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MYSTIC SEAPORT®





The American merchant ship Abula *approaches Marseilles, 10 May 1806, in this watercolor by Nicolas Cammillieri. Built on the Connecticut River at Haddam, Connecticut, in 1805, the* Abula *typifies large American deep-water merchantmen of the 1730–1830 period. Ten crewmen are visible on deck, including a black sailor – possibly the cook – hauling on a line directly aft of the mainmast. This painting is featured in "Neptune's Attic: Sixty Years of Collecting," which will be on exhibit in the R.J. Schaefer Building until September 1991.*

(Photo by Claire White-Peterson, M.S.M. 75.448)

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Cover, Sisters Karen and Emily Huysman, in period costume in the Thomas Greenman House, were part of Mystic Seaport's celebration of the holiday season in 1989. Please turn to the Calendar of Events for more information on holiday activities at the Seaport.
(Photo by Mary Anne Stets)

SIGHTINGS

Over the years, thousands of people have benefitted from two related legacies with which Mystic Seaport has been endowed. The first is the financial endowment initiated by Cora Mallory Munson and enhanced by her brother, P.R. Mallory, which supports the Frank C. Munson Memorial Institute of American Maritime Studies at Mystic Seaport. The second is the legacy of a scholar and teacher from Harvard University who was the long-time Director of the Munson Institute, Robert G. Albion. Through these gifts of financial resources and scholarly talent, Mystic Seaport has had significant success in meeting one of its basic objectives, the teaching of maritime history.

When the Munson Institute was established in 1954, it was essential to find a person with fine academic credentials and the vision to see the potential of the program, who could take on the leadership of the institute. At Harvard, Bob Albion held a chair in oceanic history and taught a popular course in maritime history that was referred to as "Boats." Bob had published extensively and brought not only this scholarship, but also his exceptional teaching ability, to Mystic Seaport when he took on the task of directing the Munson in 1954. I doubt if even the most optimistic observers at that time could imagine the benefits that would come from this association over the next 20 years.

The program proved itself from the very beginning, attracting an interesting group of students each summer. Some were graduate students working at universities that offered no courses in maritime history. Others were secondary-school teachers enhancing their knowledge and broadening the curricula in their schools, while some were amateur maritime historians adding to their personal knowledge. Perhaps the strongest impact has been on Munson students who were staff members at other maritime museums. Through this important aspect of the Albion legacy, many museums have been touched by his teaching and millions of visitors to those museums have benefitted.

Bob Albion's presence at Mystic also attracted other senior scholars in the field, such as Marion Brewington, Howard Chapelle, and Jack Kemble, who came as guest lecturers. This assemblage of the leaders in the field brought respect to the Munson Institute and to Mystic Seaport, heightening the reputation of the Museum.

In addition, Albion's involvement at Mystic attracted the next generation of maritime historians. These scholars would carry the responsibility to extend the program into the future. Prime among the group was Benjamin W. Labaree, who had studied with Bob Albion at Harvard, and who joined the faculty of the Munson Institute in the 1960s. Ben was the colleague and friend to whom Bob Albion, after 20 years, turned over the Directorship of the Munson in 1974. The Albion tradition of solid maritime history teaching is being continued by Ben Labaree, who remains as Director of the Munson Institute, and by his colleagues, Professor Edward Sloan from Trinity College, Professor William Fowler from Northeastern University, Professor Gaddis Smith from Yale, and Professor John G. Hattendorf from the Naval War College.

The legacy of Bob Albion consists not only of attracting students, fellow scholars, and respect to the Munson Institute and Mystic Seaport; it also includes an offspring – a very legitimate one. Without Bob and the Munson, Ben Labaree and Waldo Johnston wouldn't have had the foundation and inspiration to create the Williams College-Mystic Seaport Program in American Maritime Studies. Through this program, the teaching of maritime history, which the Munson had been doing at the graduate level, was extended to the undergraduate level.

In this issue of *The Log*, we have an opportunity to share with all our members another part of the Albion legacy. His book *Sea Lanes in Wartime* functions as a succinct introduction and survey of American maritime history. Beginning in this issue of *The Log*, we will offer you a serialization of portions of *Sea Lanes in Wartime*, giving all our readers an opportunity to expand their knowledge of our maritime past, which is a fundamental goal of Mystic Seaport.

At Mystic Seaport, we accomplish the task of teaching maritime history through our collections, exhibits, interpretation, demonstrations, and publications. Through the enduring legacy of Robert Greenhalgh Albion, we have been able to build a unique program of university-level maritime study. In this issue of *The Log*, we are pleased to be able to extend that legacy still further to introduce all of our members to the engaging scholarship of Robert Albion. ■

J. Revell Carr

Sea Lanes in Wartime

Part 1: The Old Order

ROBERT G. ALBION & JENNIE B. POPE



The American merchant ship South Carolina *and a 40-gun British frigate cross tacks in this watercolor by Ange-Joseph-Antoine Roux, dated 1805. Built at Philadelphia in 1800, the* South Carolina *was typical of the ships of her day in being designed for capacity rather than speed. She carries enough guns to deter a pirate or privateer attack, but she could not defeat a warship.*
(Photo by Louis S. Martel, M.S.M. 67.208)

(Reprinted with the kind permission of the estate of Robert G. Albion.)

With this issue of *The Log* we are pleased to introduce our readers to a series of articles excerpted from Robert G. Albion and Jennie B. Pope's *Sea Lanes in Wartime: The American Experience, 1775–1942*. Written amid the crisis of World War II, Albion and Pope's narrative treats problems in wartime commerce as old as the American Revolution and as new as last month's Persian Gulf headlines. Long out of print, this short history of U. S. mercantile activity has been a favorite of professional historians, naval enthusiasts, and some of the old salts who actually participated in those wars.

One of the great maritime authorities, Albion was also a great friend of Mystic Seaport, serving as Director and instructor in the Munson Institute summer program from its inception in 1955 until 1975, and as one of the planners of the Seaport's G. W. Blunt White Library. Rarely has a scholar produced a more durable legacy. His *Naval & Maritime History: A Bibliography*, which he gathered for the benefit of his students at Mystic and Harvard, with a recent supplement by Benjamin Labaree, still holds the field as the most comprehensive bibliography on the subject in the English language. His many classics in the maritime field continue to gain readers, perhaps because they are so very readable: *Forests and Seapower: The Timber Problem of the Royal Navy* (1926), *Square Riggers on Schedule* (1938), and, probably his finest work, many times reprinted, *The Rise of New York Port, 1815–60* (1939).

We hope that these articles, in the slightly abbreviated words of Robert Albion and his wife, Jennie Pope, will answer everything you ever wanted to know about American maritime history in a most agreeable fashion.
–Gerald E. Morris, Director of Publications



Representative of the two-masted, square-rigged brig is this American snow (a form of brig), shown here leaving Naples, ca. 1800.
This gouache is attributed to Michele Felice Corné. (M.S.M. 61.19)

Wartime shipping adventures are no novelty to the United States. Keeping the sea lanes open has always been one of the main concerns of American foreign policy.

Threats to our sea-borne commerce, whether from submarine and airplane in this century or from privateer and frigate in the days of sail, have led us into war more often than any other single cause. The United States has had to protect its shipping in five major wars, and against pirates as well. Three times its role has been that of the outraged neutral demanding freedom of the seas for its lucrative trade; but on one occasion it was the belligerent blockader scoffing at that very same freedom it has so often sought to uphold. From colonial times, when the protection of the British Navy made the problem less acute for Americans, to the present, when our air force and our navy are dominant factors in world politics, this vital issue has affected our actions.

To a large extent because of its maritime interests, the United States was unable to remain neutral throughout three great European conflicts. Its neutrality lasted almost 20 years during the French Revolutionary and Napoleonic contests; but in the first World War, only 32 months; and in the second 27 months. The American Revolution ran an opposite course. France and other European nations, after a period of neutral trading, were drawn into an American war. During the Civil War, Europe remained technically neutral, but our commerce suffered from England's unneutral conduct. Neither the Mexican nor the Spanish-American Wars, nor the relatively brief conflicts of the European powers between 1815 and 1914 had any particular effect upon our shipping; of more concern were several crops of pirate attacks.

Our attitude toward "freedom of the seas" has shifted along with the changing conditions in the different wars, as we shall see. In the earlier years, our desire was to make the most of neutral profits by trading with both sides; and, with both belligerents seizing our ships, we argued loudly that free ships made free goods and that neutral vessels should be immune from capture. During the Civil War, when we were playing England's old game of seizure and blockade, "freedom of the seas" was conspicuously absent from our state papers. Its scope was more or less one-sided in the World Wars, when our protests to England were in a different vein from the vigor and bluntness of those sent to Germany. One cynic has gone so far as to say that "freedom of the seas" merely implies the right of Americans to make money under any war conditions.

The merchant marine has been violently affected by the various major wars. It was depressed by the Revolution and flourished vigorously in the years of neutral trading that followed. To be sure, its later heyday around 1850 was not a product of war, unless one wants to argue that the spoils of the Mexican War made possible the clipper trade to California. The psychological effects of the Confederate raiding accelerated a long decline. World War I found us with almost no ocean shipping at all and left us with a huge merchant fleet, not all of which was of profitable use. World War II called for all that reserve, but in its turn stimulated an enormous building program, which along with developments overseas, promised good postwar opportunities.

In the early years, in sharp contrast to the present, warships as well as merchantmen remained indefinitely in style. Had a seagoing Rip van Winkle fallen asleep in 1707 during Queen Anne's War and awakened a century later in the midst of the Napoleonic struggle, he would still have been in perfectly familiar surroundings, and might have gone efficiently about his work. The intervening years had seen little change either in the warships, in the merchantmen they chased or guarded, or in general wartime shipping practices. A description of cargoes, convoys, and condemnations, or of the vessels themselves,

fits any of America's early troubles at sea. A wooden vessel was not likely to be outmoded. Nelson's flagship at Trafalgar was 40 years old; the *Royal William* in the American Revolution was 61. It was the same in the merchant marine, where vessels sometimes carried on for similar long periods if they escaped the ravages of dry rot or wracking by the seas. Not only was there little change from decade to decade, but by and large shipyards in the different countries turned out fairly similar products. A region might develop a few distinctive types, such as the American schooner, but generally, captured warships or merchantmen were easily absorbed into a fleet with a minimum of adjustment.

As those familiar with shipping already know, the cargo carriers of that day fell into four main categories. These ranged in size from ships down through brigs and schooners to the small sloops. Technically, the distinction was one of rig, not size. The ship had three masts; the brig and (at that time) the schooner, two; and the sloop, one. The ships and brigs were square-rigged, with several sails at right angles on each mast; a feature which made a ship in full sail beautiful and unforgettable. The schooners and sloops were distinguished by the fore-and-aft rig, with a single large sail in place of the several smaller ones. At times they might carry, too, a single square topsail on the foremast. Various minor types do not concern us here – such as snows, hermaphrodite or half brigs, ketches, cutters, galliots, and the rest.

The full-rigged ship was the aristocrat of the merchant marine. Like most vessels of that time, her oaken hull was designed for cargo capacity in preference to speed. Her beam was often fully a third of her length. Her hull bulged outward at many points, in contrast to the concave streamlining of the later clippers. With this stocky build, her apple-cheeked bows tended to butt, rather than to cleave, the waves. But this very breadth gave her a hold ample enough for a maximum load of bales, barrels, or boxes. Except in wartime, the average shipowner of the day preferred a vessel roomy enough to carry 300 tons in three weeks to one of similar length and cost, but with the speed, to make the same voyage in two weeks, developed at the expense of some hundred tons of capacity. Full-rigged ships were generally employed on the long hauls, such as to England, western Europe, and the Orient; for the shorter runs, smaller vessels were more profitable.

The average ship of the late eighteenth century was nearly 100 feet in length and 30 feet or so in beam, with a hold 15 or 20 feet deep. She measured about 250 tons, indicating by the crude formula of that time a capacity of about 25,000 cubic feet, or the equivalent of some eight modern railway box cars. Occasional ships in the China trade ran to 400 tons or more, but not until after 1850 were many ships much larger. By 1851, the *Flying Cloud* reached 1,782 tons, and the largest of the clippers was almost double that size. A few attempts to build bigger ships in the early days proved generally unprofitable; a ship of 250 tons was about what the traffic demanded. Such a vessel cost, when new, $15,000 to $20,000, and could normally be depended upon for some 20 years of service. The square-rigger required a considerable number in the crew to go aloft on the yards to loosen or shorten sail. Usually some 20 men, besides the captain and two mates, made up an average crew.

The two-masted, square-rigged brig was simply a smaller edition of the ship with a few special features. Her tonnage and her crew were usually about half as large. The Americans used brigs largely in the Baltic and Mediterranean, where cargoes were not apt to be big enough to fill a ship's hold. Brigs were the right size, too, for part of the Caribbean voyages and for the longer coasting ones.

The schooner was specially developed in America. Economically, its main advantage lay in its small crew. Fewer men were needed than on a brig of the same size, since the big sails could be hoisted or lowered from the deck without the necessity of men going aloft. From the standpoint of navigation, too, this fore-and-aft rig made a vessel easier to maneuver quickly and was better for clawing off a lee shore on a coastal run. Schooners varied considerably in size; probably 90 to 100 tons would be a fair average. They were most important on the Caribbean routes and in much of the coasting trade.



Full-bodied American schooners, or topsail schooners like this one getting under way in New York harbor, were well suited for coastwise and Caribbean trade, generally carrying agricultural produce, livestock, lumber, and other raw materials. Eighteenth-century painting by Dominick Serres engraved by J. Clark and J. Hamble for *Liber Nauticum*, by J.T. Serres (London, 1805). (Photo by Claire White-Peterson)

Although many schooners were capacious and tubby in the current style, most of the fastest vessels of those days belonged to this class. Baltimore played a distinctive role in the development of these speedier vessels. At those all too frequent times when Yankee commerce had to operate under uncertain conditions, the sacrifice of a little cargo space in the interests of speed was deemed desirable. It was obviously more profitable to sneak 80 tons of cargo past an enemy blockade than to risk the loss of 100 tons in a slower vessel. Their speed also made schooners valuable for conversion into privateers, as well as for smuggling or slaving. In fact, when a yard turned out a long, low, black schooner with raking masts, law-abiding citizens were wont to murmur suspiciously that she was intended for no honest purpose.

The sloop, with its single mast, varied in design according to its use. If intended for shallow waters, where deep square-riggers could not clear, it would be likely to have a centerboard. For deep-sea purposes an adequate keel would be built into it. Two or three men, even only one or two, could handle a sloop in local waters; for longer coasting voyages or a trip to the West Indies, a few more might be required. One sloop, the 84-ton *Experiment*, actually went from New York around the Cape of Good Hope to Canton in 1784 and returned safely with a valuable cargo. Normally the single-stickers averaged perhaps about 50 tons and confined themselves to the short hauls and humbler ladings of American commerce.

Warships likewise fell into several well-defined classifications. While foreign merchantmen concern us little in this study of American merchantmen, the reverse is true of naval craft. The enemy warships were the ones that affected our shipping in more ways than one. The types, however, were fairly well standardized among the various nations. Functionally the warships of oak, pine, and canvas fell into the same three main categories which still divide their modern counterparts of steel hulls and mechanical propulsion. Capital ships represent maximum strength, or did at least before 1941, and ordinarily operate in fleets or squadrons; cruisers have versatile adaptability to numerous useful purposes; and "hit-and-run" commerce raiders prey on weaker vessels and try to avoid stronger adversaries.



American sloops frequented the coastal and Caribbean trades, and during the period of neutral trade they were frequently overhauled by British patrols. On 28 April 1806, just off Sandy Hook at the entrance to New York Bay, a shot from the 50-gun HMS Leander *killed the helmsman of the American sloop* Richard *as he was heaving to. This provocative action so near an American port brought America and Britain close to war in 1806.*
Engraving by John J. Barrelet. (Library of Congress)

The capital ship of the old days was the huge ship of the line or line-of-battle ship, carrying 64 to 120 guns on the two or three fighting decks of her massive hull. A navy might have a few lofty, cumbersome, three-decked first or second-rates, with 90 guns or more, to serve as flagships, but the favorite type was the two-decked third-rate 74. She was about the largest ship which could sail well and fight well under all conditions. Such a vessel measured somewhat more than 2,000 tons, which was about as much as eight merchant ships, and carried a crew of

600 men crowded between her decks. A full-dress naval battle of the eighteenth century was generally fought according to the static tactics of the day. The rival fleets approached, with the vessels strung out in a line-ahead formation, one after the other. Eventually, they would form into parallel lines, each ship blasting away at a partner from the enemy line. The naval guns mounted on wooden carriages were seldom effective at more than half a mile. At times the rivals lay almost muzzle to muzzle, and boarding parties would swarm over the enemy decks. American merchantmen were rarely directly concerned with ships of the line except as their battles or blockades affected general conditions on the seas; the Yankee trader had a much closer acquaintance with the smaller, faster cruisers which operated singly. The United States Navy did not have a single ship of the line in commission before 1815.

