PORTER, WILLIAM TOWNSEND (Sept. 24, 1862-Feb. 16, 1949), physiologist, was born in Plymouth, Ohio, the second son of Frank Gibson Porter, a physician, and Martha (Townsend) Porter. His father served as a medical officer in the Union Army during the Civil War and then practiced medicine in St. Louis, Mo. Porter's mother died when he was twelve years old, and he was orphaned at the age of seventeen. He supported himself by working nights while attending the St. Louis Medical College.

Porter's mother died when he was twelve years old, and he was orphaned at the age of seventeen. He supported himself by working nights while attending the St. Louis Medical College (later the Washington University School of Medicine). He received his medical degree in 1885 and then took a course in physiological chemistry in Philadelphia before going abroad for postgraduate studies in the universities of Kiel, Breslau, and Berlin under the tutelage of Walther Flemming, Karl H6uthle, and Martin Heidenhain. The striking contrast between the didactic methods used in teaching physiology at St. Louis and the experimental approach in the German laboratories was instrumental in shaping Porter's concepts of medical education.

Returning to St. Louis, Porter became resident physician and acting superintendent of the St. Louis City Hospital. In 1887 he was appointed assistant professor of physiology at the St. Louis Medical College; he was made professor the following year. Not only did he establish the first laboratory of physiology beyond the Eastern seaboard, but in addition to physiology he taught bacteriology, laryngology, and physiological chemistry. His journal publications on ventricular filling and pressure, control of respiration, coronary circulation, and origin of the heartbeat and his monographs on the physical and mental development of children drew the attention of eminent scientists, such as Charles Scott Sherrington, the English physiologist, and Henry Pickering Bowditch, Higgins professor of physiology at Harvard Medical School.

In 1893 Bowditch persuaded Porter to join his department to reorganize the teaching procedures and in particular to introduce the use of laboratory experiments as part of the routine instruction. Until then, physiology had been taught almost entirely by lectures, textbook assignments, and demonstrations. Since the apparatus needed to equip such laboratories was available only from Germany and was prohibitively expensive, Porter established a machine shop in the department to make simplified, less costly models of the existing apparatus and to develop and produce new instruments. The innovative techniques he devised for production in quantity enabled him not only to supply Harvard's needs but to provide surplus apparatus for use by other schools. President Charles W. Flint of Harvard, although sympathetic to Porter's mission, was concerned that such an enterprise would be viewed as a commercial venture operating on nontaxed property. In 1901 Eliot secured for Porter the original capital to found the Porter Research Company, which was moved off the campus.

By 1900 Bowditch had turned over to Porter essentially the entire responsibility for instruction in the physiology department. Porter planned a more extended course than medical students had ever been given. As his chief teaching associate he chose Walter B. Cannon, one of the most promising of his students, and energetically furthered Cannon's career at the medical school. Porter himself was a skilled experimenter and a master of laboratory technique. He was, however, a strict disciplinarian, and he set teaching standards for his students that were perhaps too high in view of their educational background, for the medical school at Harvard, unlike that at Johns Hopkins, did not then require a bachelor's degree for admission. In the years 1902 to 1904 roughly a third of Porter's students failed to pass the physiology course. Protesting students labeled Porter a martinet, while at the same time praising the teaching ability of Cannon. The revolt became so serious that in 1908 President Flint appointed Cannon the Higgins professor and chairman of the department, to succeed Bowditch; Porter was made professor of comparative physiology. The resulting breach between Porter and Cannon continued for many years. Porter became professor emeritus in 1928.

Porter was elected a member of American Physiological Society at its fourth annual meeting in 1891. Members of the society were concerned that no journal existed in the United States for the publication of research in physiology but failed to agree on plans for such a journal, wherupon Porter in 1897 singlehandedly founded the American Journal of Physiology, assuming both editorial and financial responsibility; the first issue appeared in January 1898. As an editor, Porter set high standards in the publication of research. He continued to edit the Journal until 1914, when he presented it to the society, debt-free.

Porter maintained his interest in supplying specialized physiological apparatus to educational institutions at minimum cost through his Harvard Apparatus Company, which in 1934 became a nonprofit organization. He had never accepted a salary from the company, and by 1921 it was amassing an annual surplus, which he used to establish the Porter Research Fellowship, to be awarded annually by the American Physiological Society to a young postdoctoral physiologist of promise.

In 1893 Porter married Alma Confield Storlind of St. Louis. They had one child, Hildegard. During World War I, the Rockefeller Foundation chose Porter to do a study of the treatment of traumatic shock under combat conditions in Belgium and France; a personal account, entitled Shock at the Front (1918), was published for the general public. Porter received honorary degrees from the University of Maryland (1907) and Washington University (1915). The American Physiological Society in 1948 elected him an honorary member, an honor previously reserved for distinguished foreign physiologists. Physiology was Porter's religion; he had no other. In later years the Pokanoket Club in Dover, Mass., where he made his home, was his chief source of companionship. He died of bronchopneumonia in a nursing home in Framingham, Mass., and was buried in Dover.


A Clifford Rarger