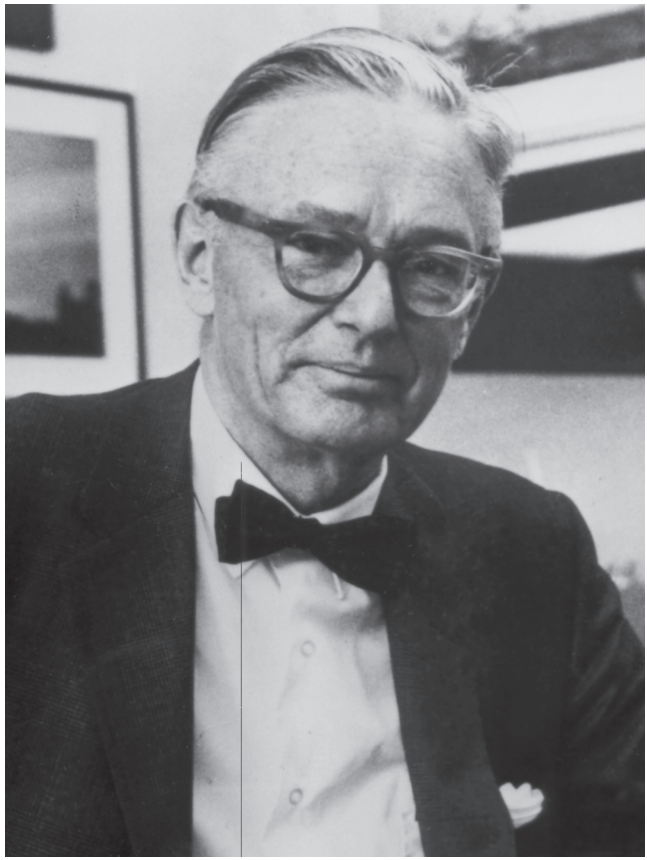

OLIN J. STEPHENS II

1908–2008

Elected in 1994

"For advancing knowledge and research in naval architecture, particularly in the outstanding design and technology of sailing yachts."

BY J. NICHOLAS NEWMAN

OLIN STEPHENS died on September 13, 2008, five months after celebrating his 100th birthday. During his long career he was the preeminent designer of sailing yachts. He was regarded with great respect and affection by naval architects and sailors throughout the world.

Olin was born in New York City on April 13, 1908. He and his brother Rod learned to sail small boats during their childhood, and this experience molded their careers. Olin attended MIT in 1926–1927 but his formal education was interrupted by jaundice, and he chose to work thereafter without further academic study. He quickly achieved recognition and professional success, based on his astute intuition and industry.

After a short apprenticeship working with naval architects in New York, Olin formed a partnership with the yacht broker Drake Sparkman. At the time Olin was only 20 years of age, with the responsibility for all design work. After his 21st birthday the firm Sparkman and Stephens was incorporated. It became known throughout the sailing world as "S&S". Olin's first designs included a fleet of day sailers which are still racing on Long Island Sound, a small ocean-racing sloop in which he placed first in his class in the 1929 race from New London, Connecticut to Gibson Island, Maryland, and several boats in the highly competitive international Six-Metre Class.

The 52-foot yawl *Dorade* was a defining point in Olin's career. Designed for his father in 1929, *Dorade* was a revolutionary boat with narrow beam, a deep keel, and an efficient rig for sailing to windward. In 1931 *Dorade* won the trans-Atlantic race from Newport, Rhode Island to Plymouth, England by a dramatic margin, finishing two days ahead of larger boats. Olin sailed as skipper with his father, brother and four friends. They went on to win the Fastnet Race before returning to New York, where they were welcomed by the mayor with a ticker-tape parade up Broadway. In 1933 Rod returned to England on *Dorade* to win the Fastnet Race again. The success of *Dorade* brought many clients to S&S. Olin's designs dominated ocean racing for the next 50 years, not only in the United States but throughout the world. Many of these boats are still actively sailed.

Rod joined S&S in 1933 and the two brothers worked as an efficient team thereafter. Throughout the 1930s they designed a wide variety of boats. Several evolutionary developments from *Dorade* were winners in the Bermuda Race, Fastnet Race, and 1935 trans-Atlantic Race. For the America's Cup races in 1937 Olin was invited to collaborate with Starling Burgess designing *Ranger*, a breakthrough boat which defeated the British challenger in four straight races. *Ranger* was the last of the J-boats, 134 feet long overall with a displacement of 165 tons and 7500 square feet of sail area. She was built by Bath Iron Works in Maine. Olin and Rod were members of her racing crew.

