



Lee Irvin Smith

July 22, 1891 – March 29, 1973

Lee Irvin Smith was born on July 22, 1891 in Indianapolis, Indiana, the son of Edgar Poe Smith (who later became a piano maker and salesman) and Susie Louise (Amberg) Smith. He attended Ohio State University in Columbus, where the family had moved, registering first in Ceramic Engineering in 1909. Inspired, however, by the beautiful freshman chemistry lectures of William Lloyd Evans, he soon switched to Chemical Engineering, but later enrolled in the Arts College and received a B.A. degree in 1913 with majors in chemistry, mathematics, and economics. Then he received an M.A. degree in 1915 in Industrial Chemistry and was elected to membership in Phi Beta Kappa and Phi Lambda Upsilon honorary chemical fraternity. With a plan to study physical chemistry with Theodore William Richards, he entered Harvard in the fall of 1915, but, inspired by another great teacher, Elmer Peter Kohler, he majored in organic chemistry and carried out his research with Professor Kohler, receiving another M.A. degree in 1917 and the Ph.D. in 1920. He became a member of Alpha Chi Sigma chemical fraternity through the Omicron chapter at Harvard. As the result of the illness of Professor Kohler, he was asked to take over the lectures in his course, Chemistry 5, and was appointed an Instructor in the fall of 1917. With the entrance of the United States into World War 1, a call came to the Army in late December 1917. Smith was commissioned a Second Lieutenant and placed in command of a small detachment of men from the Chemical Warfare Service (CWS) detailed to Harvard for work on war gases under Professor Kohler. In March 1918 the whole detachment was transferred to the CWS Laboratory at the American University in Washington, D.C. Here the chiefs on the offensive side were Professor Kohler, Roger Adams, and James Bryant Conant, and on the defensive side, Arthur Becken Lamb. Work on the new war gas, Lewisite, progressed well, and Smith and Conant were transferred to a secret plant in Willoughby, Ohio, where the research was finished and some tons of the material was produced when the war ended in November, 1918. Smith was discharged from the Army in December 1918 and returned to Harvard to complete his Ph.D. thesis, which, in three parts was entitled "The Addition Reactions of Unsaturated Ketones (a literature

review); on the Bromination of Acetoacetic Ester; The Action of Alkalis on the Nitrocyclopropanes."

In September 1920, at the invitation of Professor William H. Hunter, the first Chief of the Division of Organic Chemistry, Smith began his career, as an Instructor at the University of Minnesota. He was soon promoted to Assistant Professor in 1921, and then to Associate Professor in 1928. Following the death of Professor Hunter in the summer of 1931, Smith became Acting Chief of the Division of Organic Chemistry and became Chief and was promoted to Full Professor during the following year, 1932-33. Dr. Smith and his colleague, Professor Walter McClellan Lauer, began to build up the division of which they were the two members, bringing in two promising young chemists at once, Charles Frederick Koelsch (who got his Ph.D. with Samuel M. McElvain at Wisconsin, and made his career at Minnesota) and Paul Doughty Bartlett (who got his Ph.D. with Conant at Harvard, and returned to Harvard after "two swell years" at Minnesota - as he inscribed on a picture he gave to Dr. Smith when he left). The Institute of Technology (IT) was formed in 1936 by the combination of the School of Chemistry, the College of Engineering and Architecture, and the School of Mines. The first Dean of IT, Samuel C. Lind, who was himself a physical chemist, asked Dr. Smith to become the first administrative assistant of the School of Chemistry. Dr. Smith accepted, but with the proviso that if he didn't like it, he would ask to be relieved at the end of the first year. This he did, returning to his former position. His resignation brought a letter of congratulation from the President of the University, Louis Delta Coffman, congratulating him and saying he couldn't see why anyone should want to be an administrator when he could be a professor. During the World War II years 1942-1945, Dr. Smith was a Civilian Investigator for the Office of Scientific Research and Development, and carried out chemical research at Minnesota with Dr. Vaughan E. Engelhardt, one of his students. In 1944 Dr. Smith was elected to the National Academy of Sciences, one of America's highest scientific honors, in recognition of his national and international leadership and contributions to science. He was also the first recipient of the Minnesota Award, given to him by the Minnesota Section of the American Chemical Society in 1958 in recognition of his outstanding services to chemistry and to the profession. Dr. Smith remained Chief of the Organic Division until 1958, when he resigned to prepare for the transition which would accompany his retirement. He was succeeded at that time as Chief by William Eugene Parham, who had joined the Minnesota faculty in 1946. Dr. Smith retired in 1960. During his forty years at the University he advised 57 students who received their Ph.D. degrees and 19 who received their M.S. degrees. Five postdoctoral students and several fellows also worked with him. He published 245 papers in chemistry journals and authored numerous patents. He served as a consultant with Merck and Company, Inc., from 1941 and with General Mills, Inc., from 1945, both continuing until his retirement in 1960.

Dr. Smith was a member of the Board of Editors of the Journal of Organic Chemistry from 1936-1945, of the Journal of the American Chemical Society from 1939-1949 and of Organic Syntheses, and in 1942-1943 served as Editor-in-Chief of Volumes 22 and 23 of the latter. He was President of the Association of Harvard Chemists in 1939, Chairman of the Organic Division of the American Chemical Society in 1941-1942 and Member of the Executive Committee 1941-1943, Chairman of the Minnesota Section of the American Chemical Society in 1943-1944 and Councilor for a number of years, President of the Minnesota Academy of Science in 1945-1946, and President of the University of

Minnesota Chapter of Sigma Xi in 1946. Besides membership in the organizations in which he held offices as noted above, Dr. Smith was a member of the Chemical Society of London, The Deutschen Chemischen Gesellschaft (until 1941), the Swiss Chemical Society, the American Society of Biological Chemists, the American Association for the Advancement of Science (to which he was elected a fellow), the American Alpine Club, Gamma Alpha, the Campus Club, the Gown-in-Town Dining Club at the University, and the Masons.

Dr. Smith's research activities in organic chemistry have been primarily in the areas of the polyalkylbenzenes, the Jacobsen reaction, the reactions of quinones with metallic enolates, reactions between diphenylketene and acetylenes, reactions between nitrocyclopropanes and alkaline reagents, and the area for which he is perhaps best known, the chemistry of the tocopherols including the synthesis of Vitamin E in 1939. His principal hobbies included mountain climbing, horticulture, particularly orchid growing, photography and music. Dr. Smith was a chain smoker of Benson and Hedges cigarettes, and was noted for his long cigarette holder. In his later years he developed chronic emphysema, and died from complications resulting from it in 1973.

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