Obituary

Sumner Cushing Brooks

1888-1948

On April 23, 1948, Sumner Cushing Brooks died in Bermuda as the result of a heart attaek. With his death, America lost one of its leading cell physiologists, a man known the world over for the excellence of his research in one of the most difficult and, at the same time, one of the most significant fields in modern science.

Sumner Brooks was born on August 17, 1888, in Sapporo, Japan, where his father, a distinguished agriculturist, was teaching at the Imperial College of Agriculture. A few months later, the family returned to the United States in order that William Penn Brooks, the father, might accept a professorship at Massachusetts Agricultural College (now the University of Massachusetts). Young Sumner Brooks studied at the Massachusetts Agricultural College and took his Bachelor's degree there in 1910, specializing in botany. From his early years Sumner Brooks had had an ardent love for nature, a love which persisted throughout his life. He knew birds and flowers as few men know them; and in his later years, no matter how engrossed he became in his laboratory experiments, he always found time to study and enjoy the plants and animals of the out of doors. Indeed, just before his death, he was president of the Northern Branch of the Cooper Ornithological Club.

Following his graduation, after a year as an assistant in the Botany Department of his alma mater, Brooks went to Harvard. There, as a graduate student of botany, he came under the influence of the distinguished plant physiologist, W. J. V. Osterhout. At that time Osterhout's laboratory was a center for the study on plant material of the problems of cell physiology, and students were attracted there from far and wide. It was an exciting group with which to be associated. Winters were spent at Harvard; summers, at the Marine Biological Laboratory at Woods Hole. At Woods Hole, because of the close friendship between Osterhout and Jacques Loeb, the cell physiologists from Harvard came under the dynamic influence of Loeb, at that time the leader in general physiology in America.

Brooks took his Ph.D. in 1916 and then left Harvard for a position in the Research Institute of the National Dental Association in Cleveland. There he met Matilda Moldenhauer. They were married in 1917. For the next 31 years the Brookses maintained a deep interest in physiology.

In his first scientific paper, published in 1916, Brooks showed clearly that plant protoplasm is permeable to salts, that sodium chloride increases permeability, whereas calcium chloride decreases it. Numerous other papers on permeability followed, and it was not long before Brooks became one of the world's leading authorities in the field. In 1935 he studied the rate of entrance of deuterium into cells, and in 1938 he led the way in the investigation of the entrance of radioactive isotopes. This latter work showed definitely that for both plant and animal cells the rate of entrance of salt ions was decidedly more rapid than most cell physiologists had believed possible. Other investigators soon confirmed these results, and there have been many studies of permeability by the radioactive isotope method.

In 1941 Brooks and his wife published a monograph on "The Permeability of Living Cells," which was one of a series (Protoplasm Monographs) brought out by Borntraeger in Berlin. The manuscript for this monograph was completed in 1939, but the war brought delays, and it was not until 1944 or 1945 that the book found its way to America. The monograph constitutes an important work in the field of cell physiology and is widely used and quoted.

Although the major portion of Brooks' scientific work is in the field of permeability, he also published important papers in other fields, some of them related. He wrote on the accumulation of electrolytes in cells, on bioelectric potentials, on hemolysis, and on the mechanism of complement action. In due time Brooks generally became recognized as Osterhout's leading student.

Brooks began to teach in Bryn Mawr College in 1919. He went from there to the U. S. Public Health Service, where he stayed from 1920 to 1926. In 1926 he became a professor of physiology at Rutgers University and a year later went to the University of California to serve as professor of zoology. He taught and did research at California until the time of his death.

Brooks traveled widely, usually at his own expense. Wherever he went, he visited scientific laboratories and took time to study animals and plants in the field. His summers were usually spent in Woods Hole. He was highly respected in the Marine Biological Laboratory, and his opinion and advice was

widely sought by workers there. Some years ago he was elected a Trustee of the Laboratory.

Brooks was responsible for the training of a number of graduate students, men who have gone out to do valuable research in the field of cellular physiology. He was loved and respected by them, as he was also by many generations of undergraduates. Everyone who knew him came to have a deep admiration for his gentle spirit and his unselfish devotion to the cause of science. He did his research work honestly and carefully, never claiming more for it than it was worth. He was an honest scientist rather than a promoter, and though he attained no great honors or awards, his splendid achievement in the field of general physiology will speak for him long after his death.