Cruisers can perform many duties. On the defensive side, they can convoy their own merchant shipping, or patrol the chief sea lanes to drive off enemy raiders. On the offensive, they can be effective raiders on their own, or they can control enemy and neutral shipping, or they can blockade ports. Tactically, their relative speed made them useful as the "eyes of the fleet" and as carriers of dispatches, in the days of slow communications and no airplanes. They can show the flag on distant stations, transport treasure, and, in fact, can do almost anything except stand up under the guns of capital ships and, in modern warfare, under air attack without air support. But as far as the heavy "battle wagons" are concerned, cruisers usually have speed enough to escape unwelcome contact with them.

Frigates, in the sailing ship era, were counterparts of the modern heavy cruiser. The standard types carried from 28 to 38 guns on a single gun deck. The *Constitution* and her two companions with their 44 guns were supercruisers, stronger than any frigates in the British or other European navies. Next to the frigate in size came the sloop of war, which might be called a light cruiser. She had nothing but the name in common with the humble one-masted sloop of the merchant marine, for like the ship of the line and the frigate, she was a square-rigged ship of considerable size. Somewhat smaller, with two masts instead of three, was the gun brig, which had some of the functions of the modern destroyer, though that comparison cannot be pushed too close. All of these cruiser types were far more heavily manned than merchantmen, since crews had, in addition to the usual standing of watch and going aloft, the duties of gunners, powder passers, marines, and so on. Two hundred was perhaps the average crew.

Whereas the functions of the old regular naval cruisers have come on down to the present, privateering has been dead for about a century and a half. Tactically, the privateer had something in common with the modern submarine and auxiliary cruiser in that she made a habit of picking weaker victims and tried to avoid serious combat. Structurally, the privateer did not have a distinct type. A privateer might be almost anything from a small open boat to a converted schooner, brig, or ship of the merchant marine; it might be a powerful vessel built for the purpose and comparable in gun power and personnel with regular naval cruisers. The significant feature of the privateer was her status. Unlike the naval vessel, she was privately owned, manned, and operated. On the other hand, she was not a pirate; that technical difference lay in her letters of marque and reprisal from the government, which gave her its official blessing to prey upon enemy commerce.

Weaker powers were forced for their offensive role, such as it was, to the so-called guerre de course or cruiser warfare.

The privateer was generally the property of a small group of merchants or shipowners. Sometimes, to be sure, there was but a single owner, and at others the shares were widely distributed. By the usual procedure, a merchantman would be taken over; the necessary guns, munitions, and stores purchased; officers appointed; and advertisements placed for a crew to "cruize against the enemy." The crew were given food but no wages; they, like the owners, were in the venture for the prize money from the vessels which they hoped to seize. A certain specified proportion of this went to the owners as a return on their capital investment, while the remainder was divided among the officers and crew according to a prearranged schedule.

From the government's standpoint, the privateer was a helpful supplement to the cruisers in the work of damaging enemy commerce, including that part of it carried under neutral flags. On the defensive front, however, the privateer was of much less assistance in the protection of a nation's own trade, except for an occasional recapture of a merchantman from the enemy prize crew. They were not dependable at all for convoy duty and were usually under orders from their owners to avoid fighting enemy warships. Such activity was both risky and far less profitable than chasing fat merchantmen – and profits were the *raison d'etre* of privateers. If, for instance, a naval gun brig cruising in the Windward Passage sighted an enemy warship of about equal strength, the naval commander would feel in duty bound to attack her and remove that threat to merchantmen. No such considerations would worry the privateer captain. Gold, not glory, being his primary interest, he would generally withdraw as quickly and prudently as possible. Another point against the privateers was the embarrassment caused to their government by their frequent improper conduct in the pursuit of rich prizes.

Altogether, the privateers were unpopular with both the navy and the merchant marine. The gambling instinct lured seamen to privateering from both. Wages aboard a freighter seemed very prosaic in contrast to the chances of rich seizures. The navy, too, seemed less attractive than the shorter enlistments, the more generous sharing of prize money, and the less chance of getting hurt aboard a privateer. The occasional tremendous profits of a few lucky privateers blinded men's eyes to the many that returned empty-handed. Owners and crew were ready to take a chance for the grand prize.

The War of 1812 was the final climax of privateering. It soon degenerated into piracy in the wars of Latin-American independence. Europe banned it in 1856, but a few Confederate vessels licensed in the Civil War were the last "private men of war." Most honest merchants and mariners heaved a deep sigh of relief. From the nature of the system, a study of our merchant marine is little concerned with American privateers, but those that flew the British ensign were a different matter. Whether they hailed from Bristol, Liverpool, Tory New York, or the Maritime Provinces, they made themselves all too familiar to the Yankee skippers – and so, too, did those of French and Spanish origin.

Whereas the American privateers lie outside the story, our so-called "letters of marque" are an integral part of it. They were armed merchantmen, licensed by the government to pick up prizes only as by-products of normal trading voyages. These merchantmen were equipped for protection against enemy

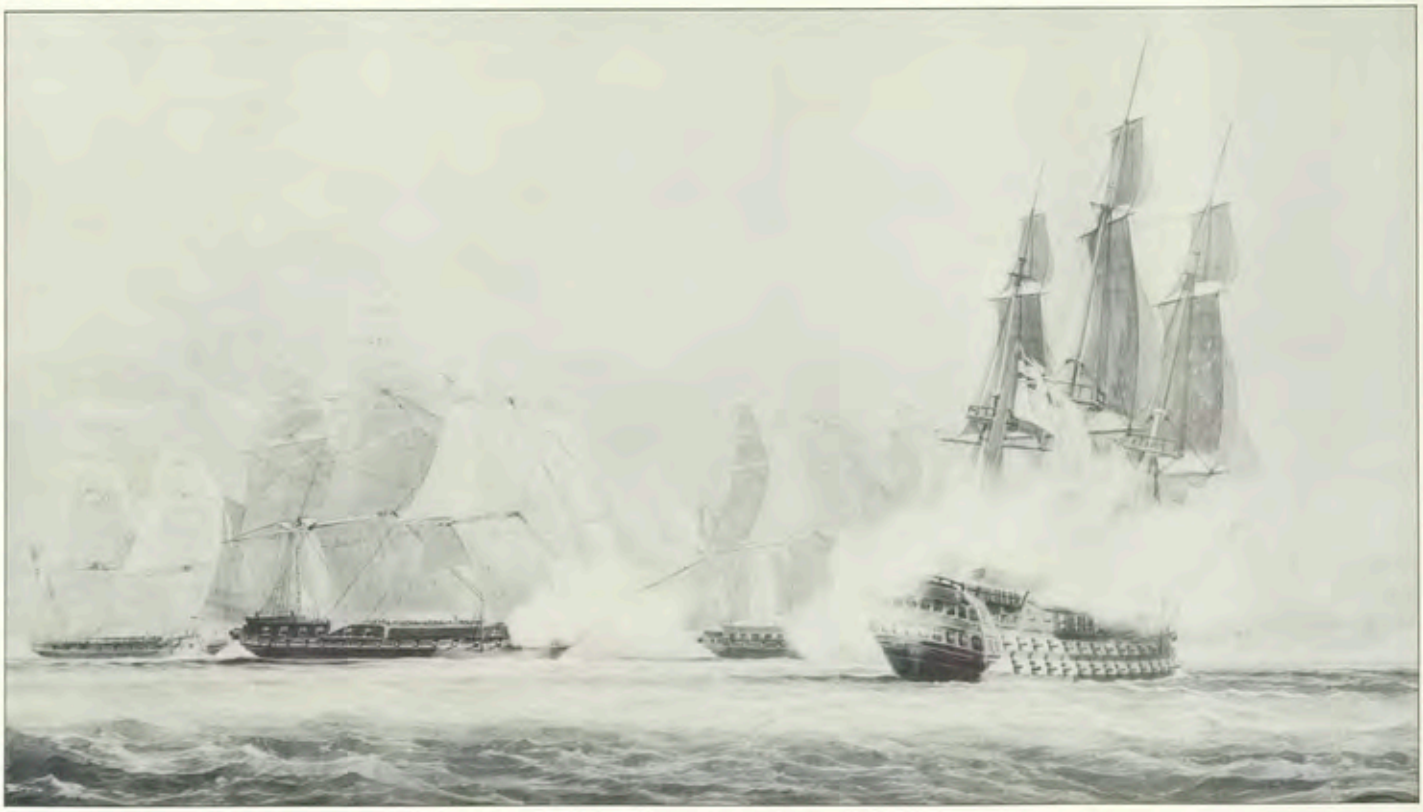
raiders, with fairly strong armament and with perhaps a few extra men in the crew. If in the course of a voyage such a vessel happened to capture a small raider or a weaker enemy merchant ship, her letter of marque (and reprisal) entitled her to the prize money. She would not, however, be supposed to search for prizes or go out of her way for them, as trade was her main objective. Hundreds of American merchantmen were so armed and licensed during the Revolution, the undeclared war with France, and the War of 1812. The arrival of such a vessel would be reported in the marine news as "Letter of Marque *Charming Polly*, Brown, 42 days from Lisbon, with salt &c."—in contrast to "Privateer *Harpy*, Smith, from a cruize." The letter of marque occupied an intermediate position between the ordinary armed merchantman and the auxiliary cruiser of the present day.

Those three—merchantmen, warships, and privateers—were the chief factors in the struggle for sea power in the days of sail. The relative strength of the belligerents, especially in the matter of capital ships, decided the nature of a particular conflict. Where Britain was involved, enemy traders were extremely vulnerable because of the preponderance of the Royal Navy. Ordinarily, if European, they scarcely dared venture on the seas and had to depend upon neutrals for most of their overseas trade. On the few occasions when the enemy fleets were fairly equal to the Royal Navy, it was a different story, because under those circumstances the merchant shipping of both sides continued on the high seas with an even chance of safety. At all times, the Americans, being more distantly located from the centers of British strength, were ready to take a chance with their shipping. With their superiority in capital ships, the British usually had little to fear from the danger of enemy fleets at large. They consequently were free to convoy their own merchantmen with moderate forces, and to use their cruisers, aided by privateers, to blockade enemy ports, patrol the sea lanes, and regulate neutral traffic.

Weaker powers were forced for their offensive role, such as it was, to the so-called *guerre de course* or cruiser warfare. By this, their raiders would prey upon British commerce and were usually able to inflict considerable damage. Modern submarine and plane tactics against merchant shipping are of the same nature. The hope of the *guerre de course* has ever been to weary the enemy merchants and shipping interests with the increased insurance rates, losses, and consequent high prices; and eventually to induce them to bring pressure for peace upon their government.

The most effective protection against such raiders was the time-honored convoy system, by which one or more warships escort a large assemblage of merchantmen either for the whole voyage or at least through the danger zones. This was in common use by the British and French until 1815 and was revived again in 1917 and in 1939. Convoying gave reasonable security, but at the expense of speed. In recent times, the United States frequently has had to guard its commerce against the *guerre de course*; but before 1815, it was waging such a war itself. In that day, we had few, if any, warships to spare for convoy service, and Yankee merchantmen usually had to trust to their own speed, guns, and luck.

The power of a British capital ship was displayed on 22 May 1812 when the 74-gun HMS Northumberland *intercepted the French 40-gun frigates* Arienne *and* Andromaque *and the 16-gun brig corvette* Mamelouck *off L'Orient. When the French ships ran aground the* Northumberland *pounded them until they blew up.*
Watercolor, gouache, attributed to John Christian Schetky. (Photo by Mary Anne Stets, M.S.M. 54.1337)



Our commerce was more affected by the British methods of exercising control over hostile or neutral shipping, either through the close blockade of ports, patrolling of congested areas, or general cruising. The British purpose, of course, was to spread a net so fine that it could exercise restrictions over a considerable part of the world's shipping—and their supply of cruisers and privateers was ample for the work.

At first glance, the seas seem too tremendous to make this a possible task. Shipping, however, tended to follow certain well-defined sea lanes, dictated by consideration of the cargoes to be found at each end. Only the far-flung whaling fleets usually prowled over the vast extent of the oceans, as fancy took them. America at the outset concentrated its energies upon the transatlantic and the Caribbean routes.

From the days of the first settlements down to the present, the stormy 3,000-mile run across the Atlantic to England has been the most important American route. It passed through the thick fogs on the Grand Banks south of Newfoundland, and then followed the warm current of the Gulf Stream eastward. The British west coast might be approached around the northern end of Ireland, but even for that destination most vessels aimed for the southern Irish coast. Strange as it sounds, sailing vessels bound from England to America traveled nearly 500 miles farther than those going from America to England. The extra distance came from constant beating against the prevailing westerly winds. The sailors described the eastward passage as going downhill all the way, and the westbound trip as all uphill. For that reason, sailing vessels could frequently accomplish the eastbound trip in three or four weeks, whereas their westbound passages might vary anywhere from five to twelve weeks. It was regarded as a miracle of swift sailing during the Revolution when General Howe's private secretary went to England and back in just three months. The traffic of this "main line" has always loomed large in American commerce because of the value of the cargoes carried in the teeth of the westerlies. These came mainly from England at first, but as time went on, the Continental trade developed.

However valuable transatlantic cargoes might be, a much greater number of American vessels were engaged in the West Indian trade in the earlier days. It was a much shorter run. Havana, for instance, one of the nearest of the Caribbean ports, is 1,456 miles from Portland, 1,227 from New York, and only 606 from Savannah. That short route, coupled with the nature of the trade, made it available for little vessels barely averaging a third the size of those trading with England. Vessels from the northern ports generally followed the coast down to New Jersey and then headed out, to clear the treacherous Carolina sands off stormy Hatteras. Then they set their course for the particular passage where they desired to pierce the great semicircle of the Antilles in order to get to their destination.

Even in peace, a mercantile voyage was in those days literally a "venture." . . . Once a captain left port, he was beyond the shipowner's control and entirely upon his own initiative.

Until after 1815, these two main sea lanes held most of America's shipping activity. Occasional valuable cargoes took the long route around the Cape of Good Hope to the Far East, and a few small vessels visited Africa—not always for honest purposes. Only gradually did Yankee vessels push down to Brazil, the Argentine, and around Cape Horn to the Pacific, while the route across that ocean developed still more slowly. Anyone bent on harassing American commerce in those early days, however, would have spent his time in the Caribbean or along the coast.

The favorite lurking place for cruisers and privateers—whether British, American, or other—were the few passages through the semicircle of islands between the Caribbean and the Atlantic. As for transatlantic trade, it had to go warily near the British Isles and around Gibraltar. The later happy hunting ground of Confederate cruisers and German raiders, off the coast of Brazil, would have yielded poor pickings at that early period.

The actual circumstances of capture followed a general pattern, which involves a tedious amount of repetition in the stories of privateering. Now and then it was exciting, with a lively chase and a brisk fight, but normally a regular ritual ensued. Thousands of times it was the same: a shot would crash across the bow of the luckless merchantman; she would back her topsails and lay to, while a boat's crew came over; the boarding officer would examine her papers; a prize crew would then be put aboard the seized vessel to sail her to the nearest port where her case could be properly tried.

There was, however, a basic difference between seizing belligerent and neutral merchantmen. The former were certain to be fair game if caught; the best they could do was to run like hell, and, if there was any likelihood of success, use their guns. The overhauled neutral, on the other hand, had different rights and duties. She was bound by international law to submit to visitation and search by a belligerent, which, in turn was forbidden to destroy the vessel or touch any of her cargo until it had been legally condemned.

War-risk insurance rates are an invaluable indication of the actual shifting conditions of wartime shipping and give a more realistic picture than communiques of either foe. They are the dollars-and-cents interpretation of the chances of ships getting safely by raiders or mines or blockades; and they are uncolored by propaganda. In those earlier wars, insurance rates on cargoes often ran higher than on hulls, especially in the case of neutrals, because the vessel was frequently released after the condemnation of the cargo. In those early troublous times, the American merchants and shipowners were handicapped by the lack of the ample financial concentration represented in the underwriters of Lloyd's. They struggled to spread out their burdensome risks by joining together for insurance. They had, moreover, to act pretty much in the dark on information, which was too often stale and incomplete, for their estimates on the prospects of safe completion of a voyage. Rates included the normal marine risks of shipwreck and the like, which were usually about 2 percent on a voyage to Europe or the West Indies. One really got remarkably ample and generous coverage in those old policies. A New York one of the Napoleonic period read:

> *Touching the adventures and perils which we, the assurers are contented to bear and take upon us in this voyage, they are of the seas, men of war, fires, enemies, pirates, rovers, thieves, jettisons, letters of mart or countermart, surprizals, takings at sea, arrests, restraints, detainment of all Kings, Princes or Peoples of what nation condition or quality soever, barratry of the master or mariners, and all other perils, losses and misfortunes, that have or shall come to the hurt, detriment or damage of said vessel, or any part thereof.*

One feature of the early period of American maritime activity that helped make marine insurance so very hazardous and uncertain – and influenced commerce in general at every turn – was the slowness of communications. Even in peace, a mercantile voyage was in those days literally a "venture." One had no idea whether the cargo would reach a glutted market with low prices or an empty one with skyrocketing profits. In wartime, it was dangerous to a degree. Weeks elapsed before news of changes in the naval situation, new restrictive decrees, or even of the declaration of war or peace reached the uneasy shipping circles. Once a captain left port, he was beyond the shipowner's control and entirely upon his own initiative. An owner who learned of serious new developments in international affairs after his ship had set sail could only walk the floor in helpless anxiety for weeks or months. Many a Yankee captain, for instance, first heard of the War of 1812 when he was overhauled by a British cruiser or privateer. New Orleans was not the only battle fought after peace had come in 1815; the *Constitution* fought the *Cyane* and the *Levant* off Brazil several months after that. Even in 1865, the *Shenandoah* destroyed the Yankee whaling fleet in Bering Strait nearly three months after Lee surrendered at Appomattox. Wireless has made all this a very different story. On the whole, however, the development of rapid communication was to help the hunted merchantmen far more than the raiders who pursued them.

