

Arthur Leslie Neal

May 3, 1911 — January 6, 1991

A. Leslie Neal was appointed associate professor of biochemistry in the College of Agriculture in 1947. He continued in that position when the Division of Biological Sciences was established and was followed by a major expansion of the Section of Biochemistry, Molecular and Cell Biology. He retired as professor emeritus in July 1976. During his years as a member of the Cornell faculty many changes occurred, both administrative and scientific, following developments in biochemistry and the rise of molecular biology.

Professor Neal was born in Belmont, Wisconsin, on May 3, 1911. His schooling took place in a number of towns in Illinois, to which his father, a rural minister, was assigned. He received a B.S. degree in 1934 from Monmouth College in Illinois. His graduate work was initially in physical chemistry, and he obtained the M.S. degree from the University of Illinois in 1935. Following this, he spent five years first as a research chemist for the Continental Can Company in Chicago, and then as instructor in organic chemistry at Kansas State College (now Kansas State University) in Manhattan, Kansas. He entered the University of Wisconsin as a graduate student in biochemistry in 1940, and obtained a Ph.D degree in 1943, working with F.M. Strong on aspects of the chemistry and biochemistry of pantothenic acid. Four years as a research associate in the Agricultural Chemistry Department at Michigan State developed his interest in the interactions between plants, and the bacteria and other microbiota of soil.

On appointment to the faculty of Cornell in 1947, his dual teaching assignments were to develop courses appropriate for students in both the two-year and four-year programs of the College of Agriculture. These courses were intended for students with little background in chemistry, and covered basic aspects of chemistry as well as introductory principles of the rapidly developing field of biochemistry. Professor Neal continued to teach and develop the first of these courses until the two-year program was ended, and the second until the time of his retirement. The sum of his experience in teaching in the two-year program was put into a textbook: *Chemistry and Biochemistry: a Comprehensive Introduction*—which first appeared in 1971. Following his retirement, he planned to write a second textbook based on the course developed for the four-year students but unfortunately, ill-health prevented him from completing it.

In addition, he participated for a number of years in teaching a laboratory course developed by Dr. Louise Daniel. A textbook resulted from this collaboration in 1967: *Laboratory Experiments in Biochemistry*, by L.J. Daniel and A.L. Neal. His experience in teaching freshmen was also extended to developing courses for and instructing high

school students, and he taught summer session courses in introductory biochemistry both for college and for high school students for a number of years in the 1950s and 1960s. He was outstandingly successful in developing their interest, and in helping them to understand many complex aspects of the subject matter. These attributes were also evident in his role as an undergraduate adviser. Although his major focus was on teaching students at a relatively early stage in their college careers, he also taught a graduate course in plant biochemistry. Seven graduate students did their thesis research in his laboratory.

Dr. Neal's research interests covered a number of areas that reflected his strong background in chemistry and facility for collaborative research. At one time or another, he worked on methods for improving the yield and keeping qualities of fruits, on factors affecting the emergence of encysted nematodes, and on bacterial and fungal metabolism, particularly as affected by growth factor availability. His main interest during the period just preceding his retirement was in the possible value of hydrazide derivatives of amino acids and sugars as anti-cancer agents. His research interests led to the publication of about 30 scientific papers, and also to his visiting and working in a number of laboratories around the world during his sabbatical leaves. However, his major contribution to his department and his college undoubtedly lay in his dedication to teaching, particularly as it involved younger and academically less specialized students, who benefitted immensely from his understanding and gentle persistence in presenting a clear and relevant account of the basic principles of chemistry and biochemistry.

Dr. Neal was a fine experimentalist and technician. This skill carried over into a hobby that gave him much pleasure in his later years—he was an excellent photographer.

Dr. Neal is survived by his wife of 54 years, Arline Nelson Neal, of Ithaca; two sons, Arthur and David; and two daughters, Janet and Nancy.

J.M. Calvo, L.J. Daniel, J. Gibson