



Martin A. Elliott

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1909-1988

By Henry R. Linden

Martin A. Elliott, a major figure in the field of fuel science and engineering, and especially synthetic liquid-fuels and gas research, died on August 5, 1988, in Eugene, Oregon, while recuperating from coronary bypass surgery. Although retired for fourteen years following his last full-time position as corporate scientific adviser of Texas Eastern Transmission Corporation, he had remained active as an energy consultant and continued to serve as member emeritus of the Industry Technical Advisory Committee of the Gas Research Institute. He also continued his contributions to the technical literature, most notably as editor of *Chemistry of Coal Utilization* and author of key chapters.

Martin Elliott was born in Baltimore, Maryland, on February 21, 1909, graduated from Baltimore Polytechnic Institute in 1927, and received from the John Hopkins University a B.E. in 1930 and Ph.D. in 1933, both in gas engineering. While a graduate student, he met his wife of almost fifty years, Mary Helen Parker Elliott, who died in 1982. Their humor, grace, and exceptional mutual devotion overcame ill health and infirmity during their final years together. Martin Elliott died in the home of his second wife, Shirley Whitlock Elliott, who was a great comfort to him.

Martin started his lifelong involvement with gas and fuels technology as an engineer for Consolidated Gas, Electric

Light & Power Company of Baltimore (now Baltimore Gas & Electric Company) in 1934. In 1938 he began a fourteen-year association with the U.S. Bureau of Mines in Pittsburgh, where he rose to chief of the Synthetic Liquid Fuels Research Branch. In 1950 he was a key member of the team of U.S. scientists and engineers who traveled throughout Europe to gather information on synthetic liquid-fuels processes. My close association with Martin Elliott dates back to 1952 when he came to the Illinois Institute of Technology (IIT) as research professor of mechanical engineering. From 1956 to 1961 he headed the Institute of Gas Technology (IGT), an affiliate of IIT, and then served as vice-president of academic affairs at IIT until 1967. Thereafter, he went to Houston to continue his service to the gas industry as corporate scientific adviser of Texas Eastern Transmission Corporation until his retirement in 1974. Also in 1974 he was elected a fellow of the American Society of Mechanical Engineers (ASME), and in 1975 he received the first Gas Industry Research Award from the American Gas Association for his lasting and significant contributions to gas industry technology. In 1976 he was elected a member of the National Academy of Engineering.

Much of today's understanding of the fundamentals that govern the conversion of coal and oil shale to synthetic fuels is based on Martin Elliott's work and the research he initiated and guided while serving at the Bureau of Mines and at IGT. He served on numerous prestigious scientific and advisory bodies in connection with his lifelong dedication to improving the technology and economics of synthetic fuels production and played a major role in IGT's development of novel fossil-fuel gasification processes.

Earlier in his career he was also deeply involved in the fields of combustion and explosives, making major contributions to the safe operation of diesel engines in underground coal mines and the safety of liquefied natural gas storage and use. In 1952 the Secretary of the Interior bestowed upon him the Interior Department's highest award, the

Distinguished Service Medal, for his work at the U.S. Bureau of Mines. In 1967 he also received the Percy Nicholls Award of the Fuel Division of ASME and the Coal Division of the American Institute of Mining, Metallurgical and Petroleum Engineers for his contributions in the field of solid fuels.

No memorial tribute to a leading technologist would be complete without a listing of the traditional measures of his impact on his field of specialization. Let me present a somewhat condensed treatment of this aspect of Martin Elliott's life's work. He authored more than one hundred papers on fuel and gas technology and on the future producibility of fossil fuels. In 1954 he chaired the Gordon Research Conference on Coal Science. From 1957 to 1962 he was a member of the Committee on Chemistry of Coal of the National Academy of Sciences-National Research Council. He was chairman of the diesel engine test code committee of the Society of Automotive Engineers; a member of the board of directors of Autoresearch, Inc., Utah Shale Land Corporation, and the Adler Planetarium, all of Chicago; and active on committees of the Coordinating Research Council of the petroleum and automotive industries. From 1964 to 1967 he was a member of the Science Advisory Council to the Governor of the State of Illinois. In 1966 he was appointed a member of the National Research Council's Committee on Mineral Science and Technology and chairman of its Panel on Fuel Science and Technology. He became a member of the Coal Advisory Committee of the Illinois Geological Survey in 1961 and an honorary member in 1967. In 1967 he was appointed a member of the General Technical Advisory Committee of the Office of Coal Research of the U.S. Department of the Interior and became a member of the International Gas Union's subcommittee on the production of synthetic gaseous fuels.

This brief summary of his distinguished career in research and education fails to capture the essence of Martin Elliott's impact on the field of fuel science and engineering. A very

modest man, he shunned the limelight and devoted a large measure of his formidable energies to cooperative efforts that served a wide range of professional, national, and global interests in the energy field. He was an exceptionally devoted and effective mentor to younger colleagues, whose subsequent achievements reflected Martin's guidance and wisdom. I was among them. He was also a tireless analyst and innovator, again without concern for receiving credit from his peers or in publications and patents. Thus, the record of his life's work, impressive as it is, greatly understates his full contribution. His intellectual curiosity led him to the pursuit of numerous challenging issues, such as what the economically and technically recoverable natural gas resource base of the United States really is. In 1968 he coauthored a seminal study conducted under his direction that accurately projected today's assessment of the size of this resource base. Remember, this was a time when the conventional wisdom was that depletion was imminent. I offer this merely as an illustration of the true measure of Martin Elliott, whose memory is cherished by all those whose lives he touched.

