



E. J. Weeber

ELMER P.WHEATON

1909–1997

BY JAMES G.WENZEL

ELMER P.WHEATON, a director and associate of Marine Development Associates, Inc. and former vice-president/general manager of the Research and Development Division, Lockheed Missiles and Space Company, and corporate vice-president of engineering, Douglas Aircraft Corporation, died at Stanford Hospital on December 28, 1997, at the age of eighty-eight. Elmer Wheaton was a trail-blazing engineer who lived in Portola Valley, California, for over thirty-five years, a beautiful estate area supporting Silicon Valley. A review of Elmer's early days shows a man willing to start at the bottom, to be innovative, and work his way to the top.

Elmer Wheaton was born in Elyria, Ohio, on August 15, 1909, the son of Harry and Lizzie Nicholl Wheaton. The family moved to Los Angeles in 1912, where two younger brothers were born, Bill and Harry, and, where Elmer launched his technical and engineering career.

Although during his childhood he was ill much of the time, and the family was wealthy, he wanted to earn his own money. His first job was delivering newspapers, until he was confined to his home and moved to a special remedial class due to his absence. At age eleven and studying *Boy's Life*, he built a crystal radio receiver from parts and set up a radio room and a telephone pole antenna. Later he built a vacuum tube receiver using a UVI

99 tube with a varometer and a variable condenser. With it he could pick up stations all over the United States as well as intercept radio telephone calls from Catalina Island.

During high school, Elmer's favorite subject was physics. Stimulated by a wonderful teacher, he would stay after school, running his own experiments of interest. On high school graduation in 1929, he won a prize for an essay entitled "The Commercial Possibilities of Aviation." The paper reviewed the history of aviation, the technologies required, the present status, and the future potential—an accurate prediction and the direction of Elmer's early career.

As a result of his high school experiences, Elmer obtained his higher education at Pomona College, majoring in physics. In addition to aviation, he became intrigued with the oceans, attending summer school at Pomona's Marine Laboratory in Laguna Beach. His physics work also became more exciting as he helped build one of the first television receivers and transmitters, using photocells he made and whirling disks for scanning. He received some wonderful guidance from his professor, Dr. Teleston. "You are able to look at the forest and not get blocked by the underbrush. Do not try to be a detail man, but one who understands the whole picture!" This sound advice became the guide for much of Elmer Wheaton's technical and engineering management career.

His physics research became even more exciting with part-time work at Caltech in furthering the development of coating nonmetallic surfaces with thin films of metal by evaporation or sputtering. The goals of this work were to make electronic fibers for gas discharge experiments and to use them in "silvering" mirrors with thin films of metal. One of the first aluminum-coated mirrors was built using this process. Wheaton graduated from Pomona College in 1933 with a B.A. degree in physics and a sound technical foundation for managing research and development activities.

However, tough years were ahead for Elmer Wheaton. It was in the middle of the depression and jobs were scarce. His physics professor, Dr. Teleston, came to his rescue and set him up for his first real job, serving as a strikebreaker for Columbia in the

motion picture industry. The job involved working on sound track recordings and the associated filter networks to permit correction of the problems in recording voices of certain silent screen stars. All of Elmer's physics background, including his work on electrometer fibers was involved. He also now thought he had the financial basis for starting a home and married his beautiful and beloved life partner, Martha, in October 1933.

Life for the happy young couple became difficult. With the Christmas holiday shutdown, the job at Columbia Pictures disappeared, and survival meant doing everything from wiring lamps on cooking ranges to unloading freight cars. But his career got back on track through one of his many friends, by hiring into Douglas Aircraft in 1934, installing soundproofing in the DC-2 at \$0.45 an hour. Subsequent tasks in the installation and riveting of subassemblies taught him another lesson vital to project engineering—the many structural interference problems requiring engineering solutions. A tour in production control gave further evidence of these issues and education in interference management. Elmer's dedication to hard work and understanding the big picture finally resulted in a transfer into engineering in 1935, and a project clerk task in the DC-2 Project Office. At last Elmer had a job he believed had a long-term technical future.

Elmer's interests in the oceans, physics, and engineering, and the need for extra income, caused him to develop a new commercial diving helmet called "The Nautilus." The system consisted of the helmet, weights, a topside pump, fifty feet of hose, and a sturdy carrying case. Tests at Laguna Beach were highly successful with much publicity on potential ocean exploration. However, due to the depression, commercialization timing was not right. Only two units were sold, and the exciting pioneering venture was terminated.

After only a few months in the engineering department at Douglas, Elmer had the opportunity to play a lead role in developing a new technology then in its infancy—acoustic quieting of commercial transport aircraft. Because of his background in applied acoustics at Columbia Pictures, he was assigned to work with Henry Bruderlin from the Chief Engineers Office. As a team

they tackled the sound control problems of the Douglas DST (DC-3). This task was soon expanded to include the overall problem of vibration control and flutter. Pioneering in the application of electrical test instrumentation and with his background in physics, Elmer broadened his involvement into other fields of technology. He began joint projects with the Douglas Research Group and set the foundation for his career as an aerospace engineering, research, and development executive. It is also interesting to note that, as a young aspiring engineer, Elmer earned \$101.58 in the month of March 1936. It was truly a different world!

