THE LOG OF MYSTIC SEAPORT®

44-2



12 October 1492

Important Membership Information on inside of wrapper!

Southern New England and the Sea, Historically Speaking

Join us for the twelfth annual Symposium on Southern New England Maritime History, to be held 6 and 7 November.

This event has become a popular tradition here at the Seaport, offering as it does an interesting mix of topics relating to this region's maritime history. This year's itinerary takes us from the bustling shipyards of Essex, Massachusetts, to the trading and shipbuilding activities far up the Connecticut River at Cromwell. We'll take to the water with Long Island Sound steamboats and the Crowell & Thurlow fleet of coasting schooners. A tale of murder aboard the schooner *Herbert Fuller* will provide the weekend a dramatic finish.



Join us early, for the annual Dutch Book Auction in the G.W. Blunt White Library basement. Hundreds of titles are available, and prices are reduced hourly. The auction, sponsored by the Library Fellows, begins at 10:00 A.M. and runs until 5:00 P.M.

The weekend formally begins with a Punch Bowl Reception Friday evening, from 7:30 to 10:30 in the R.J. Schaefer building. Come renew old acquaintances and forge new friendships.

The River Room at Seamen's Inne will open at 8:00 A.M. Saturday morning, for coffee and registration. Seaport Director J. Revell Carr will welcome you at 8:45, and the day will proceed as follows:

9:00 – Robert O. Decker on "Cromwell, Connecticut: The Story of an Inland Port."
10:30 – William H. Ewen on "Steamboats on Long Island Sound."
11:30 – Buffet Luncheon
1:00 – Dana Story on "Shipbuilding at Essex, Massachusetts: An Illustrated History."
2:30 – Barry Homer and Paul C. Morris on "Crowell & Thurlow: The History of a Coasting Schooner Fleet."
3:30 – Norman Brouwer on "Murder on the *Herbert Fuller*."

For a day to remember, send in your reservation now to ensure a spot at this popular gathering. Please use the coupon below, and let us receive your check or money order, payable to Mystic Seaport Museum, by 30 October. Reply to Curatorial Department at the Seaport address below. For further information, call Katia DeBartolo, (203) 572-5313.

— — — — — — — — — — —

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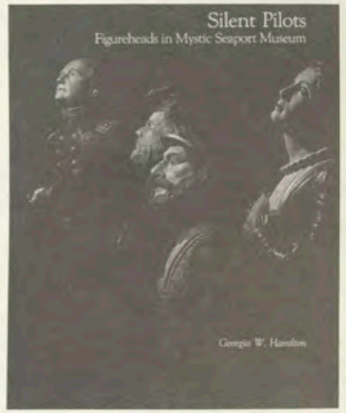
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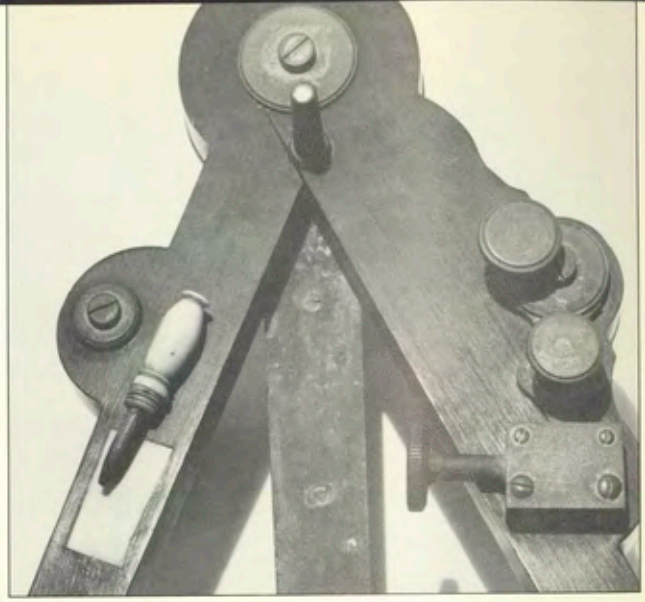
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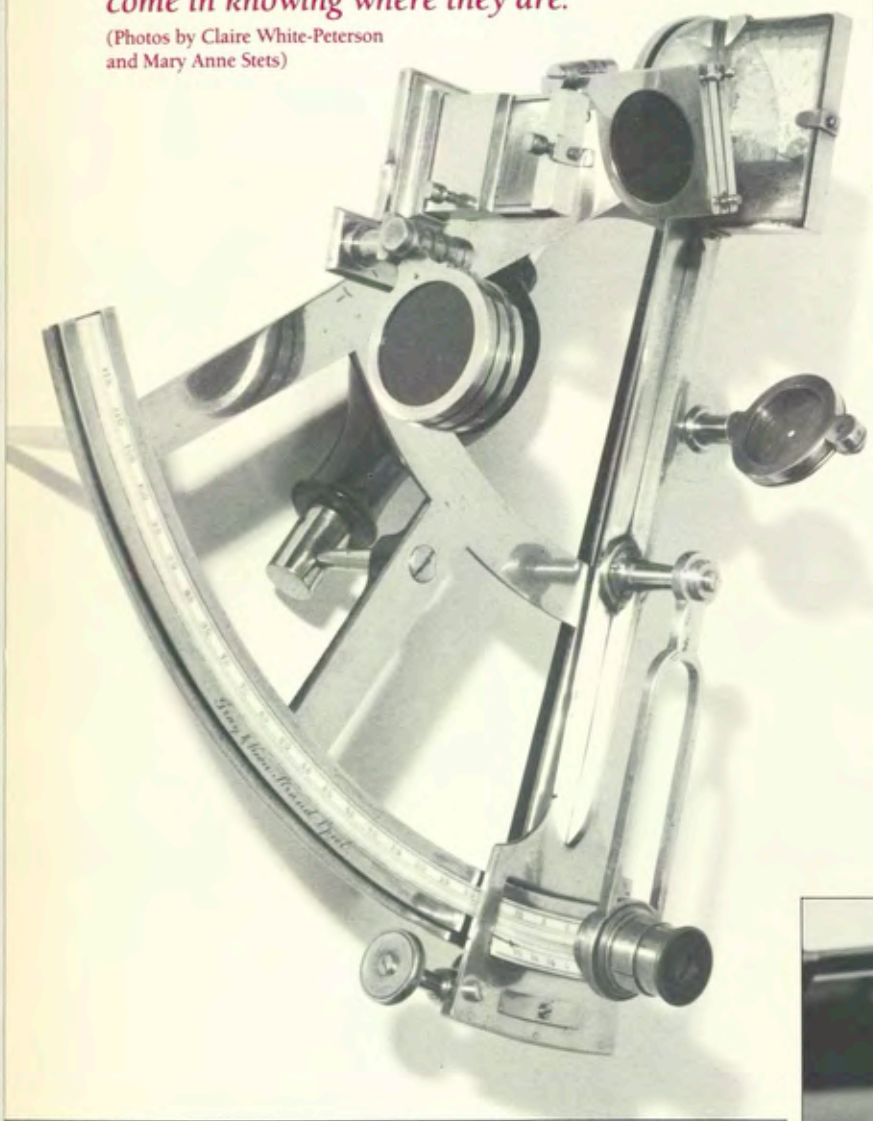
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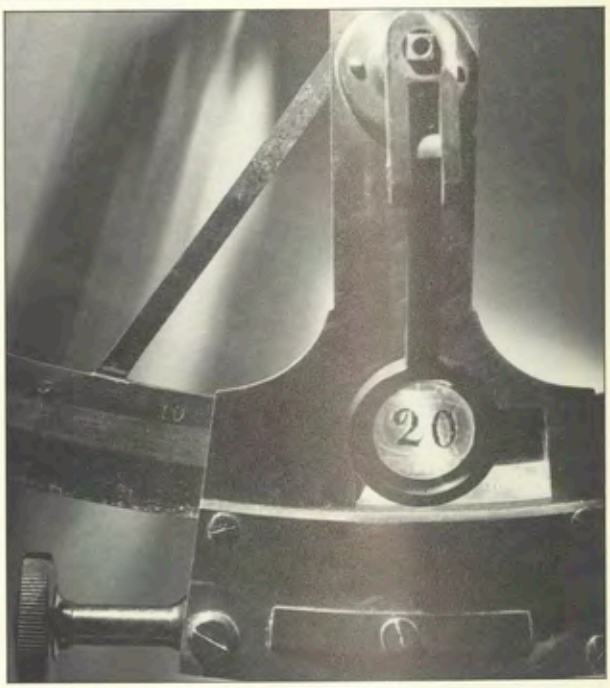


