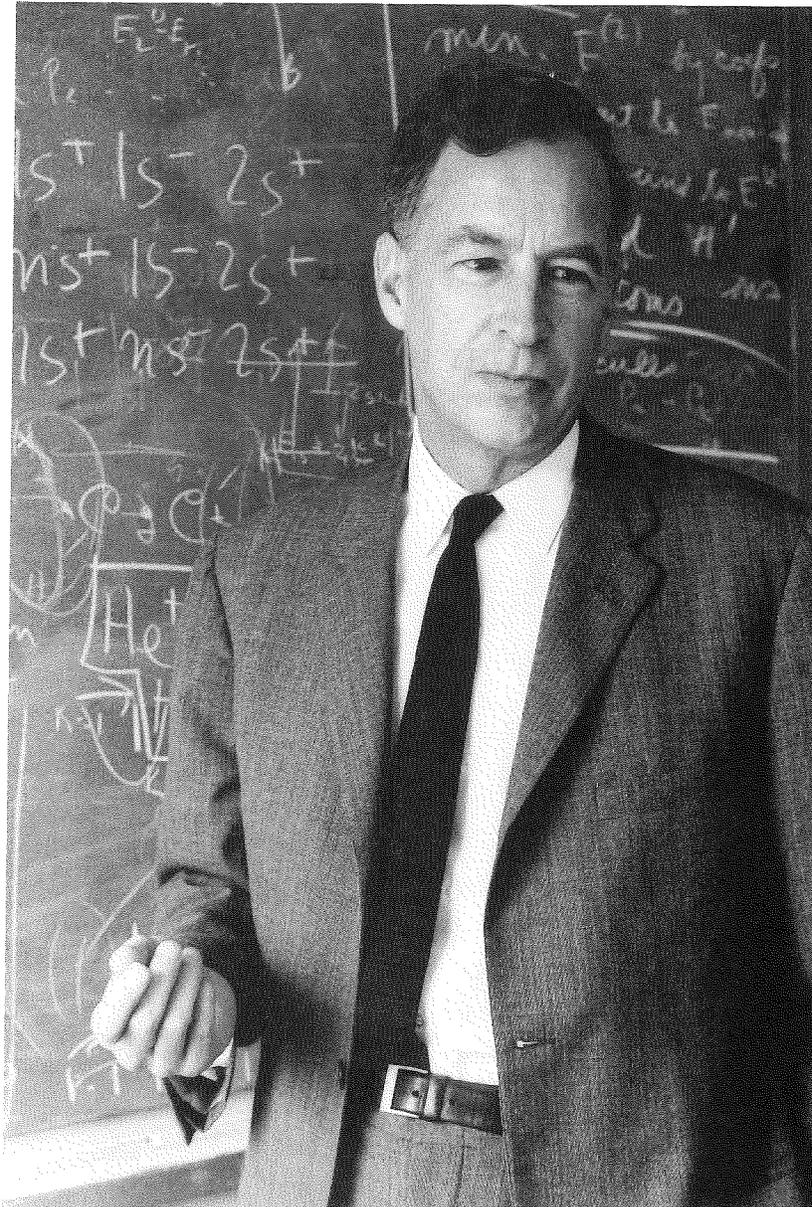


**E. BRIGHT WILSON, JR.**  
**(18 December 1908–12 July 1992)**



Harvard University

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Edgar Bright Wilson, Jr.—Bright to his friends—was a great scientist, and a great person. “I would say that, in so far as it is possible for any man to be both wise and worldly-wise, to be selfless in any material sense, to have no envy, jealousy, vanity, conceit, to contain no malice, no hatred (although he had anger), to be always reliable, considerate, generous, never cheap, [Bright] came as close to that as can be got.”<sup>1</sup>

This is the accolade that J.R. Ackerly wrote about E.M. Forster; only the name has been changed. This quotation clearly summarizes the major features of Bright’s character, but in addition he was blessed with warmth, and with a wry, quiet sense of humor that delighted us all.

Bright was born in Gallatin, Tennessee, in 1908, but grew up in Yonkers, then a fashionable suburb of New York. In his early teens, he undertook chemical experiments at home, built radio receivers, and obtained an amateur radio license. As a high-school boy of fifteen, he discovered in the town library the now classic text by Lewis and Randall on thermodynamics. That book first revealed to Bright the grand scope and logical beauty of science, which he ardently pursued thereafter. To appreciate how remarkable this episode is, you need to know that Lewis and Randall’s *Thermodynamics* and its clones and descendants have, over the intervening years, been used strictly as graduate-level texts.

