Charles Allen Thomas

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1900–1982

BY RALPH LANDAU

CHARLES ALLEN THOMAS, Founding Member of the National Academy of Engineering (NAE), Life Member Emeritus of the Corporation of the Massachusetts Institute of Technology, and retired Chairman and President of Monsanto Company, died at the age of eighty-two at his winter home near Albany, Georgia, on March 29, 1982. In his passing, the Nation has lost one of its most distinguished scientists, a leader of the chemical industry, and a prominent figure in the development of atomic energy. We at the NAE have lost a towering member and staunch friend who had participated in the affairs of the Academy for twenty years.

Dr. Thomas was an articulate spokesman for basic research, higher education, and advanced technology, who gave generously of his time and talent to a variety of civic, medical, and educational organizations. In the mid-1960s, to broaden educational opportunities for residents of the St. Louis area, he led an unconventional campaign that persuaded area taxpayers to give over $47 million for the construction of a new junior college. In the years following his retirement from Monsanto in 1970, Dr. Thomas served as Chairman of the Board of Trustees of Washington University in St. Louis and led that university's fund-raising efforts for a decade.

Charles Allen Thomas was born in the bluegrass country of Kentucky on February 15, 1900. His father, whose name was also Charles Allen Thomas, was of Welsh descent and had come to America from Australia as a minister of the Disciples of Christ. He

died when young Charles Allen was only six months old. The infant grew up with his mother, Frances Carrick Thomas, who was descended from Scotch-Irish forebears of early American stock and who lived to be ninety-four years of age.

The young Charles went with his mother to Lexington, Kentucky, to stay at his grandmother's home, which was across the street from Transylvania College. Charles Thomas's fascination with chemistry began at an early age. When a large explosion in his boyhood laboratory in a room back of the kitchen almost blew out the end of the house, Transylvania College professors invited the prodigy to use their laboratories. He was then thirteen years old.

Following his graduation from Transylvania College in 1920, the young man went to Massachusetts Institute of Technology (MIT) for graduate study, where he earned his master's degree in chemistry in 1924. He helped work his way through graduate school by singing professionally, and he seriously considered a career in music. He received a D.Sc. degree in organic chemistry from Transylvania College in 1933. He achieved fame in the scientific world when he was a young researcher for General Motors: he and Dr. Carroll A. (Ted) Hochwalt, another scientist who was later to achieve a leadership position in Monsanto, were part of a team credited with a significant role in the development of tetraethyl lead additive for gasoline. Later, Dr. Thomas helped develop a process that extracted bromine from seawater, thereby cutting the price of that product in half on world markets. He also made important contributions to the development of synthetic resins, synthetic styrene and rubber, and rocket propellants.

In 1926 the two men formed Thomas and Hochwalt Laboratories in Dayton, Ohio, where they conducted research for leading corporations. Their work there came to the attention of the late Edgar M. Queeny of Monsanto, who decided he wanted them in his firm. He bought their company and brought Dr. Thomas to St. Louis to direct Monsanto's research, while Dr. Hochwalt remained for a time in Dayton to spearhead the research that led to the development of Acrilan, Monsanto's man-made fiber.

When the two scientists joined Monsanto in 1936, the St. Louis chemical company was doing $34 million in annual sales. When Dr.

Thomas retired as Chairman in 1970, sales at Monsanto had reached $1.9 billion. "Now don't credit Ted and me with all the growth," Dr. Thomas once said. "Thousands of dedicated people at Monsanto share in the credit. And the same thing applies to the money raised during my chairmanship at Washington University."

Under Dr. Thomas's presidency, which began in 1951, Monsanto's investment in research rose from $6.2 million a year to $101.4 million. Asked about his approach to problem solving, Dr. Thomas commented, "I've made it a habit to listen to intelligent young people. It has been my experience you can learn as much from them as they can from you." An affable, gregarious man with a fine sense of humor but with penetrating insight into people, Dr. Thomas had a knack for communicating a genuine concern for others. This easy nature belied his inner drive and capacity for concurrent detailed projects. He was an effective bridge between the idea generators in the laboratory and the practical needs of the marketing organization of Monsanto. He held ninety-five U.S. and foreign patents. There is no doubt that he and Dr. Hochwalt made Monsanto into one of the true high-technology companies of the world. It is interesting to speculate whether an American corporation today would, should, or could make so fruitful and so long-range an acquisition as Edgar Queeny did for Monsanto.

Before and during World War II, Dr. Thomas was involved in the top-secret Manhattan Project that developed the atomic bomb. He was a member of the group that developed the final processes to purify plutonium, an essential radioactive element in the bomb. He spent considerable time shuttling from one secret scientific base to another, resolving differences and keeping the vital project in high gear. He was in the exclusive group of top scientists under Dr. Vannevar Bush and including others from MIT at Alamogordo, New Mexico, on July 16, 1945, when the new bomb was tested. He later deplored the U.S. resistance, in the face of vigorous growth of nuclear plants abroad, to the development of nuclear-powered electric-generating plants.

