The LOG of Mystic Seaport

Fall 1971

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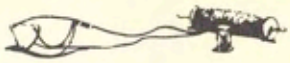
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The LOG of Mystic Seaport



VOLUME 23 • NUMBER 3 FALL 1971

"... quick as a cat!" 74
• JOHN M. LEAVENS, Secretary of The Catboat Association

Where Do the Whales Live? 83
• JANE KEENER, Supervisor of Interpreters

Sumner's Line of Position 89
• FREDERIC W. KEATOR, Planetarium Director Emeritus

Those Were the Days! 94
• RICHARD B. PARSONS

A Tribute to Philip R. Mallory 97
• WALDO JOHNSTON

The Forty-Second Annual Meeting 99

New Exhibits 106

Book Reviews 108

Letters 119

THE MARINE HISTORICAL ASSOCIATION
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"...quick as a cat!"

By John M. Leavens, Secretary of The Catboat Association

"I could put into Woods Hole or New Bedford or Newport with my catch, take advantage of the market and get the best price for my fish. Golly," he mused, "New Bedford was a rich place to sell codfish. They were standing in line Thursdays trying to get a fish for Friday."

"Cygnet Dan" Larsen was talking about the days around 1905 to 1917 when he fished the waters sou'west of Noman's in the catboat *Cygnet*. Most catboats were then individually owned and operated, but *Cygnet* was one of a fleet owned by J.T. O'Connell of Newport, Rhode Island, sailed on shares. According to the accepted formula of the day, after deducting current expenses the stock was divided one-fifth to the boat and four-fifths to the crew.

Cygnet is representative of the catboat at its best: a hard-driven, able 26′ workboat built at Newport by Josiah Albro in the 1880s. Cats of her type could be built and maintained at a low enough cost to be money makers in the on-shore fisheries. Much of a catboat's work was out in the morning, back in port at night, but cats did stay out around the clock on some occasions. However, there were few, if any, that participated consistently in deep-water, off-shore fishing as on the Grand Banks.

The catboat is generally acknowledged to be uniquely American, yet nobody knows just when or where in the United States it actually originated. The Jersey shore, New York and Newport are among the localities often given credit. Some contend that the catboat's roots go back to colonial times. L. Francis Herreshoff reports in his book, *Captain Nat Herreshoff*, that his grandfather, Charles Frederick Herreshoff, built the 23′ catboat *Julia* at Bristol, Rhode Island in 1833. *Julia* was a cat-rigged "Point boat," a type built at Newport on what is now Long Wharf. Herreshoff adds: "This type of boat was later called a catboat when it became popular around New York."

The word cat is used interchangeably to mean a rig and a boat. As a rig, it means a single fore and aft sail, usually gaff headed, set on a single unshrouded mast located well up in the "eyes" of the boat.



Start of a mixed class of cats and sloops, Beverly, Massachusetts, 1890. Courtesy of Hart Nautical Museum, Cambridge.

The cat rig is an evolution from the square sail to the spritsail to the gaff sail. As a boat, the word cat has come to mean a broad-beamed, shoal-draft vessel fitted with a cat rig. It can be either a center-board or keel boat, but the former is more usual.

The cat rig can be used with many different hull forms. It is a simple matter to step a cat-rigged sail in a known hull form such as a wherry, for example. But the rig was also used at an early date in new and distinctive hull forms. The cat-rigged Barnegat Bay sneakbox is said to have been conceived in 1836.

Around New York, probably also in the 1830s, there evolved a broad-beamed, distinctive type known as the New York sloop which was fitted with dual mast holes so that it could be rigged interchangeably as sloop or cat. In 1851 Bob Fish of Pamrapo, in what is now Bayonne, New Jersey, designed and built the 16′6″ catboat *Una*, so named because she had "one of everything" – one hull, one mast, one sail, one halyard, one centerboard and one rudder. *Una* had a flat sheer, a raked bow and a plumb stern. She was 6′6″ in beam and had the incredible draft of 9″. Obviously, she was very fast in her day. Shipped to England, she distinguished herself in the races off Cowes and set a new style, giving her name to a class. Today in England the cat-

boat is a Unaboat. Taken to Germany, the same style boat became the *Bubfisch* boat.

By the 1870s, at least, catboats were a familiar part of maritime life from the Delaware River and Cape May north to Boston, with heavy concentrations in the shoal inland waters of Barnegat Bay and South Jersey. In fact, at Toms River, New Jersey the first race for working catboats was held in 1872 and the cup purchased on this occasion is still in competition. New York Bay and the estuaries of Long Island's south shore had great fleets of cats, and many harbors on Long Island Sound from New Rochelle easterly to Stonington and from Oyster Bay to Greenport knew them. Narragansett Bay was alive with them and they were equally familiar in the waters of Buzzards Bay and Nantucket Sound.

The catboat's basic range was thus New England, New York and New Jersey, although now and then one could be found in other Atlantic ports south of Cape May. In addition, a special working catboat fleet existed in the Gulf Coast fisheries at Biloxi, Mississippi and nearby ports, and a special type of decked cat was used in the 1880s in the San Francisco, California oyster fisheries. For some strange reason these boats, nicknamed plungers, were called San Francisco oyster sloops, despite the cat rig.

Naturally, each locality produced distinctive variations in hull form. In south Jersey, as on Great South Bay, the cats tended to be large, low-headed affairs since they were used on sheltered waters as freight and passenger carriers between the mainland and the offshore barrier islands. The 1905 edition of *Merchant Vessels of the United States* lists more than a dozen cats of 30′ and longer that were built around Atlantic City and another dozen or more that were built at Patchogue, Long Island. The Newport cat, used in the onshore fisheries for lobstering and general fishing, tended to be much smaller, ranging from 18′ to 26′. At one time the Newport catboat fleet numbered more than 100 boats.

Photographs taken in Oak Bluffs in 1872 show cats in great variety, including a lapstrake double-ender that appears to be a transition from the famous Nomansland boat. However, the most distinctive local development was the Cape Cod cat produced by Horace and Worthington Crosby at Osterville, possibly as early as 1850. This style has come to be recognized over the years as the classic catboat type.

The lines of the Cape cat developed between 1850 and 1900 in response to local needs. Designed for fishing in the deep waters of Nantucket Sound, she proved to be an able, seaworthy boat. Her bow

was bluff and high to cope with heavy seas. Her sheer swept back gracefully from this high bow to a low point at the cockpit, rising again slightly towards the stern. Her cockpit was large enough to accommodate fishing gear and lobster pots. Her beam was half the waterline length to provide a stable platform for hauling nets and gear. Her draft was shoal to permit her to navigate the shallow waters on the Cape Cod south shore. Her huge barn-door rudder projected aft from her square stern to give greatest leverage with minimum draft. Occasionally, however, the Crosbys built cats with a raking transom and an underslung rudder. Usually, Crosby cats were fitted with centerboards to improve windward ability, but a few keel cats were also built. A large-size cabin afforded shelter for crew or storage for fish. Last, but not least, she carried the single-mast, single-sail cat rig, at once the simplest of rigs, yet, because it had no headsail to aid in maintaining balance, the most difficult of rigs to manage.



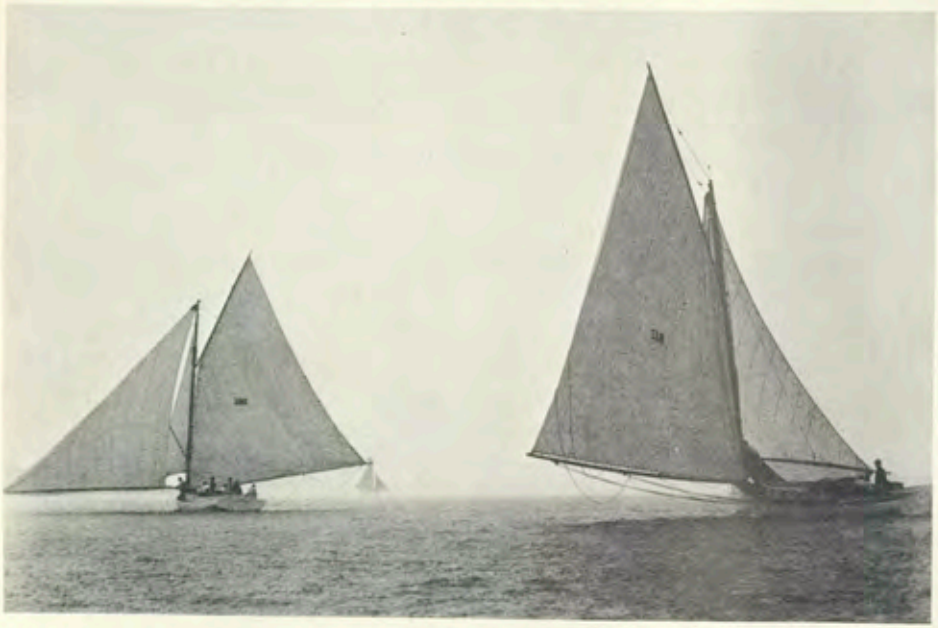
Crosby's yard at Osterville, Massachusetts in 1884. From an old postcard.

The cat was one of the most versatile working boats that has ever been devised. In the age of sail, she was extensively used in all kinds of fishing activities: lobstering, mackerel seining, handlining for cod, swordfishing and scalloping to name some of them. She was also used in packeting and carry-away work. She gained great

renown at Martha's Vineyard, Nantucket, Newport and New York as a party boat carrying sports out to the rips for bluefishing. There are two Currier and Ives prints of plumb-stem, plumb-stern, New York-style decked cats, each titled *Bluefishing*. The chief difference appears to be that one is sailing on the port tack and the other on the starboard. Fred S. Cozzens, a noted marine artist (1856-1928), also did a print of a party catboat bluefishing. While the locale is uncertain, the lines are those of a Cape cat.

