

# Carleton Chase Murdock

*July 29, 1884 — June 5, 1971*

Carleton C. Murdock will be remembered as the personification of the legendary professor, a man whose very presence created an atmosphere of dignity and humanity, of intellect and service.

He was first a teacher of physics but no less an inspiring colleague. His own care and rigor induced care and rigor in students and colleagues alike.

All great teachers find their rewards when students grasp difficult subjects. But Professor Murdock responded to more than the usual call of duty—he systematically sifted each examination paper in search of, and in delineation of, these rewards, marking each paper three times, from three different viewpoints, so both he and the student would understand thoroughly just what the student had mastered and where the difficulties lay. His formal courses were always exercises in the discipline of physics, intellectual integrity, and human courtesy, all in the highest calling.

Many will remember him as the teacher of a special course. From the late 1920s until 1935 he was the leader in a novel advanced laboratory experience for seniors and graduate students. This was more than a “course”; much of the subject material was only barely past the stage of significant research experiments. Each student under Carleton Murdock’s general guidance was expected to design his own experiment (usually to highlight some important physical principle), to choose the equipment needed, and perhaps to fabricate some of the necessary components. In this pedagogical setting, Professor Murdock was outstandingly effective in encouraging high performance and in instilling enthusiasm for the joy and beauty in understanding the “world of physics.” His spirit continued in this laboratory for some two decades after his direct responsibility for it terminated. “Murdock’s lab” became a byword in other institutions and a topic of conversation among returning alumni at Cornell.

If a single sentence were to be added in extolling his proclivities as a teacher, it would certainly refer to his lifelong devotion to a genuine high-quality style of life practiced not only by himself but among the entire academic family. He grieved deeply when any member of the family, especially an esteemed colleague, did not live up to the standards he believed characteristic of a scholar. He was rarely, if ever, challenged on these standards and his message of overflowing personal devotion bore home day after day and did much to sustain the entire community in its best tradition.

As a researcher, he was at first attracted to photoelectric reactions, and among his early publications is one coauthored by his wife, Dorothy Waugh Murdock. He soon became fascinated by the then new developments in X-ray physics and, in particular, by the use of X-rays in deducing the structure of crystals. His enthusiasm focused on the complicated task of computing, from subtle aberrations in X-ray diffraction patterns, the extent of imperfections in crystals and the size and shape of crystals far too small to be seen under the microscope of his day. Such studies comprised the bulk of his extensive research career.

Despite his own preoccupation with research in pure physics, he was a patient and interested adviser to students in applied sciences—e.g., the Ph.D. thesis of one of his first graduate students, published in the initial issue of the *Journal of Applied Physics*, is a classic in the literature of the field of soil physics.

He was a member of Sigma Xi, of Phi Beta Kappa, and of Phi Kappa Phi; a member of the American Physical Society, of the Optical Society of America, of the American Society for X-ray and Electron Diffraction, and of the New York Academy of Sciences.

A native of Cooperstown, New York, Carleton Murdock was graduated from Colgate University in 1907. After a year at the University of Maine, he came to Cornell as an assistant in 1908, but, after three weeks, was appointed instructor in physics. On completing his Ph.D. in 1919 he was promoted to assistant professor, a title held until 1932 when he was appointed to the rank of professor. In 1945 he was elected dean of the University Faculty and he continued in that office until elected professor emeritus in 1953.

A special comment is worthy on his deanship. In 1945 Carleton Murdock brought to that office unfailing dignity and courtesy, together with strength and wisdom, during a time of difficulty for the University. The end of World War II was followed by a surge of enrollments, by a period of inflation that eroded the value of faculty salaries and impaired faculty morale, and by the emergence of McCarthyism that deeply unsettled the campus. The retirement of President Day left the University groping for leadership through an extended interregnum. In those trying times, Dean Murdock gave stability to a shaken faculty, and his term was extended until a new president had been installed and his own retirement was at hand.

Long after his retirement, Professor Murdock's tall thin figure was to be seen about the campus from time to time, reviving nostalgic images of Cornell that now live only in the memories and legends of the past.

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