

Memorial to John G. Newton

1932-1984

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John G. Newton, geologist, oceanographer, and historian, died of a heart attack on September 11, 1984, in Norfolk, Virginia. Newton's career as a marine geologist spanned nearly thirty years. It began in the period 1955 to 1957, even before he received his bachelor's degree, when he worked as a field assistant and marine technician at Scripps Institution of Oceanography. Educated at Wake Forest University and the University of Southern California, Newton received his B.A. in geology from California State University at San Diego in 1959.

For four years (1959 to 1963), Newton was employed by the Western Electric Company as an engineer in charge of environmental surveys related to undersea cable installation. In this capacity, he gained further knowledge of modern photography, underwater television, and side-scan sonar.

In the years 1963 to 1975, Newton served as the marine superintendent of the Cooperative Oceanographic Program of Duke University Marine Laboratory (DUML). It was in this position that he contributed so much to marine geology and oceanography. His responsibilities included the overall operation of the research vessel *Eastward*, which during that time was operated by Duke for the National Science Foundation for research and (importantly) training. *Eastward* users included scientists and students from more than thirty universities. Newton became well known to many academic oceanographers as an extremely dedicated and genuinely concerned administrator. Often the success of *Eastward* cruises hung on Newton's creative logistical and operational decisions, which reflected his broad knowledge of the scientific objectives of the mission and his particular knowledge of the ship's scientific and general equipment. Newton himself served as chief scientist on many cruises, and he was intimately familiar with *Eastward's* operation at sea. Many marine geologists credited him with the "awesome efficiency" of the *Eastward* operation.

Newton was a strong advocate for modernization of *Eastward's* facilities throughout his tenure at DUML. The ship was known as one of the best platforms available for piston coring and dredging, but Newton directed the modification of the vessel to make it useful for vibracoring and seismic operations as well. For the latter, high-quality systems of through-the-hull 3.5-kHz echo sounding and small-chamber air guns were installed on *Eastward*, giving the ship its first geophysical capability. A magnetometer was also added.

Newton's personal research during his tenure at DUML centered around the processing and analysis of *Eastward's* echo sounding data. Abundant crossings over the North Carolina continental margin gave him the bathymetric data to refine the topography. Details on the heads of Pamlico and Hatteras Canyons were identified, as was the peculiar slope-parallel bend in the Hatteras Canyon at the base of the Continental slope.

As chief scientist in 1973, Newton coordinated one of the most significant cruises of the R/V *Eastward*. This cruise, while in part a study of the marine geology of the North Carolina continental shelf, also utilized the geophysical profilers, side-scan, and magnetometer facilities of *Eastward* to locate the wreck of the U.S.S. *Monitor*. This discovery was indeed one of this century's most important contributions to marine archaeology and maritime history.

Newton's leadership of the *Monitor* discovery cruise was a natural consequence of his professional marine geological research and his avocational interest in Civil War history. Newton was a member of an old Southern family, and his great grandfather had fought valiantly for the

Confederacy. In compiling and processing the bathymetric data of the North Carolina shelf, Newton recognized on the profiles the distinct signatures of shipwrecks. His abundant data were added to those on the numerous wrecks located on older charts, especially of the Cape Hatteras area, the "Graveyard of the Atlantic."

Meanwhile, Newton familiarized himself with the lore of the *Monitor*, the most famous shipwreck off Cape Hatteras. On December 31, 1862, the *Monitor* disappeared in a storm just southeast of Cape Hatteras. Some of the sailors' bodies washed ashore north of the Cape, adding to questions about where the ship actually sank. In 1955, an erroneous siting of the *Monitor* was published, placing the wreck north of Cape Hatteras and close to shore.

This report created such a mind-set that several organizations, including the U.S. Naval Academy project *Cheesebox*, were searching for the wreck in 1973 in the shallow water north of Cape Hatteras. That same year, Newton decided to mount an expedition with *Eastward* to search for the *Monitor* in deep water south of the Cape, where the famous little battleship was last seen. Being thoroughly familiar with *Eastward's* geophysical capabilities, Newton was well equipped to plan the search project. He enlisted the aid of Harold Edgerton of MIT, and me, to assist in operating the geophysical search. Also a part of the team was Gordon Watts, an archeologist with the North Carolina Division of Archives, who was to use the *Monitor* data for his master's thesis. Funding for the project was obtained from the National Geographic Society through Newton's efforts.

This discovery cruise was a remarkable example of Newton's organizational skills. His ability to gather scientists and students from several universities and to gain assistance from various state and federal agencies were the critical factors in the outcome. Few oceanographers and marine geophysicists have worked on locating and photographing wrecks. It is a difficult and time-consuming task. The search was an extremely high-risk project, especially given the short time—seven to eight days—allotted. Newton's organization of the cruise, his use of critical personnel in the right jobs, and his logistical planning, so that marker buoys (of his own design) were launched precisely on target and equipment was available exactly when needed, led to success against overwhelming odds. Using efficient marine geological grid mapping, with the limited navigational accuracy available, we were able to locate wrecks and distinguish them from the geologic background. Two wrecks of the proper length, height, and magnetic anomaly signatures were photographed. The latter of the two was the *Monitor*.

After discovery and identification of the U.S.S. *Monitor* wreck was completed, Newton made a personal commitment to the future of this project. He founded in 1975 the *Monitor* Research and Recovery Foundation (MRRF) as a private, nonprofit, academically oriented, educational corporation. Harold Edgerton and I, among others, served on the board of the new foundation, and Newton was the executive director. Between 1975 and 1980, Newton's work with the MRRF occupied him full time. His activities included numerous public speaking engagements aimed at fund raising for MRRF and at educating the public about the fate of the *Monitor* wreck. His efforts stimulated donations of funds from private and corporate sources. He also attended innumerable meetings in Washington, D.C., with as many as seven federal agencies that by then had become involved in regulating access to the wreck. He waged a constant battle with these agencies to create conditions for progressive and continuing research on the *Monitor*.

Newton's efforts with MRRF have had lasting effects. As the only nationally based private organization to propose and carry out research on the *Monitor* wreck, MRRF represented interests from Massachusetts, New York, New Jersey, Delaware, Virginia, North Carolina, Florida, and California. Under his tenure, the Foundation received the only permits issued to conduct research cruises to the site. Other cruises were conducted, but all by the agency in charge of the site, the National Oceanic and Atmospheric Administration (NOAA).

The only positive effort by a private group to stimulate future research at the *Monitor* site

came about through Newton's work with the MRRF. At several formal conferences on the *Monitor*, Newton and other Foundation members came forth with many creative ideas for future work. Only after the proposals and cruises made by the Foundation in 1976 and 1977, and the publicity thus generated, did NOAA become more actively involved in the project. Continued work by MRRF members resulted in several government-sponsored diving projects on the wreck in 1977 and 1979, and a commitment on the part of NOAA to fund future research on the *Monitor*. Many of the ideas of MRRF members, such as recovering the famous two-gun turret from the *Monitor*, are currently being considered by NOAA. This is the legacy of John Newton's work on the *Monitor* project.

Newton is survived by his wife Sunny, his two sons John Jefferson Newton and Evertt Snyder Newton, and his daughter Cathryn R. Newton. Cathryn is an assistant professor of geology at Syracuse University, and I am sure John is honored by his daughter's choice to follow him in the study of geology.