



Daniel G. Noble

DANIEL EARL NOBLE

1901-1980

BY C. LESTER HOGAN

DANIEL E. NOBLE, retired Vice-Chairman of the Board of Directors and active Chairman of the Science Advisory Board of Motorola, Inc., died in Scottsdale, Arizona, on February 16, 1980. He is best known for his pioneering efforts in FM mobile communications, contributing directly to Motorola's strong technical and marketing capabilities in this field. But, by those who knew him best, he is at once scientist, engineer, scholar, philosopher, artist, writer, and friend. His uncanny vision of the future was clearly evidenced by the fact that he personally founded Motorola's Communications, Government Electronics, and Semiconductor divisions. In so doing he often stood alone in Motorola's Board Room but always prevailed as a result of the depth of his conviction and the persuasiveness of his argument. The industry will certainly miss this man. He has been both an accurate prophet and a practical and effective builder for the past fifty years of our art.

Dan Noble was born in Naugatuck, Connecticut, on October 4, 1901, and received a bachelor's degree in engineering from the University of Connecticut in 1929. He remained at the University of Connecticut after receiving this degree and rose in rank to Assistant Professor of Mathematics, Electrical and Radio Engineering. It was during this period that he did much of his pioneering in FM broadcasting, but more than this, he demonstrated to the entire world that he was a generalist rather than a specialist during these early years.

The station became such a success that in 1936, station s WTIC

and WDRC asked him to build a relay station so they could receive certain of the programs originating at the university for rebroadcast from their stations in Hartford. He had read Major Armstrong's pioneering paper on FM and, while many others in this era believed that it had no practical advantages, Dan Noble knew otherwise, and used this opportunity to design and build a 100-megahertz FM relay station linking the University of Connecticut with these two stations in Hartford. This system worked so well that the owner of WDRC asked him to design and supervise the construction of an FM broadcast station for them in Hartford. This was one of the first commercial FM broadcast stations in the world.

By this time Professor Noble's reputation as a brilliant scientist and capable, practical engineer was well known, at least in the state of Connecticut. As a result, State Police Commissioner Edward J. Hickey came to him in 1938 and asked him to design a statewide police broadcast system so that all police cars in Connecticut could be contacted wherever they were. The proposal, as made by the Police Commissioner, was for one-way transmission only from fixed broadcast stations to the cars. At this point Dan Noble made a very daring and visionary proposal to Commissioner Hickey. He was to design and supervise the construction of mobile units for the police cars that would use frequency modulation in the 30- to 40-megahertz band. This was a first. No such statewide system existed anywhere in the world. He not only had to break new ground in design but also in manufacture in order to ensure the reliable operation of this ambitious system.

As with every other system that he had built, this one worked extremely well, and he established a worldwide reputation as both a brilliant designer and a superb engineer.

It was at this point that Paul Galvin, who had founded Motorola just ten years before, got to know Dan Noble and began to try to pry him loose from the university to come to work for him. At first he did not want to leave the university. However, in 1940, Galvin convinced him to use his sabbatical leave to try industry life at Motorola.

Paul Galvin had a strong personality, but he had the wisdom to give Dan Noble the freedom he needed to guide Motorola's begin-

nings in mobile communications. World War II had just begun, and Dan Noble was the only person in the United States who had the expertise to develop and build the famous SCR-300 FM Walkie-Talkie for the Armed Forces. By 1942 Paul Galvin had Dan Noble in his camp, and a great love and respect developed and existed between them until Galvin passed away in 1959. Those were years when Dan Noble established Motorola as the dominant force in mobile communications.

At the end of the war, Dan Noble recognized that the company should be a part of the research and development needed by the U.S. defense establishment to maintain its lead in electronics systems. Galvin had faith in Dan Noble and convinced the Board of Directors that this was a wise decision.

In 1952 Professor Noble established a department within the Military Electronics Division that was charged with the responsibility of developing and building transistors. With this development a reality, he then split out this department and founded the Semiconductor Products Division in 1954. Under his leadership the company became Arizona's largest industrial employer. And it was his pioneering research work that helped make Motorola an international household name in the industry.

He held nine patents on electronics and communication circuitry. His many awards included the 1966 Greater Arizonan Award; the 1974 Arizona Association of Industries Leadership Award; the 1978 Edison Medal from the Institute of Electrical and Electronics Engineers, of which he was a Fellow; and the Franklin Institute's 1972 Stuart Ballantine Medal. He was elected to the National Academy of Engineering in 1968.

Dan Noble was an artist as well as an engineer, and he took personal charge of the architectural design of all of Motorola's buildings in Phoenix. To this day they are a credit to his artistic eye. He once commented that he would like to write a blistering essay on abstract art; he found it to be fraudulent. Until 1965 all of his paintings were of the classical type. But when he became involved in abstract art at age sixty-four, he talked eloquently about the fact that to do something entirely new in abstract art required patience, hard work, great originality, and maybe even some talent. At age sixty-

four he still had the vigor and the ability to change his mind when he learned the facts.

He was always full of vitality, always experimenting, always learning something new, and when he learned that his original conception had to be modified, changed, or even totally cast out, he was the first to admit it. It was this vitality, this honesty, that made him loved by all who knew him well.

He is survived by his wife, Mary; daughter, Anne Lynch; sons, Tryson Noble, Talboy Noble, and Richard E. Lynch; and three grandchildren.