The one-lung gasoline engine signalled the end of the working catboat. From 1904 to 1910 power was installed. Rigs were first cut, then eliminated entirely. The working catboat served out its useful life as a power boat as other new types replaced it.

A list of outstanding catboat builders would include the Crosbys of Osterville, C.C. Hanley, Captain Nat Herreshoff, Gil Smith of Patchogue, Long Island, Manuel Swartz Roberts of Edgartown, W.W. Phinney of Monument Beach, Bob Fish of Pamrapo and Perrine of Barnegat. Mention should also be made of Fenwick C. Williams, whose success as a catboat designer began in the 1930s just as the catboat entered its long period of eclipse.



Almira *defeating* Harbinger, *Massachusetts Bay, July 4, 1890. Nathaniel Stebbins photo. Courtesy of Society for the Preservation of New England Antiquities, Boston.*

Catboat building was essentially a backyard enterprise. For every builder who gained recognition there were a dozen others whose work has long since been forgotten. Manuel Roberts' old boat shop in Edgartown, now the Old Sculpin Art Gallery, can be seen by every summer visitor. But few people in Edgartown today know that William W. King, George Huxford of Chappaquidick, Rodolphus Morgan, Louis Pease and Lorenzo Dow Smith also built catboats in the town. Many were craftsmen in wood: when people wanted houses, they built houses and when people wanted boats, they built boats. This is not an isolated case. Similar examples could be found at Monument Beach and Mattapoisset, Newport, on Long Island, New York Harbor and the Jersey shore.

From earliest times there are records of catboat races. Although the catboat is not one of the fastest types for windward work, and only holds her own downwind, she is a wizard on a broad reach. Sometimes, as at Marblehead in the 1870s and 1880s, and Wareham in the 1890s, cats were raced in mixed classes along with sloops, yawls and other types. But there were also races for cats alone at Boston and Oak Bluffs in the 1870s. The Labor Day fisherman's race at Woods Hole was a well-known event in the early 1900s. Similar affairs took place from time to time throughout the entire catboat area.

Often one hears that the catboat is a dangerous boat because of the number of people who lost their lives when overcanvassed racing cats came to grief in the early days. Years of reading and searching catboat history have failed to turn up any bona fide case to corroborate these tales. The fact is, that as catboat racing caught on and became popular, there was a rush to crowd on sail. This reached a climax in the July 4, 1890 match between the 26'2" catboat *Almira* and the 28'10" catboat *Harbinger*. Both boats were square-stern Cape cat hulls but fitted with long, hogged bowsprits on which were set huge jibs and spinnakers, so that they were actually cat sloops. *Harbinger*'s spread of 1551 square feet of sail area with all sails set must be some kind of record for 28' catboats. *Almira* defeated *Harbinger*, demonstrating that Hanley had reached the absolute high point in the development of the Cape cat hull as a racer. It was inevitable that he should turn next to a different racing catboat hull form – the result was *Cleopatra*, built in 1892. Characterized by long overhangs and an abbreviated freeboard, she was a revival of the catboat skimming dish. Five years later came *Thordis*, 33'4" overall with a least freeboard of only 10". The 1897 record of seventeen starts, seventeen wins hung up by



Cleopatra, *first of C.C. Hanley's skimming-dish catboats, 1896. Foster Collection, Hart Nautical Museum, Cambridge.*

Thordis was a proud one. However, it marked the beginning of the end for the catboat as top racing boat. Except for a reprieve in 1907 on Massachusetts Bay, the days of the racing catboat were over by 1900. Other newer and faster rigs caught the popular fancy.

Coincidental with the decline of the cat as a racer was its emergence as a family boat. Its weatherly qualities, huge cockpit, large cabin – handicapped somewhat by lack of standing headroom – made it popular for cruising. The same one-lung engine that sounded the death knell of the catboat as a working boat sometime around 1910 proved a godsend to those who took to the cat for cruising. Various shops, particularly E.V. Rosemond's yard at Greenport, Long Island, rebuilt old fishing cats into family boats and installed inboard power. They sold like hot cakes in the early 1920s. Gradually,



The author's classic Pinkletink, *Menemsha, 1963, the last catboat built (1931) at Osterville by Herbert F. Crosby & Sons. Photograph by author.*

however, the old wood cats, durable as they were, died off. A fleet of pleasure cats survived on Barnegat Bay well into the 1930s but other boats came along to take its place as a family boat. The Crosby yards at Osterville turned out their last cat, the *Sea Robin,* in 1936, just 103 years after Charles Frederick Herreshoff launched the Point boat *Julia* at Bristol. The cat appeared doomed. However, here and there, one did survive to attract interest wherever she went, for the truth of the matter is that a catboat is pretty and catches the eye.

In the summer of 1962 some twenty catboats rafted at Duck Island after a race from Saybrook, Connecticut sponsored by the Essex Yacht Club. Here, by common consent, The Catboat Association was established, with Paul Birdsall and the author volunteering to serve as secretaries. As a consequence, a unique organization came into being.

It has some 400 members, 250 of whom own catboats. Catboat owner-members turned up in Australia, Japan, Canada and England as well as on the Atlantic, Gulf and Pacific Coasts, the Great Lakes and other parts of the United States. Once a year the Association meets at Mystic Seaport to talk about catboats. During the summer months the Association, usually in collaboration with a local yacht club, sponsors some seven races and regattas in Long Island Sound and New England waters.

About the time that The Catboat Association was formed, experiments in fiber glass design led to the development of the highly sucessful 18′ Marshall Sanderling. Between the revival of interest in the catboat stirred up by the Association, and the availability of an able, low-cost catboat in low-maintenance fiber glass, its popularity has soared to new heights. Even the building of new, and rebuilding of old, wood cats has been stimulated. The famous Crosby yards, after a lapse of more than thirty years, have turned out two handsome wood cats: the *Frances*, a replica of *Frances*, alias *Buddy*, in the Mystic Seaport collection and *Sea Cat II*.

With this resurgence of interest in the catboat has come a broadening of its range. Racing fleets of Sanderlings are now to be found at Nantucket, on the Shrewsbury River and around Atlantic City, on the Texas Gulf coast and on Puget Sound. Many new designs are coming to the fore. A 30′ cat in Seacrete is under construction. Designer Jay R. Benford is building a 17′ keel cat of ferro-cement on the West Coast. Two new decked cats in the 14′ class are being offered, one in Maine and the other on Cape Cod. *Americat 22*, a fiber glass version of a 1928 Sweisguth cat, is just being completed.

To top it all, naval architect Charles Wittholz has come up with a four-berth catboat of otherwise conventional design and all four berths are inside the cabin. What other 20′ boat can match this?

People often ask how the catboat got its name. No one really knows, but there are a number of romantic answers, chief of which is, "she comes about quick as a cat!" A more likely explanation is that from earliest times the word cat connoted a work boat. The catboat, so familiar for many decades, not only was a work boat, but was so common in the harbors where she was to be found that the people took her for granted.

Many catboats afloat today are thirty to seventy years of age and new ones are now being built in increasing numbers, so that even if they never become as common as they once were, with the growing interest in boats of old traditional style, they won't be taken for granted. Best of all, this unique native sailing craft will be preserved as an active part of American sailing life.



Tom Kevlahan, interpreter on the Charles W. Morgan, *served with Lawrence of Arabia with the British army in Egypt. All photographs: Les Olin.*

Where Do the Whales Live?

By Jane Keener, Supervisor of Interpreters

Mystic Seaport's live interpretation program began in the summer of 1953 with three graduate students from Harvard conducting guided tours that began in the Chapel, proceeded to the *Morgan* and then down Seaport Street ending with the Ropewalk. Reminiscences of the trio's lively interpretation includes a favorite story of one tour which had progressed along to a whaleboat in front of the *Morgan*. Asked what the harpoons were for, the answer was "for killing whales."

"Where are they?"

"Upriver, by the cemetery."

The next day, the man who had





Mrs. Thomas Chappell in the Weave Shop, where she shares interpretation with Florence Butten, Nikki Alexander and Anne Budding.

asked about the whales appeared again with his wife. "We sat up there in the cemetery all yesterday afternoon," he told the student sadly, "and we didn't see a single whale."

There were no interpreters the next year, but two years later "activists" were added in many of the exhibits so that visitors could tour the grounds on their own and linger in the ships, houses, shops and other exhibits as long as time or interest dictated. The program continued to grow as new exhibits were added and the name for the position was changed from activist to interpreter.

Before we go any further I should explain what we mean by interpretation. The dictionary defines the word interpret: "to give the meaning of, explain," and the word is often thought of only in relation to translating languages. In the museum profession we use this term for that part of the museum's program that explains, gives meaning and a sense of historical significance to objects, vessels, buildings or sites. This can be done with labels, mechanical devices such as tape recorders, guide books and, most important of all, people.

Many other outdoor museums have found that the most effective type of interpretation is one given by a friendly, enthusiastic, well-trained and informed human being. Long after the facts and details have been forgotten, the friendly treatment and warm, helpful attitude of the interpreters will be remembered. For people are the interpreters' business and their contact with our visitors humanizes





In the Sail Loft, Charlie Andersen, above left, originally from Denmark, and veteran of twenty-seven years at sea – square riggers and the Horn – shows how to use a sailmaker's palm. At right, Mrs. Arlene Fones, who has presided over the Buckingham House since coming to the Seaport in September of 1958.

history, humanizes the museum and creates good will.

Our vast collection of authentic and irreplaceable objects and the long hours spent on historical research are of limited value if they only create a static exhibit and are not directed toward people. Live interpretation conveys meanings, relationships and information in a personal rapport between visitor and interpreter. It permits a flexibility so the presentation can be adapted to the special interests of the group or individuals and adjusted for busy times to relate only the most important facts, going into more detail when attendance is not as heavy and more time can be spent with each group or visitor. Special presentations can be given for school groups, encouraging them to participate through questions and in some cases handling or actually using certain objects to discover how they would have been used.