After World War II Dr. Thomas was one of the five coauthors of *A Report on the International Control of Atomic Energy*, prepared at the direction of the Secretary of State's Committee on Atomic Energy,

and commonly known as the Acheson-Lilienthal Report. It proposed a master plan for the international control of atomic energy. The plan, however, was never universally accepted. He also wrote an important book, titled *Anhydrous Aluminum Chloride in Organic Chemistry*, a treatise that became the bible of chemists working with aluminum chloride reactions.

In 1951 he was appointed a member of the President's Science Advisory Committee by President Truman. This committee was later reactivated by President Eisenhower to report directly to him after the Sputnik episode. He was also a member of a group that advised Secretary Neil McElroy to establish an office associated with the Secretary of Defense to undertake advanced research projects. This came to be known as the Advanced Research Projects Agency (ARPA).

Dr. Thomas devoted the later years of his retirement to managing Magnolia Plantation, a 15,000-acre family farm near Albany, Georgia. The farm employed a staff of fifty people. As a long-time successful businessman, he made certain the farm operated profitably while producing peanuts, pecans, corn, soybeans, and an annual harvest of timber.

A major project financed by Dr. Thomas and some farming friends was a study at Washington University designed to boost the yield of food and oil from peanuts. Nearly half the world uses peanut oil for cooking and food. Thus, Dr. Thomas rationalized that anything that improves peanut growing not only aids this country's exports but also helps food and cooking oil supplies, particularly in Asia and Africa.

Dr. Thomas maintained that America did not spend enough money on basic research to keep abreast of other leading industrialized countries. To promote such research in his own field of chemistry, he donated $600,000 to Washington University to endow the Charles Allen Thomas Professorship of Chemistry.

In addition to having farming interests, Dr. Thomas was an avid hunter and superb marksman. He and his first wife, Margaret, were distinguished skeet shooters and raised and trained hunting dogs, especially Labrador retrievers. Dr. Thomas was also an airplane pilot.

An active member of the National Academy of Sciences and the National Academy of Engineering, Dr. Thomas received numerous academic, civic, and professional awards, including the Perkin Medal for the highest achievement in American industrial chemistry; the Palladium Medal of the Société de Chimie Industrielle; the Priestley Medal, the highest honor given by the American Chemical Society; the Industrial Research Institute Medal for outstanding achievement in administration of industrial research; the Deeds-Kettering Memorial Award; the Missouri Award for Distinguished Service in Engineering; the Golden Plate Award of the American Academy of Achievement; the American Institute of Chemists' annual Gold Medal in recognition of work in research administration; and the Eliot Society Award for distinguished service to Washington University. He served as President of the American Chemical Society in 1948. In addition, Dr. Thomas was named the *St. Louis Globe-Democrat*'s Man of the Year in 1966. He received the Medal of Merit from President Truman, the highest civilian award bestowed by the United States, for his work on the Manhattan Project. He was also engaged in a number of other governmental activities. At various times he served as the Chairman of the Scientific Manpower Advisory Committee of the National Security Resources Board, a consultant to the National Security Council during the Eisenhower Administration, and U.S. Representative to the United Nations Atomic Energy Commission.

Dr. Thomas was a member of the American Philosophical Society, American Institute of Chemists, American Institute of Chemical Engineers, Chemical Society of London, National Citizens' Commission for the Public Schools, Washington Academy of Sciences, American Academy of Arts and Sciences, Electrochemical Society, American Chemical Society, Chemists Club of New York, Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma, and the Cosmos Club of Washington, D.C.

He was a curator of Transylvania College, a Fellow of the American Association for the Advancement of Science, and a member of the Board of Governors of the National Farm Chemurgic Council. He served as a Board Member of the First National Bank of St. Louis, Metropolitan Life Insurance Company, Rand Corpora-

tion, St. Louis Union Trust Company, Southwestern Bell Telephone Company, and the Civic Center Redevelopment Corporation of St. Louis. He was a Trustee of the Universities Research Association, was a Founding Member of the National Academy of Engineering, and served as the first Vice-Chairman of the St. Louis Research Council.

Dr. Thomas was active on behalf of such organizations as Radio Free Europe, Boy Scouts of America, United Fund and United Community Campaigns of America, and, in St. Louis, the Herbert Hoover Boys' Club and the *St. Louis Globe-Democrat* Fund for Children. He was a long-time enthusiast and dedicated worker for the greater St. Louis United Fund. In the year during which he served as President—1963—the fund exceeded its quota and set a new collection record of $9,740,000.

Dr. Thomas held fourteen honorary degrees from the following U.S. colleges and universities: Washington University, St. Louis University, Princeton University, Brown University, University of Alabama, Ohio Wesleyan University, Lehigh University, University of Missouri at Rolla, Hobart College, Kenyon College, Transylvania College, Simpson College, Brooklyn Polytechnic Institute, and Westminster University in Fulton, Missouri.

Charles Allen Thomas inspired all who came in contact with him. He was a selfless man of great stature—a giant in the field of applied science and technology in the service of the people and the Government of the United States.

Dr. Thomas is survived by his wife, Margaret Porter Thomas, whom he married in 1980; one son, Dr. Charles Allen Thomas, Jr.; and three daughters, Mrs. Stephen O'Neil, Mrs. Theodore R. P. Martin, and Mrs. James A. Walsh. His first wife, Margaret Talbott, died in 1975.