Cargoes, like so much else in the old order of things maritime, were not of the same significance in that earlier period as they were to become in modern times. In those days of simpler economy and technique, the various nations were far less dependent upon materials from beyond the seas. Most of them already had within their borders such raw materials as were used for gunpowder, ordnance, and most of the other sinews of those but slightly mechanized wars, although their industry might not always be geared to the production of an adequate supply. Being still primarily agricultural, most of Europe could in normal times raise enough food at home. Practically the only chronic lack of basic strategic materials occurred in masts and naval stores in the cases of England, France, Spain, and Holland.

The pursuit of a merchantman, then, was more of a nuisance than a menace. Neither the crew of the pursuing raider, hungry for prize money, nor the captain of the trader, struggling to escape, could ordinarily feel that the fate of his nation literally depended upon the outcome of that chase, or of a thousand other similar ones. Commerce raiding, in other words, was ordinarily a purely business matter rather than a prime strategic weapon. The losses, to be sure, were a blow to the mercantile and shipping interests, whether they were sustained directly by the owners or spread out more widely through marine insurance, but the war-risk charges could be passed on to the consuming public through increased prices. In the old days, mercantile war losses might lead to occasional clamor from the business classes, but they never were of a severity to inspire a lobby strong enough to produce a premature peace.

(To be continued)

With its large navy, Great Britain was usually able to protect its commerce against the guerre de course by shepherding merchant vessels in convoys. Here, a British brig-of-war (center) *helps convoy a fleet of merchant ships flying the flags of Hamburg, Denmark, Revel, and other Baltic states.*

Oil painting by Robert Dodd, 1813. (M.S.M. 67.78)



Clark Greenman's True Colors





Left, some time after the alterations done on the Clark Greenman House in the 1870s, this group posed in a field across today's Greenmanville Avenue. This photograph shows the Clark Greenman House's east elevation, and gives an idea how the house looked after the alterations. This photograph is typical of those used to research the past appearance of a building. (M.S.M. 80.26.42)

Above, another posed photograph taken after the 1870s alterations shows the south elevation of the front section of the house, and provides some more clues on how the house might be accurately repainted. (M.S.M. 80.26.23)

After thousands of hours of work, the exterior of the Clark Greenman House has been stripped to bare wood and repainted in the colors it wore in the late 1870s.

Until three years ago, the secrets of the Clark Greenman House's historic colors lay hidden beneath the dozens of layers of paint accumulated over a century and a half. Returning this building to its true appearance during an important part of its history involved digging beneath those surfaces of paint and carefully sifting through the information available on the building's changing appearance over the decades. A period also had to be selected to which the color scheme would be restored, since this long-lived building had different appearances at different times.

Clark, Thomas, and George Greenman built handsome homes for themselves within five years of opening the George Greenman and Company shipyard in 1837 on the land now occupied by Mystic Seaport. Today these three houses still stand on Greenmanville Avenue, and are used by the Seaport as exhibit, office, and collections storage space.

Maintaining these buildings is not only important for the Museum's appearance to the public, but to its function as a historical association. The Seaport is now completing work on returning the exterior of the Clark Greenman House—better known to many as the Administration Building—to a close approximation of its appearance in the late 1870s.

Clark Greenman built his house in 1841 in the popular Greek Revival style of the day, a simple 2½ story residence with a one-story ell and a small portico leading to the front door. It was painted in a simple color scheme typical of the period, off-white with white trim.

Clark Greenman's house, as well as his brothers' houses on either side of it, underwent significant changes in the 1870s. On the Clark Greenman House, front and side porches and an Italianate bay window were added, and a second floor was added to the ell.

Architecture was becoming increasingly ornate during this period, and the changes to the Clark Greenman house reflect this trend. One example of this is the porch's elaborate scrollwork, called this because a scroll saw, a relatively new invention at the time, was used to make it. Brighter and more varied colors also came into wider use at this time, and the Clark Greenman house was no exception, going from off-white to a brighter color scheme. These changes in style were reactions to the simplicity of Greek Revival design and the monotony of its colors, as well as results of technological advances of the day, such as the scroll saw, and the manufacture of paints of more varied colors.

Restoring the building to represent this period allows the Museum to present the house in the context of the time when Clark Greenman, who lived from 1807 to 1877, was still active in the shipbuilding affairs of George Greenman and Company. This underscores the house's maritime as well as architectural significance.

The stripping and painting were carried out over four summers. When Ric Curcio, Director of Maintenance, and Al Gladue, Supervisor of the paint crew, made the decision to repaint in 1987, a close look at the old paint showed that it was deeply "alligatored," or cracked, with a texture like an alligator's skin. These cracks are not just surface flaws, but go right through to the wood. It was therefore necessary to remove all the alligatored paint completely, since a new coat of paint wouldn't cover the cracks, and would not adequately protect the building.



Left, *the front of the Clark Greenman House as it appeared in 1989. Notice that the north wing, to the right, has already been repainted in the 1870s colors.*
(Photo by Claire White-Peterson)

Below, top, *detail of the southeast corner of the front porch, almost fully stripped. The photograph shows where some of the original paint was left on the wood, for future paint analysis.*
(Photo by Judy Beisler)

Below, bottom, *Al Gladue paints the front porch. When Gladue first came to the Seaport in 1964, one of his first assignments was to paint the Clark Greenman House.*
(Photo by Judy Beisler)





It was decided to remove all of the paint with heat guns and heat plates. Although this method of paint removal is slow, it is less harmful to the building than faster methods. Chemicals saturate the wood and cause problems with paint adhesion. Stripping paint by sandblasting also damages the wood. The layers of wood that grow in the spring are softer than the summer wood, so not all the layers in a board are of the same hardness. This means that some layers are eaten away faster than others under sandblasting, leading to a "corduroy" effect. Heat stripping, on the other hand, allows many layers of paint to come off with one scrape, and is more controllable than other techniques.

The stripping and painting were done by the Seaport's paint crew, Al Gladue and Larry Luketich, with assistance from other people from the Maintenance Department. The job took an estimated 3,000 to 4,000 man hours to complete. Gladue, who has worked at the Seaport since 1964 and put the most hours into the stripping and painting, said one of his first jobs at the Seaport was putting a coat of white paint on the Clark Greenman House.

As is often the case when removing paint down to the bare wood, areas of rot that needed repairs were uncovered, including the gutter, roof eaves, porch columns and skirt board, among others. This work was handled by restoration carpenters George Teed and Andy Derr, who reproduced moldings and scrollwork, and repaired and replaced original pieces, in addition to doing quite a bit of paint stripping.

Curator for Collections William Peterson, then Associate Curator for Collections, had urged that the house be repainted in its



Above, *Larry Luketich paints ornate trim on the porch of the ell.*
(Photo by Judy Beisler)

Below, right, *the Clark Greenman House in September 1990, after repainting was complete.*
(Photo by Alex Matthiessen)

nineteenth-century colors. Researching the color scheme of a historic house means looking at actual layers of paint with paint samples. Historic photographs can also supplement this information, although black and white photographs only indicate dark and light surfaces, not actual colors. Useful information can also be found in books on the architecture of the period.

Wick York, Architectural Restoration Specialist of the Seaport Collections Department, began paint analysis on the Clark Greenman House in the summer of 1988, taking approximately 30 paint samples from the siding, trim, window sashes, and porch, areas on the building that would have paint layers from each time the building was painted in its almost 150-year history. The increased complexity of the 1870s style meant more trim and more complex trim lines, which in turn meant more samples needed.

The paint samples were sent to Peggy Albee, an architectural conservator at the North Atlantic Historic Preservation Center of the National Park Service, who analyzed each one under a microscope. This makes it possible to identify different layers, even if the layers are all one color.

Albee then listed the colors of the various paint layers found. By listing each layer in a given sample and then comparing these lists with one another, it was possible to identify those samples that had a complete record of paint layers, which would reveal a history of the building's paint colors since the time it was built.

Once the colors of the late 1870s period were identified, they were matched with colors from the Munsel color chart. These in turn were matched to Benjamin Moore specially mixed colors. The colors chosen were cream for the body (Benjamin Moore HVC–31), dark green for most of the trim and shutters (Benjamin Moore 5G-2), and off-white for the window sashes and trim boards directly underneath the main roof and porch roof (Benjamin Moore OW-9).

Members may want to look for some of these features on the exterior of the Clark Greenman House the next time they visit:

The pilasters, which look like square pillars on the corners of the building, are a typical feature of this style of Greek Revival architecture. The corner boards on the George and Thomas Greenman Houses have a three dimensional surface, while the Clark Greenman House's corner boards are only painted to look three dimensional.

The Clark Greenman House has a triangular window on its pediment, the triangle forming the gable of a two-pitched roof in Greek Revival architecture. During restoration, it was discovered this window opens by sliding into a pocket in the wall. The window is believed to be one of the original features of the house, because the glass in it is distorted cylinder glass typical of the mid-nineteenth century. The mortice and tenon joining is consistent with the 1841 date, and there is no evidence of any earlier window.

Some of the applied scrollwork pieces on the base of porch pillars are new, copied from originals. These replaced plywood pieces that had been installed during an earlier repair some years ago.

The windows of what was once the parlor on the first floor of the main section of the house, looking out on the porch, were lengthened in the 1870s, another feature typical of that period's architecture. The first floor window sashes are "two over two" (two panes over two panes), while on the second floor, which still has the original window sashes, they are six over six. This is because later technology put larger panes of glass into common use.

The molding under the eaves on the sides of the main section of the building was discovered to be the outer part of a built-in box gutter, a 4-by-12-inch beam hollowed out with an internal pitch. It was covered over in an earlier re-roofing because of rot.

The first-floor offices on the north side were added in two stages. The office at the east end of this addition was added some time in the early part of the twentieth century. The office at the west end was added in 1951, as a brick-lined book vault, which served as the Seaport's library. The relatively new foundations of this wing are visible, and can be compared to the older foundations of the rest of the building. ■



Early Public Transportation to the Islands of Rhode Island

LAURA S. & JOHN A. SAUNDERS



Map of Rhode Island sail ferry routes by Paule Loring, 1949. (Courtesy authors)

One-fifth of Rhode Island, the nation's smallest state, is covered by water. Narragansett Bay alone comprises 200 square miles of the state's 1,497 square mile area.[1] The Bay, with its three entrances – the West Passage, East Passage, and Sakonnet River – is Rhode Island's most striking geographical feature, extending deep into the heartland at Providence. Located within the Bay are three large islands. Largest and most important is the island of Rhode Island (formerly called by its Indian name, Aquidneck, and so called throughout this article to distinguish it from the state itself), which is separated from the mainland by the Sakonnet River on the east. West of Aquidneck, Conanicut Island divides the waters of the Bay into the East and West Passages. North of Conanicut, Prudence Island, shaped like a polywog swimming towards the sea, lies halfway up the Bay toward Providence.

Since the 1600s ferries have carried people, animals, and freight to and from the islands of Rhode Island. The route of an island ferry may be over calm and protected waters in a bay or harbor, or it may be an adventurous crossing offshore. Rhode Island, with the islands of Narragansett Bay, as well as Block Island, eleven miles from the mainland, is a good example of a state that developed both bay and offshore island ferry systems.

In 1639 the town of Newport was settled alongside a good harbor on the southwest side of Aquidneck Island. Newport prospered, becoming the seat of colonial government, the largest town in the colony, and one of the five leading seaports on the Eastern Seaboard in colonial times. By necessity it became a hub of land and water transportation routes. Not until a channel was dredged in the Providence River in the nineteenth century did Providence become the leading port in the state. The importance of the island on which Newport lies is reflected in the state's title, The State of Rhode Island and Providence Plantations. Newport's dominance before the Revolution was attributable to maritime commerce.

A number of prominent Newport merchant families traded with the West Indies, Southern ports, and South America. Livestock and produce from large plantation-like farms along the lower west shore of the Bay were exchanged for Caribbean molasses to be made into New England rum, which in turn was shipped out to be used in exchange for foreign goods. The Narragansett Pacer, a breed of riding horse developed on the Rhode Island plantations, was much in demand on sugar plantations of the West Indies, and hundreds of these pacers were ferried across the Bay to Newport to be shipped out from there. Newport prospered as early as the 1760s, not only as a commercial seaport town, but also as a social center. People from other colonies began to summer there, and passenger travel across the Bay increased. After the Revolution, with the decline of the agricultural economy and growth of industry in the interior of the state, closer to Providence, Newport was overshadowed, only to reemerge as a resort community of the wealthy.

Ferries were a necessity in the Bay, serving as highways between the four original settlements: the mainland towns of Providence and Warwick, and the island towns of Portsmouth and Newport. Ferries served also as links in road systems developing from the north and south, and later from the west.

EVENTS

Volunteers Recognized for Record Hours in 1989–1990

The Seaport's volunteer staff turned in a record year of service in the 1989–90 fiscal year. More than 500 volunteers donated a record total of 39,596 hours of work.

There were 49 volunteers who gave more than 200 hours to the Museum and almost 100 young volunteers who assisted in maintenance, sailing programs, various special events, and activities such as "Just for Kids," managed by the Education Department.

At the October Volunteer Reception, Volunteer Coordinator Jean Sullivan presented awards recognizing special work by volunteers.

Recognized for giving ten years of service totaling 1,000 hours or more were: Douglas Allen, Patricia Carlson, Betzy Killam, Earl Pedersen, Chester Rice, and Anor Van Winkle.

Recognized for donating the most hours in 1989–90 were: Robert B. Watt, 968 hours; William Noyes, 817.5 hours; Anor Van Winkle, 633.5 hours; and Robert Allyn, 629 hours.

Recognized for completing their first 1,000 hours of service were:

Thomas Awkerman, Timothy Boynewicz, Edward Carlson, Ruth Daniels, Pat Mathieson, Frank Murphy, and A. Walter Stubner.

Recognized for completing their first 500 hours of service were:

Lorraine Allen, Robert Allyn, Russell Brown, Edward Bush, Severn Carlson, Karel den Tex, William Healy, Bobbie Hickey, Kenneth Hodgson, Horace B. Lamb, A. Duncan MacDougall, M.D., Linda Prior, Howard M. Smith III, Christopher Tobin, and Lee Treffeisen.

Recognized for completing their first 100 hours of service were:

Mary M. Abramson, Robert Allyn, Charles W. Bailey, Erik Barone*, Anne Bray, John Butts, Kathleen Casey, Christopher Clarkin*, Adrienne Corbeille, Cara DeBartolo*, Oliver Denison, Andrew DiGiovanni*, Lee Dumas, Natalie Everts, Andy Freedman*, Jessica Grainger*, Robert Hancock, Leonora Hansen, Lauren Hart, Lynn Hinkel, Ernst Holzborn, Voss Hutton, Margarete Jadamec*, Grace Johnson, John Keeney, Keith La Marr, Calvin Lane, Bret Laurent, Sara J. Leone, Richard Majewski, John Matthews, Dan McGuire, Marc Musheno, Carolyn Norton, Fran Oat, Bill Oat, George Overbaugh, Hallie Payne*, Jean Pierce, Terry Remeika, Carrie Romoser, Dana Rousmaniere*, Robert Rowe, Christie Smith, Dorothy Spillane, Niel Spillane, Tora Sterregaard, Lionel Taylor, Lee Treffeisen, Jeffrey Watts, Ruth Webster, Roger Williams, Jefferson Wilson, and Eric Zimmerman.

**Young volunteers.* ■

Patricia Carlson is one of six volunteers who were recognized at the annual Volunteer Reception for completing ten years of service totaling 1,000 hours or more.
(Photo by Claire White-Peterson)



CALENDAR OF EVENTS

NOVEMBER

Winter schedule continues. Exhibits open from 9 A.M. to 4 P.M. until 2 January 1991.

Neptune's Attic: 60 Years of Collecting continues in the R.J. Schaefer Building. A celebration of the Museum's 60th anniversary from a curatorial standpoint. Highlights of the Seaport's finest acquisitions on display.

Eleventh Annual Mystic International continues at the Mystic Maritime Gallery, Seaport Stores through 11 November. The largest juried exhibit of marine art in the world, featuring more than 100 works by new and established marine artists from around the globe. For more information or a color catalog call (800) 344-0675, or in Connecticut call 572-8524.

2 ***Dutch Book Auction*** at the G.W. Blunt White Library, 10 A.M. to 5 P.M. Hundreds of books from which to choose in this annual event sponsored by the Fellows of the Library. Prices on all books decreased hourly.