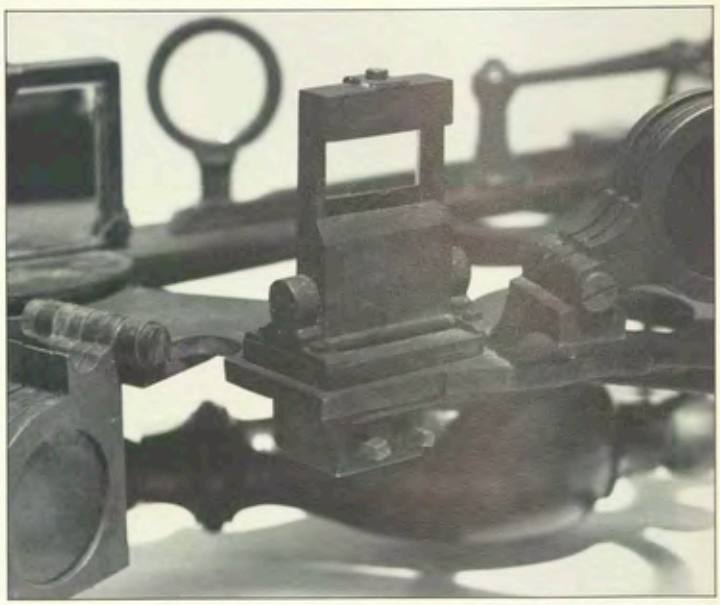
Mystic Seaport celebrates the art of the navigator in two new exhibitions, the first of which will open 31 October in the P.R. Mallory wing. The exhibits will trace four historic voyages and one modern-day passage – using navigational instruments, charts, and opportunities for individual exploration – to help visitors appreciate just how far seafarers have come in knowing where they are.

(Photos by Claire White-Peterson and Mary Anne Stets)











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The Log of Mystic Seaport is abstracted in *America: History and Life* and *Historical Abstracts*.

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Cover: Lilium *"Rosita" in the Memorial Garden.*
(Photo by Nancy Spinner)

SIGHTINGS

While many perceive the sea as a water barrier that separates peoples and nations, those who have studied maritime history know well that the sea is also an extraordinary uniting force. For millennia, the traffic of people on the seas of the world has been the primary vehicle for communication between distant lands. From ancient times to the beginning of this century, the seaports of the world were the focal points for the transfer of knowledge at all levels. The latest books with concepts of philosophy, science, and technology arrived in seaports and were then diffused thoughout the surrounding country. So, also, the latest literature and political and social perspectives passed from seaport to seaport. And as we see in this issue, even the marine species that inhabit our waters, the plants in our gardens, and the food on our tables have been influenced by maritime trade.

In this year, as we reflect upon the vast changes in the 500 years since Columbus's great transatlantic venture, it is fitting that we take an international perspective. As this issue of *The Log* has been prepared for press, a frenzy of international activities has involved Mystic Seaport. It began with Operation Sail '92 in New York, the extraordinary gathering of ships that was the national focus of the Columbus Quincentenary Celebration. Mystic Seaport was well represented during the national television broadcast: our Trustee, Walter Cronkite, began the program with Bill Baker, President of Public Television's WNET in New York, returned later for additional insights, while I shared the co-hosting with Peter Neill, President of South Street Seaport, and Captain Ernst Cummings, former commanding officer of the U.S. Coast Guard bark *Eagle*. This major maritime event featured at least 260 vessels, including 33 Class A (over 160 feet) tall ships.

During the days that followed, ten of the smaller ships navigated the Mystic River channel to allow their crews to experience Mystic Seaport. Captain Gralph Sieghold from Bremerhaven, Germany, who has been a Mystic Seaport member for some years, was so eager to have the crew of the *Alexander Von Humboldt* visit Mystic that special arrangements were made to transport them from an anchorage at the mouth of the river. These vessels were on their way to Boston for the week-long Sail Boston '92 tall ships event, at which the Seaport displayed its programs and products.