Today twenty-two exhibits are manned by interpreters from April through October. This number is somewhat reduced during the winter season when fewer people visit the museum. The size of our staff also varies with the seasonal



Forty-five years in the West Mystic Shipyard provides a useful background for Bill Johnson on the L. A. Dunton.

changes and ranges from about forty-five in the winter to sixty during the busy months of June, July and August.

Most of our year 'round interpretation staff are local retired people who want an active, vital interest instead of days in the rocking chair on the front porch. The present average age is seventy-three years and many have been staff members for more than five years. They bring with them a wealth of knowledge from a great variety of backgrounds. There are former riggers, machinists, supervisors, pattern makers and inspectors from Electric Boat; retired salesmen from Soneco, Bird & Son and the *New York Times* advertising department. We have a number who've served at sea, even in square riggers. There are others who list in their background newspaper reporter, telephone operator, bookkeeper, textile worker, Army officer, telephone company supervisor, parole officer, historical novelist and farm hand. Their current interests and activities are just as varied: gardening, historical research, baseball, fishing, world travel, weaving, hooking, square dancing, stamp and coin collecting, photography, golf, reading, embroidery, sewing. The list goes on and on. But not all of our interpreters are in the retired age group, especially during the summer months when the staff increases and we add a high school teacher, graduate, college and high school students. Several of our college students are very interested in pursuing careers in the museum profession.

The interpreters' job is as varied as their backgrounds and interests. In the course of a day not only do they interpret their own exhibit to ever changing kinds and numbers of people but they may be asked questions about the rigging and working of a sailing ship, local history, the museum, the location

of the nearest drinking fountain or rest room. In certain exhibits they give demonstrations along with the explanation to help visitors understand the craft processes and the use of the tools. The interpreters assigned to the orientation program given in the Meeting House need a working knowledge of slide and movie projectors to present the slide lecture and movie to the visitors. They also lend a hand in keeping the exhibits neat, help with security procedures, assist visitors if they become ill or are accidentally injured. During the time of year when heat is required, they must build their own fires, carry wood and coal, for pot bellied stoves are the only source of heat in most of the exhibits. Summer means longer hours and crowds of people even on very hot, humid days.

To prepare them for this work the museum conducts training programs designed to give them background in maritime history, local history, museum plans and projects, so that they can handle the visitors' questions. There is a handbook for each exhibit outlining operating procedures and giving some information pertaining to the exhibit, but the interpreters are responsible for preparing their own presentation for the visitors. This helps avoid a canned speech and allows the individual's character and personality to come through.

We plan to do more in this area.

Everett Latham – of the Noank shipbuilding family, explains the workings of a water clock in the Clock Shop.





In the Mystic Press, Harold Pingree demonstrates how a flat bed Wells press works for his young audience.

We need a continuing research program to give the interpreters thorough accurate knowledge of facts pertaining to the exhibit and we need to give them more guidance in preparing and presenting the material effectively to different age groups. We must continue to upgrade our training program so the interpreters feel at ease in their job and confident that they have accurate information to give. We should plan and budget for pay increases, based on ability, to reward those doing a good job and give incentive for others to improve.

Another area in need of development and improvement is our craft program. We have several exhibits that offer demonstrations for visitors. The interest in them, and the experience of other museums, clearly indicate that our program should be expanded to include more crafts – expecially those related to maritime industry. For the museum has an obligation not only to preserve objects but to keep alive techniques and skills that might otherwise be lost. This will require an apprentice program with craftsmen as teachers, research to ensure historical accuracy and, of course, money to create a pay scale that will attract and keep skilled people.

The museum has the further responsibility of helping people to understand the importance of what it preserves. This is the major function of the live interpretation program. When you consider that our visitors have more personal contact with the interpreters than any other staff members, and the impression the visitor has of Mystic Seaport is greatly influenced by their work, you realize the importance of a well trained, friendly, informed staff.

As a recent visitor wrote to us ". . . my friend and I both were impressed with the senior citizens on hand to give information. Every one of them was extremely interesting to listen to, and also seemed eager to tell their bit of history, although I know they must repeat the same story many times in the course of a day. I don't know who instituted this program, but I personally think it's just wonderful."

Sumner's Line of Position

By Frederic W. Keator,
Planetarium Director Emeritus

In 1837 an American shipmaster, Thomas Hubbard Sumner, made a voyage from Charleston, South Carolina to Greenock, Scotland. This voyage began in late November and, with boisterous weather, Sumner made a fast passage. After passing the Azores he ran into heavily overcast weather and was unable to take any celestial observations for position for three or four days.

About midnight of the seventeenth of December his dead reckoning (estimated position) placed him some forty miles southwest of Tusker Light on the southeastern Irish coast. This indicated that he was on the banks to the west of England and soundings proved this to be so. But there was nothing in sight and he was in doubt as to his exact position. The wind was at half-gale force from the south southeast making the Irish coast a lee shore, the dread of all sailormen.

Prudently, he put his ship under shortened sail and made several short tacks to keep her away from the Irish coast and yet maintain her position as best he could during the night. When daylight came there was still nothing in sight, so using his dead reckoning as the best information available, he shaped his course ENE toward St. Georges Channel between Ireland and England.

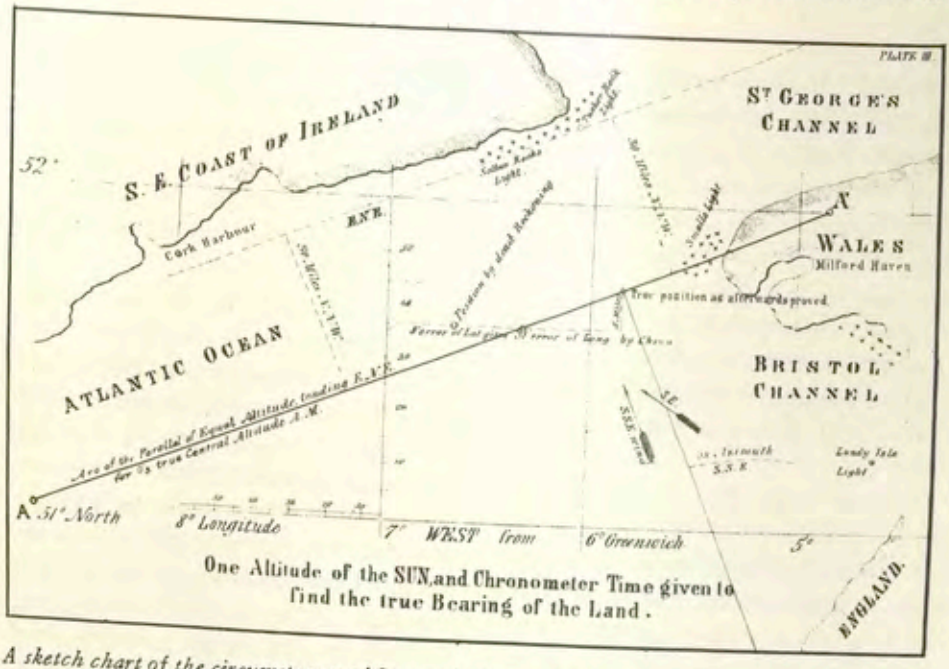
At about 10 A.M. the sun broke through the clouds and at $10^h\ 47^m\ 13^s$, by his chronometer, he obtained a sextant altitude of the sun. This is the angle between the sun and the observer's horizon with corrections for the refraction of the atmosphere and the observer's height above the water. The *Nautical Almanac* gave him data on the sun's position. Using these data and the latitude by dead reckoning he calculated his longitude by a sight reduction method known as "Time Sight." But having run so far without any observations, he knew that his latitude by dead reckoning could be in error and that this would affect the accuracy of his calculated longitude.

He assumed another latitude ten minutes farther north and toward the danger of the Irish coast. It is well to point out that a minute of arc (60′ to a degree) is equal to a

nautical mile. Working the problem again with his new latitude he obtained a position twenty-seven miles ENE of the first position. Fearing that he may have made some blunder in either of these computations, he assumed a third latitude and worked the problem again. When all three positions were plotted on the chart he found that they lay in a straight line which crossed the English coast near Small's Light.

Then he realized what this situation signified: the altitude of the sun – which he had obtained aboard ship – occurred simultaneously at all three positions and at the point near Small's Light and, therefore, he must be somewhere on that line. He was already headed in a direction along this line (ENE) and in less than an hour's time he raised Small's Light.

Thus was Sumner's Line discovered. One of the remarkable facts is that the discovery was made in the stress of a gale at sea and not in the quiet of a mathematician's study. Sumner's line does not give the navigator a definitive position because the line is only the locus of his possible positions within the range of fifty miles or so. He knows that he is somewhere along that line. In Sumner's case the line pointed toward a known landmark, Small's Light.



A sketch chart of the circumstances of Sumner's discovery taken from his book, A New Method of Finding a Ship's Position at Sea *3rd Ed. 1851. An O with a dot in the center is the symbol for the sun.*

Let us examine the nature of this line and thereby get some clues as to how it can be used to give a ship's position at sea.

Imagine a broad level field with a tall flagpole near its center. An observer standing at some distance from the pole can measure the angle between the base of the pole and gold ball at the top. This angle is a measure of the observer's distance from the base of the pole. If he moves toward the base the angle will increase and, conversely, if he moves away the angle will decrease. For a given angle there is a circle on the ground with a pole at its center, and at any place on this circle the observer will obtain the same angle of altitude because he is always the same distance from the base of the pole. (See Fig. 1.)