2 & 3 ***Tenth Annual Symposium on Southeastern New England Maritime History.*** Punch bowl reception Friday in the R.J. Schaefer Building from 7:30 to 10:30 P.M. Registration at 8 A.M. Saturday at the Seamen's Inne. Several experts on maritime history will speak on a variety of subjects. $38 (nonmembers $44), including Friday reception, buffet lunch, and refreshments. For more information please call ext. 313 or 349.

3 ***John A. Noble: The Rowboat Drawings.*** Waterfront sketches of New York Harbor; Bayonne, New Jersey; and other locations from the point of view of this renowned artist in his rowboat. In the P.R. Mallory Building until April 5.

9 to 11 ***Historical Society Days*** at Seaport Stores. The Stores donate a percentage of sales to the Mystic River Historical Society. 10 A.M. to 5 P.M.

17&18 ***Four Distinguished Artists*** members' opening at the Mystic Maritime Gallery, Seaport Stores. A collection of sixty new works by John Atwater, William Davis, Richard Loud, and ship modeler Lloyd McCaffery. The artists will be in the Gallery to meet members. Show exhibited through 31 December. For more information call the Gallery at 1-800-344-0675, or in Connecticut, 572-8524.

22 ***Thanksgiving Day.*** Limited opening – three staffed and twenty unstaffed exhibits open. 19th-century dinner prepared on an open hearth in the Buckingham House. Reduced admission.

23 to 25 ***Family Friendship Days.*** Activities for the whole family from 9 A.M. to 4 P.M. Music, magic shows, Christmas ornament workshop, hayrides, games and much more. No charge above admission.

26 ***"A Celebration of the Stars of Christmas, Hannukah and the Winter Solstice"*** Planetarium Program. The splendor of the winter skies and the holiday season unfold as science, mythology, religious observances, winter traditions and music merge against a backdrop of stars. Times listed in Today schedule. $1 for adults, $.50 for children under twelve. For more information or to arrange group showings call ext. 397. Through 31 December, no shows 24 or 25 December.

29 ***Yuletide Tours.*** One-hour tour with a costumed guide, leaving every 15 minutes 9:30 A.M. to 2:30 P.M. Wednesday through Sunday from the Visitor Reception Center. Adults $10 and $5.75 for children five to twelve. Through 20 December. For more information or reservations call ext. 331.

DECEMBER

1 ***Members' Shopping Day*** at Seaport Stores. Extra discounts for members. From 10 A.M. to 7 P.M. Refreshments served 6 P.M. to 9 P.M.

6 to 22 ***Lantern Light Tours.*** Sorry, sold out.

8 & 9 ***Christmas Ornament Contest*** for children at Seaport Stores. For more information call (203) 572-8551.

23 ***Community Carol Sing.*** An hour of caroling in Anchor Circle, 3:30 P.M. The Seaport Carolers sing in the Aloha Meeting House at 2:30 P.M. Free admission.

24 ***Christmas Eve Day.*** Limited opening – three staffed and twenty unstaffed exhibits open. Reduced admission.

25 ***Christmas Day.*** Seaport closed all day.

26 to 30 ***Plum Pudding Voyages*** for children. Special vacation activities including tours, stories, crafts, snacks and surprises from 9:30 A.M. to noon. $10 (nonmembers $11). Please register with the Education Department, ext. 322.

JANUARY

1 ***New Year's Day.*** Limited opening – three staffed and twenty unstaffed exhibits open. Reduced admission.

2 ***Winter hours begin.*** All exhibits open 10 A.M. to 4 P.M. until 9 April.

2 ***Selections from the Inventory,*** an exhibition at the Mystic Maritime Gallery, Seaport Stores. More than 100 paintings, sculptures, scrimshaw and models of a variety of maritime subjects by leading artists from around the world, all from Gallery inventory. Special commissions of a painting or model of one's yacht can be arranged. For more information, call the Gallery at 1-800-344-0675, or in Connecticut 572-8524.

2 ***Basic Celestial Navigation.*** Use of the sextant, star identification, plotting, time keeping, and use of the *Nautical Almanac*. Twelve Wednesdays from 7:30 P.M. to 9:30 P.M. at the Loomis Chaffee School in Windsor. $130 (nonmembers $144). For more information call the Planetarium, ext. 397.

18 & 19 ***Open House Weekend*** for prospective students of the Williams College-Mystic Seaport Maritime Studies Program. Tours and interviews for this one-semester undergraduate program can be arranged. For more information call ext. 359.

21 ***Introductory Smithing Class*** begins. Eight sessions on Mondays and Wednesdays. Instructed by professional farrier

Rocky Meyer, an expert in both modern and traditional blacksmithing techniques. For students with no prior training. Enrollment limited to six. All materials and tools provided. $200 (nonmembers $220). For more information please call ext. 256.

22 ***Advanced Carving Class*** begins. Eight sessions on Tuesdays and Thursdays. Instructed by Dave Mathieson, the Seaport's supervisor of conservation. For students with some carving experience. Enrollment limited to six. All materials and tools provided. $200 (nonmembers $220). For more information please call ext. 256.

FEBRUARY

Anyone interested in taking a **Connecticut Basic Boating Course** in February 1991 should contact the Education Department at ext. 323. The course will qualify boaters age seventeen and younger to operate a motor vessel. The course will be offered if there is sufficient interest.

Winter Workshops will be offered this month. For more information or to put your name on the mailing list, please call the Education Department at ext. 323.

1 ***Fabulous February Frame Sale*** in the Print Shop, Mystic Seaport Museum Stores. As much as ten percent savings on selected frames in stock and custom framing packages. Through 28 February. For more information, call 572-8551.

6 ***Introduction to Coastal Navigation.*** Basic chart work, understanding tides and currents, and aids to navigation. Five Wednesdays from 7:30 P.M. to 9:30 P.M. at the Planetarium. $54 (nonmembers $60). For more information please call ext. 397.

9 to 18 ***Liberty Days.*** Activities around the Seaport for children and their families during exhibit hours, including sailors' arts, tours, and activities in each exhibit. Exact times and locations to be posted at the Children's Museum and on gate handouts during the week. No pre-registration required. For more information please call the Education Department at ext. 322.

11 to 15 ***Star Tech.*** See page D.

15 ***Early Deadline*** for applications to Williams College-Mystic Seaport Maritime Studies Program fall semester.

19 ***Basic Celestial Navigation.*** Use of the sextant, star identification, plotting, timekeeping, and use of the *Nautical Almanac*. Twelve Tuesdays from 7:30 P.M. to 9:30 P.M. at the Planetarium. $130 (nonmembers $144). For more information please call the Planetarium, ext. 397.

25 ***Advanced Smithing Class*** begins. Eight sessions on Mondays and Wednesdays. Instructed by professional farrier Walter Scadden, a professional blacksmith with fifteen years architectural and decorative work. For students with some blacksmithing skills, this class will focus on advanced forge work and decorative techniques. Enrollment limited to six. All materials and tools provided. $200 (nonmembers $220). For more information please call ext. 256.

MARCH

4 ***Loran C: North Star 800.*** Introduction to basic theory and use with hands-on instruction using student's own North Star 800. Three Mondays from 7:30 P.M. to 9:30 P.M. at the Planetarium. $67 (nonmembers $75). For more information please call the Planetarium, ext. 397.

5 ***Boatbuilding Classes begin.*** See inside of back wrap.

7 ***Applied Meteorology for the Yachtsman.*** Jack MacFadyen, past chairman of the Geology Department at Williams College, will talk about weather patterns, anticipating the weather and short-term forecasting with simple equipment. Eight Thursdays from 7:30 P.M. to 9:30 P.M. at the Planetarium. $79 (nonmembers $88). For more information please call the Planetarium at ext. 397.

9 ***Victorian Yankee Syposium.*** See inside front wrap.

15 & 22 ***Fireplace Cooking Class.*** Two one-session classes offered in the evening from 6 P.M. to 10 P.M. Each class, held in the Buckingham House kitchen, features hands-on instruction in open hearth cooking techniques. Participation is limited to eight people per class. Minimum age is 14. Early reservations suggested. For more information please call ext. 256.

16 ***Introduction to GPS.*** Introduction to theory and use of the Global Positioning Satellite navigational system. One afternoon from 1 P.M. to 5 P.M. at the Planetarium. $45 (nonmembers $50). For more information please call the Planetarium at ext. 397.

22 to 24 ***Yachting History Symposium.*** See inside of back wrap.

23 ***Introduction to Radar.*** Basic theory and use, including antenna operation and radar navigation. One afternoon from 1 P.M. to 5 P.M. at the Planetarium. $45 (nonmembers $50). For more information please call the Planetarium at ext. 397

25 ***Introduction to GPS.*** Introduction to theory and use of the Global Positioning Satellite navigational system. One evening from 7:30 P.M. to 9:30 P.M. at the Planetarium. $22 (nonmembers $25). For more information please call the Planetarium at ext. 397.

30 ***Introduction to Loran C.*** Introduction to basic theory and use, not specific to any type of receiver. One afternoon from 1 P.M. to 5 P.M. at the Planetarium. $45 (nonmembers $50). For more information please call the Planetarium at ext. 397.

APRIL

8 ***Outdoor demonstrations of maritime activities begin.*** Whaleboat demonstrations, sail handling, fish splitting and smoking. Full schedule available at the gates. Museum open 9 A.M. to 5 P.M.

15 ***Late Application Deadline*** for Williams College-Mystic Seaport Maritime Studies Program's 1991–1992 academic year. For more information call ext. 359.

19 to 21 ***Celestial Navigation Seminar.*** Intensive three-day introductory course starting 9:30 A.M. Friday, and ending at 4 P.M. Sunday. $198 (nonmembers $220). For more information call the Planetarium, ext. 397.

21 ***Second Annual Mystic One Hundred*** at the Mystic Maritime Gallery, Seaport Stores, through 16 June. New work by 100 artists selected for their outstanding contribution to the field of contemporary marine art. For more information or a color catalog call the Gallery at (800) 344-0675, or in Connecticut 572-8524.

28 ***Family Day*** at Williams College-Mystic Seaport Maritime Studies Program.

Rosenfeld Collection Offers Color Posters

A limited number of three different color posters made from photographs by Stanley Rosenfeld are now available through the Rosenfeld Collection.

Reefing the Main, captioned "*Charisma*, Miami-Nassau Race"

Golden Champions, captioned "*Intrepid* and *Courageous*, two-time winners of America's Cup"

Reading the Ripples, captioned "The Round Lock at Agde; Canal du Midi (France). The lock keeper can tell by the surface of the water when the next lock has opened and a boat is approaching."

All three posters are twenty-eight inches by twenty-one inches. Cost per poster is $13.50 (nonmembers $15). Please add $2 for shipping and handling and an 8 percent tax in Connecticut. For more information call the Rosenfeld Collection at ext. 163.







Special Opportunity for Teen Members

Teenagers with family memberships may apply early for 1991 *Brilliant* programs. Until 1 February 1991, members' applications will be processed and given first choice. To get your name on the mailing list to receive an early application, send your child's name, address and the family membership number to *Brilliant* Reservations at the Education Department.

Summer sailing for ages 15 to 19 aboard *Brilliant* will run from 9 June through the last week of August. As many as nine participants may sign up for each six-day session aboard the Seaport's 61-foot seagoing schooner. No previous sailing experience is necessary for these educational excursions.

"Star Tech" Soars Again

"Star Tech," a week-long workshop featuring experiments, models, arts and crafts, telescope viewing, and chart work will be offered again to youngsters 9 to 13 during school vacation week in February. Participants will explore the solar system and deep space, learn the major constellations and their myths, and study space missions and modern methods of examining the heavens. Youngsters will also find out how a planetarium works, and present a brief planetarium program. The workshop takes place 9:00 A.M. to 1:00 P.M. during school vacation week, February 11 to 15. $50 (nonmembers $56). Call the Planetarium at ext. 397.

Can You Help Us?

The Library needs early copies of the Directory of the International Shipmasters Association of the Great Lakes, which organized in 1890 and is still in business today. Anyone who would be willing to donate copies of this or other shipmasters directories can call Paul O'Pecko at ext. 263 or 262.

The Education Department needs navy, black, or dark grey wool cloth, blankets, and other materials for a rag rug for the new American Seaman's Friend Society Reading Room exhibit. Anyone who would be willing to donate any of these materials can call Holly Malloy or Suzanne Reardon at ext. 256.

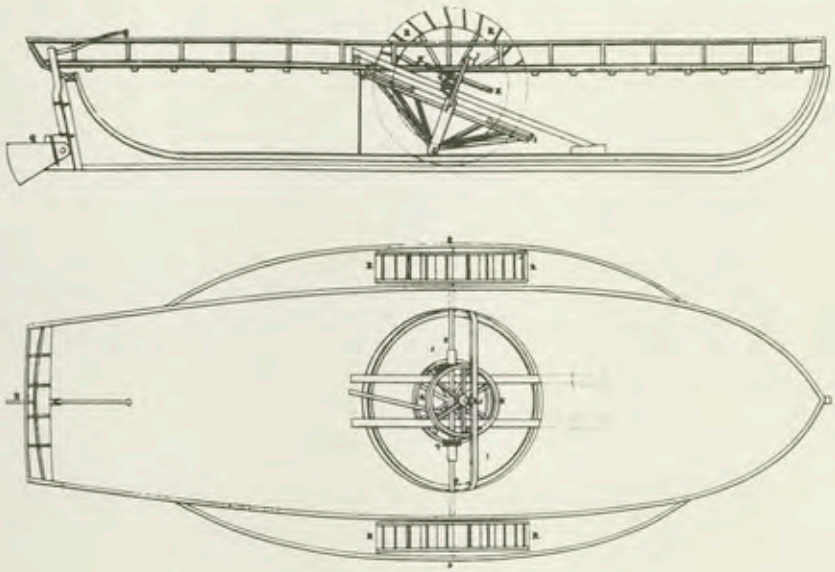
as the frontier pushed inland. As early as 1640, ferries were established to Aquidneck Island from Tiverton on the east, Bristol on the north, and from the Narragansett shore on the west side of the Bay. These three principal ferry routes continued from the days of sail through the period of steam ferries, enduring until bridges were constructed over approximately the same passages.

In the early period of settlement travelers followed rough Indian trails through the forest on foot or on horseback. Individual towns were responsible for building the first roads along routes laid out by the colonial government. The early period of highway expansion naturally focused on Newport. A road was laid out from Bristol Ferry to Providence and north to Boston in 1688. In 1716, on the west side of the Bay, a road four rods (66 feet) wide was accepted by the General Assembly, running from Tower Hill in Narragansett, across Narrow River (otherwise known as Pettaquamscutt River) to the Narragansett Ferry. The Ten Rod Road in Exeter and North Kingstown was constructed 165 feet wide to facilitate passage of herds of cattle as they were driven on their way to the coast, whence they were ferried across the Bay to Newport. A veritable webwork of ferries sprang up in Narragansett Bay, serving as links in highway systems centering on Newport.

Because of Newport's mercantile importance in colonial times, mail routes were laid out from Boston on the north, and New London and New York on the south, passing over Aquidneck Island. The post route from Boston to New York, according to a 1715 map, ran from Providence across Bristol Ferry to Newport and continued on ferries across the East and West Passages of the Bay with a land crossing of Conanicut Island along the way.[2]

Another mail route from Boston to Newport ran through Taunton, across the Sakonnet River by ferry, and on to Portsmouth and Newport. Tradition has it yet another early post road ran from Providence to Warwick Neck (about 1746), the post rider boarding a ferry to Prudence Island, there riding his horse to the southern end of the island, where another ferry carried him over to Portsmouth and Newport.