With the start of World War II, there was a major expansion within the aircraft industry, with new divisions being formed within Douglas, and the departure of a few senior executives to start their own companies. The growing interest in missiles and his demonstrated advanced research and development capability vaulted Elmer into the role of chief missiles project engineer at Douglas in 1945. His full responsibility for all missile development included the Nike Ajax, Nike Hercules (antiaircraft), Sparrow I, II, and III (air-to-air), Genie, Corporal E, and Honest John (ground-to-ground). In 1955 with the development of the Thor intermediate-range ballistic missile, a new division was formed, and Elmer Wheaton became vice-president of engineering, missiles and space systems in 1958. Three years later, in 1961, he reached the top engineering position at Douglas Aircraft Corporation, the corporate vice-president, engineering.

With the development of Polaris and a major corporate thrust into space systems, Lockheed formed its Missile & Space Company (LMSC) in Sunnyvale, California. Elmer Wheaton resigned from Douglas in 1962 and became vice-president, research and development, LMSC, and a Lockheed corporate vice-president. The LMSC president, L.Eugene Root, launched "Project Enterprise," aimed at diversifying aerospace technology into other applicable fields, and based on proposals and recommendations from the companies engineers. One of the finest research laboratories in aerospace had already been formed at LMSC to support all mainline programs and assigned to Wheaton. It was logical that all advanced research and development also be put un

der Elmer Wheaton for nurturing and development. For diversification, he fully subscribed to the philosophy of Lockheed's founder, Bob Gross, who said, "look far ahead, where the horizons are absolutely unlimited!" Elmer had an innovative mind, was a very good listener, saw the "big picture" and trusted his key people—keys to inspiration and program success, and a direct example of the early observation of Dr. Teleston at Pomona College. The results reflected that approach, with the formation of a "greenhouse" of highly successful programs in ground vehicles, ocean systems, airborne systems, information systems, and nuclear test services.

My long and productive personal relationship with Elmer resulted from my Project Enterprise proposal to develop ocean systems, a direct application of aerospace technology and a major opportunity for the corporation. In my role as vice-president of ocean systems, it was indeed a privilege to work for Elmer and to know you could bank on his support. However, as supportive as Elmer was, he was also tough. He knew and loved the oceans. One morning he told me, "Jim, if you are ever going to build successful ocean hardware, you need to personally understand the environment in which it has to operate. I want you to learn how to scuba dive!" I complained, "but Elmer, I understand oceanography, and I suffer from claustrophobia. I cannot even dive to the deep end of my swimming pool without my ears killing me!" Wheaton's response—"We will teach you!"—a subtle order. He was right and we spent twenty-five years diving together in an organization called Sea-Space Symposium, a group of ocean and aerospace executives sharing technologies, advice, and counsel. I became acquainted with a whole new environment and gained respect for the sea.

Ocean engineering was close to his heart and he strongly supported our thrusts into deep-diving submersibles, the Deep Quest research submarine, development of the navy's Submarine Rescue System (DSRV), and the technology for 20,000-foot operations. Commercial applications of this technology included offshore oil, deep-ocean recovery, ocean mining, and ocean energy.

Mr. Wheaton's professional contributions to research and engineering were recognized far outside Douglas and Lockheed.

He served as a member of the Special Industry Committee on Missiles, Office of the Assistant Secretary of the Air Force, Research and Development, and chairman of the Guided Missile Council-Aerospace Industries Association. He was appointed to the first National Committee of Ocean and Atmosphere in 1973, recommended formation of the National Oceanic and Atmospheric Administration, and served as president of the Engineering Committee for Ocean Research, a United Nations Advisory Committee. Elmer also served as a member of President Nixon's Task Force on Oceanography. He received many awards, including certificates of merit for outstanding contributions from the Office of Scientific Research and Development and the war and navy departments, the Robert M. Thompson Award for Outstanding Civilian Leadership from the Navy League of the United States, the Aerospace Contribution to Society Award from the American Institute of Aeronautics and Astronautics, and the Distinguished Service Award from the Institute of Electrical and Electronics Engineers Oceanic Engineering Society. Elmer Wheaton's most treasured award was his election to the National Academy of Engineering in 1967 as one of the earliest aerospace industry executives so honored.

Elmer Wheaton retired from Lockheed in 1974 but continued his technical and advisory involvement as a consultant. With his interests in the oceans, he joined Marine Development Associates, Inc., as both an associate and director, where he provided encouragement, active support, and counsel until his death.

Elmer Wheaton was not only an innovative engineer but also a trail-blazing equestrian. He was a member of the San Mateo County Mounted Patrol and the Shack Riders. Upon retirement, he took on the job of rebuilding trails as a member of the San Mateo Trail Committee, and worked to extend trails into the Portola Valley and for the Woodside Trail Club. As he dealt with his subordinates, so he dealt with his horse—considering the horse's well-being first, and his own second.

Elmer Wheaton was also deeply spiritual, serving as an active member of Christ Episcopal Church in Portola Valley. His spiritual convictions were the foundation for his life. Elmer is survived by his lovely wife, Martha, two children— Markley Wheaton and Sara Perry—two grandchildren, and one great-grandson.

Elmer P.Wheaton was truly an inspirational leader in aerospace research and engineering, an industry giant, a pioneer in his field, and a wonderful and faithful friend. He is greatly respected and missed by all who knew and worked with him.