While all of this took place on the east coast of the U.S., several other events involving Mystic Seaport occurred on the west coast of France. In Douarnenez, Brittany, through the encouragement of the maritime magazine, *Chasse-Maree*, the Musee du Bateau and Le Port Musee have been developing with the stated purpose of "becoming the Mystic Seaport of France." During 6–10 July, the Musee du Bateau hosted the interim meeting of the International Congress of Maritime Museums. Here the Executive Council and other committees met to conduct the business of the organization and plan next year's full Congress in Barcelona. While the ICMM meetings were being held, Mystic Seaport's Curator of Exhibits, Stuart Parnes, was installing in Douarnenez an exhibition he coordinated featuring the maritime preservation efforts of the members of the Council of American Maritime Museums.

The community of Douarnenez has great civic pride in the region's maritime heritage, and in the efforts of the Musee du Bateau and *Chasse-Maree*. After the great success of the rendezvous of traditional watercraft at Douarnenez in 1988, the next such gathering was scheduled for the more commodious harbor of nearby Brest on 11–14 July 1992. So, while Stuart Parnes set up one exhibit, his assistant, Deb House, set up an exhibit in Brest describing Mystic Seaport and featuring the Seaport's replica of the *American Star*, an American pulling boat that was presented to General Lafayette in 1825, and which is preserved at the Lafayette Chateau in France. The Seaport Stores enhanced this display with appropriate Seaport products. Joanne Millovitsch and Sarah Seder of the stores, along with Deb House, put in long hours each day and evening to staff the display, aided by Seaport chanteymen Geoff Kaufman, Rick Spencer, and Craig Edwards, who attended Brest '92 as guests of the festival. These three, who were also in France last year and in Portugal this spring, are international musical ambassadors for Mystic Seaport, and their concerts were attended by huge crowds.

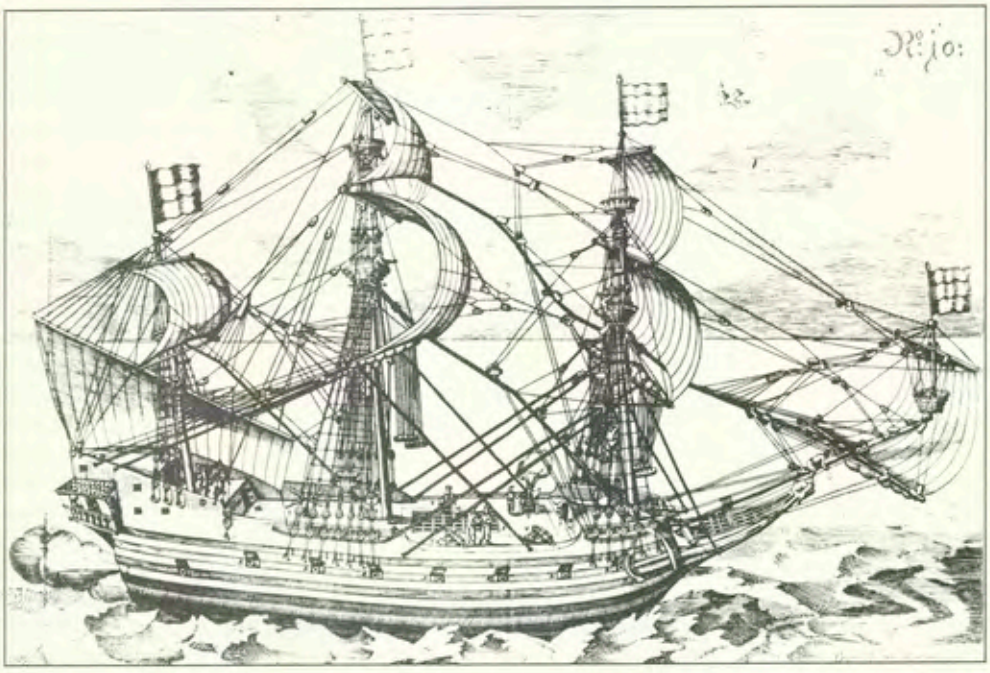
Although it had only one Class A tall ship, Brest '92 dwarfed OpSail '92 in many ways. Over 2,000 antique and traditional vessels attended, with more than 10,000 in crew. Approximately 1,500 musicians participated, and attendance at the festival exceeded 100,000 daily. Many people who have visited Mystic in the past approached the staff to relate their enthusiasm for the Seaport, while others were curious to learn more about the Museum.

During the first two weeks of July 1992, more than at any other time in the past, Mystic Seaport has been actively involved in projects truly international in their scope and impact. In Mystic and abroad, the Seaport plays a key role in the continual exchange of ideas, technologies, publications, and exhibitions. These two weeks have been evidence that the sea continues to bring people and ideas together, and that the spirit of maritime preservation remains strong on both sides of the Atlantic.

J. Revell Carr

Blue Immigrants: The Marine Biology of Maritime History

Three hundred and fifty years later these organisms would be recognized as part of a cosmopolitan harbor biota created by centuries of maritime commerce



This transatlantic freighter of 1629 represents ships like the Arbella, *which carried human and marine immigrants to the New World.*
(Furtenbach, *Architectura Navalis*, 1629)
Photo by Claire White-Peterson

JAMES T. CARLTON

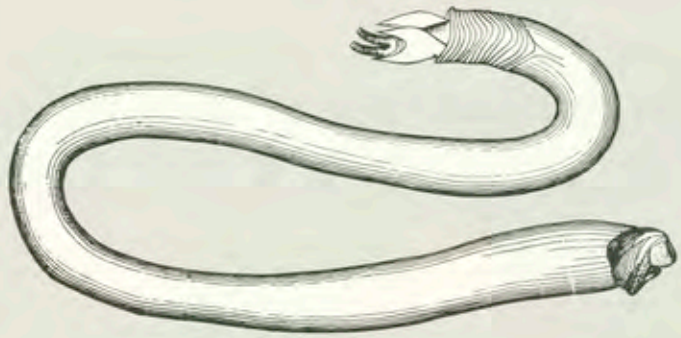
On 12 June 1630 the ship *Arbella*, with 100,000 colonists, and 64 days out of England, made anchorage off Cape Ann, Massachusetts.[1]

Only somewhat more than 100 men, women, and children, and an assortment of livestock, plants, seeds, rats, and mice were actually *aboard* the *Arbella*. But on that June day the *Arbella* also inadvertently brought to America, as did many vessels before and after it, a rich community of marine fouling and boring organisms attached to, and burrowing in, her hull. Deep inside the *Arbella*, below her cargo, was ballast, and in this ballast were the seeds of far more species of plants than were intentionally brought aboard, as well as insects, snails, and other small animals. Three hundred and fifty years later these organisms would be recognized as part of a cosmopolitan harbor biota created by centuries of maritime commerce.