The towns originally assumed jurisdiction over ferries in Rhode Island, issuing licenses, franchises, and rates of ferriage. Ferry privileges could not have been too lucrative in the beginning, as shorefront land grants were sometimes offered as an inducement to the establishment of a ferry, as in the case of Thomas Gorton of Portsmouth in 1642.[3]



Jean Baptiste Marestier recorded the lines of a horse boat during his study of American steamboats, ca. 1820. In this type of horse boat, the horse trod on an inclined wheel, and the rotary action was passed to the paddle wheels by means of gearing.
Marestier, *Memoir on Steamboats of the United States of America* (Paris, 1824)

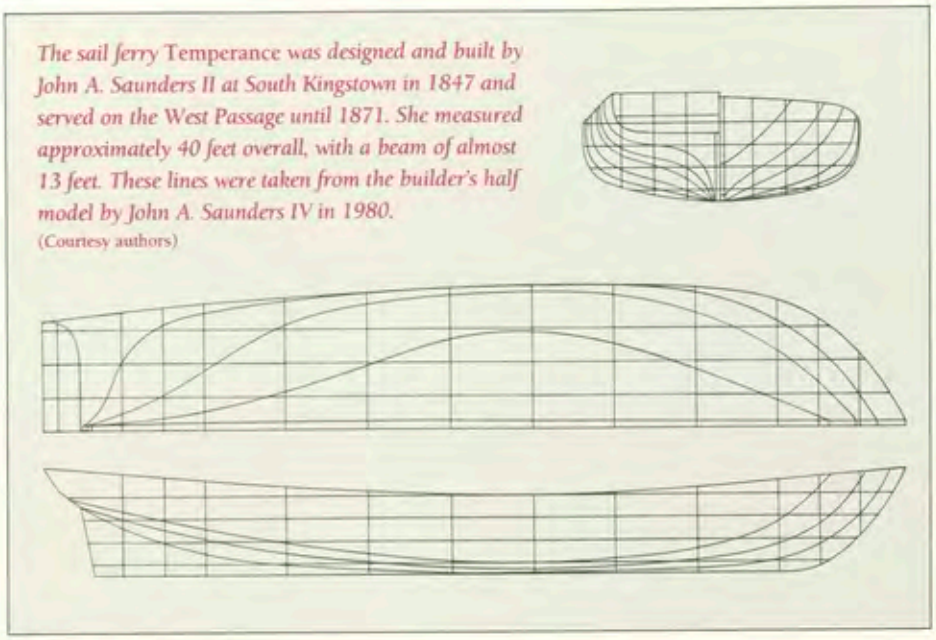
In 1690 the General Assembly made its first legislative move towards control of ferries, requiring that post riders and all colony officers be carried on the ferries without charge.[4] As ferries became more prosperous and active, the legislature elected committees to attend to ferry management, sometimes using the award of a franchise as a means of control. As an example, in 1725 David Green received a license for a ferry from Jamestown on Conanicut Island to Narragansett because the owner of the old ferry, Benedict Arnold, had treated the General Assembly "contemptuously."[5]

Licenses issued by the colony before the Revolution, and by the state after the Republic was formed, were exclusive franchises; that is, no one could carry passengers and cargo over the ferry except the licensed ferryman. This regulation irked farmers who had boats and who were willing to accommodate a neighbor who might wish to send livestock or produce across to market. Penalties were assessed for infringements on the ferrymen's rights. The legislature could, and often did, grant another license for a competitive ferry at the same place or at a nearby location. Different individuals on opposite sides of a ferry were frequently issued licenses to improve service, as one boat could not be on both sides at the same time. Ferryboats employed under this arrangement were called "mate boats." Sail ferries did not usually run on a schedule, but were expected to be available when needed.

Through the years a considerable amount of legislation was enacted to regulate ferries in Rhode Island, penalties being provided for violation of the laws. As examples of legislation, an act of August 1747 required convenient piers or wharves at all the ferries, that they must be kept in good repair, that there be good and substantial ferryboats, and that the ferrymen give good attendance.[6]

Ferrymen were not above charging what the traffic would bear, as suggested by the 1752 act requiring that they must keep "the true stated Price for ferriages, affixed up in a public Place, in the most public Room of the Ferry House."[7] It was required that physicians, surgeons, midwives, and persons traveling to procure medical assistance be transported at any time of night. The act of 1747 regulated rates of ferriage during hours of the day when the ferrymen were required to be on duty, but it made no provision for night service. Many a traveler had to pay an exorbitant fee for ferriage at night until the legislature regulated night service.

In spite of regulations, there were always complaints about ferries. Wharves required



The sail ferry Temperance *was designed and built by John A. Saunders II at South Kingstown in 1847 and served on the West Passage until 1871. She measured approximately 40 feet overall, with a beam of almost 13 feet. These lines were taken from the builder's half model by John A. Saunders IV in 1980.*
(Courtesy authors)

frequent repair. DeCorny, the French Commissary of War, complained bitterly about the deplorable condition of the wharves at Bristol Ferry in 1780. By 1818 the wharf on the west side of the town of Jamestown on Conanicut Island had accumulated such a deposit of sand in the slip that it was difficult for the ferryboat to come to the wharf. With more efficient dredging techniques, there was no excuse for this condition by the 1860s. Yet, as late as 1869 the boat would not float in the dock 12 hours out of 24. Also in 1869, the ferry commissioners complained that, contrary to regulations, the Narragansett ferryboat was taken out of service to carry turnips to a vessel bound for the West Indies, leaving the commissioner waiting for two hours to make a passage to Conanicut.

Ferryboats to the islands of Rhode Island appeared in many forms before the advent of steam power. Canoes, dories, skiffs, and other rowing craft were employed on short routes. Sailing vessels used on the Bay as ferries the seventeenth and eighteenth centuries were shallops or sloops, the sloops of the latter part of the eighteenth century in all probability being rigged with a square topsail. Early in the nineteenth century simple flat-bottomed, square-ended scows were used. Scows were propelled by sculling, by rowing with long sweeps, or by horses on a tread wheel.

The horse boat, called a team boat if it had two horsepower or more, was a common form of ferry on American rivers, harbors, and sheltered bays in the first half of the nineteenth century. In Rhode Island, horse boats operated on a number of the island ferry routes in the protected waters of Narragansett Bay, until replaced by more seaworthy sailing sloops toward the middle of the century. One type of horse ferry was operated by a horse on a treadmill, turning the wheel that propelled the scow. In a more sophisticated design, the horse or horses trod on a large circular platform constructed to revolve on a shaft. Cogs on the edge of the platform rotated a horizontal shaft with paddle wheels attached, thus propelling the boat. Horse boats were not dependent upon the wind, and horses were cheaper to buy and maintain than was a steam engine, but the boats were not very powerful or seaworthy, and the horses had be fed and cared for whether or not there was demand for ferry service.

Sloop-rigged ferries continued in use until small steamboats were put on the active Narragansett Bay routes in the 1870s. For the offshore run to Block Island, more seaworthy schooners carried mails and freight until steamboats came along to accommodate the influx of summer tourists that inundated the island, beginning in the 1870s.

Not only were the early ferries of Narragansett Bay fundamentally different from the Block Island mail packets, each Bay ferry had characteristics of its own, depending upon length of the passage, variation in importance and activity, highway connections, types of boats used, ferrymen, and length of use. It is instructive to contrast in brief a number of Bay ferries, as well as the development of public transportation to Block Island.

The first Narragansett Bay ferry was established in 1640 from Tiverton (then called Pocasset) across the Sakonnet River to Portsmouth on Aquidneck Island. The Plymouth Colony allegedly had purchased Pocasset from the Indians, but not until 1667 did the Plymouth court order that a "ferrey be kept on our side to transport persons over to Road Iland . . . "[8] Tiverton was not annexed to Rhode Island until 1746, the Plymouth Colony exercising jurisdiction over the ferry until that date. King Philip's War may well have interrupted any early ferry service from Pocasset. Then, in 1676 John Simmons was given an exclusive ferry franchise and the authority to fine any persons found ferrying passengers or livestock across the ferry, keeping half the fine for himself and giving the other half to the colony.

This ferry, known as Pocasset Ferry, came to be known as Howland's Ferry, named for Daniel Howland who was keeper of the ferry around the turn of the eighteenth century. Daniel's son John operated the ferry after his father; another son, Daniel, moved to Portsmouth and became proprietor of the ferry on the Aquidneck Island side: that ferry also became known as Howland's Ferry. The Howlands were involved in other enterprises, including shipbuilding, and it is quite likely that they hired men to do the ferrying. As a lucrative adjunct to his ferry business, John Howland also kept a tavern, which probably contributed much to the profit of the ferry business.[9] Howland's Ferry was a link in the highway system on the eastern side of the Bay. In 1688, a highway was laid out from Taunton to Little Compton, connecting with the ferry, and another highway was surveyed about the same time from Dartmouth.

Several generations of the Anthony family operated another ferry from Tiverton to Portsmouth across the Sakonnet River north of Howland's Ferry from the late 1600s until some time before the Revolution. Contagious diseases, especially smallpox, were greatly feared in colonial times, and the colony attempted to keep disease from spreading to Aquidneck Island. Joseph Anthony received $26 in 1752 from the Rhode Island Colony for services as a guard at his ferry to prevent spread of smallpox to the island. Travelers were requested to swear that for a period of five days they had not been in areas where smallpox was prevalent. As the incubation period for smallpox is about 14 days, this quarantine could hardly have been very effective.[10]

Rowing craft and canoes were commonly used on the short Tiverton to Portsmouth

passage, but sailing craft were used as well. An old plat of the road to Durfee's Ferry at Portsmouth, probably surveyed about 1714, depicts a small two-masted vessel putting off from the ferry landing.

The Sakonnet River ferry crossing was the first on the Bay to be replaced by a bridge. A wooden bridge from Tiverton to Portsmouth was opened for traffic in 1795. This and a subsequent wooden bridge were both swept away by storms, and ferryboats were put back on each time the bridge went out. The third bridge, built of stone, was opened in 1810, but the Great Gale of 1815 opened a breach 200 feet long, bringing back the ferries until the bridge reopened in 1817. When another breach was made in 1869, foot passengers were temporarily carried over in rowboats. The Tiverton-Portsmouth ferry routes were extremely active ones, supporting travel from Boston, Taunton, Cape Cod, and other growing cities and towns of eastern Massachusetts.

Farther down the Sakonnet River, sail ferries from Little Compton to Middletown on Aquidneck Island supplied Newport with produce from the farms on the mainland. These boats provided casual, unlicensed service, but ran regularly until after the Civil War.[11]

Although ferries were customarily named for ferry proprietors, and thus changed names when there was a change of ownership, the ferries on both sides of the passage from Bristol to Portsmouth were known simply as Bristol Ferry. Evidently a ferry route was established from Portsmouth to the mainland before the ferry at Bristol itself was set up about 1681, when Indian lands known as the Mount Hope Lands were deeded by the Plymouth Colony to the proprietors of Bristol. The grant of Mount Hope Lands contained a stipulation that a ferry be established. That this was done is verified in 1683 when the proprietors sold a sixteenth of the proprietary to Captain Benjamin Church, including one-sixth of the Ferry Farm, with buildings, fences, ferryboat, oars, and sails. This ferry differed from most of the Rhode Island ferries in that its franchise did not depend on legislative or town action. Because the "grand deed" granted ferry property to all of the proprietors, and as shares in the ferry and its appurtenances finally came into the hands of one individual, the farm and franchise became privately owned and could be deeded or willed.

Bristol Ferry was an important link in the shortest route from Boston and Providence to Newport. A stage route from the ferry opened in 1716. Mention of travel over Bristol Ferry is found in the writings of such persons as Josiah Quincy, Judge Sewell, Dr. McSparran, and General Washington. As was the case with other Bay ferries, business was interrupted during the Revolution, but travel quickly resumed at Bristol and became very heavy during the nineteenth century with population growth and the development of Newport as a resort.

Unable to accommodate stage coaches and private carriages on the sail ferries, Bristol ferrymen employed horse boats and scows on the passage in the early 1800s. The horse ferry was a team boat, a scow propelled by four horses walking on a circular platform. Whenever possible, however, the ferrymen used the sail ferry in preference to the more expensive horse ferry, at times provoking complaints from travelers irked by the delay of waiting for a favorable wind. By 1830 a steamboat was running from Fall River to Providence, stopping at the ferry landing at Portsmouth, causing the ferry business to fall off, declining even more when the railroad was extended from Bristol to Newport in 1865. Nevertheless, as late as the 1880s, Captain Oliver Hicks built a large, wide catboat to accommodate the bicycle traffic to Newport. His sailboat could carry sixteen bicycles and their riders. This catboat ran for a number of years at Bristol Ferry after steamboats had taken over most of the traffic.

Although few records survive to document them, early ferries are known to have connected Prudence Island with Warwick Neck on the north and the Aquidneck Island to the south. These ferries were part of a postal route in the 1740s. Hezekiah Gorton, who operated the ferry between Warwick Neck and Pleasant Point on Prudence Island, stirred the anger of many Warwick residents in 1746 because he overcharged for service, his boat was often unavailable, and, worst of all, he had no house to shelter travelers near the ferry.[12] At the southern end of Prudence Island, Pearce's Ferry was mentioned in a vote of the town of Newport, 16 April 1746, that authorized guards to be stationed to prevent travelers coming from infectious places, "one to be at Jamestown Ferry and the other at Prudence Island Ferry."[13] Lawton's Ferry on Aquidneck Island at Portsmouth serviced the other end of the Prudence Island route. The early Prudence Island ferries were discontinued during the Revolution, and there is no evidence they were ever reactivated.



This representation of a sail ferry crossing from Newport to Jamestown, near Fort Dumplings, suggests the size and arrangement of these sloops. The small foredeck could accommodate a cart or small wagon. Livestock was loaded into the midships area through a gangway in the rail. The captain and passengers sat on benches in the large area aft.
(Courtesy Rhode Island Historical Society, Providence)

Prudence was without regular ferry service until the first decade of the twentieth century, when Captain Halsey Chase established a route with a motor launch between Prudence and Bristol.

To complete the highway network from Boston to New York across Narragansett Bay, a ferry system evolved in the last decade of the seventeenth century from Newport across the East Passage of Narragansett Bay to Jamestown on Conanicut Island, then continuing from the west side of the island across the West Passage to the Narragansett shore. The first ferry to be established at Newport was Carr's Ferry, named for Governor Caleb Carr, who was probably the first ferry proprietor. The Carr family continued to operate this ferry for about 200 years, indicating that the ferry franchise was a lucrative business. Two other eighteenth-century ferry routes ran from Newport to Jamestown, the Long Wharf Ferry and the Point Ferry, the latter located on a neck of land a short distance north of the present-day Long Wharf. During the first part of the eighteenth century, the Point section of Newport was a thriving business and residential section of the town, and the ferry business was owned by three generations of the Ellery family, wealthy merchants of Newport. The ferry franchises from Conanicut to Newport and from Conanicut to Narragansett passed through many hands during two centuries, but remained active until steam power took over the routes in the 1870s.

The ferry from Narragansett to Conanicut was established before 1700, and there is evidence that there was an Indian canoe crossing at that location long before the white settlers arrived. A highway was laid out in colonial times from South Ferry to New London, and South Ferry was a bustling seaport village as well as a ferry landing until after the Civil War. Remnants of the old docks may be seen below the Bay Campus of the University of Rhode Island.[14] Although it was commonly known as South Ferry, this ferry had many other names: Smith's Ferry, Narragansett Ferry, West Ferry, the Ferry at Boston Neck, Franklin's Ferry, Cottrell's Ferry, and Eaton's Ferry. Some of the owners of this ferry hired others to manage the operation, as in the case of James B.M. Potter who leased the ferry and ferry house to Benjamin Hazard, who in turn hired Bill Caswell to sail the ferryboat. A colorful character, Caswell always wore a red shirt and, despite his stammer, entertained travelers with many a good story.

Horse boats were used for a short time in the first part of the nineteenth century on the East and West Passages, but sail ferries were the primary carriers before steamboats took over the routes. These sail ferries were sloops, about 35 feet in length, of shoal draft and heavily built with two-inch oak planking. They were open boats with a cross beam to separate animals from human passengers. The animals were placed in the middle of the boat, the passengers sat on benches aft, and a wagon could be carried on the small deck forward of the mast. The jangling of pots and pans on a peddler's cart and the curses of the ferryman often broke the stillness of the sail when the sloop tacked and the jib fetched up against the wagon.



These boats were seaworthy craft, attested to by the experience of an Indian servant who hijacked one of them and sailed her almost to the West Indies. Ferryboat captains were nevertheless cautious about travel in dangerously stormy weather, and upon occasion prospective passengers would accuse them of cowardice if they advised against making the passage. Captain Job Ellis of Jamestown, who sailed the ferry back and forth to Newport, told of three Providence men who ferried over to Conanicut with a "wad of money" to buy some livestock. After concluding their trading, they appeared again at the ferry landing. As the wind had intensified, Captain Ellis told them they would be drenched, upon which they accused him of being afraid. "Very well," said the captain, "come aboard." Not far offshore, the sloop began to pitch violently and take seas over the rail, terrifying her passengers. They offered the captain their money as well as a gold watch and chain if he would take them back to the island, but Ellis told them he had sailed for Newport at their demand, and on to Newport he went.

Floating ice was a winter hindrance to sail navigation in the Bay. Captain Ellis told of a winter's day on the ferry route, when the boat was caught in drifting ice and carried outside the Bay as far as Brenton's Reef. He was unable to free his sloop from the ice until the next day, and a woman passenger came near perishing from exposure in the open ferryboat.

A Scottish visitor to North America wrote in 1744, "I had a tedious passage to Conanicut. It being quite calm we were obliged to row most of the way."[15] Legislation required ferryboats to be outfitted with two good oars and a boathook. The oars used on sail ferries were 18 feet long. The revised statutes of 1857 mandated that Rhode Island ferryboats have a small rowboat with suitable oars as well. Attempting to cross the two-mile stretch of either East or West Passage of the Bay rowing a 35-foot sloop loaded with passengers, mail, and animals surely would have strained a few muscles. It was not unusual for passengers to lend a hand with the oars, in the interest of reaching their destination.

