

APS
JS

ELECTED 1945

University of Wisconsin

EDWIN BROUN FRED
(1887-1981)

Edwin Broun Fred was born in Middleburg, Virginia, 22 March 1887. At the time his parents lived in Anadarko, Oklahoma Territory, but traveled back to their Virginia home for the birth of each successive child. Because of his loss of property during the Civil War, Edwin Fred's grandfather had accepted a post as Indian agent near Fort Sill and Edwin's father had returned to Middleburg to find a bride. Until he was six or seven years old Edwin Fred's playmates were Kiowa and Comanche Indian boys. The Fred family returned to Middleburg in the early 1890s and his formative years were steeped in the lore of the Civil War. Twenty-five years earlier Jeb Stuart had once bivouacked on the family's lower pasture. Edwin's grandfather Broun had raised Traveler, General Lee's beloved mount. The farms of both Edwin Fred's grandfathers had been laid waste by Union and Confederate troops alternately advancing and retreating across their fields.

At Middleburg, Edwin Fred's parents prospered. They regained possession of the farms that had been owned by both grandfathers and acquired a governess to educate their children. This mode of instruction was adopted because the "high-spirited" young Edwin had contributed to discipline problems in a one-room school with sixty pupils and one teacher. At age twelve Edwin enrolled at Randolph Macon Academy, from which he graduated in 1903. Science courses taught at the academy by enthusiastic and interesting teachers apparently directed Edwin Fred's choice of a career. Science in America at that time was most actively pursued in the field of agriculture and the United States Department of Agriculture not only supported scientific investigation but also communicated to farmers the discoveries that might prove useful to them. The first federal support for agricultural research at state experiment stations was provided by the Hatch Act in 1887, the year Edwin Fred was born. Fred chose VPI, Virginia Agricultural and Mechanical College and Polytechnic Institute at Blacksburg to prepare for a career in science.

His major in bacteriology included courses in clinical diagnosis, agricultural microscopy, mycology and plant pathology. Following graduation in 1907 he remained at VPI to teach plant pathology and to earn a master's degree. His research results dealing with nitrogen metabolism of bacteria were published in eight Virginia Agricultural Experiment Reports. Three of his professors (in bacteriology, chemistry, and agricultural chemistry) had received their doctoral degrees at the University of Göttingen and must have encouraged Edwin to do likewise.

At Göttingen Fred studied bacteriology with Alfred Koch and chemistry with Tollens. His dissertation dealt with the stimulatory effects of various poisons on the growth and metabolism of plants and bacteria. When he completed the doctoral degree, Fred returned to VPI where he developed chemical methods for determining the extent of bacterial contamination of milk and conducted extensive studies on nitrogen fixation by bacteria growing symbiotically on legume roots.

In the summer of 1913 Fred married Rosa Parrott with whom he had corresponded while in Germany. Planning for the wedding was interrupted by messages from the University of Wisconsin. Dean of Agriculture Harry Russell sought a young basic scientist for his bacteriology department. The position was temporary, carried financial support for only one semester, but permitted Fred to stay for the entire academic year if he chose. As he explained many years later, he chose to leave the security of his position at VPI because of Wisconsin's reputation for supporting free, basic research. During his first year in Madison the College of Letters and Science dissolved its department of bacteriology

allowing all university bacteriology courses to be taught in the corresponding department in the College of Agriculture. An assistant professorship was created for Fred, who devoted the rest of his life to the university.

From 1908 to 1939 Edwin Fred authored or coauthored 192 research papers. Most dealt with nitrogen-fixing bacteria but others covered a wide variety of fermentation processes. He directed the research and training of twenty-four doctoral students, many of whom became world-famous bacteriologists.

As a result of his research contributions Fred was elected to the National Academy of Sciences in 1931 and to the presidency of the Society of American Bacteriologists in 1932. The American Philosophical Society's membership was offered in 1945. From 1941 to 1944 he served on the War Board's Consultant Committee and as director of Research and Development in the War Research Service. The United States Medal for Merit, awarded to Fred in 1945, recognized his contributions to our defense against the possibility of bacterial warfare.

Almost from the beginning of his career at Wisconsin Fred acquired administrative experience by serving on appointed, or elected committees. When Charles Slichter retired from his position as dean of the Graduate School, Fred was appointed dean and thus was responsible for dispensing research funds provided by the legislature and by the Wisconsin Alumni Research Foundation, a nonprofit corporation that administered university patents. In 1943 Fred was offered the combined position of dean of agriculture, director of the Agricultural Experiment Station and director of the Agricultural Division of the University Extension. Having barely started to shape the many sectors under his jurisdiction, Fred was asked to become president of the university and began that task in February of 1945.

As an administrator Fred was described as reluctant to say "No." Positive decisions were reached with alacrity, negative ones were postponed if possible. But on important issues he stood firm. In the early 1950s he prevented pressure groups from banning campus organizations considered "suspect" by the attorney general. He persuaded the Board of Regents not to impose a loyalty oath on university faculty. He was loved by the students and was the first president at the university to be officially honored by the student body. During his thirteen-year administration the university's enrollment tripled, research funding increased eightfold and buildings proliferated.

Following retirement in June 1958 Fred continued to serve the university by increasing his ardent advocacy for educating mature women. He was instrumental in procuring funds to support their gradu-

ate studies and the program became highly successful. He wrote an authoritative history of the Wisconsin Alumni Research Foundation. With help from the university archivist and an associate he wrote *A University Remembers*—a compilation of memorial gifts made to the University. In turn he became the subject of a fascinating biography by Dr. Diane Johnson, an E.B. Fred Fellow in the History of Science whose undergraduate degree had been in bacteriology.

This kindly gentlemen who contributed so much to his university died in Madison 16 January 1981.

HENRY LARDY