In the months before the *Arbella* left Britain, the once-bare hull of the small ship was steadily colonized by a wide variety of marine life: sponges, sea anemones and their hydroid relatives, barnacles, mussels, sea squirts, seaweeds, and many other organisms settled and grew, attaching by threads, stalks, holdfasts, or other mechanisms. These animal and plant communities would develop so densely and deeply (seaweed-dominated communities could be three or more feet thick) that a badly fouled ship could lose considerable speed at sea because of this below-waterline "cargo." Moving in and out of this fouling assemblage were many small species of mobile, nonattached animals – fish, shrimp, crabs, and a host of smaller crustaceans, such as amphipods and isopods.

In the unprotected portions of the wooden hull of the *Arbella*, shipworms and gribbles had begun their lifelong task of destruction. The *Arbella* may have had portions of her wooden hull protected from shipworms, perhaps with lead sheathing on her keel, or a layer of animal hair covered with sacrificial wood sheathing. But there were always areas not protected, giving wood borers an opportunity to quietly colonize.

. . . some grow to three feet or more



Shipworms (Teredinidae) *are actually specialized mollusks that burrow in wood rather than sand.*
(Goode, *Fisheries and Fishery Industries of the U.S.*, 1884)

Shipworms are bivalve mollusks, a group that includes clams, mussels, scallops, and oysters. They are "worm-like" only in the sense of having an elongated, soft body, but are otherwise perfectly good bivalves, with some unusual modifications. At the "business end" of the shipworm are two highly reduced shells, or valves, on the sides of which are rows of fine teeth. The shells rock back-and-forth, filing away at the wood, and slowly create a long, tubular burrow, which the shipworm's body lines with white shell-like material made of calcium carbonate. At the posterior of the shipworm, protruding out the burrow and into the water, are two soft, tube-like siphons, by which means the shipworm takes water in to filter out very small plankton and then passes the water out of its body. Most shipworms grow to twelve inches or less in length and about one-quarter inch in diameter; some grow to three feet or more. A young shipworm settles as a larva, enters into the wood, and steadily enlarges the burrow on the inside – and a piece of wood that on the outside looks intact can in fact be almost hollow on the inside. Many an "intact" ship and many a "solid" wood bridge have suddenly sunk or fallen due to this hidden nature of the shipworm's devastating burrows. Christopher Columbus himself lost one of his ships to shipworms on his third voyage in the West Indies.

The shipworm's burrow remains after the mollusk dies – and, with one old burrow collapsing upon another, great caverns can be formed, deep into the hull or keel of a vessel. The author has been able to insert his arm up to the elbow in the collapsed shipworm caverns of an old schooner's keel – caverns that, in turn, provide fine, deep homes for crevice-dwelling fish, crabs, and shrimp.

More revealing are the gribbles, burrowers from the outside *in*. These tiny (one-sixteenth to one-eighth inch long) isopod crustaceans, related to the terrestrial pillbugs, settle on the outside of bare wood and begin to rasp away with powerful jaws. Living between the high tide line and the mud line, these marine borers strip away layer after layer of wood – creating the classic hourglass pilings along, now, virtually every coastline of the world.

Together, as an inadvertent team, shipworms working from the inside and gribbles working from the outside, especially in warm tropical water, could destroy the hull of a small wooden craft in months. In turn, the very people who would suffer most from their activities were inadvertently spreading them to every port and harbor of the world.

Before the *Arbella* was loaded with cargo and passengers, ballast had to be put aboard to provide the proper trim and stability. Before the twentieth century, ballast consisted of stone, gravel, rock, debris, sand, iron – virtually anything solid and heavy that was cheaply available. So common was the need for ballasting that it entered the social fabric and became a simile for conducting one's life, as James Meikle described in 1758:

> Notwithstanding all this nice apparatus, and royal provision made for the vessel designed for foreign climes, there is one thing absolutely necessary for her safety in the main ocean, among roaring winds, and this is, a due weight of ballast. To see such a quantity of gravel, sand, stones, pegs of iron, &c. thrown into the ship's hold, would make an ignorant person apt to conclude that it must sink the ship, and not conduce to her safety; but, if she were not sunk to a proper depth, she would buoy up on the surface of the water, and be overset by every gale that blows. . . . As the ship sails more safely thus ballasted, though it has a greater depth of water to cut through; so it is safer for the soul to be kept in a due poise of humility and lowness of mind, than to float on the surface, and catch every gale.[2]

And so the *Arbella* set to sea on the morning of 8 April, bound for America with her aquatic cargo of European marine life and her terrestrial cargo of plants and animals. Whether, of course, she had 100,000 or one million barnacles, hydroids, mussels, shipworms, gribbles, seeds, and beetles aboard we can never know – but there is no question that the *Arbella* was a floating biological island. The *Arbella*, and her many sister ships, every month and every year, voyage after voyage, had the potential to introduce new species to North America.

If the *Arbella* had developed an extensive fouling community, a swim around her hull on the day she departed would reveal luxuriant, wafting masses of marine life. On her starboard side, where she had been facing the sun, would be rich growths of green algae at the waterline, giving way to dense colonies of barnacles, and, lower down, seasquirts, sponges, and hydroids. Cracks in the keel may have accumulated mud, and in the mud would be the worms and clams more typical of the harbor floor. Thick mats of hydroids and seasquirts on her rudder post would harbor tube-dwelling amphipods (scuds), worms, flatworms, nematodes (roundworms), copepods, and bryozoans. So the hull might have been a patchy mosaic of whites, oranges, reds, greens, and yellows, a foot and a half thick![3]

We can assume that the North Atlantic was a filter not only for humans (who died or fell overboard during the voyage), but also for many of the plants and other animals that began the voyage. Washed off the *Arbella*'s hull, no doubt within sight of Britain, were the casually clinging fish and crabs. Those errant organisms who had managed to move deep inside old shipworm tunnels, and who did not wander out to the opening in their

own sense of exploration, conceivably arrived at Cape Ann two months later. There was relatively little of the rich coastal plankton, the food of many of these organisms, on the high seas, and thus running out of food was a problem both on and under the ship. Depending upon the cruise track, waters considerably colder or warmer could be encountered, as could waters of different salinity (salt content).