Timothy Dwight, President of Yale University, wrote in 1822, "We crossed Conanicut Ferry, lying between what is here called Boston Neck and that island; then rode across the island, one mile in breadth, to Newport Ferry . . . We crossed Newport Ferry, between Conanicut and the island of

Rhode Island, more rapidly than any of us wished; and arrived at 7 o'clock."[16]

Charles Elliot Norton described an idyllic crossing from Newport to Narragansett in 1854. "We got over very quickly to the island which lies like a great breakwater before Newport, dividing the bay into two beautiful portions, and then, each one carrying his own carpet bag or valise and coat, we walked across the island, a walk of three quarters of a mile to the other ferry which runs over to the mainland . . . The ferryboat was coming over from the other side when we got to the shore . . . The boat soon came and its skipper . . . was an old fellow who had been on the ferry for thirty years, and he amused us with stories of the boats he had seen upset and the men he had rescued, and other perils of the bay."[17]

When roads were improved from Providence to the south, and trade in livestock diminished, cross-Bay travel fell off, and in 1871 the sloop ferry *Temperance* on the West Passage was replaced by a catboat.[18] Captain Lester Eaton of South Ferry carried the mail and ran passenger service from South Ferry to Conanicut for 14 years in this catboat. The Conanicut Island ferry house was painted white with a large door painted black on the inside. When the door was swung open, showing the black side against the white house, Captain Eaton would hoist sail in his catboat and cross the two miles to Conanicut to pick up passengers. Captain Eaton's catboat was among the last sail ferries in Narragansett Bay.

Situated about midway between Point Judith, Rhode Island, and Montauk, Long Island, is the pear-shaped island of Block Island. Settled by fishermen and farmers in the 1660s, it has a history rich in the lore of the sea.

Since they worked offshore waters easily whipped to a frenzy in a storm, the island fishermen required seaworthy boats. Block Island boatbuilders developed a form of boat legendary for its ease of handling and ability to withstand fierce gales. Sometimes called "cowhorns," they were double-ended, wide, lapstrake, two-masted vessels with a pronounced sheerline. As there was no protected harbor on the island until the 1870s, the early boats were beached; later boats were moored to poles sunk deep in the sand at Pole Harbor in a bend on the east side of the island.

The *Island Belle* was the best known Block Island double-ender. She was 38 feet in length, open except for a small space forward of the foremast, a similar space in the stern, and an area between the second and third thwarts boarded in to form a cabin.[19]

When the first Block Island post office was established in 1832, the *Island Belle*'s owner, Captain Samuel W. Rose, contracted to carry the mail to Newport for $416.00 a year. Leaving the island Wednesday mornings at 8:00 A.M., he would return from Newport the next day at the same hour, winter and summer, good weather and bad.[20] He rarely missed a trip, although many a winter crossing brought the *Island Belle* and her crew in to Newport shrouded with a coating of frozen spray. On one noteworthy occasion about 1851, a long and violent storm scoured the coast, interrupting the *Island Belle*'s schedule, and the State of Rhode Island was unable to obtain election returns from the island, thus holding up election results for about 21 days. For many years the *Island Belle* provided the only means of public communication with the mainland, carrying not only mail and passengers but also cargoes of oxen, horses, sheep, building materials, and other supplies for the island. In 1869 there was access to the island once a week by the mailboat every Friday morning, the 30-mile sail usually occupying ten hours. An adventurous tourist described the island inhabitants as "a hearty, cordial, happy and virtuous people, as they should be, removed as they are from the temptations of the whole outside world, except on Fridays."[21]

In the early 1870s, Government Harbor – now Old Harbor – was created when breakwaters were built at the former Pole Harbor. Thereafter, the cowhorns were largely supplanted by regular schooners. The mail was carried by the island-owned packet schooners *Hattie Rebecca*, *Nathan H. Dixon*, and Captain Addison Rose's *Henry B. Anthony*. Unlike the cowhorns, the schooners made passenger travel comparatively luxurious, with their large decks and comfortable cabins. Popularity of the island as a summer resort grew in the 1870s, bringing pressure for a daily mail service, and the uncertainty



At South Ferry, on the west side of Narragansett Bay's West Passage, a small community grew up around the colonial ferry landing. This view, ca. 1855, depicts the sail ferry Temperance *astern of a freight sloop at the ferry slip. From the wharf, the old New London highway climbs the hill between the ferry house and bar* (right) *and the store and post office building. Part way up the hill on the left, the Narragansett House hotel carries on the tradition of providing food, drink, and lodging for ferry passengers. At left, the smoking steam-powered jeans cloth mill represents the industrialization of New England and the technology that would replace the principal sail ferries with steamboats in the 1870s.*
Lithograph by J.P. Newell, printed by Robertson, Seibert & Shearman. (Courtesy Rhode Island Historical Society, Providence)



Block Island's "Pole Harbor" became "Government Harbor" – now Old Harbor – when the U.S. Government constructed a breakwater there in the 1870s. This crowd of sailing vessels inside the new breakwater includes two Block Island boats, far right, and one far left. Both the double-ended Block Island boats and the small schooners that succeeded them served as the island's ferries and mail boats until regular steamboat service was introduced.
Stereograph, ca. 1880.
(M.S.M. 79.19.4)

of thrice-weekly sail ferry travel was replaced by more punctual steamboat service.

The men who commanded the boats were as diverse in character as the islands. The captains who sailed the cowhorns and schooners to Block Island had to be dependable, skilled mariners, sometimes performing acts of heroism. On the shorter and less dangerous routes, expertise in navigation was not necessarily vital. *The Jonny-Cake Papers of "Shepherd Tom,"* written by Thomas R. Hazard in the nineteenth century, tells of Frank, the scion of a good Rhode Island family, who often loafed about South Ferry docks in a somewhat inebriated condition, and who occasionally ran the sail ferry over to Conanicut Island. On one occasion, the British Minister and a local dignitary were passing over to Narragansett from Newport on a trouting expedition. On route their conversation turned to a passage from Virgil on which they did not agree. The wind, being light, Frank was reclining on his back and steering the sloop with one foot thrown over the tiller. To the Englishman's amazement, the red-faced boatman repeated at the top of his voice the passage from Virgil, first in Latin, then in the vernacular. The English official never took his eyes off Frank until the ferry reached the shore.[22]

From the beginning, the island ferries and sailing mailboats had a profound influence on Rhode Island's development, and the colony recognized the importance of ferries as it regulated them for the public good. Inhabitants of the islands of Aquidneck, Conanicut, Prudence, and Block Island would have remained insular, lacking communication with the mainland that brought convenient access to medical services, postal services, opportunity for commercial development, improved travel conditions, and eventually the influx of summer visitors. As late as the 1860s Newport depended on the sail ferries to transport livestock from the farms on the mainland. Probably the most valuable cargo ever to cross on a Bay ferry traveled on David Gifford's Bristol Ferry in 1775 when the colony records were taken from Newport to save them from falling into the hands of the British.

After the middle of the nineteenth century, steamboats brought speed and dependability to the island ferry routes of Rhode Island, regular schedules, larger boats to accommodate wheeled vehicles, and increased passenger service. Despite its increased efficiency, not everyone was glad to see steam power come. Nathaniel Hawthorne, an inveterate island hopper who traveled to Martha's Vineyard off Cape Cod in 1835, spoke for the old order when he commented, "For our own part, we prefer a vessel that voyages in the good old way, by the favor of the wind, instead of one that tears her passage through the deep in spite of wind and tide, snorting and groaning, as if tormented by the fire that rages in her entrails."[23] ■



NOTES

1. W.P.A. Federal Writer's Project, *Rhode Island* (Boston: Houghton Mifflin, 1937), 3.
2. Anna A. and Charles V. Chapin, *A History of Rhode Island Ferries, 1640–1923* (Providence, Oxford Press, 1925), 48.
3. Ibid., 4.
4. Ibid., 7.
5. Ibid., 6.
6. Ibid., 19.
7. Ibid., 22.
8. Ibid., 195.
9. Ibid., 30.
10. Ibid., 204; south of Howland's Ferry, where Fogland Point juts into the Sakonnet River, there was another ferry from Tiverton to Portsmouth during the eighteenth century. This ferry route did not survive the Revolution.
11. The last ferryboat used on the passage was a 17-foot catboat. After being used for other purposes, she was abandoned on the beach at Little Compton about 1890. A local artist rescued her in 1906 and converted her into a studio on his property. She now rests in the keeping of the Little Compton Historical Society. Mystic Seaport and the Catboat Association commissioned Robert H. Baker to take off her lines, and he built a replica, which is now in Brooklin, Maine. Her lines are available at Mystic Seaport. Peter Vermilya, "*Peggotty*, An Early Rhode Island Catboat Ferry," *Catboat Association Bulletin* 53 (June 1977):13; Jennifer Buckley Gilmore, Bob Baker, and Kevin Dwyer, "*Peggotty*," *WoodenBoat* 23 (July/August 1978):39–43, 85–87.
12. Chapin, *Rhode Island Ferries*, 289–90.
13. Ibid., 214.
14. A few miles north of South Ferry was North Ferry, the terminus of another route from Conanicut Island to the mainland. This ferry was never as important as South Ferry, and it ceased to exist soon after the Revolution.
15. Alexander Hamilton, *Itinerarium: Being a Narrative of a Journey from May to Sept. 1744*, ed. Albert Bushnell Hart (St. Louis: privately printed, 1907), 122.
16. Timothy Dwight, *Travels; in New England and New York*, 3 vols. (New Haven: author, 1822), 3:48.
17. Charles Elliot Norton to James Russell Lowell, 8 October 1854, Redwood Library, Newport, Rhode Island.
18. Saunders Family Papers.
19. Charles Davis, *Ships of the Past* (Salem: Marine Research Society, 1929), 6; John Hyslop, "Block Island Boats," *The Field, The Country Gentlemen's Newspaper*, 15 December 1883.
20. S.T. Livermore, *History of Block Island, Rhode Island* (1877; reprint, Block Island Tercentenary, 1961), 45.
21. *Whalemen's Shipping List*, 30 November 1869.
22. Thomas R. Hazard, *The Jonny-Cake Papers of "Shepherd Tom"* (Boston: Merrymount Press, 1915), 133–34.
23. Quoted in Henry Beetle Hough, *Martha's Vineyard* (New York: Viking, 1970), 25.

Opposite, *all of the original Block Island boats went the way of this one, hauled up in a marsh. Note the decked-over cuddy cabin forward and the lockers in the cockpit, which identify this as a passenger-carrying boat.*
Oil painting by Edward G. Champney, 1889. (Photo by Mary Anne Stets, M.S.M. 63.882)

Mrs. Fish's Rice Meringue Pudding

SANDRA L. OLIVER



Mary Esther Blodget Fish (1822–1868). (M.S.M. 90.53.7)

Ship logbooks, chandlers' account books, and captains' journals: these are what most people expect to find at Mystic Seaport's G. W. Blunt White Library. But the library is also the home of an occasional recipe book. One appeared recently among the James D. Fish family papers—a little manuscript notebook begun around 1844 by James's first wife, Mary Esther Blodget Fish, and continued by other cooks into the 1880s, after Mrs. Fish's death in 1868.

Typical of most manuscript receipt books of the time, its contents run heavily to desserts and preserves; made less frequently, these dishes required annotation to remind the cook about proportions. Because it was maintained all through the nineteenth century its contents reflect changes in taste and styles of preparation. As many as seven different hands appear to have recorded recipes in the book, which Mary Fish had carefully numbered from one to 42, and for which she even prepared an index. Her hand ceases on page 15, except for a currant jelly recipe on page 36 and an arrowroot pudding jotted on page 40, which she noted was a "Key West recipe – 1848."

Most of the recipes in her hand are classics of the first half of the nineteenth century: tea cake, queen's cakes, composition cake, cup cake—the sort, since she was born in 1822, she would have known during her girlhood. There are also a couple odd and interesting ones, including one called "Poverty Cake," so-called because it was made with no eggs, and "Rice Meringue" which we feature here.

Later hands, possibly including daughters Hannah and Annie, wrote in recipes for cakes and desserts popular later in the nineteenth century: Delicate cake, White Mountain Cake, Gold and Silver Cake. At least one owner of the book was not a temperance supporter, for she recorded instructions for making currant and grape wines. Periodically, a cook would record the date: pickled peaches and lemon pie on page 26 are dated 25 September 1863, and the last date of December 1880 accompanies an English plum pudding recipe "given by Miss Bartell."

Mary Esther Blodget of Derby, Vermont, married James Fish on 4 June 1843 in Mystic Bridge, and went to live in New York City with her husband. New York City's commercial

activity at this time dominated coastal business as far east as Rhode Island, and many Mystic families involved in the maritime trades had relatives who had moved to New York to develop businesses of their own, as James D. Fish was doing as a commission merchant. His work had business ties to Key West: he supplied fishing vessels which sailed there and knew many of the Mystic people involved in salvaging operations there, including Tifts and Mallorys. Perhaps the Key West arrowroot pudding came to New York via this network.

"Rice Meringue" does not commonly appear by that name in printed cookbooks until the 1870s, but Mary included it among her recipes twenty years earlier. The idea of putting a meringue on a baked pudding was not innovative; there are other puddings of the period with meringue tops, including the very elegant Queen of Puddings, a bread pudding topped with jelly and meringue layers. But Mary Fish certainly picked up early on this new wrinkle in rice puddings, which created a showy presentation dessert. Suitable for impressing business guests at dinner, this was exactly the sort of delicate, stylish dish expected in Victorian New York City.

The recipe that follows calls for four eggs. In the nineteenth century eggs were smaller than ours are today, and if you wish you can use three eggs. Even with only three you may find that you have more meringue than you need to cover the pudding, so I would recommend that for the meringue you use two whites and one cup of sugar.

One half cup of Rice cooked in one quart of milk, 4 eggs, two cups sugar—One good lemon. When the Rice is cooked add the yolks of the eggs, two tablespoonfuls of the Sugar, the grated peel of the lemon, a little salt, Stir all together and bake, then let it cool. Take the white of the eggs-The rest of the Sugar, and the juice of the lemon, beat it to a perfect froth. When your pudding is cool pour it over and let it bake a few minutes until a light brown. (From the manuscript receipt book, ca. 1844–1880, of Mary E. B. Fish. James D. Fish Family Papers, Coll. 211, G.W. Blunt-White Library, Mystic Seaport.)

Preheat oven to 325°

1 quart milk (4 cups)
1/2 cup rice
3 to 4 eggs, separated
1 to 2 cups sugar
1 lemon, juiced and peel grated
salt to taste

1. Scald the milk with rice over a double boiler for fifty minutes or until the rice is tender.
2. Lightly beat 3 or 4 yolks in a small bowl and mix some of the hot milk into it, stirring till well mixed.
3. Add 2 tablespoons of the sugar, the salt, the lemon peel, and the yolks to the rest of the rice and milk, and mix well.
4. Pour into a buttered 1½- or 2-quart casserole, and set it in a pan of hot water to bake for an hour or until a knife inserted comes out clean.
5. Remove pudding from oven and allow to cool.
6. Beat 2 to 3 egg whites till very frothy and gradually add at least one cup of sugar and the lemon juice, beating continuously.
7. Spread meringue on top and put into 350° oven until it is a delicate golden color. Cool before serving. ■

Mrs. Fish's pudding was appropriate fare for a celebratory meal, such as the one enjoyed by this well-to-do family, observing Thanksgiving and rejoicing in the return of peace to the country following the Civil War.
Wood engraving, drawn by Thomas Nast. (Harper's Weekly, *9 December 1865*)



BOOK REVIEWS

Shiyak, Misadventures of the Schooner
Lottie Bennett

The Last Windjammer Voyage to Alaska Salmon Waters
Tom Anderson

San Rafael, California: Windship Press, 1987.
325 pp., photographs. $24.95.

The early years of the 1930s encompassed the unhappy Great Depression. Men by the thousands were out of work. There was no such thing as unemployment compensation, and the Works Progress Administration and Civilian Conservation Corps were still but a dream. In spite of the stock market crash and bank failures, there were those who hung on to their savings and others who would fleece them. Tom Anderson was an unemployed newspaperman from Berkeley, California, who was attracted by a scheme to bring a four-masted schooner, the *Lottie Bennett*, to fish for salmon in the Kuskowim River in Alaska. The *Lottie Bennett* would be accompanied by a purse-seiner named *Ohio*.

The promoters of this venture were a man named Piercy and brothers Jack and Frank Harris. Captain Jack would sail the schooner and Frank the *Ohio*. The ship's complement was broken into three segments aboard the *Lottie Bennett*: officers aft, investors in a house amidship, and crew in the fo'c'sle. The promoters were to pay all expenses for stoves and all ship expenses, and the investors were to pay for fishing gear, but it didn't work out that way. Few provisions and only some rotten boats and rotten nets were bought.

The seiner worked her way up the coast in a leisurely manner, with Tom Anderson aboard. The schooner sailed offshore, could not find the *Ohio* at the meeting place, and proceeded up the Kuskowim. Eventually the *Ohio* arrived on the scene, but the gear and boats she brought were not much better. The fishing would have been good with decent gear, but they lost time and fish repairing boats and equipment.

Mr. Anderson's descriptions of the fishing, cleaning, and salting operations are interesting, as is the account of relationships with Eskimos who lived on the bank. Mr. Anderson sailed home in the schooner, but there were troubles among the crew – Anderson seems to have been quite a scrapper. With only a partial load of salt salmon, the vessels headed home. By the time they arrived at San Francisco, the crew was on the verge of scurvy.

