



A. Senik

# MAURICE M. SEVIK

1923–2011

Elected in 1994

*“For leadership and contributions leading to quiet US Navy ships and nuclear submarines.”*

BY WILLIAM B. MORGAN

**M**AURICE MOIZ SEVIK, a leader in the US Navy’s combatant ship and nuclear submarine acoustic silencing, died on October 20, 2011, at the age of 88.

Maurice was born in Istanbul, Turkey, on January 19, 1923. He was an alumnus of the Deutsche Schule (1928–1938). Although he had scarlet fever at age 7, which left him with severe hearing loss in his right ear and no hearing at all in his left ear, he graduated with top honors, receiving as prize a copy of *Ein Kampf um Rom* by Felix Dahn. The true prize, however, was his enrollment, thanks to the Deutsche Schule, at Robert College in Istanbul, from which he graduated, again with top honors, in engineering in 1943. To further his education, at the height of World War II he took a train from Istanbul to Cairo, where he boarded a ship, part of a convoy, and traveled to Liverpool, England. In 1946 he received a diploma in aeronautics from the Imperial College of Science and Technology, London, while fighting firebombs. Although homesick for his family, he remained in England and obtained his first position as a junior engineer with Bristol Aeroplane Company before opening his own aerodynamic consulting firm, Premier Industrial Consultants (Preminco). For business reasons, he opened an office in Canada.

He met his future wife, Jacqueline (Jacquie) Delannoy, an au pair from France, in Bristol through mutual friends. Maurice was homesick and wished to meet people who spoke French, the language he spoke at home in Turkey. On June 2, 1953, he and Jacquie were married. Shortly after, he moved to Canada, followed a few months later by Jacquie.

Premenco didn't do well in Canada, and Maurice went to work for Canadair and then Avro Aircraft Company to help develop a supersonic jet fighter for the Canadian government. When the government cancelled the supersonic jet fighter, even though he was one of the few engineers still employed by Avro, he saw the writing on the wall and decided to move on.

Due to his work at Avro and a previous visit to the Pennsylvania State University, the university's Department of Aeronautical Engineering looked like a good opportunity to Maurice. In 1959 he and Jacquie moved to Penn State, where he received his PhD in engineering mechanics in 1963. He became a US citizen in 1965 and a full professor in 1968. While at Penn State, he was employed by the Applied Research Laboratory (ARL), where he became assistant director and head of the Garfield Thomas Water Tunnel. This position accelerated his interest in cavitation and the physics of mechanisms that cause vibration and sound radiation from ships and submarines.

As a result of his work at ARL, in 1972 he was hired as the fourth head of the Ship Acoustics Department of the David Taylor Model Basin (now the Naval Surface Warfare Center, Carderock Division). He came to Carderock as a teacher, mentor of young scientists, and with a strong interest in ship and submarine silencing.

In the beginning at Carderock, Maurice's focus was on acoustic signatures. He initially carried over from ARL many of his research interests, while also broadening his interest in the other areas of ship and submarine acoustics that were important to the Navy. He maintained his interest in propulsor acoustics, but initially as related to the use of acoustic trial data and the use of data analysis to achieve understanding. In the years before the mid-1980s when Navy interests were in search of new concepts in submarines and surface ships, Maurice

led several projects to identify new concepts in silencing technology, including innovation in surface ship silencing, submarine hull structures, a ship silencing laboratory, several concepts in submarine propulsors, propulsor-hull concepts, and a large-scale vehicle (LSV) for acoustic evaluation of propulsors. Along the way, he provided innovative guidance to the department's ongoing buoyant vehicle programs in sonar self-noise and flow noise. In these and all of his endeavors, Maurice would bring in expertise from disciplines in other departments as well as outside in private industry and academia. As he felt necessary, he built personal bridges to all of the Carderock departments, to ARL, and to the ship design community. At the end of the day, however, it was always propulsor acoustics that dominated his interest.