When the *Arbella* arrived at Cape Ann and anchored, what became of her hitchhiking cargo? At anchor long enough, the barnacles, hydroids, shipworms, and other organisms may have had sufficient time to continue to feed, grow, and reproduce – sending out their larval progeny which may have settled upon the rocks and sunken wood of the shore. Only a few invaders are usually successful at a given time, and so we do not know of course if any new colonists arrived on this voyage.

Her ballast, full perhaps of seeds and beetles and pillbugs and earthworms, may have gone overboard, a salty grave for these shore-dwelling creatures. Richard Henry Dana described what later became known as "ballast shooting," aboard the *Alert*, in San Diego harbor in 1836:

> We turned-in early, knowing that we might expect an early call; and sure enough, before the stars quite faded, "all hands ahoy" and we turned-to, heaving out ballast. A regulation of the port forbids any ballast to be thrown overboard; accordingly, our long-boat was lined inside with rough boards and brought along the gang way, but where one tub-full went into the boat, twenty went overboard. This is done by every vessel, for the ballast can make but little difference in the channel, and it saves more than a week of labor, which would be spent in loading the boats, rowing them to the point, and unloading them. When any people from the presidio were aboard, the boat was hauled up and the ballast thrown in; but when the coast was clear, she was dropped astern again, and the ballast fell overboard. This is one of those petty frauds which every vessel practises in ports of inferior foreign nations, and which are lost sight of, among the countless deeds of greater weight which are hardly less common. Fortunately, a sailor, not being a moral agent, is not accountable. . . .[4]

As early, however, as 1611, ballast dumping regulations had found their way to North America. In that year John Guy, the founder of Newfoundland's first permanent settlement, published "Certaine orders for ffishermen," consisting of eight rules. The *first* of these was, "Ballast or anything hurtful to harbours not to be throwne out but be carried ashore – Penalty £ 5 for every offence."[5]

And a great deal of ballast was indeed carried ashore. "Ballast Points" are today still found along many coastlines, marking where ballast was either to be obtained or to be dumped, under the eyes of the harbor, or ballast, master. This practice remained common for the next three centuries, and by the end of the nineteenth century it was well-known to both professional and amateur botanists that a wide variety of European plants could be had upon the ballast grounds. Isaac Martindale, writing from Camden, New Jersey, in 1876, described his discoveries, listing scores of European plants found on shore.

> The subject of the introduction of foreign plants is one of interest to botanists in all sections of the country . . . and, as it can not be told when nor how it may occur, it behooves all lovers of science to keep wide awake, carefully noting the advent of hitherto strangers in Flora's household. . . . The arrival, at the various seaport towns on the coast, of ships with ballast from different parts of the world, has probably done the greatest work in the introduction and distribution, and it is one which will continue so long as our country can furnish material to satisfy the wants of other nations. . . . I desire to call the attention of botanists to these deposits of ballast as the opening of a field at once new and interesting, and which promises good results to the attentive investigator.[6]

Few in maritime history have probably been as moved by ballast as was Martindale, who wrote a year later,

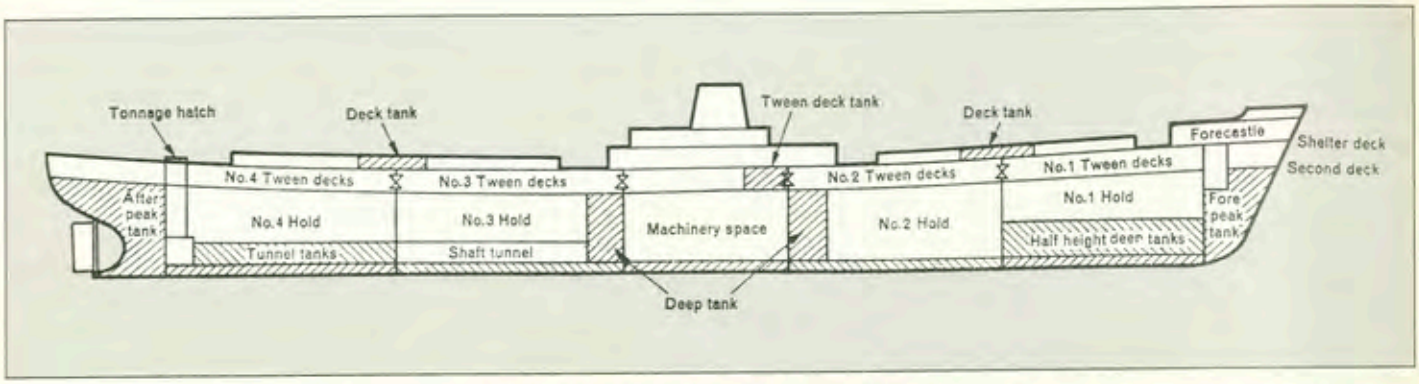
> This transportation of seeds and consequent introduction of new plants . . . is an interesting matter for consideration, and as I review these ballast deposits, and detect so many strangers, I feel a re-awakening of that interest which a ramble about our fields and woodlands fails to create.[7]

Slowly, one European marine organism after another began to appear on New England's shores. Almost 400 years later, it is difficult to know exactly when each species first colonized. Indeed, so old and numerous were sailing voyages between Europe and North America – beginning in the sixteenth century, but extending back to tenth-century Norse explorations – and so recent are our first biological investigations, few being available before the mid-nineteenth century, that it is difficult to determine for many species whether they occurred in America before European contact.

Perhaps *the* most famous European colonist of New England shores is the common periwinkle, *Littorina littorea*–a species



Besides her cargo, the 1851 clipper ship Syren probably carried plant species in her ballast and marine species on her bottom as she sailed between New York, San Francisco, Calcutta, and other world ports.
(Coll. 112, G.W. Blunt White Library)



Rock and sand ballast, which once carried plant species around the world, has been replaced by water ballast, a new vehicle for species transport. Millions of gallons are carried in the tanks (shaded area) of a ship traveling in ballast. The most dramatic and damaging example of such transport is the zebra mussel (Dreissena polymorpha), *introduced to the Great Lakes from Europe in the 1980s.*
(Lloyd's Register of Shipping)

so "typical" of the Atlantic coast that many people are surprised to learn that it is not native. How the European periwinkle first arrived in North America is uncertain. Ancient populations appear to have lived in Newfoundland and other parts of eastern Canada thousands of years ago, but our modern populations seem to derive from recent introductions of the past 200 years. In the 1840s *Littorina littorea* was discovered in eastern Canada in regions already well-explored for their seashells. Whether introduced upon ballast rocks or (as the author suspects) intentionally released to inoculate America with one of western Europe's cheapest and most popular seafoods, we do not yet know.