In 1933 Olin began a momentous collaboration with Professor Kenneth Davidson of Stevens Institute of Technology. Davidson was developing techniques for testing small-scale models of sailing hulls, initially in the swimming pool at Stevens and later in a small towing tank. Correlations with the performance of full-scale boats required measurements of the drag and lateral (lift) hydrodynamic forces on the model, and of the corresponding aerodynamic forces on the sails. Olin and Rod made full-scale measurements on the sloop *Gimcrack*, and Davidson analyzed this data to derive aerodynamic force coefficients for the sails. Olin made shrewd use of these results

in his subsequent designs, many of which were tested in the Stevens towing tank. In the case of the 1937 America's Cup four competing hull designs were produced by Stephens and Burgess, and the final design was selected based on tests in the towing tank. With characteristic modesty Olin broke their agreed silence after Burgess died, to correct the erroneous presumption that Stephens had designed the hull that was selected for *Ranger*.

Between 1939 and 1945 the design and construction of naval vessels occupied Olin and his expanded staff. Their most important projects were a class of 110-foot submarine chasers, the DUKW amphibious vehicles, and aluminum pontoon bridges. During these years Olin had to deal with the management of a staff of over one hundred people, and the bureaucracy of their military clients.

After World War II S&S resumed work on yachts. Important early designs included *Bolero*, a magnificent 72-foot yawl, and the 38-foot centerboard yawl *Finisterre* which won three consecutive Bermuda Races. In the 1960s and 1970s S&S designs evolved with higher aspect-ratio keels and separate rudders. Construction shifted from wood to aluminum and fiberglass-reinforced plastic. Competition for the America's Cup was resumed in 1957 with yachts designed to the Twelve-Metre Rule. S&S designed all but one of the American boats selected for this competition before Olin retired in 1978.

The design of yachts is strongly influenced by the rating rules under which they race. Conversely, rational development of rating rules requires a deep knowledge of yacht design, including the hydrodynamic and aerodynamic principles which govern a yacht's performance under varied conditions. Olin took a keen interest in the development of the rating rules used for ocean racing, and the more restricted rules used for the America's Cup. He contributed his time and expertise to numerous national and international committees responsible for these developments. The rating rules developed prior to 1970 were empirically based, usually expressed by simple algebraic formulae with coefficients arrived at by the respective committees. More rational rules and handicap systems were

developed in the 1970s, based on computer simulations using hydrodynamic and aerodynamic predictions of the hull and sail forces. Olin was an enthusiastic supporter of these procedures, and his backing was crucial in their acceptance.

Olin served as a mentor for many younger engineers who worked at S&S, and for others who were inspired by his accomplishments and benefited from his encouragement. He was characteristically modest, especially with regard to his academic training, and dogmatically encouraged aspiring yacht designers to study engineering and mathematics.

After his retirement Olin continued to work on special projects with S&S, and on committees responsible for rating rules. He was critical of the trend toward ocean racers with light displacement and wide beam, due to their limited range of stability. After the disastrous Fastnet Race in 1979 he worked with a small technical committee to develop rational guidelines for the safety of ocean-racing yachts. He traveled extensively and was present at many America's Cup races and other yachting events. His professional reputation and warm personality endeared him to sailors and yacht designers all over the world. With the encouragement of friends and former clients he wrote *All This and Sailing, Too*, an autobiography published in 1999. (I acknowledge this source for several details in the paragraphs above.) In 2002 his second book *Lines* was published, containing the lines plans and Olin's retrospective comments on some of his favorite designs.

In 1959 The Society of Naval Architects and Marine Engineers presented to Olin its foremost award, the David W. Taylor Medal. In 1993 he was awarded the Gibbs Brothers Medal by the National Academy of Sciences "For his design of outstanding sailing vessels, including six defenders of the America's Cup and thousands of ocean-racing yachts, and for promoting the use of scientific knowledge and research in the field of naval architecture." In 1994 he was elected to the National Academy of Engineering. He received honorary degrees from Brown University, Stevens Institute of Technology and the University of Venice (Italy), and numerous awards from yachting organizations.

Olin married Florence Reynolds in 1930. After his retirement in 1978 Olin and Susie lived in Vermont near their sons Olin III and Samuel. Later they moved to a retirement community in Hanover, New Hampshire, where Susie died in 1993. Olin continued to travel and participate in activities related to yacht design. At the time of his death he was working on the redesign of one of his early ocean racers, in collaboration with a naval architect at S&S.