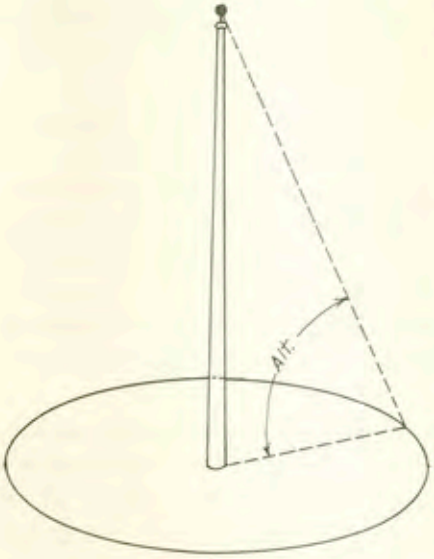


Fig. 1. The flagpole analogy. The center of the circle is at the base of the pole. For any point on this circle the observer will obtain the same angle of altitude because he is always at the same distance from the base of the pole.

For any instant of Greenwich mean time a given star will stand directly over some spot on the earth. An observer at that spot will see the star in his zenith and he would get an angle of 90° if he were to measure the star's altitude above his horizon. The place where the observer is standing is called the substellar point. The latitude of this point is equal to the star's declination – which is its angular distance north or south of the celestial equator whose plane coincides with that of the earth's equator.

The longitude of the substellar point is the angle between the Greenwich meridian and the hour circle through the star. An hour circle is like a meridian but the meridian is on the earth's surface, whereas the hour circle is on the celestial sphere which surrounds earth, with the earth at its center. At this instant, the star's hour circle coincides with the observer's meridian.

But, suppose that the observer is not at the substellar point. The altitude will now be something less than 90° and will become smaller as he goes away. As in the case of the flagpole analogy, the star's altitude is a measure of the observer's distance from the substellar point. Similarly, there will be a circle on the surface of the earth with the sub-

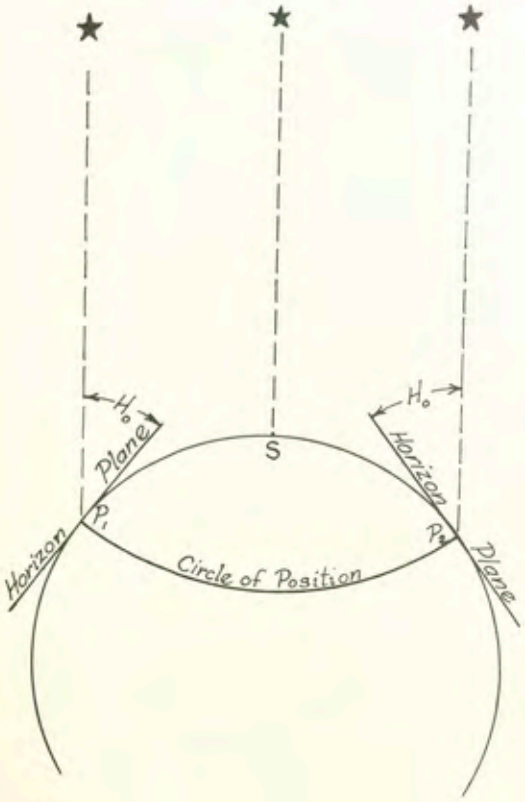


Fig. 2. Looking back at the earth from a point in space. The point S is the substellar point at which the observer would see the star in his zenith (altitude 90 deg.). The points P_1 and P_2 lie on a given position circle and the angle H_0 is the altitude of the star measured above the horizon plane at the point here seen edgewise. While three stars are shown in the figure they are really one and the same. The lines to the star are essentially parallel because the star is so far away that the distances between points on the earth's surface are negligible.

stellar point at its center, at any point on which the observer will get the same altitude of the star. This is a circle of position and is the locus of all possible positions for that particular altitude. (See Fig. 2.)

Now, this circle does not yield a definitive position, but suppose that the observer takes the altitude of another star and obtains a second circle of position which intersects the first circle in two places. (See Fig. 3.) Since the observer is on both circles he must be at one or the other of the two intersections because they are the only points common to both circles. His dead reckoning will indicate which intersection is the right one because it will place him near to one of them. There is no doubt about the choice because the intersections will be rather widely separated. However, a grave difficulty arises at this point.

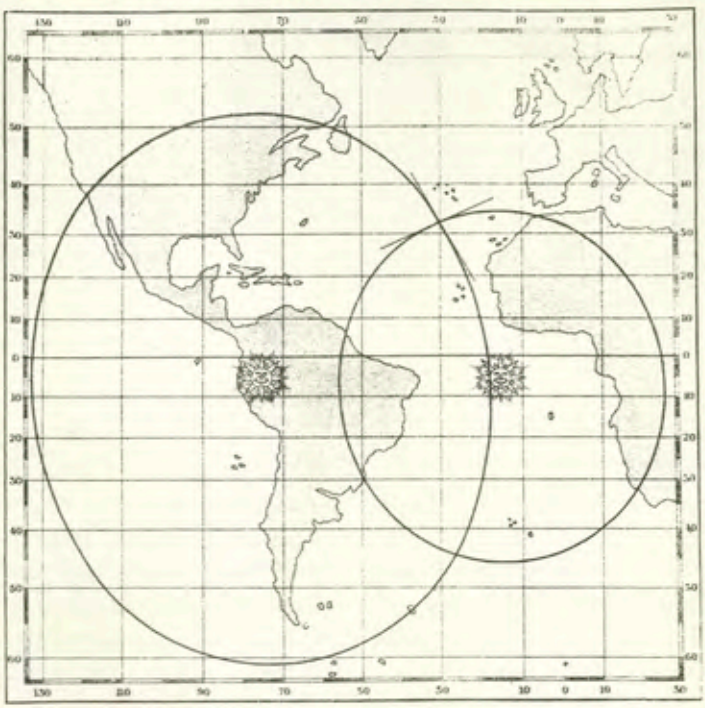
The circles of position are usually quite large: 1,000 to 4,000 nautical miles in radius. To actually draw them one would have to use a very small-scale chart which would vitiate any attempt at accuracy. On a Mercator projection, the usual projection for nautical charts, the circles do not plot as circles but come out somewhat egg-shaped and cannot be

drawn with a compass. However, it is not necessary to draw the circles in their entirety.

To go back to Sumner's work: he found his positions to lie along a straight line. How is this possible when we have seen that the locus of all possible positions, from one altitude, lies on the circumference of a circle? These circles are very large: in Sumner's case the radius of the circle was about 4,600 nautical miles. His three computed points were all on the circumference of the circle but they lay within a space of only fifty-four nautical miles. And in such a short space it is impossible to detect the difference between the curvature of the circle and a straight line.

The fortunate thing about Sumner's work was that he determined three points which established the straight line. Any sort of line or curve can be drawn through only two points. Had he not computed the third point he would not have discovered the line of position. No less a person than Lord Kelvin, in a lecture delivered in Glasgow, said of Sumner's method "that it would be a great blessing to navigators, both young and old, if every other method of ordinary navigation could be swept away."

Fig. 3. Two intersecting circles of position. Both circles are the results of two altitudes of the sun taken at different times; the one to the right was earlier. The circles are plotted on a Mercator Projection so that they do appear as true circles. Note the two intersections and the great distance between them.



Those Were the Days!

By Richard B. Parsons

A total eclipse of the sun, visible in Japan, was promised by astronomers to occur on August 9, 1896. Arthur Curtiss James of New York and a recent graduate of Amherst College was advised that a group of scientists, including a good friend in the faculty of his alma mater, was very anxious to view the phenomenon and, after some discussion, Mr. James agreed to sponsor the trip, which became known as the Amherst Eclipse Expedition.

Imagine transporting a party of astronomers and some friends from New York to San Francisco in private railroad cars, then by yacht to Japan and return, to see an eclipse!

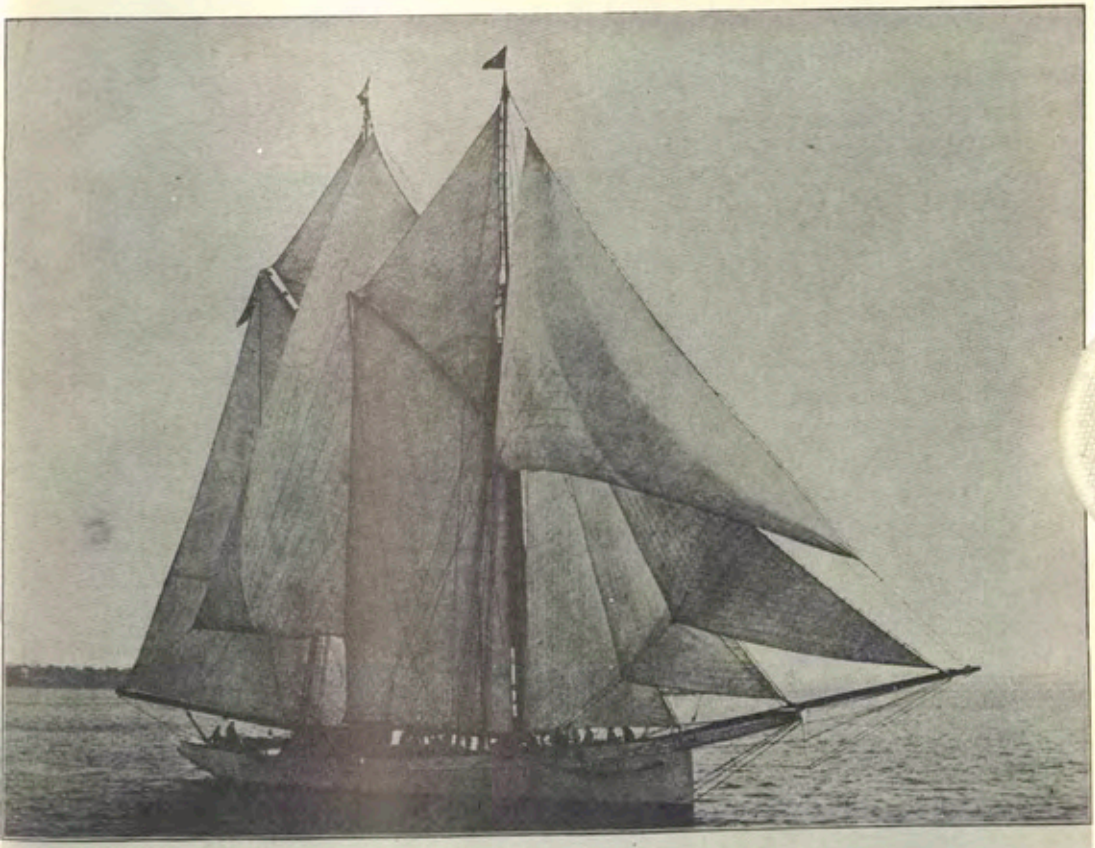
As the Panama Canal was not yet available the yacht's captain, C.S. Crosby, sailed her around Cape Horn to San Francisco to pick up the party, made the trip to Japan, after the eclipse returned them to 'Frisco, then brought her back around Cape Horn to Newport.