After earning B.S. and M.S. degrees at Princeton, where he published several experimental papers, Bright headed west in 1931 to the California Institute of Technology, where he took his Ph.D. with Linus Pauling. He arrived at Harvard in 1934 as one of the first of the Junior Fellows, was appointed as an assistant professor in 1936, promoted to tenure three years later, at the age of thirty, and remained at Harvard for the rest of his life.

Bright was one of the chief architects of chemical physics. Beginning in the late 1930s, he developed the basic methods for the quantitative study of the internal motion of atoms in molecules. His theoretical work, then and since, and particularly his analysis of molecular symmetry and error bounds, became the foundation of the field of molecular spectroscopy.

In 1949, together with Richard Hughes, he invented a novel microwave spectrometer modulated by the Stark effect, a spectrometer that increased

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<sup>1</sup> Quoted by Benjamin DeMott in his introduction to Forster’s *Howard’s End*, Penguin Books, 1992.

sensitivity a thousandfold. This revolutionary instrumentation was eagerly adopted by many other researchers, and allowed Bright and his students to obtain definitive knowledge of molecular geometry and intramolecular forces. His fundamental research was essential for the development of molecular astronomy, which is based upon microwave emission spectroscopy.

Bright made no distinction between research and teaching. His text on quantum mechanics, with Linus Pauling, educated several generations of scientists, and has recently been reissued in paperback. His lectures, textbooks, and research papers are models of unpretentious logical clarity. His monograph entitled *An Introduction to Scientific Research* stands as the best expression ever of what all scientists—not just chemists—are about. This book, too, illustrates Bright's dry sense of humor; it offers numerous brief but amusing anecdotes in science.

Science filled Bright's life; he deeply loved every aspect of it. Nevertheless, as a patriot, he temporarily put basic research aside to contribute to our nation's defense. During World War II, he and several of his students began in Gibbs Laboratory a study of shock waves in water, and expanded these studies when, in 1942, the National Defense Research Committee established the Underwater Explosives Research Laboratory at Woods Hole, with Bright as director. Under his vigorous leadership, the laboratory successfully monitored experimental explosions in air and water, and aided immensely the Navy's antisubmarine program.

In 1952, at the height of the cold war, Bright was persuaded to become, briefly, the research director of the Weapons Systems Evaluation Group, attached to the Office of the Secretary of Defense. Only his heroic efforts converted this into an adequately functioning organization. Incidentally, Bright came early on to realize the futility of the war in Vietnam, and did what he could to get us out of it.

Several obituaries mentioned that some four hundred papers had been published from Bright's laboratory, eighty with him as the sole author. But they failed to point out that he listed himself as coauthor on the others only when his was clearly the major contribution; otherwise his student's name, or students' names, stood alone. He had, like Forster, "no envy, jealousy, vanity, or conceit."

In addition to his contributions to science and to the nation, Bright made signal contributions to the Department of Chemistry at Harvard, especially in matters related to new appointments in physical chemistry. But his most important contribution depended on his integrity; in his presence, no one could easily be petty, or jealous.

Along with his intense professional activities, Bright enjoyed a vigorous and generally happy family life, although Emily Buckingham, whom he had married in 1935, tragically died of a sudden illness in 1954. Bright married Dr. Thérèse Bremer in 1955; her vivacity and wit kept him perpetually young. He is survived by her and by three children from each marriage: by Kenneth, David, and Nina, and by Anne, Paul, and Steven.

Bright's science was recognized by numerous prizes, including the National Medal of Science, the Welch Award, the Rumford Medal, and the Norris Award for teaching; his many honorary degrees included those from Harvard, Princeton, and Columbia.

In his final years, although Bright suffered long and miserably from Parkinson's disease, he never offered a word of complaint. He was not intimidating when he was at the height of his powers, and he maintained his dignity later. To the end, he remained earnestly engaged with his beloved science, his colleagues and family, and his university. He had a wonderful career, and knowing him enriched the lives of his friends and fellow scientists throughout the world.

ELECTED 1946; Committee on Membership I 1953-54

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