Throughout his career at Carderock Maurice sustained a personal interest in and devotion to the acoustic trials program. Although his own research methods were principally analytical, he had a high regard and commitment to obtaining physical data as an enabler to the development and proof of hypotheses. The acoustic trials program was always his highest priority. As department head, he personally read (and even edited!) every trial report and became well informed of the acoustic signature characteristics and source mechanisms of every ship and submarine class. He met each of his specific interests in full-scale trials with the same intellectual rigor that he devoted to fundamental concepts in his prior research. Under his guidance came upgrades at the East Coast measurement facilities, and the development of a new acoustic range in Ketchikan, Alaska. All these range installations were developed to meet needs of the next fleet that were consistent with the design objectives being pursued in the parallel signature reduction programs.

Maurice provided leadership in the development of advanced quiet propulsors for submarines. In 1978, he served on a committee commissioned by Naval Sea Systems Command (NAVSEA) that culminated in a report documenting the acoustics signature mechanisms and their connectivity to propulsor hydrodynamics, and recommended concept solutions.

Further, this report recommended a development program that included the design, construction, and utilization of a quarter-scale, free-running submarine model (LSV) for acoustic evaluation of propulsor concepts. Maurice subsequently led the development, implementation, and use of the LSV. Throughout the following years, Maurice made the propulsor concept selection and development for the USS *Seawolf* (SSN-571) and *Virginia* propulsors his passion. The success of these efforts was due largely to his vision and tenacity.

In the early 1990s, the Ship Acoustics Directorate was expanded to include a variety of nonacoustic signatures and renamed the Ship Signatures Directorate. Maurice taught himself the nonacoustic technologies and became an effective leader in the broader signatures arena.

Maurice said many times that he was a “roll-up-your-sleeves” engineer. In the various developmental programs, he regarded himself as one of the leaders of a team whose membership shared the same commitments to design goals and schedule as he did. To those who worked for him, he was affectionately referred to as “The Boss.” He never vocally acknowledged this term as a title per se, but one could tell that he liked being recognized as the boss and enjoyed being so-called.

He sought and received well-thought-out critical input on work in progress. Key words here are “well-thought-out,” because he also needed reasons to accompany that critical input. This combination of intellectualism, dedication to purpose, self-discipline, and similar expectation of colleagues made him an exceptional steward of the Navy’s Signatures Directorate and an undeniably unique instrument of the Navy’s interests. His personal commitment to the US Navy and to maintaining its signature supremacy is without parallel. He was a real friend to those who knew him best and a visionary to the welfare of his department and all of the staff that worked in it. He was admired by all for his intellect, integrity, and kindness.

Maurice was the author or coauthor of approximately 24 publications (including 4 books) and 6 patents. He was elected a fellow of Churchill College, University of Cambridge,

in 1971, and received numerous awards, among them the Navy's Superior Civilian Service Award (1981), Presidential Rank Award (1983), Gold Medal Award from the American Society of Naval Engineers (1990), National Security Industrial Association's Charles B. Martell Award (1992), ONR's Capt. Robert Dexter Conrad Award for Scientific Achievement (1995), American Society of Mechanical Engineers' Per Bruel Gold Medal for Noise Control and Acoustics (1996), and the *Ordre du Mérite* from the Government of the Republic of France (1997). In addition, the M.M. Sevik Acoustic Data Analysis Center was named after him at Carderock when he retired in 1999. He is also listed in a number of Who's Who.

For NAE, Maurice served on the Audit Committee (1998–2001), Committee for Naval Hydromechanics Science and Technology (1999–2000), and Gibbs Brothers Medal Selection Committee (2000–2001).

Maurice retired in 1999 and he and his wife moved to Hilton Head Island in 2001. He is survived by his wife, Jacquie, and two daughters, Michele and Martine, as well as a large extended family he cherished, good friends, and respected colleagues.

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