The trip was a great success except for the fact that the eclipse was not visible due to an extremely heavy cloud formation.

The yacht which made the voyage was the two-masted schooner *Coronet*, a strictly sailing vessel with no auxiliary power, of 152 tons, 133′ long, and 27′ beam. She was given to Mr. James by his father in 1893 as a combination graduation and wedding present. During the eight years that the Jameses owned the *Coronet*, they sailed her nearly 60,000 miles.

The Jameses owned two yachts after the *Coronet*: the first *Aloha*, of 306 tons, on which they cruised 152,560 miles, and the second *Aloha*, a 218′ auxiliary bark of 659 gross tons, in which they sailed around the world.

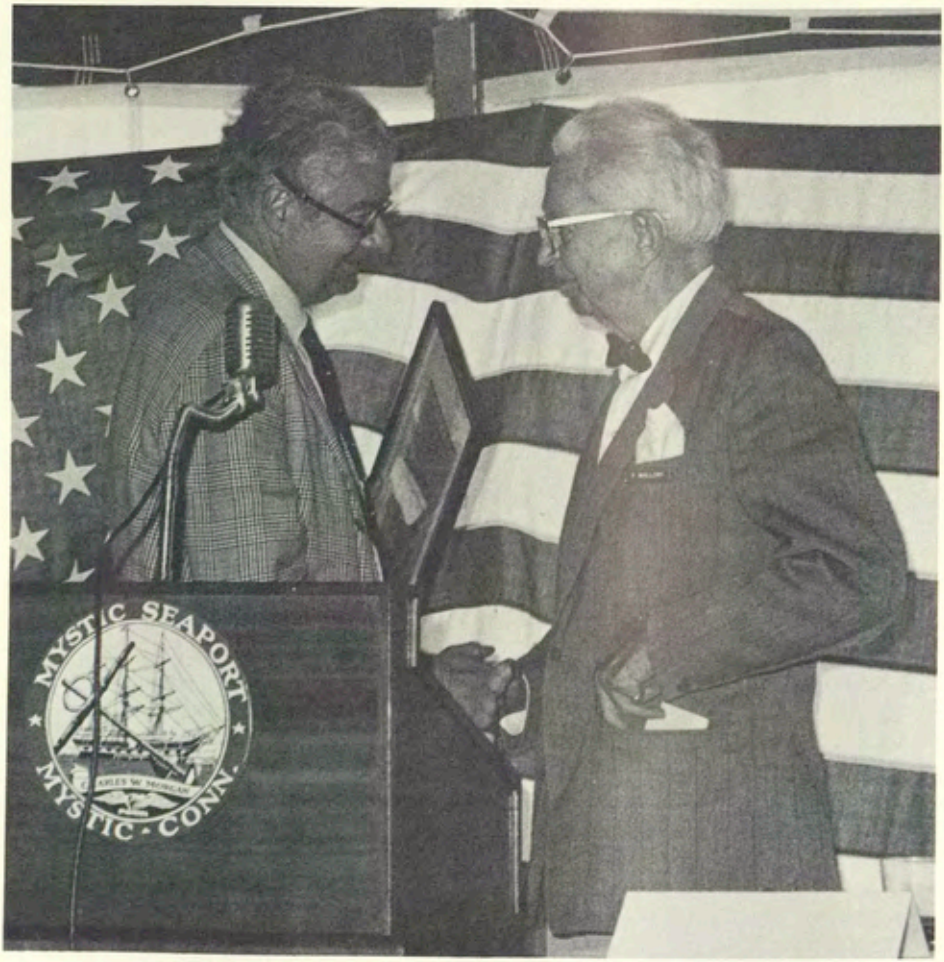
Editor's Note: *Readers who would like to know more about this unusual voyage are referred to two detailed accounts* – Corona and Coronet *by Mabel Loomis Todd (Houghton, Mifflin and Company, 1898), and* Coronet Memories, 1893-1898 *(F. Tennyson Neely, 1899). Different*



MR. JAMES'S SCHOONER YACHT CORONET

countries chose different locations for their observation posts: Professor Todd (Mabel Loomis Todd's husband), after checking meteorological observations which he had had made during the previous three years, chose Yezo, the largest northern island in Japan, for the American's Amherst Eclipse Expedition.

Planning began in October 1895, both for instruments and mountings and for the Coronet's *45,000 miles of deep sea voyaging around Cape Horn and back. As MHA members know, our Aloha Meeting House honors Commodore James – first life member of this Association, and his famous yachts.*


MYSTIC SEAPORT
MYSTIC · CONN.

A TRIBUTE TO PHILIP R. MALLORY

When Philip Rogers Mallory joined The Marine Historical Association on April 21, 1931, the signatures of the three founders were hardly dry on the Articles of Association. The tangible assets of the infant MHA were meager – several decrepit buildings and a few marine artifacts. All that stood between the struggling Association and a constant threat of disaster were the aspirations of his brother, Clifford Day Mallory, and a handful of devoted volunteers.

To this small group, Phil Mallory brought his own dreams of perpetuating America's seafaring heritage and his own "concept of the dignity of each individual soul, the belief in individual responsibility of each one to his God and to himself."

For forty years Phil Mallory has labored without respite to blend ideals with convictions, dreams with realities, persistence with faith, and perception with courage. In 1941 one of his first decisions as the new President of MHA was to bring the *Charles W. Morgan* to Mystic, and by this single act of fortitude he broadened the horizons of the Association and set the course for the creation of Mystic Seaport.

It was Phil Mallory's vision, matched with hard work and the sound leadership of his Yankee forebears, that brought into being the Youth Training Programs and the Munson Institute – and it has been Phil Mallory's inspiration as Chairman of the Board that has sparked Mystic Seaport's continuing growth over the past decade.

For the outstanding service he has so selflessly given for four decades, Mystic Seaport gratefully confers on P. R. its highest award.

Waldo Johnson

The Founders' Award



Mystic Seaport was founded by volunteers – men and women who shared a common bond of pride in America's maritime heritage and an abiding love and respect for the sea. No single person brought this museum into being and no single person provided vast funds for its growth and development. Rather, it was the cooperative effort of many who gave generously of their time and tangible assets to carry into reality their dreams and their faith.

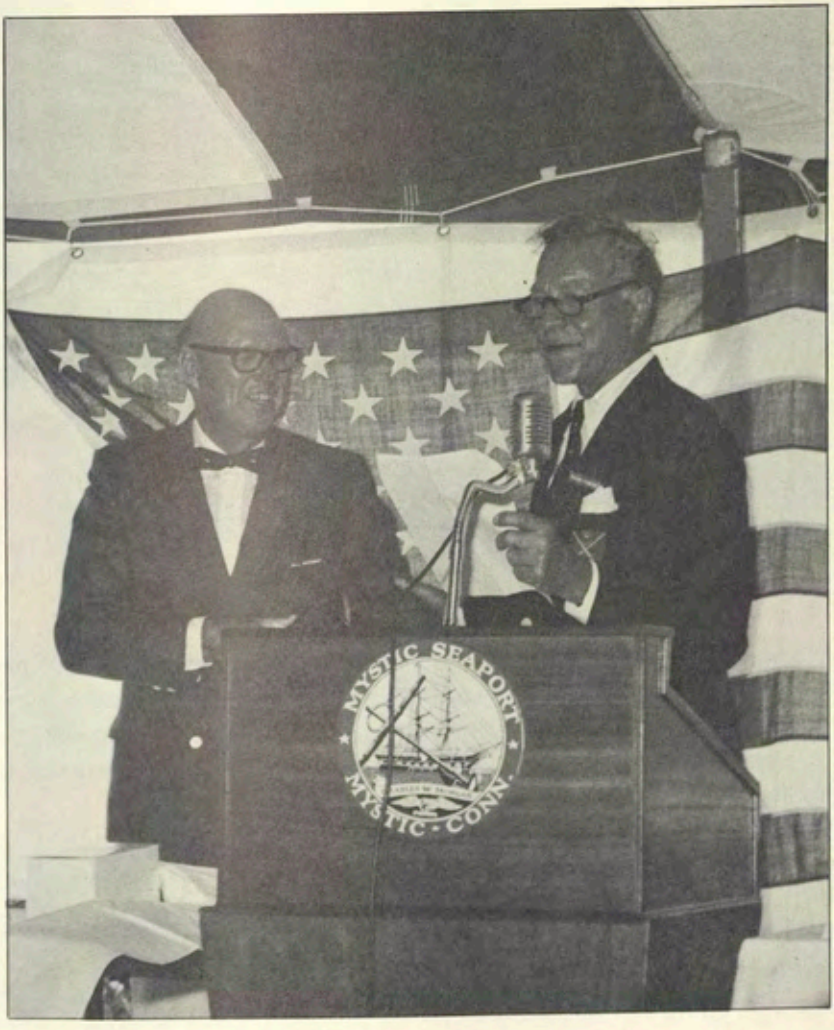
In recognition of this, The Marine Historical Association has established a new award named in honor of the original three founders. The Founders' Award constitutes the highest honor this institution can bestow on an individual for meritorious, voluntary service to the Seaport. It is an award that cannot be bought or coveted. It will be given at infrequent intervals by surprise announcement at Annual Meeting.