L. V. HEILBRUNN

University of Pennsylvania

NEWS and Notes

K. Starr Chester, until recently head of the Department of Botany and Plant Pathology and director of the Research Foundation of Oklahoma A & M College, has joined the staff of the Battelle Memorial Institute, Columbus, Ohio. In his new position, Dr. Chester will direct the Institute's research program in the agricultural sciences and in plant and animal nutrition.

Geo. M. Stirrett, formerly of the Dominion Entomological Laboratory at Chatham, Ontario, has been appointed Dominion Wildlife Officer for Ontario under the Dominion Wildlife Service of the Canadian Department of Mines and Resources at Kingston, Ontario.

George C. Decker, of the Illinois State Natural History Survey, Division of Economic Entomology, has been named professor of entomology at the University of Illinois. Dr. Decker will direct graduate research in economic entomology while carrying on his regular work with the Survey.

Reginald H. Painter has obtained leave from Kansas State College, Manhattan, for 1948–49, to accept a postdoctoral fellowship in the Department of Entomology at Ohio State University. He will devote the year to research and writing a book on the resistance of crop plants to insect attack.

Irena Z. Eiger has been awarded a second U. S. Public Health Service Postdoctorate Fellowship to continue enzyme research studies begun a year ago at the National Cancer Institute. At the Institute Dr. Eiger will work with Jesse P. Greenstein, and later with Prof. Linderstrom-Lang in Copenhagen, Denmark.

David F. Mitchell, former National Institute of Health senior research fellow at the University of Rochester, School of Medicine and Dentistry, and **Thomas D. Speidel,** dean of the Loyola University Dental School, have been appointed to the faculty of the School of Dentistry, University of Minnesota. Dr. Mitchell, who has been made associate professor of dentistry and will head the Division of Oral Pathology, plans to continue his work on experimental periodontal disease and dental caries. Dr. Speidel has been appointed professor of dentistry and chairman of the Division of Orthodontics.

Harlan N. Worthley, director of the Agricultural and Textile Chemicals Research Department, Merck & Co., Inc., was recently appointed executive director of the Committee on Chemical Warfare, Research and Development Board, National Military Establishment. Dr. Worthley will assume his new duties January 3.

Thomas D. Dublin, professor of preventive medicine and community health, Long Island College of Medicine, who was recently appointed executive director of the National Health Council, has assumed his new duties in the National Health Council Building, 1790 Broadway, New York City.

Richard C. Snyder and **Prentiss E. Parker, Jr.,** recently joined the staff of the Department of Zoology, University of Arizona. Dr. Snyder (Ph.D., Cornell) has been appointed an instructor in zoology while Mr. Parker (M.S., Tennessee) has become an instructor in physiology.

Edward Kozicky, representative of the U. S. Fish and Wildlife Service, has joined the staff of Iowa State College to head the Iowa Cooperative Wildlife Research Unit.

Edward Larson, associate professor of pharmacology, Temple University Medical School, has been appointed professor of physiology and pharmacology at the University of Miami, Miami, Florida.

Fritz Lipmann, head of the Biochemical Research Laboratory, Massachusetts General Hospital, and associate in biochemistry, Harvard Medical School, will deliver the third Harvey Lecture of the current series at the New York Academy of Medicine on December 16. He will speak on "Biosynthetic Mechanisms."

Visitors to U. S.

Oscar Orias, director of the Instituto de Investigacion Medica "Mercedes and Martin Ferreyra," Cordoba, Argentina, has arrived to serve as visiting professor in the Department of Physiology and Pharmacology, Long Island College of Medicine. For the next year he will be engaged in both research and teaching in the College.

Henry G. Booker, British authority on the propagation of electric waves, has been appointed professor of electrical engineering at Cornell University, effective this month. Dr. Booker will be associated with Charles R. Burrows and others in the development of the research program and in the academic activities of the School of Electrical Engineering. A former U. S. visitor in 1937–38, when he was associated with the Department of