

At a Meeting of the Faculty of Arts and Sciences on April 8, 2003, the following Minute was placed upon the records.

### **PAUL DOUGHTY BARTLETT**

Born: August 14, 1907

Died: April 10, 2001

Paul D. Bartlett, one of the great chemists of the twentieth century, passed away on October 11, 1997. His research and teaching were in the area of physical organic chemistry, a field he dominated for four decades. Bartlett created a school of physical organic chemistry that revolutionized the way organic chemistry is taught and practiced throughout the world.

The approximately 300 papers published by Bartlett broke exciting new ground and also supplied critical experimental support for ongoing theoretical investigations. In 1939 Bartlett published his epic research on bridgehead halogens. This work provides the defining example of the physical-organic chemist's mission: to design compounds that address specific theoretical issues, to synthesize them and to analyze their properties. Bartlett's discovery in 1944 of the hydrogen-halide exchange reaction transformed the field of petroleum hydrocarbons from a confused phenomenology to a science. His work in the mid-60s on free radical chemistry brought an intellectual and theoretical construct to a field that had previously been mired in phenomenology. Bartlett also made important contributions to understanding the reactions of the activated triplet state of molecular oxygen, and they provided the first experimental demonstration for the existence of an  $\alpha$ -lactone.

More than 270 graduate students and postdoctoral fellows worked in Bartlett's laboratory. Many of the best young chemists throughout America were attracted to Harvard to work with Bartlett, and today his graduate students and postdoctorals occupy prominent professorships at universities and major positions in industry throughout the country. An impressive number of these have been named to the National Academy of Sciences, or the American Academy of Arts and Sciences, or both. Bartlett's renowned course on organic reaction mechanisms was the first to emphasize mechanism over memorization, a radically innovative approach that transformed the teaching of organic chemistry worldwide.

Paul D. Bartlett was born in Ann Arbor, Michigan, on August 14, 1907. He grew up in Indianapolis, Indiana, where he attended public schools and became fascinated with chemistry. A *summa cum laude* graduate of Amherst College's Class of 1928, he joined the laboratory of James Bryant Conant at Harvard and there performed seminal work that clarified the distinction between rates and equilibria. Bartlett was plainly marked as Conant's successor in theoretical organic chemistry. But, at the time, the Harvard chemistry department held rigidly to the doctrine that it would not appoint one of its own graduate students or postdoctorals until he or she had gone elsewhere and demonstrated originality. After postdoctoral work at the Rockefeller Institute (as it was then called) and two years as an Instructor at the University of Minnesota, Bartlett had more than satisfied Harvard's requirement of independent accomplishment, and the chemistry department decided he could now be safely returned to its ranks. He rapidly ascended through the ranks of Instructor, Assistant Professor, and Erving Professor of Chemistry, while he taught his famous course, trained his co-workers, and made his famous discoveries.

In 1972, when he was eligible either to retire or to remain on the staff at Harvard for another four years, Bartlett elected to retire from Harvard and accept a Welch Professorship at Texas Christian University in Fort Worth. His work at TCU on carbocation rearrangements yielded a treasure-trove of mechanistic problems that continue to challenge present-day chemists. When he retired a second time, he returned to Harvard, welcomed by the friends he had left in 1972.

Bartlett received many honors and prizes. He obtained the American Chemical Society's Young Chemists Award in 1938. He was elected to the National Academy of Sciences in 1947, and he received the A. W. von Hofman Gold Medal of the German Chemical Society in 1962. He received the National Medal of Science from President Johnson in 1968, and was elected to the American Philosophical Society in 1978. In 1969 he was elected an honorary member of the Chemical Society of London and of the Swiss Chemical Society. In 1981 he received the Robert A. Welch Award in chemistry. He received honorary degrees from Amherst College and from the Universities of Chicago, Montpellier, Paris, and Munich. He received both the James Flack Norris Awards, in physical-organic chemistry and in teaching, as well as a dozen or so other prizes and awards.

In 1931 Bartlett joined Mary Lula "Lou" Court in a wonderfully successful marriage of fifty-eight years terminated only by Lou's death in 1989. Lou took care of Paul's graduate students and postdoctorals almost as if they had been her children, inviting them to the Bartlett's lovely home and gardens in Weston, Massachusetts, and again entertaining a new generation of students in Fort Worth during Paul Bartlett's second career.

Bartlett was a large, ruggedly-handsome man who enjoyed the outdoors. He took his research group on skiing and hiking trips with great and evident pleasure. He had a ready smile, a hearty laugh, and a fine sense of humor, which was always evident. He wrote verse of all kinds for all occasions, ranging from carefully rhymed and metered poems to doggerel that was marvelously entertaining. He wrote the following poem at the age of 18, while spending the summer on Cape Cod in between semesters at Amherst.

### **August on Cape Cod**

This month the summertime is growing old  
Among the sedgy dunes and woods of pine.  
The nest is empty in the briar vine  
Where, in the joy of spring, a warbler told  
How sweet it is to live. Gone now its hold  
On youth and song; and where there used to shine  
A dreamy light, at ocean's meeting line  
With the far sky, a sultry mist has rolled.

Later each morning now, the dry old sun  
Lifts on a silent sea and silent dunes.  
All that the springtime promised has been done;  
And now the Cape can only count the moons  
Till autumn with its nippy, scarlet breath  
Shall change this deadly life to lively death.

Paul Bartlett is survived by daughters Joanna Bartlett Kennedy and Sara W. Bartlett, son Geoffrey Bartlett, and seven grandchildren. He will long be remembered as a splendid father, friend, and colleague.

Respectfully submitted,

Frank H. Westheimer  
William N. Lipscomb  
Dudley R. Herschbach  
Gregory L. Verdine, Chairman

Excerpted with permission from the *Proceedings of the American Philosophical Society* [142(3): September 1998]. The authors are grateful to J. M. McBride for assistance.