The Seaport Council has been designated as the body responsible for considering candidates for the Founders' Award and for making decisions regarding its bestowal. A recipient should normally be a member of the Association but this in itself is not a criterion. In essence, it can only be won by a person who has given outstanding service to Mystic Seaport.

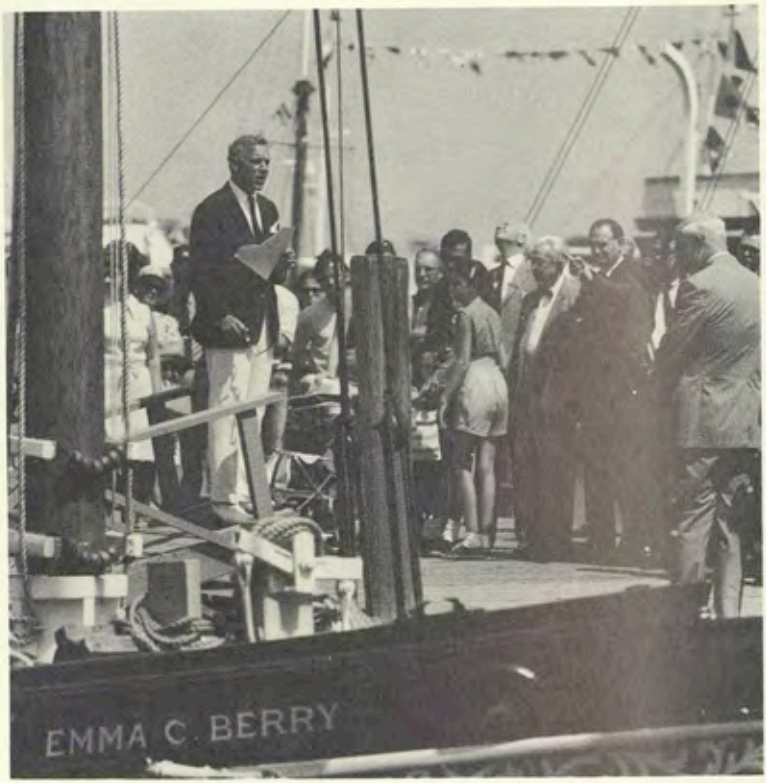
The form of the award is itself symbolic – an ancient octant mounted on an old hackmatack knee from the *Charles W. Morgan*. It symbolizes the vision and courage of seafaring navigators to set a course for distant ports guided by the stars – the kind of course in the minds of men who brought Mystic Seaport into being and developed her into the maritime museum she is today. "Where there is no vision, the people perish."

The Annual Meeting of August 6, 1971 is especially significant marking as it does the 130th anniversary of the *Charles W. Morgan* and the presenting of the Founders' Award to its first recipient.

The Forty-second Annual Meeting of The Marine Historical Association, Incorporated



Incoming President William C. Ridgway, Jr., left, takes over from outgoing President Francis Day Rogers (who now becomes Chairman of the Board).



August 6, 1971 was one of those perfect summer days that come too seldom. A cool river breeze fluttered the flags and pennants on the *Morgan*, *Conrad* and *Dunton* and all the visiting boats – not an empty mooring anywhere – and even swept napkins off the tables under the big green and white striped tents on the North Green.

The *Emma C. Berry* was tied up at the middle wharf, and her commissioning at 11:30 – before an audience of trustees and Seaport visitors – started off the day's happenings. The traditional memorial service in Aloha Meeting House followed at noon, conducted by the Reverend Orin E. Dice – who also delivered the invocation and benediction at lunch, and at 12:30 the members' reception began. By 1:15 every luncheon table under the tent was filled, and the very important afternoon's program got under way with a welcome from Chairman of the Board Philip R. Mallory.



Francis X. Biglin, assistant regional postmaster general, right, and Director Waldo Johnston display the block of four historic commemorative stamps which includes the Charles W. Morgan.

Three events highlighted the program. First, a new historic commemorative stamp bearing a picture of the *Charles W. Morgan* was unveiled by Francis X. Biglin, assistant regional postmaster general from Philadelphia, one of a block of four shown for the first time Friday in ceremonies around the country. Other subjects are the San Francisco cable car, Commodore Stephen Decatur's house in Washington, D.C., and the San Xavier Del Bac Mission in Tucson, Arizona. The first day of issue will be October 29 at San Diego, California.

Second, President Frank Rogers, having held office for four and a half years, handed over the reins to William C. Ridgway, Jr. Mr. Rogers spoke of these "reins" as being in many ways a sacred trust . . . "for they have been tested not just for the forty-two years since its founding, but really for the many years previous, during which period our maritime history was being





written in such large words as character, integrity, hard work, faith and tradition. These words today are claimed by many to be far removed from our current sociological and economic problems. In my book, I believe our current problems would be simpler solved if we all could find acceptance of such words in their fullest meaning and then apply them to the current problems."

Mr. Johnston presented Mr. Rogers with a handsome half model of the *Morgan*, "crafted by perhaps the finest marine draftsman in the country, a member of the Seaport staff in our Ships Technical Division, from lines laid down by him very recently that disclose new information about the hull of the *Morgan* as we chugged around and dug underneath her – Bob Allyn."

In accepting, Mr. Rogers noted that when he was twelve he started to make his first model of the *Morgan*. "I made it out of the wrong kind of

Three members of the Seaport Stores staff, below, from left to right, Marguerite Heipt, Barbara Gould and Helen Allanach, received spikes from the Morgan *to mark their fifteen, sixteen and eighteen years at Mystic Seaport. This is the first time Stores personnel has been included in the awards giving. Oraleah Dice, opposite left, custodian of Central Files, received the fifteen year award — a* Morgan *spike, as did Harry Williams, chief electrician (who was on vacation); and Oliver Denison III, secretary and assistant treasurer, opposite right, received a spike and a resolution for his twenty years' service.*



wood and it split. . . . I started a second model . . . I cut the frames all wrong so I burned them up. Then I started a lift model . . . I was about sixteen . . . I got it pretty good, the masts on, the rigging on and some of the deck fittings and then I went off to college – and that was so exciting I never touched the model again. So I guess that now that I will be simply the chairman . . . I will use these lines to make the fourth model."

The third noteworthy event – and in many minds, the most important one – was Waldo Johnston's announcement of The Founders' Award, which appears on the Director's page, and its presentation to Philip R. Mallory. In Mr. Mallory's acceptance speech, he said ". . . I am deeply touched by this evidence of the strength of Mystic Seaport under the management it has had and the management it is going to have. Literally, this institution changed my life. My brother had laid a firm foundation only to be taken long before





Chairman emeritus Philip R. Mallory, center, with Trustee William P. Gwinn and Atwood C. Ely, MHA treasurer, are shown above left at luncheon. Right is Dr. F. G. Walton Smith, the speaker. Below, Trustees Critchell Rimington and Dr. John W. Draper.





his time and I would say that the people that were left at that time deliberated very long on whether they should continue or close the doors, because up to that time it had been a small, local institution. My lot was cast in a different direction – I had other responsibilities – but I felt that I owed it to my brother to try to carry on a vision that he'd had up to that time. I want to add that it took six weeks under almost daily demands by Carl Cutler that I try to salvage the beginnings of what was here.

"It has been a pleasure to serve the institution, I am delighted it is in strong hands, and I have no doubt about its future, and I think that these forty years have been very much worthwhile."

The guest speaker this year was Dr. F. G. Walton Smith, Dean, Rosenstiel School of Marine and Atmospheric Science at the University of Miami, and President, International Oceanographic Foundation, whose topic, "Planet



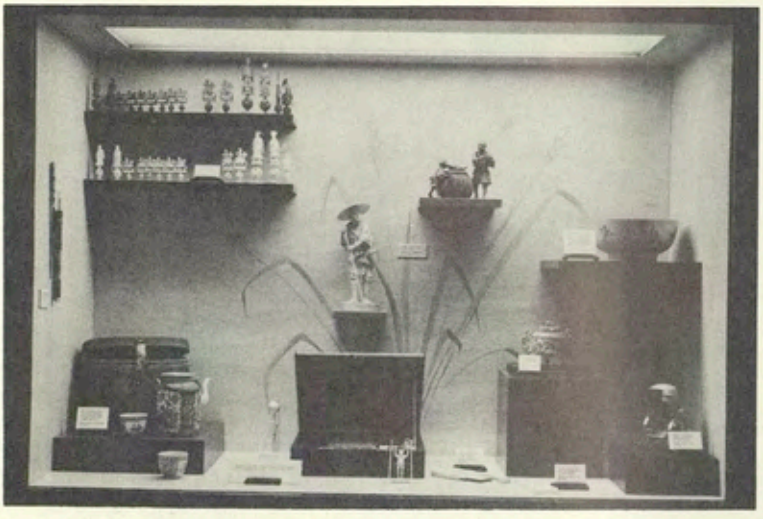
Curator Revell Carr takes the trustees' wives on a guided tour of the new China Trade Exhibit. All Annual Meeting photographs: Les Olin.

Ocean" dealt with the uniqueness of Earth, "the only planet where life can exist because it has water, a most fantastic fluid," and discussed the ocean as a reservoir of water, energy, life and minerals, and a moderating influence on climate.