Littorina moved steadily south. By the 1860s it had reached the Gulf of Maine, by the early 1870s Cape Cod, by the late 1870s Long Island Sound, and by the 1880s New Jersey. The European periwinkle quickly became one of the most dominant intertidal organisms of North America from Newfoundland to New York. Studies one hundred years later suggest that *Littorina*, coating the shores in numbers up to thousands per square yard, had a profound effect on the distribution and abundance of other animals and plants of the shore—perhaps effectively eliminating much of their favored algal food, competing with other species, affecting marsh development, providing a new shell resource for native hermit crabs, and having many, many other more subtle effects. In the quieter waters of New England and the Middle Atlantic, wherever the European periwinkle is common, much of what we see on the shore may be a result of this snail's browsing and grazing activities.

The green crab, *Carcinus maenas*, was an early colonist, being introduced into Long Island Sound from Europe by the end of the eighteenth century. The green crab is also such a typical "representative" species of New England and Middle Atlantic shores it is difficult to imagine it not being here. As with the European periwinkle, one could hardly pick a potentially more successful invader, and one that could predictably cause some of the most extensive environmental change. Green crabs are omnivores (although individuals may, more or less, be specialists): they can crush or tear barnacles off rocks, they can dig for clams, they can attack and remove hermit crabs from their shells. They eat worms, algae, and organic debris. They live on exposed rocky shores, quiet backwaters, marshes, and estuaries. They can live far up rivers where there is the slightest salt, and offshore in coastal waters. Successful invaders, of course, are typically generalists in both their food and habitat requirements, and these traits characterize not only green crabs but backyard weeds.

While ships carried the green crab—a species with great propensity to snuggle deep into old shipworm burrows—around the world (specimens were found in ports in Panama, Hawaii, and India), it is typical to find that colonists do not successfully establish everywhere they are introduced. But it is perhaps not surprising to find that the two greatest regions of successful colonization outside Europe were the Atlantic coast of North America and the shores of eastern Australia, around Sydney. In 1990 the green crab dramatically appeared in San Francisco Bay, where, for food, it is finding an abundant supply of clams and worms—all introduced species, from Asia or New England!

The reconstructed story of the *Arbella* is, of course, representative of tens of thousands of voyages of ships around the world—a daunting picture for marine biologists! By the end of the eighteenth century ships—living conveyer belts—had explored most of the world, and by the mid-nineteenth century, accompanied by global events such as the California and Australia gold rushes, the world was virtually itching with shipping activity. Indeed, hundreds of ships made their way, for example, from New England, Europe, Chile, Peru, Australia, New Zealand, China, Japan, and Hawaii to San Francisco and other Pacific coast ports between 1849 and the early 1850s—in *marine biological* terms, one of the greatest movements of marine organisms in the history of human endeavor! By 1853, the common New England barnacle *Balanus improvisus* had colonized the harbor of San Francisco[8]—indeed, it was more successful than many of the human colonists that had accompanied this barnacle's parental stocks.

Ships today, however, probably do not carry the vast fouling communities they once did. Modern ship speeds, of 20 to 25 knots and more, sweep away many of the organisms that Sir Francis Drake carried around the world on the bottom of the *Golden Hinde* in the 1590s at 4 or 5 knots, or that a clipper ship carried 'round the Horn at 8 or 10 knots in the 1860s. But relatively few species may settle anyway on large, well-maintained oceangoing vessels today, antifouling paints, intensely poisonous to settling organisms, keep many ships' hulls relatively clean (some species of seaweed have actually, however, evolved tolerances to copper-based antifouling paints!). Finally, good, rich, handsome fouling communities on vessel bottoms develop best when ships remain dockside or at anchor for many months—typical of ship usage centuries ago. Today, a containership putting into New York harbor at 0700 is gone by 1400, hardly enough time for serious barnacle colonization.

But this does not mean that the bottom line is that the bottom line is clean. In 1957 the green Asian seaweed *Codium fragile tomentosoides* suddenly appeared in New York, about the same time as the launch of Sputnik, leading some to draw a natural correlation. Single *Codium* plants may grow to a meter tall and a half-meter in diameter, and in stands by the hundreds or thousands form dense, arborescent seaweed meadows. Probably introduced as a ship fouling organism from Europe (where it had colonized by the turn of the century after an earlier introduction from Japan), *Codium*, or "Dead Man's Fingers," is now an abundant fouling species from Maine to the Middle Atlantic. In some places, such as Cape Cod and Long Island Sound, it is believed to have impacted local scallop fisheries. In the early 1970s, the Asian seasquirt *Styela clava* also suddenly appeared in New England. *Styela* is typically three to six inches in length, a warty, leathery animal attached by a narrow stalk to the substrate. It is now a significant fouling organism from Massachusetts to New York. *Styela* was also likely introduced on the bottom of a ship coming from Europe, where it first appeared during the Korean War.

If we pull up a mooring in Long Island Sound today, then, the dominant macroscopic organisms are frequently all introduced species! Long, luxurious stands of *Codium* intermingle with the brown tubular Asian seasquirt *Styela*, and these in turn are coated with the brilliant orange colonies of another seasquirt *Botrylloides* from Southern California, released by a scientist in the 1970s. In some regions *Styela* covers almost 100 percent of the substrate, where there used to be, by local testimony, the mussel *Mytilus*.

While ships today may carry less in the way of fouling communities, they remain as probably the greatest conveyers of marine life around the world – perhaps even exceeding their long historical role. Water ballast has replaced solid ballast, and modern oceangoing cargo vessels may carry thousands to millions to tens of millions of gallons of seawater. In this ballast (not bilge) water are all of the marine organisms found around the ship. Some cargo vessels have been found to have over 50 species of planktonic animals and plants in their ballast tanks after only an 11-day voyage. These modern conveyer belts, in the form of thousands of ships every day, take up and release ballast water in one harbor and, one to three weeks later, release the water halfway around the world. Large harbors may thus be inoculated with millions of gallons per day of foreign marine organisms – a new daunting wave of potential invasions for marine biologists to consider!

