OBITUARY

FREDERIC SCHILLER LEE

FREDERIC SCHILLER LEE was born at Canton, N. Y., on June 16, 1859, son of the Reverend John Stebbins Lee, president of St. Lawrence University. He received his A.B. degree at St. Lawrence in 1878 and his master's degree three years later. He then became a graduate student at the Johns Hopkins University, where he received the degree of Ph.D. in 1885.

The year 1885–86 he spent in Ludwig's laboratory at Leipzig among a group of students, many of whom became distinguished physiologists. Perhaps the best known of this group was the late Ivan P. Pavlov. It was in Ludwig's laboratory that Lee investigated the progressive increase in strength of contraction of an isolated muscle under constant stimulus during the first few contractions and showed this to be an effect of the same chemical substances which ultimately in higher concentration lead to the phenomenon of fatigue. Here also he become interested in electrophysiology and in the functions of the labyrinth.

Returning to America, he was instructor in biology at St. Lawrence for a year and then went to Bryn Mawr as instructor in histology and physiology.

In 1891 John G. Curtis, then professor of physiology at Columbia University, College of Physicians and Surgeons, brought Dr. Lee to Columbia as demonstrator in physiology. At that time the teaching of physiology in America had been by lecture and demonstration alone except at Johns Hopkins. With equipment which had been purchased in Leipzig by Dr. Curtis, supplemented by the work of the laboratory mechanician, Dr. Lee inaugurated a course of practical laboratory instruction for students. He became adjunct professor in 1895, professor in 1904 and Dalton professor and executive officer of the department in 1911. Resigning the latter post in 1920, he was research professor until 1928 and professor from 1928 to June 30, 1938, when he retired. He became professor emeritus on the following day, July 1, 1938.

Dr. Lee's major activity has been the study of fatigue. He developed a beautiful technique for this work, and his published curves are models of technical perfection in this field. His interest in the special problem of fatigue in isolated muscle led to studies in the general problem of fatigue, and he was a guiding spirit and active participant in the extensive investigations of the New York Commission on Ventilation. During the World War he was active in studies of the relation of working conditions and fatigue to production in industry. From 1917 to 1919 he was consulting physiologist to the U. S. Public Health Service. From 1919 to 1924 he was senior physiologist to the U. S. Public Health Service with special mission to investigate industrial conditions in Europe.

In 1911 Dr. Lee delivered the Morris K. Jesup Lectures at Columbia and in 1918 he was Cutter Lecturer at Harvard. He was secretary and treasurer of the American Physiological Society for ten years and president from 1917 to 1919. Besides membership in many professional societies, Dr. Lee's extra-mural activities covered a wide field. He was a member of the board of managers of the New York Botanical Garden for twenty-four years, vice-president for two years and president for four years. He was a member of the board of directors of the Desert Sanatorium at Tucson, Arizona, and trustee of the Columbia University Press.

For a number of years prior to the beginning of the long illness which terminated his life, Dr. Lee had been at work on a monograph covering the history of the study of fatigue from the most ancient records available to the present time. It is unfortunate that this work could not have been completed.

His knowledge of the literature of physiology was broad, and he could usually provide references to any important work from his unaided memory with sufficient precision to enable an inquirer to locate the work without delay.

His intimate friends will remember him as a genial and polished gentleman who derived exceptional pleasure from those social occasions in which the delightfully human side of his personality could manifest itself. His death, which occurred on December 14, 1939, followed an illness of several years. He was buried at Woodstock, Vermont, where for a long time he had made his home during the summer.

HORATIO B. WILLIAMS

COLUMBIA UNIVERSITY

ALFRED GEORGE JACQUES

A PROMISING career was terminated by the drowning of Alfred George Jacques in Bermuda on February 20, 1939. He is survived by his wife, Mrs. Hazel Lewis Jacques, and daughter, Fleur Frances Jacques.

He was born in Sutton, Surrey, England, on April 18, 1896. He attended the University of Western Ontario, Queens University, Lafayette College, the University of Manitoba and Harvard University, from which he received the degree of Ph.D. in chemistry in 1931. He was assistant in general physiology in the Rockefeller Institute for Medical Research from 1926 to the time of his death. From 1926 to 1933 he worked at the laboratory maintained by the Rockefeller Institute in Bermuda, and in subsequent years he made annual visits to the Bermuda Biological Station to continue his investigations.

These investigations dealt with certain large multinucleate plant cells which offer special advantages for studying the entrance and exit of substances and ascertaining the nature of the protoplasmic surface. They