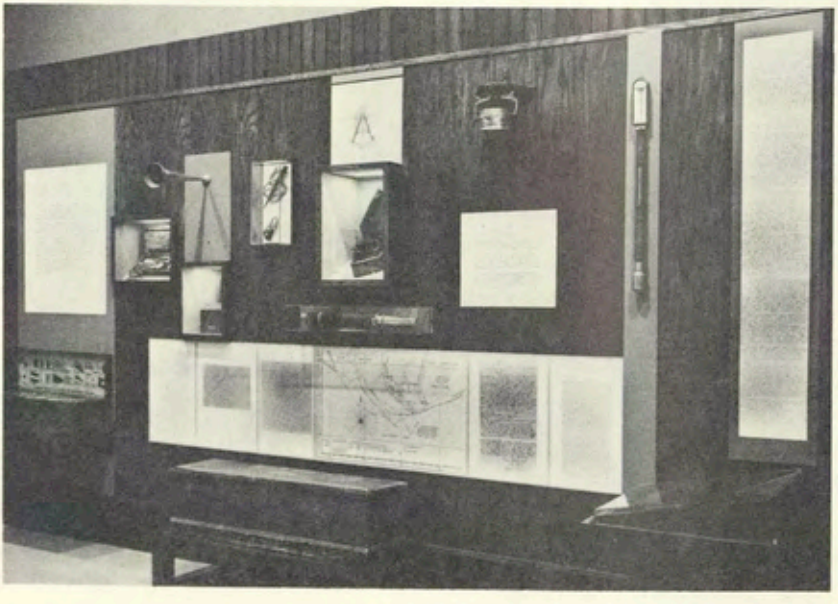
The Seaport Carollers, who traditionally sing sea chanteys during lunch, were under the direction of William J. Herman.

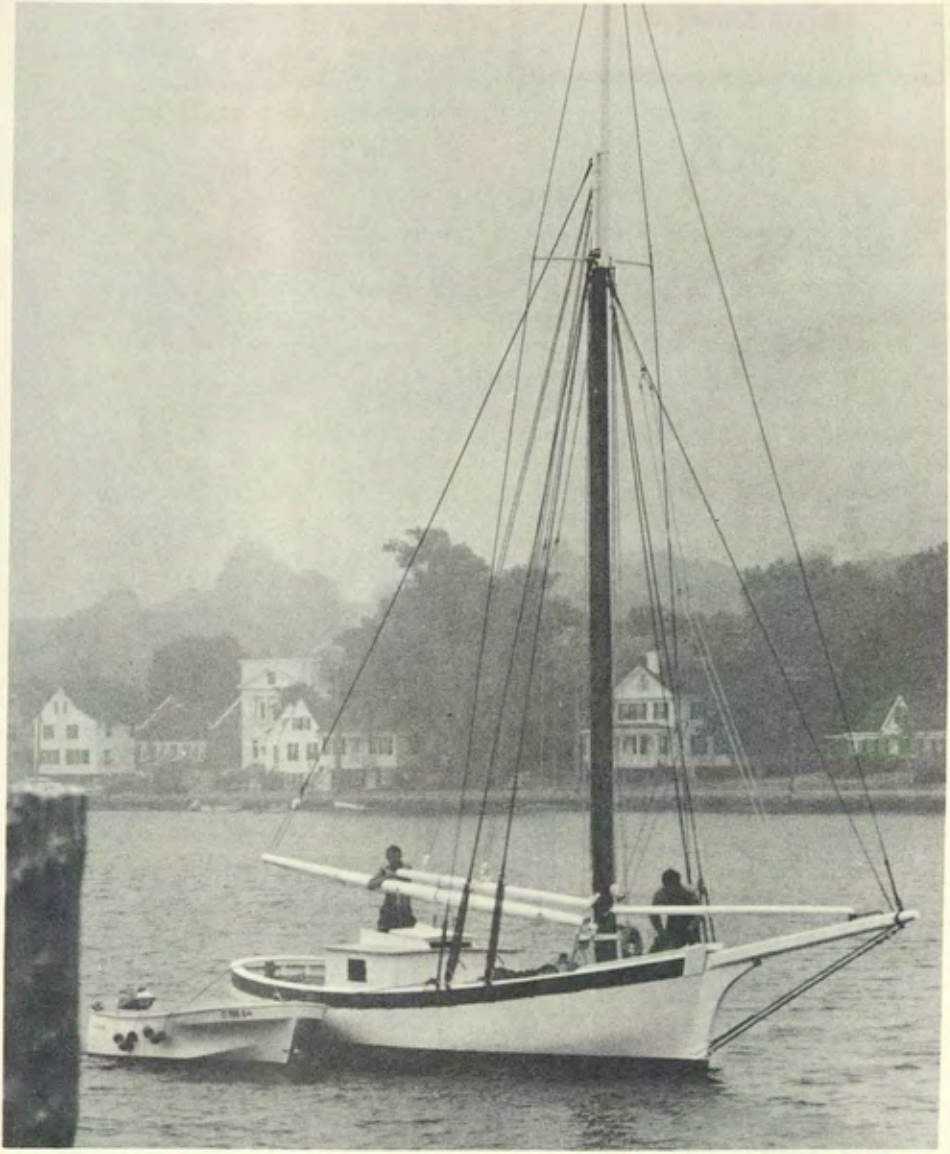
A short meeting of the Board of Trustees followed luncheon, for the election of officers and appointment of committees. Members of the new Executive Committee are: Atwood C. Ely, Waldo Howland, Jakob Isbrandtsen, Robert P. Koenig, William H. Moore, Alfred Ogden, Harris B. Parsons, William C. Ridgway, Jr., Francis Day Rogers, Rudolph J. Schaefer, Jerome W. Sinsheimer, E. Newbold Smith, Alexander O. Vietor, Thomas J. Watson, Jr., William Blunt White, and Thomas R. Wilcox.

New Exhibits



China Trade Exhibit in the Wendell Building. The importance of American trade with the Orient during the eighteenth and nineteenth centuries is shown in this exhibit, which contains over thirty paintings, several models, and various trade items, many of them brought from China by Captain George Blunt Wendell. Photographs: Russell A. Fowler.





The Long Island oyster sloop Nellie *returning to the Seaport after being restored under contract with Fred Cousins of Eldridge's Boat Yard in Noank, where she had been since September of last year. There the vessel was reframed and redecked and put in first class condition for a floating exhibit.* Nellie *was built in Smithtown, New York in 1891, and had always been registered in Long Island Sound, although in recent years she had worked under power without her sailing rig. She was donated to the Seaport in 1964 by a group interested in her preservation. Photograph: Les Olin.*

Book Reviews

HANDBOOK OF NAUTICAL ETIQUETTE, by H.K. Rigg. Illustrations, Melbourne Smith. *Alfred A. Knopf, New York, 1971.* $4.95.

Mr. Rigg's book fills a long-felt want. Even its format, 5½" by 7", has been designed with a view to its use on boats, large and small. Unlike many other yachting manuals, it will not fall out of its rack when the boat heels sharply. Furthermore, Mr. Rigg is highly qualified to write on his chosen subject. He has cruised widely here and abroad under both sail and power, and is the publisher of *The Skipper* magazine.

The chapter on flag routine, for example, will settle many hot debates amongst power and sailing folk. It is lavishly illustrated, both for sail and power boats and for yacht clubs, so that after reading it no one should go astray on this much-disputed subject.

Now that marinas have become a way of life, especially for "plug-in" sailors, the chapter on "Marina Manners" is timely and many of the subjects covered might well be taken to heart by boats that tie up elsewhere or use club moorings. One point not mentioned is the annoyance to surrounding boats (and to the crew on board) if halyards are not stopped to prevent their slatting against aluminum masts.

One could wish that all boat owners could be required to read the chapter on "Boat Handling." Discourtesy is all too often practiced by large power boat owners in passing boats under sail, whether racing or not. These careless skippers evidently do not realize what their wash can do to a boat under sail, ranging from actually capsizing small racing craft such as are found at most yacht clubs for children's use, to killing the way on larger boats in light airs.

It must have now become evident that the reviewer is a sailing enthusiast, but nevertheless it was pleasant to note the comment on those sailing craft which apparently delight in exercising their inalienable right of way over those under power, frequently, it seems, just to be annoying. As Mr. Riggs says ". . . . the water is a healthier, pleasanter, and safer place when the devotees act like ladies and gentlemen."

The chapters on tipping and dress afloat will be invaluable to those fortunate enough to own, or to be invited to cruise on, large yachts with captain and crew. These today, however, are greatly in the minority. In cruising along the New England coast one sees perhaps three or four amongst the hundreds of smaller boats ably crewed by the skipper, his wife and perhaps one or two teen-aged children. It would be helpful, therefore, if more than a brief paragraph had been devoted to the behavior of guests on these smaller craft. For example clothes – as few as possible; suitcases – none – a soft stowable bag is in order; and finally behavior. If you don't know the bow from the stern sit down and keep out of the way unless the skipper asks you to do something. Amateur volunteers are a nuisance.

All boat owners, no matter how long they may have been afloat, would do well to read and take to heart the chapter on the duties and responsibilities which are theirs.

Mr Rigg has overlooked nothing. The commissioning of yachts, of yacht clubs, and even burial at sea are covered.

The writer is not competent to comment on the chapter on cruising in foreign waters except to say that it sounds eminently sensible and helpful.

EMMA AUBERT COLE

THE RISE OF NEW YORK PORT by Robert Greenhalgh Albion. *Reprinted by Charles Scribner's Sons, New York, 1970.* Illustrations, appendices, bibliography. $15.