As a result of ballast water release in the 1980s, for example, the Great Lakes have been colonized by one of the most dramatic invasions of North America in the past 200 years: the European zebra mussel *Dreissena polymorpha*, a small bivalve mollusk with the potential to colonize two-thirds of North America's fresh (and perhaps very low brackish) water. The zebra mussel was once found only in the drainages of the Caspian and Black seas, but spread across the face of Western Europe during the days of canal building in the nineteenth century. The zebra mussel is a major fouling organism: literally hundreds of millions of these small, typically one-half-inch-long mussels can fill up water pipes and water intake bays, colonize hulls, cover pilings, marina floats, and buoys, and be washed ashore after storms as huge shell piles on previously shell-less beaches. The Chinese clam *Potamocorbula amurensis* appeared in the same year, 1988, in San Francisco Bay, and today occurs in densities of 10,000 and more per square meter on the floor of the bay! The Japanese crab *Hemigrapsus sanguineus* also appeared in 1988 (a good year, apparently, for North American invasions!) around Cape May, New Jersey – it will inevitably spread north to Long Island Sound and south into Delaware and Chesapeake Bays.

In Australia in the 1980s, years of release of ballast water from Japan led to the successful colonization of small planktonic organisms (dinoflagellates) that cause toxic red tides, effectively shutting down large parts of the coastal shellfish industries. Three European fish appeared in the Great Lakes, one of which, the ruffe *Gymnocephalus cernuus*, does not bode well for the future of the smaller fish that it eats. And, as a sort of unintentional "trade" for the zebra mussel, the common Atlantic coast comb jellyfish *Mnemipsis leidyi* was carried by ships to the Black Sea, where Russian oceanographers now report it to occur in hundreds of millions of tons. The comb jellyfish is a voracious consumer of zooplankton, and zooplankton stocks have declined in the Black Sea where the comb jellyfish is now abundant.

On the land, we are perhaps more used to the idea of introduced species, because we are surrounded by them in our cities and on our farms. Almost all of our abundant crops, the plants that transformed America, and which Claire Shaver Haughton has called the "Green Immigrants," have come from other continents. An emply lot in the middle of Boston, or New York, or Los Angeles may be home to weeds, earthworms, insects, spiders, nematodes, snails, and slugs – virtually all of which are native to Europe, or South America, or Asia, transported to America in and on the products of commerce.[9] And so it is in our urbanized estuaries and shores and lakes as well – where, due to activities



The 727-foot bulk carrier Baltic Sea *(ex-*Politechnika Slaska*), with a 106-foot beam and 40-foot draft, has the equivalent of three acres below the waterline, yet even in the warm water of the Suez Canal her antifouling paint and 15-knot speed keep her bottom free of marine growth.* (Photo by John Wilbur)

reaching back many centuries and actively continuing today, we have homogenized some of the world's coastal marine biota.

These exotic species introductions raise, of course, important questions about the future diversity of these ecosystems, in terms of the extent to which these invaders may displace or replace members of the native biota. On 29 November 1990, the U.S. Congress passed Public Law 101-646, the "Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990." A section of this law established the "National Ballast Water Control Program," which, in part, calls for studies on the introduction of aquatic nuisance species by vessels. One of these studies, funded by the U.S. Coast Guard and NOAA Sea Grant, the National Biological Invasions Shipping Study, or NABISS, is now underway at Mystic Seaport in the laboratories of the Williams College-Mystic Seaport Maritime Studies Program. The NABISS study seeks to characterize the amounts and sources of ballast water entering United States harbors, and examines methods by which to reduce the role of ballast water as the mediator of future invasions into the United States.

Back in 1630 and some months later, the *Arbella*, reprovisioned and newly loaded, weighed anchor and set sail for England. Outwardbound from Cape Ann, the first crabs and shrimp and fish began to swim away, leaving the attached barnacles, sponges, and seasquirts. Making the return voyage home may well have been some of the very same organisms that had first gone west. Now joining them, of course, were some uniquely American species. Little did the *Arbella*'s captain know that his voyage would serve as an entry in another *Log*, 350 years later. ■



This mooring in Noank, Connecticut, is covered with Asian seasquirts (Styela clava) *and "Dead Man's Fingers"* (Codium fragile tomentosoides), *both introduced to New England since 1957.*
(Courtesy Deborah and James Carlton)

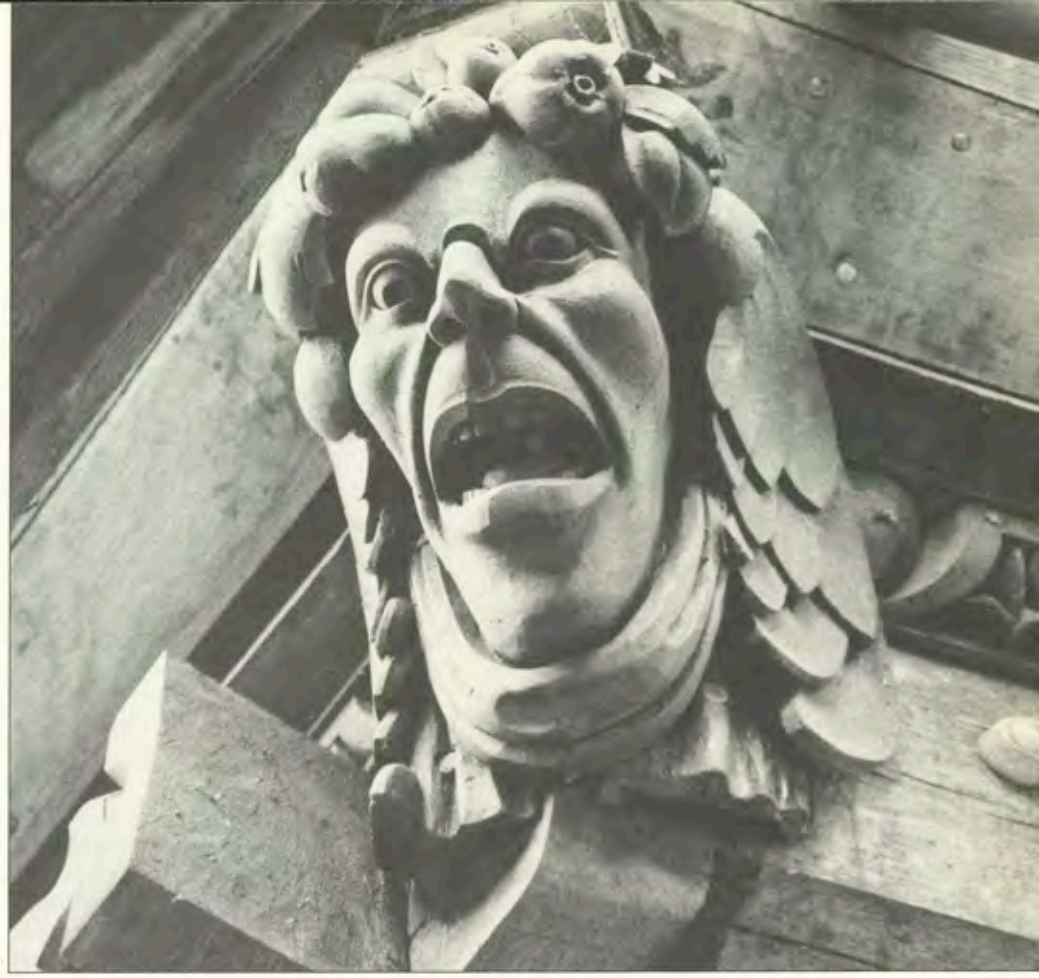
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DUTCH TREAT

