

*At a meeting of the FACULTY OF ARTS AND SCIENCES on November 16,  
2004, the following tribute to the life and service of the late John T.  
Edsall was spread upon the permanent records of the Faculty.*

## **JOHN T. EDSALL**

BORN: November 3, 1902

DIED: June 12, 2002

For more than half of the twentieth century John T. Edsall, class of 1923, 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. His exemplary role greatly affected the quality of life in this Faculty as well as in the Medical School.

John Tileston Edsall was born in Philadelphia on November 3, 1902. When he was ten the Edsall family moved to the Boston area where his father, David Edsall, had become Jackson Professor of Medicine at Massachusetts General Hospital (and later Dean of the Harvard Medical School). John attended the Milton Academy and the Brown and Nichols School before entering Harvard College where he majored in chemistry. Following graduation 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 a MD degree in 1928. Sensing that his talents as well as his passion favored research over medical practice John continued as a Research Fellow in the Medical School. There he progressed to Professor of Biological Chemistry, but in 1954 he joined this Faculty and moved to the Biological Laboratories. John became Emeritus in 1973: thereafter he remained engaged for more than twenty years. On June 12, 2002 John Edsall died, five months short of his 100<sup>th</sup> 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 protein physical chemistry 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. He was the first to describe the phenomenon that is the central feature of hydrophobic interactions. This helped transform proteins from a murky backwater of science to what is now a central focus of thousands of investigators.

Two consequences deserve 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 was extraordinary. In 1928 he became a Tutor in the newly formed concentration of Biochemical Sciences and continued in this role for forty years serving as Head Tutor for more than twenty years. He pioneered in forming a course on biophysical chemistry and codifying this with a textbook written in 1958 with his closest scientific colleague, Jeffries Wyman. Furthermore, John's move to this Faculty from the Medical School in 1954 contributed much to the building of a graduate program in biochemistry here. In that year 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 students. In 1967 it became the Department of Biochemistry and Molecular Biology.

No one contributed more than John to the establishment of high standards and effective communication in protein science. 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 authoritative presentations. He further left his imprint on the scientific literature in biochemistry by editing the *Journal of Biological Chemistry*, the leading publication in the field, for a decade. John had the knack of writing highly critical reviews of submitted papers in an objective and convincing way but with a sympathetic tone. 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. His hundreds of students in Biochemical Sciences and his dozens of research students and collaborators will be affected by his accomplishments, his kindness and his integrity. His broader concerns were reflected in an incident in 1954. At a meeting of the American Society of Biological Chemistry he learned that the US 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 their slow reaction he wrote a blistering article in *Science* condemning the practice and declaring that he would not accept a grant from the US Public Health Service as long as this behavior continued. Before long these procedures were abandoned. One more instance of the many ways in which his devotion to science earns the respect of those who follow.

John Edsall's contribution to science is best described by the words of Konrad Bloch on the occasion of Edsall's retirement from the Journal of Biological Chemistry: "Throughout his career he gained prestige without seeking it, for he served science rather than used science for his own purposes."<sup>1</sup>

In 1929, John Edsall married Margaret Dunham of New York and they had three sons. He is survived by David and Nicholas.

Respectfully submitted,

Paul Doty  
Matthew Meselson  
Jack Strominger  
Guido Guidotti, Chair

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<sup>1</sup> Bloch, K.E. (1968) A tribute to John T. Edsall. Editor 1958-1967. J. Biol. Chem. 243, 1333-1336.