical Museum in Birmingham, display upon a small scale the various improvements made within the last few centuries to allow large weights to be measured with great speed and accuracy.

Certain turning-points, such as the Roberval "static enigma" of 1669 and Wyatt's cart-weigher of 1740, have affected the whole of modern practice in large-scale weighing machines, but though the models of these are interesting more attention perhaps will be drawn by Mr. Benton's reconstruction of the two self-indicating balances designed by Leonardo da Vinci in a manuscript now in the Bibliothèque Nationale.

The companion collection of instruments of measurement is of more recent date, since the invention of the micrometer can not well be traced beyond William Gascoigne's micrometer designed in 1639 for astronomical purposes. Important instruments such as Watt's eighteenth-century micrometer, Whitworth's measuring machine of 1855 (the first to indicate a millionth of an inch) and the comparators recently developed by the National Physical Laboratory through the use of a beam of light, can be seen and demonstrated in the gallery. Three important standards of length lent by the Royal Society are Graham's standard yard of 1742, Bird's standard 90 inches of 1750 and Shuckburgh's 5 ft. standard of 1796. It was by the use of these that the Standards Commission of 1843–55 was able to connect the standards now in use with the Elizabethan yard, after the destruction of the Imperial standard in the 1834 fire at the Houses of Parliament.

THE PROPOSED MEDICAL CENTER IN BROOKLYN

AT the semi-centennial dinner of the Alumni Association of the Medical School of the Long Island College Hospital plans were announced on April 26 for the establishment of a medical center in Brooklyn, N. Y. The plan, which includes separation of the Long Island College Hospital from its Medical School, calls for the organization of a new medical college to be associated with nine Brooklyn hospitals. The physical equipment of the combined units will cost more than $100,000,000.

The new institution, for which a board of trustees has already been chosen, will apply shortly for a charter as a medical college. It has voted the first $500,000 toward an endowment fund to meet the educational law requirements for the organization of a collegiate institution in New York State.

Dr. James C. Egbert, president of the medical school that is being discontinued, is a member of the board of trustees of the new institution.

The plans for the college include the erection of a central building which will be located in mid-Brooklyn and which will be easily accessible to the hospitals involved in the plan. The site has already been selected. The building which is to be erected within the next five years will cost, according to an estimate made by Dr. Egbert, more than $3,000,000. The plans of the board also call for an immediate endowment fund of at least $1,000,000.

The central plant and its affiliated hospitals will take care of at least 400 medical students. Courses in the first two years will be given at the central building. In the last two years students will receive in-