Arrival home did not eliminate the problems, however, for the investors libeled the ship and cargo. They then seized the cargo and sold it for enough to realize 50 percent on their investment. A suit against the promoters failed; thus, the last windjammer adventure to the Alaska salmon fisheries came to an end.

This reviewer sailed in a number of large schooners and had adventures that rival those aboard the *Lottie Bennett*. I found *Shiyak* (salmon) to be a fascinating account of turbulent times.

When God was an Atheist Sailor
Burgess Cogill

New York: W. W. Norton & Co., Inc., 1990. 180 pp.,
30 photos, sketches. $24.95.

There are not many persons living who had the experience of sailing in a five-masted schooner. Burgess Cogill not only sailed in one, she was born in mid-Pacific aboard the five-master *Snow and Burgess*, for which her proud father named her. This was in 1902. For the first eight years of her life she, and later her sister, lived aboard the vessel. Although she made voyages in other ships commanded by her father, this narrative is primarily a story of life aboard the *Snow and Burgess*.

The *Snow and Burgess* was built at Thomaston, Maine, as a full-rigged ship in 1878, was later reduced to bark rig, and in 1901 was rerigged as a five-masted schooner. Captain A. J. Sorensen went on to sail other vessels. In 1938 he was found floating near a ship he was watching. There was a bruise on his head and he had been seen talking to a former mate who served a prison term for brutality to the crew. It was a rough life in those old ships of sail and Captain Sorensen, while a good and loving father, may have been a tough shipmaster to sail under.

Burgess was an observant child, and she tells many stories about events aboard and the people who came and went. There were stewards and cabin boys, a carpenter and mates, all of whom showed kindness to Burgess and her sister Dagmar.

As one who also sailed in a five-masted schooner (without children, a tough captain, and his very pleasant wife) it is a pleasure to recommend this as a book for young or old to read.

Captain Francis E. Bowker
Research Assistant, M.S.M.

Shipwrecks Along the Atlantic Coast

William P. Quinn

Orleans, Massachusetts: Parnassus Imprints, 1988. 232 pp., illustrations. $34.95.

As long as there are ships, there will be shipwrecks. And as long as there are shipwrecks, there will be people who want to have pictures of them. This collection of photographs, assembled from numerous sources by William P. Quinn, will satisfy wreckophiles, professional or otherwise. Broken down into twelve chapters, each of which begins with a page or two of text on subjects ranging from "mooncussers" to the use of Loran in navigation, this book of 232 pages contains annotated photographs of wrecks throughout.

The entire length of the Atlantic Coast of the United States for approximately the last hundred years is the intended scope of this book, and Mr. Quinn gives the reader a good cross section of the wrecks that fit within those parameters. Remember that this is a photographic history of shipwrecks and not a compilation of all Atlantic Coast shipwrecks; that type of list would run into the tens of thousands. Mr. Quinn uses a number of photographs that he has published in previous books on shipwrecks, but this fact does not harm the integrity of the book.

The inclusion of underwater pictures of some famous wrecks and their salvage adds interest, although this is a controversial subject given the national concern over the plunder of historically valuable shipwrecks. If this book had no other merits, I would recommend it because of the index of vessels found at the back. Many books of this type would be so much more useful and helpful with such an index. Fortunately, the book is good enough to stand on its own.

Other books by Mr. Quinn include *Shipwrecks Around Cape Cod* (1973), *Shipwrecks Around New England* (1979), and *Shipwrecks Around Maine* (1983).

Paul O'Pecko
Reader Services Librarian, M.S.M.

The 32-Gun Frigate Essex

Portia Takakjian

Cedarburg, Wisconsin: Phoenix Publications, 1990 (first published in the "Anatomy of the Ship" series by Conway Maritime Press Limited, 1990). 128 pp., illustrations, bibliography, $27.95.

The latest addition to Conway Maritime Publishing's prestigious "Anatomy of the Ship" series, which analyzes its subjects with studiously detailed drafts from all perspectives and angles, is the American frigate *Essex*. The author, Portia Takakjian, a professional ship-modeler and historian, provides her readers with a superior volume, including a quality of line drawings that is equal to the work of William Avery Baker, and superior to that of Howard I. Chapelle.

In *The 32-Gun Frigate Essex*, Takakjian leads us through the ship's development as one of the "subscription-built" warships authorized by Congress on 30 June 1798. The book under review joins P.C.F. Smith's 1974 work, *The Frigate Essex Papers: Building the Salem Frigate 1798–1799*, as a valuable documentary history of this famous U.S. Navy raider. Takakjian, however, takes us beyond the scope of Smith's work by providing an operational history, and a superb naval architectural study of the *Essex*'s construction, as well as describing the alterations made to the vessel during its lifetime.

From the point of revisionist history, Takakjian does justice to the frigate's designer, William Hackett, by withdrawing him from the pall of temporary insanity incorrectly assigned by Secretary of War Henry Knox in 1794. The author also goes one up on this reviewer, who studied the *Essex*'s dimensions as revised and recorded by Josiah Fox during its 1807–09 rebuild at Washington Navy Yard without realizing that it was Fox's new mast and spar dimensions that doomed the frigate's previously sterling sailing qualities.

A former draftswoman and illustrator, Takakjian's *pièce de résistance* comes in the detail drawings that are the backbone of the book. There are only two ways to gain the intimate familiarity with a hull necessary to accomplish this feat: either be the original designer, or produce a naval architectural model of the vessel, and the author has done the latter.

Among the few errors of composition and editing is the commonly-held misconception that it was the Jeffersonians rather than the Federalists who dismembered the Navy with the Peace Establishment Act of 1801. Navy Secretary Benjamin Stoddert engineered this legislation to achieve two objectives: protect the Navy from total dissolution by the Republicans, and preserve the construction of the six 74-gun ships authorized in 1799. Considering the textual limitations of this type of book, the author must be applauded for the wealth of material she has managed to present to her readers.

The 32-Gun Frigate Essex will be a valuable addition to the library shelves of historians, naval architects, ship-modelers, and all maritime history aficionados.

Dr. W.M.P. Dunne
Sea Education Association, Inc.
Woods Hole, Massachusetts

NEWS & NOTES

New Planetarium Exhibit Opens



Visitors try out the Planetarium's new interactive computer exhibit.
(Photo by Claire White-Peterson)

After months of preparation, the new exhibit on nineteenth-century navigation in the Seaport Planetarium can now be enjoyed by members.

Although the exhibit is aimed at the seventh grade level, it also offers sophisticated information for older, more knowledgeable visitors.

Experiencing this new exhibit begins in the vestibule of the Planetarium, where the mood and theme are set.

On the east wall (to the left as a visitor enters the vestibule) is painted the constellation Orion, an important constellation to mariners. Orion's Belt is visible at any latitude, one of the few prominent patterns visible everywhere in the world. "Mintaka," the northernmost star of the belt, is among the most reliable stars in the heavens, always rising in the east and setting in the west, something not even the sun does consistently.

To the west (the right wall) is Virgo, a constellation in the band of the zodiac. The autumnal equinox is found in the Virgo constellation.

Over the door is the constellation Octans, a constellation visible only in the southern hemisphere. This constellation contains the southern celestial pole. There is also a quotation of first-century poet Marcus Manilius, author of *Astronomica*, translated from Latin: "All hail to navigation, the art that reaches to the stars and bridges the globe to heaven."

The rest of the exhibit is in the lobby of the Planetarium. On the ceiling and wall is a time line giving the dates of familiar events and how they relate in time to navigational events, inventions, and discoveries.

Along the side of the room are a series of cases. The exhibit in the first case demonstrates how a round globe is made into a Mercator map, a flat world map on which the meridian lines are parallel. With this kind of map, areas are incorrect, but accurate direction and distances can be measured.

The subject of the second case is dead reckoning, a hands-on activity for visitors. The exhibit contains a model hull of a vessel with a compass to determine direction. On a section of a chart, the visitor plots a course from Watch Hill, Rhode Island, to Block Island. Using parallel rulers, the visitor can determine the direction the vessels must sail to reach Block Island.

The case also contains a chip log, a nineteenth-century device used to measure speed at sea with a submerged "chip" and a spool of rope. The drag on the chip affected the rate at which the spool unwound. Knots in the rope were counted in relation to time passed, leading to the measurement of speed at sea in knots, or nautical miles, still used today.

The next case traces the evolution of the sextant, from the astrolabe – which had to be used while hanging plumb, a difficult task on the deck of a rolling ship – a mariner's sea quadrant, a cross staff, and others. The exhibit also examines why and how these devices progressed over time, and includes a special section with some more sophisticated navigational theory to challenge the expert.

In another case is a copy of the journal from the first voyage of the whaleship *Charles W. Morgan*, taken from the manuscript collection. After inspecting this, the visitor can try using a sextant to measure the angle of the images of two suns fixed to the wall. One represents the angle at noon, from which a navigator calculates latitude, and one the angle in late afternoon, from which the navigator can do a "time sight," calculating the local time to within seconds, and from that, the precise longitude of his location.

Time and longitude navigational problems were devised from the actual location of *Charles W. Morgan* on 25 December 1844, according to the ship's log. The exhibit includes a representation of the mate's desk with a copy of the journal open on it, as well as a plot of the first voyage.

Two interactive computer exhibits funded by Apple Computer Inc. have been installed in the lobby. The program, which was written by Mary Farmer, Research Associate at the Williams College-Mystic Seaport Maritime Studies Program, is designed to be used by any child old enough to read, but contains information to stimulate adults as well.

Operation of the computer exhibits is simple, involving rolling a track ball to move a pointer, and pressing a button to make selections. The program has sections with information on solar and lunar eclipses, the movement of stars in the sky, and various constellations.

The illustrations, or "screen," of each section were adapted from Voyager, an astromony software program, with the permission of Carina Software. Farmer wrote the program on HyperCard software, which is widely used with computer programs for education and training.

Jeff Gagné, a fire control technician first class at the U.S. Navy Submarine Base in Groton, served as consultant on this project.

On the floor of the lobby are blue stripes representing a parallel and a meridian. A coast and geodetic survey benchmark, giving the precise elevation, latitude, and longitude of the Planetarium is at the intersection of the stripes.

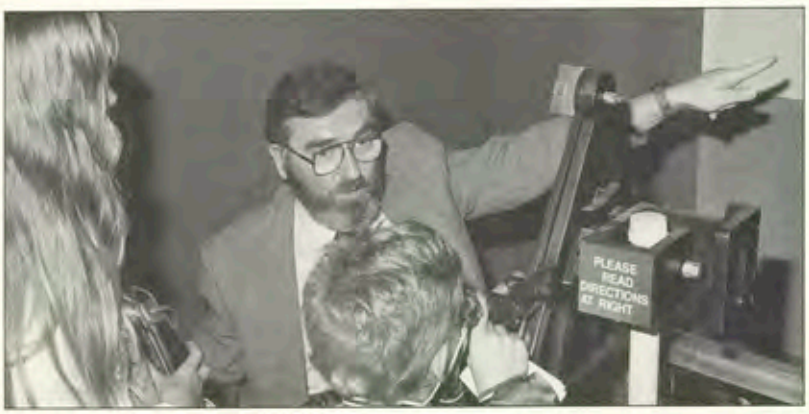
The lobby still contains its rotating orrery of the solar system, which was designed and built by Frederic W. Keator. It was refurbished by Arthur Payne through a grant from the Bowdenwein Benevolent Fund. The orrery includes eight of the nine planets; Pluto, the most distant planet from the sun, is not included because if its actual location were to be portrayed it would at times be outside the building.

On the west wall of the lobby is a mural of the Milky Way Galaxy. Outside the office door is a case that will contain changing exhibits, including some of the Seaport's collection of sextants and octants, one of the finest in the world.

Except for the orrery and the interactive computers, the new exhibit was funded entirely by the Emily Hall Tremaine Foundation, Inc.

The exhibit was designed by artist Dennis O'Brien of Mystic, who worked closely with the Curatorial Department and Planetarium staff in telling the story conceived and written by Don Treworgy. ■

Planetarium Celebrates Thirtieth Year



Planetarium Supervisor Don Treworgy helps a young visitor do a "time sight." (Photo by Claire White-Peterson)

The Seaport Planetarium, which celebrated its thirtieth birthday on 14 May, remains a popular attraction at the Museum, introducing thousands every year to the close relationship between the heavens and life on the sea.

This year the Planetarium logged its 1.5 millionth visitor. Planetarium programs are attended by about 10 percent of the visitors to the Seaport, and more than 1,000 people have taken navigation classes there. The Planetarium has six volunteers, two full time and eight part time staff.

The late Edwin Pugsley, a Seaport trustee, was the driving force behind the creation of the Planetarium, bringing it from vision to reality.

The Planetarium is supervised by Don Treworgy, who first came to the Seaport as a guest lecturer in 1961. A native of Milo, Maine, Treworgy taught mathematics and astronomy at the University of Maine in Orono before coming to the Seaport. Professor Fritz Keator, first director of the Planetarium, was Treworgy's celestial navigation teacher at the Seaport.

Treworgy delivers his lectures in a jovial voice vivified by years of singing with the Chorus of Westerly. He is a descendant of seafarers, who sailed from Kingsweare, in Devonshire, England, to Kittery, Maine, in 1636. Ancestor Spencer Treworgy was lost at sea with three brothers in 1777.

Among Treworgy's duties at the Seaport is monitoring hurricanes and other severe weather conditions that could threaten Mystic. He gathers forecast information from a number of sources, including shortwave radio; Weatherfax via satellite transmission; television; and AM radio. Using a computer modem, Treworgy gets current worldwide conditions from Weatherbank, a private service that disseminates National Weather Service data and provides a precipitation map, forecasts, and temperatures.

Other weather monitoring devices used in the Planetarium include a microbarograph, which traces barometric pressure, and a thermograph, which records outside temperature. Records generated by the latter were used in the preparation of a seal pool at the Mystic Marinelife Aquarium, which needed a record of temperature over time to design the pool.

Another useful weather monitoring device is Seafax, a machine donated by Stanley Popiel of Mystic, which is connected to shortwave radio, prints out satellite photographs, and serves as a backup system during severe storms, when other communication and information systems may fail.

Seaport member Linda Esche, who works at the American Meteorological Society, supplies the Planetarium with copies of that organization's bulletin and Weather Forecasting Journal.

The Planetarium keeps weather records 25 years back. With the help of these records and his own expertise,

Treworgy has served as an expert witness in lawsuits in which weather, and in two cases the angle of the sun, were at issue.

Treworgy monitors tides in relation to elevations of buildings, to watch for the possibility of flooding. Every year, Treworgy coordinates preparation of the Seaport's hurricane bill, a comprehensive plan to protect the Museum from damage in the case of a hurricane.

Another duty of Treworgy's is caring for the navigational instruments collection.

The Planetarium uses five telescopes for its star observation programs: three six-inch Newtonian reflectors and two eight-inch Celestron telescopes, all equipped with motor drive, which moves the telescope to follow a celestial object. One Celestron was donated by Celestron, Inc. The newest Celestron, equipped with a battery-powered motor drive and a hydrogen alpha filter for viewing solar prominences, was provided by a grant from the Bodenwein Benevolent Foundation.

The hydrogen alpha solar filter narrows the light of the sun, which contains all colors, to a single frequency, a narrow band showing the energy given out by hot hydrogen. Using this filter, it is possible to see the tongues of flame spewed out from the surface of the sun.

In July, the Planetarium classroom was dedicated to Susan Peterson Howell, who was killed in 1984 when the British bark *Marques* capsized and sank 80 miles north of Bermuda. Sue joined the Planetarium staff in 1968 and became associate director in 1981. She developed and taught courses and weekend seminars at the Planetarium and also wrote the book *Practical Celestial Navigation*, an introductory text. A watercolor of *Frolic*, her sloop, is part of the plaque created in her memory by Noank calligrapher and artist Lynn Anderson.

Last year Planetarium Teacher Elinor DeWire finished *Journey Through the Universe*, an interdisciplinary guide to astronomy. The book is designed to be a solid core curriculum for teaching basic skills. It contains aspects of language, arts, mythology, and elementary-level math and science. It is geared toward teaching the problem-solving, critical thinking, and decision-making skills emphasized in modern school systems. The Groton school system purchased 400 copies of *Activities for Young Astronomers*, an 80-page condensed version of *Journey Through the Universe*. Ellie has left the Planetarium, but continues as a volunteer.

Chaz Zezulka, 1990 Connecticut Teacher of the Year, called *Journey Through the Universe* "An invaluable resource." Michael Monce, Associate Professor of Physics and Astronomy at Connecticut College said, "The text does a marvelous job of promoting and rewarding the use of a child's curiosity . . . the basic motivation for scientific work."

Among the classes available for adults at the Planetarium at various times of year are basic celestial navigation, practical meteorology, piloting and dead reckoning, loran and radar. Star Tech is a program for children that takes place during February vacation week.