Except for one short introductory chapter and a concluding one about her rivals, Professor Albion's entire book deals with the activities of New York Port between 1815 and 1860. It was during these years that New York rose to a dominant position among all American ports, one she has never relinquished. Through sixteen chapters the author skillfully describes how this was accomplished.

In the beginning New York had only potential, but in 1815 she was chosen as the dumping spot for great quantities of British commodities which had accumulated during the War of 1812. From this beginning, far-sighted merchants of New York in 1817 started the first line of regularly scheduled sailing packets, the famous Black Ball Line, to secure the choicest freights and the bulk of the passenger traffic. New York also gathered in the lion's share of western produce through the Erie Canal, as well as most of the cotton produced in the South. Ultimately, she led the nation in exports to and imports from virtually every corner of the globe.

Besides chronicling these developments of commercial shipping, the author describes every conceivable activity within the port, including those in the Customs House with all of its political patronage possibilities, those of the merchant princes themselves, as well as those in the East River shipyards. Other chapters deal with mail subsidies, immigrant traffic and the clipper ship era.

Although this important book was originally published in 1939, it still remains the only really good study depicting the growth of an American seaport. Would that other historians would attempt for other major ports what Professor Albion has done for New York: he has set a high standard of excellence that will be hard to match. His *New York Port,* therefore, is rated four stars.

THE CLIPPER SHIP ERA, by Arthur H. Clark and SOME FAMOUS SAILING SHIPS AND THEIR BUILDER, DONALD McKAY, by Richard C. McKay. *7 C's Press, Inc., Riverside, Connecticut, 1970 and 1969.* $9.95 each.

Both of these volumes are welcome additions to the plethora of reprints of maritime books in recent months. The publisher calls each of them second revised editions, but other than a one-page preface to Clark's book, the only new material in either volume is in the form of additional illustrations.

For sixy years Captain Clark's classic history of clipper ships, their owners, builders, masters and crew has been an important and sought-after source of information. It should be noted that for Clark the "era" spans the years 1843-1869 and "clipper ships" are American-built extreme clippers launched before 1855. With the appearance of this work, the three best titles on American clipper ships are again available to those interested in maritime history. The other two are Carl Cutler's *Greyhounds of the Sea* and Howe and Matthews' *American Clipper Ships.* The former deals with more vessels and men and the latter has more details of vessel histories, but only Clark had personal knowledge of and acquaintance with many of the vessels and men about whom he wrote.

By modern standards of historical

writing, Clark's book suffers from a paucity of footnotes and a total absence of a bibliography. Since Clark, in effect, was charting unknown seas in his original work in 1910, he can be excused for the latter. Much charting has been done in the last sixty years. The G. W. Blunt White Library has compiled an annotated bibliography of over 100 titles on clipper ships. Had the publishers of this reprint included such a list in this new edition, they would have made a major contribution to scholarship in the field of maritime history.

Richard McKay first wrote his biography of the "Chief of Master Builders" in 1928 and, like Captain Clark, he included few footnotes and no bibliography. In his preface, however, he made mention of the possession of "original data and authentic information." This work is the most extensive description of Donald McKay's long and fluctuating career as America's preeminent shipbuilder.

A word about the new illustrations in both books seems to be in order. In Clark's book these are listed at the very end on page 405. This is an awkward and inconvenient arrangement. In the McKay book they are listed immediately following the list of illustrations in the original. The quality of reproduction of all illustrations is considerably inferior to that of those in both original publications. No source is given for any of the thirty-six listed and eleven unlisted new illustrations in Clark's book or the tweny-five in McKay's. Several of those in the former are drawings by an artist identified only by his initials "F.R." They are generally puerile, inartistic and replete with nautical howlers and certainly are an injustice to Clark's classic work. The inclusion of drawings is inexcusable in view of the abundance of good material available.

There is some inconsistency in labeling the new illustrations. The same view of McKay's shipyard in East Boston, taken by Southworth and Hawes in 1855, is used in both volumes. In one it is so identified, whereas in the other it is listed only as "From an 1855 daguerreotype." One wonders why some new illustrations were used. The engraving of the *Empress of the Seas* on page 225 of McKay's book is the same one used two pages later in the original edition.

In spite of these shortcomings and the poor quality of illustrations, we highly recommend these books to anyone interested in clippers. Both contain good information on the subject and both are eminently readable.

Maritime History
Edited by Robert Craig

While this section is usually reserved for new books, we have recently been introduced to a new journal which we feel will be of interest to many MHA members: *Maritime History*, published quarterly by David & Charles, South Devon House, Newton Abbot, Devon; annual subscription $4.20. David & Charles also publish maritime books.

The first issue (April 1971) has articles on "The Post Office Steam Packets, 1821-36," "Ship Registry — to 1707," "The Steamship *Bedlington*, 1841-54," "Samuel Plimsoll and the Shipping Interest," "The Steamship *Great Britain* – Homecoming and Approach to Restoration," and "The National Maritime Museum's Exhibition of the Paintings of Reuben Chappell." In addition, there are book reviews, notes on research in progress and, to come, bibliographies of books and articles.

CHARLES R. SCHULTZ
Librarian

Letters

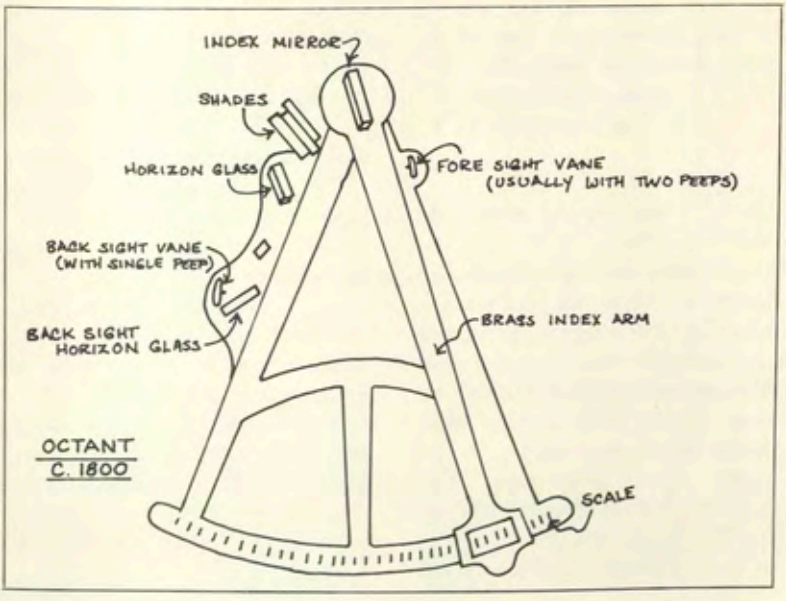
Dear Miss Grey:

The Summer issue (Vol. 23, No. 2) of *The LOG* raises queries, comments and considerations in my mind which, if you feel so inclined, might be used in a future issue.

1. On the front cover, a set of lines is identified as the *Morgan's* sail plan, titled Main Mast – Looking Aft . . . . to the uninitiated it would seem from the sub-caption that all the gear shown is on the forward side of the sails as they are all solid lines, whereas the clew-garnets of the course and the clew-lines of the upper sails clewing to the bunt are actually on the after side. The same applies to the sheets, lifts and foot-ropes. Also, if your architect does his research properly, he'll find that when the royal yard is crossed, the look-out hoops are unrigged and sent down. They ride on their own parrel and are held up by the yard halyard and so would interfere with hoisting and lowering the yard.

2. On the inside back cover is pictured an octant . . . with two eye pieces and horizon glasses. . . . And though I've used a sextant for many years, the added pieces have me baffled. Can anyone of our Mystic personnel give me an explanation?

3. On the outside back cover is a picture of the *Morgan* which, since she (in





common with other whalers) carried three boats to port and her cutting-in stage to starboard, I guess was made from a reverse print so the vessel sails "into" the book instead of "out." . . . In earlier correspondence on an "origin unknown" photo of the *Morgan* in which I remarked on the whereabouts of Albert Cook Church's collection of negatives as printed in his *Whale Ships and Whaling*, Acting Curator John Leavitt said its location was then unknown, but now I wonder if this picture isn't part of it, though credited to Capt. Samuels.

Robert G. Herbert, Jr.
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Editor's Note: *These are the answers to Mr. Herbert's queries.*

1. According to Assistant Naval Architect Robert C. Allyn, the plan was intended primarily to be a rigging plan, and the sails are only shown in dot and dash outline. Correspondence is continuing on the *Morgan* rig and may develop additional information on the vessel.

2. Curator Revell Carr says "The octant sight was an added capability found on quite a few early octants. The purpose is for back sighting, which means you could bring a celestial body that was behind you down to a horizon that is in front of you. This might be desirable when the normal horizon was obscured so that an accurate fore sighting could not be made. In taking a back sight, the octant is used in the normal manner except that the observer has his back to the celestial body and his clear horizon in front of him. The body being observed would be reflected in the normal index mirror and from that onto the mirror of the back sight horizon glass. Through the clear section the observer views the horizon and brings the celestial body down to it. I hope my enclosed sketch helps to make the use clear.

"While this was a desirable capability to have, it was not regularly used and a bit awkward, so that it was eliminated by the middle of the nineteenth century."

3. Briefly, according to John Leavitt, "the plate from which the picture of the *Morgan* was made was in reverse, as it apparently was intended for use as a lantern slide. Working in the dark room, it was unfortunately printed backwards. While the lantern slide was made from an original photograph – perhaps by Church, perhaps by Packard – it is not an original Church plate."

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Flora H. Fairchild
Executive Secretary, Membership

Front Cover: *Unidentified catboat in Long Island Sound. A glass plate negative taken around the turn of the century, in the John M. Kochiss collection given to the Seaport.*

Back Cover: *The Blue Water Sailing Club, from the Boston area, moored along the North Parade Wharf. Photograph: John M. Kochiss.*



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