**MEMORIAL RESOLUTION OF THE FACULTY
OF THE UNIVERSITY OF WISCONSIN-MADISON**

ON THE DEATH OF PROFESSOR EMERITUS ARTHUR B. CHAPMAN

Professor Arthur Barclay Chapman, known to his many friends as "Chappie," died on December 29, 2004, at the age of 96. Born October 28, 1908, in Windermere, England, he was brought up in the Anglican tradition. His father was a physician, and on weekends young Chappie often accompanied him on his patient rounds. At the age of 16 Chapman decided to move to New Zealand and raise sheep. He got no farther than Pullman, Washington, where he decided to spend a year at Washington State University. The year stretched into five, and he received a bachelor's degree in animal husbandry, never having reached New Zealand. The year 1930-31 was spent as a teaching fellow at Iowa State College, where his major professor was Jay L. Lush. Chapman became deeply interested in quantitative animal breeding, particularly in the methods of Sewall Wright, a pioneer in quantitative animal breeding and population genetics. This interest was enhanced by R. A. Fisher's visit to Iowa State in the summer of 1931. Chapman continued his interest in Wright's methods, especially inbreeding and selection theory, throughout his life. This is all the more remarkable since he had no background in either mathematics or statistics. But he never let this deter him.

Chapman came to Wisconsin in 1931 as a student of L. J. Cole, receiving a PhD in 1935. In 1934 he married Winifred Mary Rollin, and their first child was born while he was still a student, despite Cole's urging graduate students not marry. After a year with Lush at Iowa State and Wright in Chicago he returned to the Wisconsin faculty in 1936. He became full professor of genetics in 1947. In 1972 he was jointly appointed in the Department of Animal Science, retiring in 1975.

He was active as a teacher at all levels and was very popular with students. He taught in the agricultural short course each winter, as well as genetics and animal breeding for undergraduates. His graduate courses dealt with biometric methods related to livestock improvement. His graduate seminars were usually joint with his close colleague L. E. Casida, a reproductive physiologist. Together they had a multitude of students, all somehow squeezed into a few rooms in the building now housing the Department of Agricultural Journalism. Chapman produced a total of 42 M.S. and 33 Ph.D. students and supervised a number of post-doctoral fellows. He published some 125 papers, almost all co-authored with graduate students and faculty colleagues in the then-College of Agriculture.

Chapman had a congenial, easy-going disposition and a happy faculty for developing harmonious and effective collaborations. Especially fruitful was his long-time association with Casida and members of the former Department of Animal Husbandry. This involved work with swine, sheep, and cattle. These studies often utilized existing herds, and Chapman gleaned what information he could from the records gathered for other purposes. But in some swine herds and one particularly useful dairy cattle herd, he was able to plan the matings, with cleaner results. Especially he was interested in the deleterious effects of inbreeding, as well as possible use of inbreeding for herd improvement after the model of hybrid maize.

Early in his Wisconsin career, Chapman realized that breeding experiments with large animals were too slow and too expensive to answer basic questions in breeding theory. He therefore started a colony of albino rats. In carefully planned experiments, he measured the components of genetic variance, relying heavily on Wright's method of path analysis. One trait that he studied was ovarian response to hormone treatment, chosen partly because of Casida's interest in reproductive physiology. Chapman's major paper, with student Wendell Kyle, was published in the journal *Genetics* in 1953. He also studied weight gain after weaning. In addition, he evaluated selection effectiveness, the effects of inbreeding, environmental influences, and the effects of ionizing radiation. It is hard to imagine now the primitive conditions in

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in which these rats were raised. The old wooden structure was also populated by wild rats, which occasionally sired progeny, that inherited their father's wildness. In the course of his rat experiments he discovered a strain with reduced litter size, ultimately explained by a translocation, one of the first in mammals. With livestock, he collaborated actively in a regional swine breeding experiment that involved several midwestern experiment stations. There were comparable experiments involving sheep and dairy cattle. One of his most thorough analyses of reproductive factors in cattle came from the Wisconsin public welfare herd. In one particularly complete study he found that the gestation period is strongly determined by genetic factors in the fetus. He initiated in Wisconsin one of the first on-the-farm swine and sheep improvement programs. One of his innovations was to provide a simple selection index that practical farmers could use to improve their own herds, as well as collectively to provide data that could be used for analysis of selection and inbreeding.

Chapman was active in a number of organizations, especially the American Society of Animal Science. He served as associate editor (1958-1960) and editor (1961-1963) of the Journal of Animal Science. In those days, editors had no technical help and he labored over every paper, often with the help of his wife. From the American Society of Animal Science, he received the Breeding and Genetics Award and the Morrison Award, and was elected a fellow. In 1964-65, he served as president. In his retirement, Chapman did a thorough editing job on Jay L. Lush's "The Genetics of Populations" (Iowa State Universty Press, 1994). A happy event in Chapman's life was when his idol, Sewall Wright, decided to spend his retirement years in Madison. The Chapmans maintained happy and caring contacts with him, as well as with Chappie's current and former students.

Chappie was a devoted husband of 70 years to Winnie, who died on August 18, 2004. He is survived by three daughter: Babs (Bill) Vaughn of Manistee, MI; Winnie Nell Baker (Jon Washa) of Madison; Mary Jane (Matthew) Oakes of New Zealand; 12 grandchildren and 14 great-grandchildren.

In 1994, the university established the A. B. Chapman Lecture Series, which each year brings distinguished lecturers to the campus.

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