FOR MORE than half of the twentieth century John Edsall was a guiding spirit and constant contributor to the rise of biochemistry at Harvard and in the world through his research, teaching, mentoring, writing, editing, and moral influence.

John Edsall was born in Philadelphia on 3 November 1902. When he was ten John moved with his family to the Boston area, as his father, David Edsall, had become Jackson Professor of Medicine at Massachusetts General Hospital (he was later dean of the Harvard Medical School). Following graduation from Harvard College, where he majored in chemistry, he entered Harvard Medical School, but, anticipating an academic career, he then spent two years studying biochemistry at Cambridge University before returning to Harvard for an M.D. degree in 1928. Sensing that his talents as well as his passion favored research over medical practice, John continued as a research fellow at the Medical School. There he progressed to professor of biological chemistry, but in 1954 he joined the Faculty of Arts and Sciences and moved to the Biological Laboratories. John became emeritus in 1973, remaining actively engaged for more than twenty years. On 12 June 2002 John Edsall died, five months short of his hundredth birthday.

While John found the last two years of medical school disappointing, he compensated by joining Edwin J. Cohn’s Department of Physical Chemistry, where some of the earliest studies on proteins were underway. Thus began a long research career devoted to proteins and their constituent amino acids. His early work contributed mightily to establishing proteins as uniquely structured large molecules deserving the same intense study that had become commonplace in the chemistry of small molecules. John’s early studies dealt with the size and shape of the principal proteins in muscle and blood, their states of ionization, the role of constituent polar and hydrophobic amino acids in stabilizing protein structure, and the vital role of ever-present water. This work helped transform proteins from a murky backwater of science to what is now a central focus of tens of thousands of investigators.

Two high points of his early work deserve special note. In 1943 Cohn and Edsall published a volume on proteins, amino acids, and peptides that became a classic in defining this new field: it continues to be consulted even today. Second, Edsall played a key role in isolating various blood proteins and using them in vital roles during World War II. For example, his group developed a fibrin foam that made some important neurosurgical procedures possible.

Edsall’s devotion to teaching and to the development of biochemistry was extraordinary. In 1928 he became a tutor in the newly formed undergraduate concentration of biochemical sciences, where he continued for fifty years, serving as head tutor for more than a quarter cen-
tury. He pioneered in forming a course on biophysical chemistry and codifying this with a textbook of that title written in 1958 with his closest scientific colleague, Jeffries Wyman. Furthermore, John was a major figure in the building of a graduate program in biochemistry. In 1954 the Committee on Higher Degrees in Biochemistry was formed with Konrad Bloch, Paul Doty, and Frank Westheimer of the chemistry department and Edsall, George Wald, and Kenneth Thimann from the biology department. John served as the first chairman. This committee attracted outstanding new faculty members and graduate students. In 1967 it became the Department of Biochemistry and Molecular Biology.

No one contributed more than John to the development of proteins as a science by establishing high standards and effective communication. In 1944 he co-founded *Advances in Protein Chemistry*, an annual cutting-edge review written by experts. He continued as editor for fifty years, leaving a vast legacy of judicious selection and improved presentations. And he further left his imprint on the world’s exploding biochemical literature by editing the *Journal of Biological Chemistry*, the leader in the field, for a decade. John had the knack of writing highly critical reviews of submitted papers, dissecting what was praiseworthy and what was not, but with such a sympathetic tone that it was not uncommon for an author to read what appeared to be a positive review of his paper only to find out at the end that it had been rejected.

John Edsall’s influence will continue to be felt far into the future through the example he has set for so many. Hundreds of his undergraduate students in biochemical sciences and dozens of his research students and collaborators were certainly affected by his love of science, his unremitting quest to understand the structure and functioning of proteins, and the generosity with which he shared these passions. Beyond the impact of his many personal contacts, John had a deep concern with the integrity of science and its social role. That is probably linked to his personal philosophy, which emerged in his undergraduate days when he joined the Harvard Liberal Club and edited its newly founded publication, *The Gad-Fly*, a title derived from Socrates and suggested by his friend and classmate Robert Oppenheimer. As a result John pioneered in supporting the international character of science through East-West scientist exchanges during the Cold War, participating in early Pugwash meetings and in defending individuals needing help in contesting possible fraud in research.

John’s best-known foray into this arena occurred in 1954, during the McCarthy period, when he learned that the U.S. Public Health Service (the predecessor of the National Institutes of Health) was denying or revoking grants to investigators because of alleged adverse information in their security files. With Philip Handler and Wendell Stanley he
drafted a resolution asking the National Academy of Sciences to investigate these procedures. Unsatisfied with its slow reaction, he wrote a blistering article in *Science*. The opening and closing paragraphs deserve to be recalled.

The vast growth of the support of scientific research by Government has given the Government great powers over the careers of scientific investigators. On the whole, these powers have been used thoughtfully and with restraint. . . . However, a serious threat to the freedom of the individual to certain basic rights has arisen lately. Research grants for unclassified research by men of high competence and generally unchallenged integrity have been withheld, or abruptly revoked, because of unspecified subversive activities. . . .

Under the circumstances, I shall neither ask for nor accept funds from any Government Agency that denies support to others for unclassified research for reasons unconnected with scientific competence or personal integrity.

Before long these procedures were abandoned: one more instance of the many ways in which John’s devotion to science earns the respect of those who follow.


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