This December the Planetarium will again present a Celebration of the Stars of Christmas, Hannukah and the Winter Solstice, a program that examines the astronomy associated with the festivals of the winter solstice and their common themes of rebirth and renewal. ■



Maritime Videos Available

Seaport Videos make great holiday gifts! The Film and Video Division can deliver Christmas videocassette orders made by 19 December to anywhere in the continental United States. For a free brochure or to place an order call 1-800-445-9236.

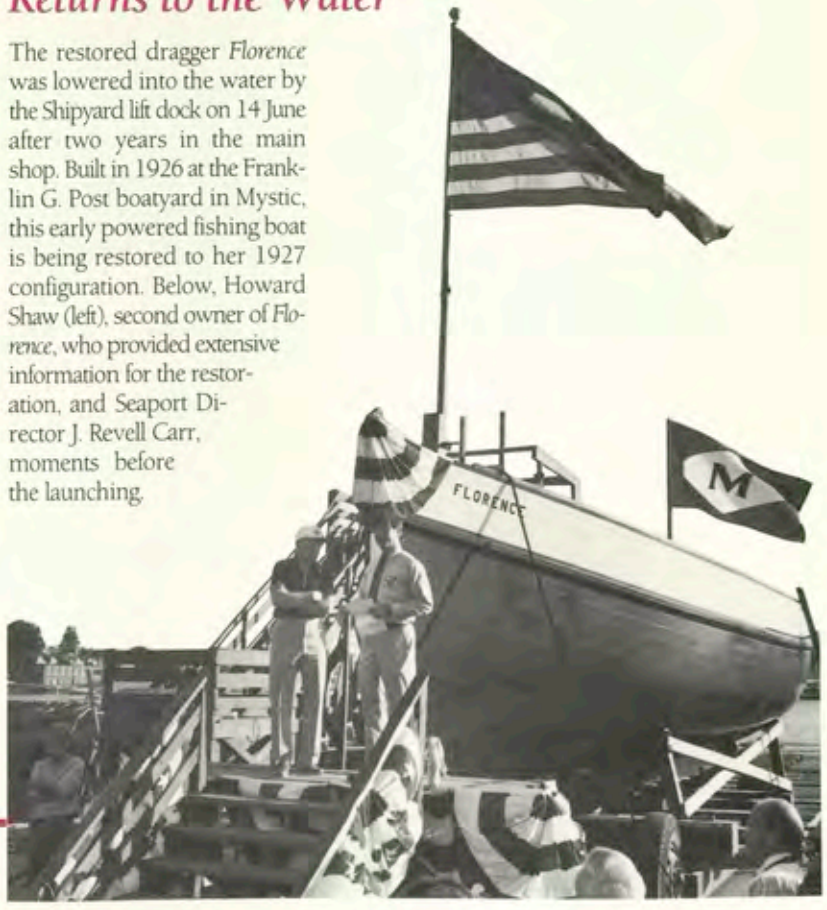
Our most popular title: *Around Cape Horn.*

A stunning sailing documentary: *Record Passage to MoBay*, the story of *Windward Passage.*

Tales of raging storms and daring deeds: *The Life and Times of Josiah Gardner, First Mate.*

Florence
Returns to the Water

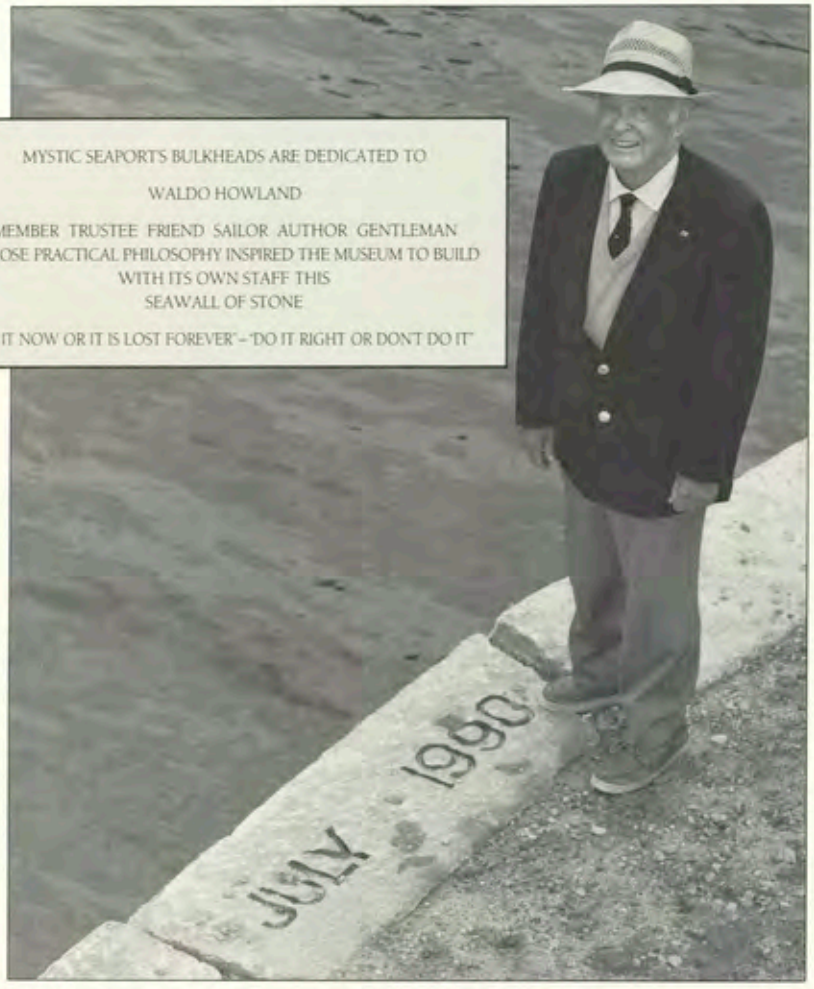
The restored dragger *Florence* was lowered into the water by the Shipyard lift dock on 14 June after two years in the main shop. Built in 1926 at the Franklin G. Post boatyard in Mystic, this early powered fishing boat is being restored to her 1927 configuration. Below, Howard Shaw (left), second owner of *Florence*, who provided extensive information for the restoration, and Seaport Director J. Revell Carr, moments before the launching.



Bulkhead Dedicated to Waldo Howland

The Seaport's 2,000 feet of stone bulkhead were dedicated to Trustee Emeritus Waldo Howland on 21 September. The final stone had been set in the wall on 23 July. These moments marked the completion of a 10-year project to protect the Seaport's waterfront from erosion.

At the dedication, Howland (below) received a proclamation with the words in the below inset.



(Photo by Mary Anne Stets)

The completed bulkhead contains 9,292 tons of cut stone, 12,814 tons of rock fill, 616 tons of steel piling, and 2,228 cubic yards of assorted aggregates.

The ceremony to lay the final stone in the bulkhead was attended by Soil Conservation Service employees from Connecticut and Washington, D.C., local committee members of the New London County Soil and Water Conservation District, and the Eastern Connecticut Resource Conservation and Development Project.

Almost all of the work on the bulkhead was done by Seaport personnel, under the supervision of Shipyard Director Donald Robinson and Vice President for Watercraft Preservation Dana Hewson. It included removal of old docks and bulkheads, driving sheet pile, cutting and setting stone, crane and other equipment maintenance, barge repairs, diving, and engineering work.

The project was funded by the U.S. Department of Agriculture Soil Conservation Service, which reimbursed the Seaport for approximately $800,000 of materials. The Seaport's share, which included providing equipment and labor, was funded primarily through contributions from members.

Chaisson Skiffs Available from Boat Shop

The Boat Shop is building a series of 10-foot lapstrake rowing and sailing boats which are now available to members.

These lapstrake boats are handsome replicas of a Swampscott dory-skiff built by George L. Chaisson. Although their purpose was to serve as a tender to larger boats – 20-foot catboats towed them and 80-foot schooners carried them on deck – they are first-rate rowing and sailing boats in their own right.

Proceeds from the sale of these boats will support the Boat Shop, where the Seaport keeps boatbuilding skills alive and visitors can see boatbuilding in progress.

Boats may be ordered by sending one-third of the purchase price to Helen Packer at the Seaport. Price for rowing model is $2,750; price for sailing model is $3,450, which includes centerboard, rudder, mast, sprit, and sail. Balance may be paid on completion. For more information please call ext. 328.

Correction:
The photograph of the Emma C. Berry on page 41 of the Summer Log should be credited to Nancy d'Estang.

ABOUT THE AUTHORS

Robert G. Albion and ***Jennie B. Pope,*** his wife, collaborated on *Sea Lanes in Wartime* during World War II. Robert Albion (1896–1983) took his degrees at Bowdoin and Harvard. While a professor of history at Princeton, he began a course that helped legitimize maritime history among academic historians. At Harvard he was Gardiner Professor of Oceanic History and Affairs, 1949–63. He was also the Secretary of the Navy's Historian of Naval Administration, 1943–50, and he helped establish and then directed Mystic Seaport's Munson Institute of American Maritime Studies. His numerous books remain classics in the field.

Laura S. and ***John A. Saunders*** of Friendship, Maine, are long-time members of Mystic Seaport. Laura Saunders received a degree in Library Science at Simmons College and pursued a career in public, college, and school libraries. John A. Saunders IV, a descendant of five generations of Narragansett Bay boat designers and builders, attended Northeastern University and the Graduate School of Banking at Rutgers. Together in retirement they engage in maritime history research and writing.

Sandra L. Oliver, formerly of the Seaport's Education Department, is a foodways historian and consultant living in Maine.

Planned Giving Program at
MYSTIC SEAPORT MUSEUM

The development of the Museum – the buildings, ships, and wharves, the exhibits, books, and manuscripts – gives eloquent testimony to the generosity of countless contributors. This personal and generous commitment on the part of our donors fulfills and sustains the legacy and vision handed down by the Museum's founders.

Many of the Seaport's members and friends have chosen to perpetuate the Museum's purpose by taking advantage of the Planned Giving Program.

Several types of Planned Gifts are available. They are designed to benefit the donor as well as the Seaport.

Members and friends of Mystic Seaport are urged to consider the opportunities of Planned Giving as a way of assisting the Museum in a meaningful and tax-wise manner.

For further information about how Planned Giving can help you assure the future of Mystic Seaport Museum, please call

Christopher Cox, *Director of Development,* (203) 572-0711

Photo by Mary Anne Stets





The nation's leading maritime museum wants your continued support in the vital work it has done for more than six decades.

Members of Mystic Seaport not only have the satisfaction of helping preserve our priceless maritime heritage, but can also join in educational activities for the whole family, unique experiences found nowhere else in the world.

As a member, the gates of Mystic Seaport are open to you all year long. You may come as often as you like, stroll the grounds, examine new exhibits, and experience the timeless thrill of boarding the oldest existing wooden whaleship. You will also receive advance notice of special events in which you can participate, including annual favorites such as the Sea Music Festival and Members' Day.

But most of all, you help preserve our collective memory, which reminds us every day of the innovation and courage of our forefathers, characteristics that helped forge a great nation.

Memberships begin at $30 for individuals and $50 for families. Gift memberships are also available. Please call the Membership Department at ext. 339, or write to the Membership Office, Mystic Seaport, 50 Greenmanville Ave., P.O. Box 6000, Mystic, CT 06355-0990.

MYSTIC SEAPORT MUSEUM

50 Greenmanville Avenue ▪ P.O. Box 6000 ▪ Mystic, Connecticut 06355-0990 ▪ (203) 572-0711



Boatbuilding Classes Begin in March 1991

This spring's boatbuilding classes will include instruction and student work in a variety of operations basic to traditional wooden boat building, including planking – both carvel and lapstrake – cutting a stem rabbet, steam bending, solid spar making, tool sharpening, caulking, and more.

Most of the specialized operations necessary to building a carvel or smooth-planked small boat are covered in these classes. Participants will work with boatbuilding tools and materials furnished by the Seaport in a typical boatbuilding shop under boatshop conditions.

The two weekly classes meet on Tuesdays and Thursdays from 7:30 P.M. to 9:30 P.M. Tuesday sessions begin 5 March, Thursday sessions begin 7 March, ending 7 and 9 May respectively. Students may attend one lofting class, from 9 A.M. to 4 P.M. either Friday, 8 March or Saturday, 9 March.

Please respond by 1 February 1991. Cost is $265 (nonmembers $295). Classes filled on a first come, first served basis. Classes limited to eight people.

Please check the night you prefer.

BOATBUILDING CLASSES ☐ Tuesday ☐ Thursday

LOFTING CLASS ☐ Friday ☐ Saturday

Name: _____

Address: _____

City _____ State _____ Zip _____

☐ I cannot take the class this year, but wish to have my name kept on the list.

Please make checks payable to Mystic Seaport *and mail to Boatbuilding Classes at the Seaport address.*

Symposium Focuses on Twentieth Century Design

This year's Yachting History Symposium will focus on the evolution of the yacht in the twentieth century. The Symposium will take place 22 through 24 March at the Seamen's Inne.

The keynote speaker will be premier yacht designer Olin J. Stephens II, who will discuss his six decades of experience in the field. Other speakers will include:

- Naval architect and Seaport trustee emeritus Henry Scheel on motor sailors.
- Designer, builder and writer Jim Brown, on multi-hull craft.
- John Deknatel on the work of Ray Hunt, who conceived many of today's widely-used hull designs.
- Naval architect David Martin on sportfishing boats.

If you wish to be on the mailing list for the Yachting History Symposium, please complete and return this coupon to Yachting History Symposium at the Seaport address below.

Please put me on the mailing list for the Yachting History Symposium.

Name _____

Address _____

City _____ State _____ Zip _____

Celebrate the Holidays with a Seaport Gift Membership!

As a member of Mystic Seaport, you've had a unique opportunity to explore the exciting world of maritime history and the challenge of the sea. With a gift membership, you can invite someone special to share that excitement with you.

Numerous educational and cultural activities including exhibits, classes, live demonstrations, and special events focusing on ships and the sea take place at the Seaport year round. Summer evening hours offer different activities every night of the week. Do you know someone who would enjoy participating in these events at reduced rates, as a member of the Seaport?

A gift membership package including membership cards, a copy of *The Log*, and a handsome car decal will be sent to you, or mailed directly to the new member.

New member:

Name _____

Address _____

City _____ State _____ Zip _____

Gift membership category: ☐ Individual – $30 annual dues.
☐ Family – $50 annual dues.

Sign my name on the gift card as follows:

_____

Please send gift package to ☐ me ☐ new member.
Please send renewal notice to ☐ me ☐ new member.

Your Name _____

Address _____

City _____ State _____ Zip _____

Membership accessories also make great gifts. Our burgee, necktie, blazer patch, and scarf all show the house flag of New Bedford ship owner Charles Waln Morgan on a blue background. Is there a member you know who's earned one of these gifts? Fill out this form, or call the Membership Office at ext. 339.

_____ 12" x 18" burgee at $16 each. $ _____
(plus $1.28 tax for Connecticut residents)

_____ 16" x 24" burgee at $19 each. $ _____
(plus $1.52 tax for Connecticut residents)

_____ 3¼" blazer patch at $16 each. $ _____
(plus $1.28 tax for Connecticut residents)

_____ Scarf at $10 each. $ _____

_____ Tie (100 percent silk) at $15 each. $ _____

TOTAL $ _____

Gift Recipient:

Name _____

Address _____

City _____ State _____ Zip _____

Sign my name on the gift card as follows:

_____

Your Name _____

Address _____

City _____ State _____ Zip _____

Please make checks payable to Mystic Seaport *and mail with order form to Membership at the Seaport address.*



Secrets of Victorian Gardens Unearthed

The ninth annual Victorian Yankee symposium will focus on the nineteenth-century American garden in "Victorian Yankee: Unearthing the Victorian Garden." This year's speakers will explore the changing attitudes and ideas Americans brought to the cultivation of their soil and the plantings with which they surrounded themselves.

The program begins at 8:00 A.M. and continues until 4:30 P.M. on Saturday, 9 March 1991, at the Seamen's Inne in Mystic. Cost is $38 per person (nonmembers $42), which includes coffee, danish, and lunch, as well as admission to the Seaport for the day.

Speakers will include:

- Rudi Favretti, Professor Emeritus at the University of Connecticut and a landscape architect who has had more than 500 commissions, including Monticello, Old Salem, Strawberry Banke, and Old Sturbridge Village.
- Nancy Spinner, Staff Horticulturalist at Mystic Seaport.
- Virginia Chisolm, Restoration Consultant and Director of Celia Thaxter's Garden, Appledore Island, Isles of Shoals, New Hampshire.
- Lucinda Brockway, former Director of Landscape for Strawberry Banke, now a private consultant.

For additional information call ext. 284.

Victorian Yankee Symposium

Name _____

Address _____

City _____ State _____ Zip _____

Send _____ tickets @ $38/member $ _____

Send _____ tickets @ $42/nonmember $ _____

Please specify number preferring stuffed breast of chicken _____ or baked New England schrod _____

Lunch includes appetizer, salad and dessert.

Please respond promptly to assure your place with us. Make checks payable to Mystic Seaport *and mail with reservation form to Victorian Yankee, Education Department at the Seaport address.*


Happy Holidays

The Log of
MYSTIC SEAPORT
Mystic, Connecticut 06355-0990

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