Instruments and as chairman of the editorial board of the National Bureau of Standards. He was chairman of the Interdepartmental Screw Thread Committee in 1952. He was very active in the standardization work of the American Society for Testing Materials; American Standards Association, in which he was chairman of the standards council; the International Organization for Standardization; and the American Institute of Electrical Engineers. The esteem of his associates is well indicated by his election to the presidency of the Cosmos Club of Washington.

Outstanding in Dr. Crittenden's achievements was his participation in the establishment of international standards in electricity and photometry and the writing of the Public Law 617 of the 81st Congress, passed on 21 July 1950, in which the Congress adopted these international standards as the nation's standards and then placed the standards and units of electricity and photometry on the same legal and commercial basis as our standards of mass, length, volume, and time.

As vice president of the International Commission on Illumination from 1939 to 1948 and president of its U.S. National Committee from 1928 to 1935, he played a major role in the establishment of modern photometric units, standards, and methods of measurement. These activities culminated in the international adoption of the "candela" in 1948. In recognition of his outstanding leadership in the field of illumination, he was elected an honorary life member of the International Commission on Illumination in 1950. As the United States representative on the International Committee on Weights and Measures from 1946 to 1954, and its vice chairman from 1950 to 1954, and as chief of the bureau's electrical division for many years, he was a leading scientific figure in replacing the obsolescent international system of electric units by the so-called absolute electric units.

WALLACE R. BRODE
U.S. National Bureau of Standards, Washington, D.C.

R. S. Breed, Bacterial Taxonomist

Dr. Robert Stanley Breed, whose death occurred 10 February 1956, distinguished himself in three fields of bacteriology, first in the dairy field, then in public health and sanitation, and finally in the nomenclature and classification of microorganisms. It is the last of the three fields to which he gave chief attention during the last decade of his life and for which he is likely to be longest remembered.

Born in 1877 at Brooklyn, Pennsylvania, he spent his college years at Amherst, from which he graduated in 1898 and then took an M.S. degree at the University of Colorado and a Ph.D. degree at Harvard in 1902. He began his professional career by teaching biology at Allegheny College, Meadville, Pennsylvania. His early training and teaching experience in general biology determined his approach to bacteriology. As a result, although his attention to the practical aspects of bacteriology in dairying and sanitation was great, the interest closest to his heart was taxonomy.

He was called to the New York State Agricultural Experiment Station at Geneva, New York, to take over the division of bacteriology that had been started by H. A. Harding a number of years previously. One of his first efforts in that division was to establish a general feeling for bacteriology as a science, bringing this about by calling frequent seminar meetings to discuss general bacteriological problems. He did not neglect the practical side, however. Before coming to Geneva, he had already established a reputation in sanitary milk inspection, because of his proposal to use the microscope as a quick method of counting bacteria in milk. It was natural, therefore, that his chief activities, during his first years at Geneva were in the dairy field. It was another logical development for him to turn to milk sanitation and related public-health fields. He served for many years, in the American Public Health Association, as chairman of the Committee on Standard Methods for Analysis of Dairy Products. At one period of his life, he was best known in this public-health field, and he remained active in it until the mid 1940's. During this same period, in addition to belonging to several nonprofessional organizations, he became especially active in the Society of American Bacteriologists and served as its president in 1927.

It was in the 1920's, during the period of his greatest activity in the bacteriological society, that he became especially interested in the *Manual of Determinative Bacteriology*, prepared by an earlier president of the society, D. H. Bergey of the University of Pennsylvania. Dr. Breed collaborated with Bergey in getting out the second, third, and fourth editions of the book and, after Bergey's death in 1937, became chief of a board of editors of three members, who took over the manual and developed it through two more editions, each larger and more complete than the preceding. He developed this manual into a cooperative undertaking in which some 100 collaborators were taking part. Although they all contributed, he was always the guiding spirit. A seventh edition was in preparation at the time of his death, and, although he left it far from finished, the remaining editors hope to complete the undertaking without too great delay.

As editor of this manual after Bergey's death, Breed contributed much to systematic bacteriology. In 1948 he retired from the experiment station and gave the remaining 8 years of his life to this undertaking. It was a labor of love with him, and he kept diligently at it until the day he died, even through a period of ill health about 1950 and a siege of eye trouble during his last 6 months. His ability to keep the numerous details of bacterial nomenclature in his head was astonishing to everyone who was associated with him.

Bacteriology has lost one of its outstanding members. Dr. Breed will be missed by many, especially by those who were associated with him in the activities of his last years.

HAROLD J. CONN
Society of the American Bacteriologists, Geneva, New York