The Netherlands People Share Their Maritime Heritage

LESLIE GIFFORD



The more than 300 wood carvings that will adorn the Batavia *are designed in the Northern Renaissance style appropriate to the vessel, a replica of which is under construction in Lelystad.*
(Photo by Leslie Gifford)

The Netherlands. A country that traces its maritime heritage back to the second century. Bordering the North Sea, this small nation has struggled throughout much of its history against English seapower and dominance. This long and arduous battle for maritime hegemony has generated in the Dutch people a trust in the importance of maritime activity to their well-being, a reverence for watercraft as vital cultural symbols, and a proud respect for their ancestry.

The Dutch have experienced something of a love-hate relationship with the sea. The geographic reach of this nation's maritime authority was tremendous in its day: a Dutch expedition reached the East Indies by 1597, and in 1602 a number of small Asian trade companies united to become the powerful United Dutch East India Company, or VOC. Fierce competition between the Dutch and English spawned considerable conflict in the ensuing years, but by 1730 the VOC ruled the sea; Amsterdam – home to the VOC's largest shipyard – was the hub of international shipping. By 1750, however, the VOC's authority began to decline, and British enterprise eventually overtook it.

Concomitant with the international struggle for seapower, the Dutch people were struggling at once to defend their land against the encroaching North Sea, and to wrest from it a living, through fishing and local trade.

A maritime tour of this nation is staggering. The *Log of Mystic Seaport* – along with *WoodenBoat* magazine, *Sea History* magazine, and South Street Seaport's *Seaport* magazine – was included earlier this year in a whirlwind tour of some of the country's maritime museums. The four-day survey – sponsored by the Netherlands Board of Tourism, and hosted by the Harrier Foundation and KLM Royal Dutch Airlines – swept American journalists from shipping museum to vessel excavation site to historic reconstruction to shipping museum. The pace was exhilarating, the exposure almost overwhelming. The passion of the Dutch people for their maritime heritage was infectious.

A standing example of this national pride can be seen in Lelystad, where a foundation established to build a replica – of the Dutch East Indiaman *Batavia* – has attracted more than 35,000 members, despite minimal membership benefits. Dutch boatbuilder Willem Vos had proposed the project in the late 1970s on the premise that, while many seventeenth-century Dutch buildings had survived, the same could not be said of the nation's vessels. His proposal won considerable support, and the construction is being carried out with two primary goals: to build the ship as authentically as possible, and to provide training for young people. The project is financed primarily by membership dues and admission fees, and is subsidized as well with some government funding and corporate and private donations.

In much the same way that Mystic Seaport embarks on a vessel restoration, Vos prepared for this project with thorough research into the construction and character of the seventeenth-century East Indiaman. The story of this tragic ship – related in detail on the site by one of the approximately 160 volunteers to the project – is well known. The original *Batavia* was built in 1628 as a trading vessel for the powerful VOC. She was lost, on her maiden voyage, off the west coast of Australia. Fewer than half the 316 men, women, and children aboard survived the wreck, which was prelude to a rampage of mutiny and murder.

In the early 1960s, the *Batavia* was found on Morning Reef, off the Australian west coast. A decade later, the wreck was excavated by the Western Australia Maritime Museum, where the remains of the ship can now be seen.



Left, *smack in the middle of a farmed tract of reclaimed land, this wreck is representative of the ubiquitous cog-like craft that prevailed on the Zuider Zee in the medieval period.* (Photo by Leslie Gifford)

Center, *a Dutch merchantman of the late seventeenth century, when the Netherlands was still a world maritime power, is shown in three perspectives rounding to and coming to anchor along the Dutch coast in this painting by Abraham Storck.* (M.S.M. 67.77)

Lower right, *built with skilled and unskilled labor, the* Batavia *has become a symbol of national pride in a longstanding maritime heritage.* (Photo by Leslie Gifford)



Her reproduction began in Lelystad in October of 1985. The three-masted Dutch East Indiaman is a commanding vessel, at 185 feet, eight inches length overall. Vos has made certain that only appropriate raw materials are used, and the ship is being built to seventeenth-century specifications.

The process differs from "the Mystic Seaport way," however, in its specifications for tools. Where the Seaport tries to use traditional tools and methods whenever appropriate, the *Batavia* crew relies on modern equipment, and with reason: one of the founding goals of the project is to train young people in carpentry, that they may garner an employable skill. As "apprentices," these young people need to handle the modern tools they will use in their subsequent employment.

This philosophy was applied to a similar project, completed earlier – the building of a representation of a Dutch East Indiaman, which is called *Amsterdam*. Of the 400 volunteers who worked on that endeavor, 250 were successful in transferring their newly acquired skills to permanent positions.

The *Amsterdam* is now the distinguished ambassador for the Netherlands Maritime Museum, which provided the project with reference drawings and models of the ubiquitous VOC Dutch East Indiamen. The layout of the replica and the bright colors of the transom are based on archival material, findings from VOC wrecks, ship models, and representations of East Indiamen in paintings and drawings. The shipping museum is housed in a seventeenth-century stone structure that once served as the Amsterdam Admiralty's arsenal. The museum uses its collection to illustrate a chronological exploration of the nation's maritime history, with thematic focuses on topics appropriate to individual periods.

At the Museum for Ship Archaeology in Ketelhaven, an intriguing collection of excavated vessels and vessel components attest to the Dutch pride in their maritime heritage, and their interest in keeping it alive. It also stands as sound witness that the Age of Discovery – and the spirit of exploration – defies limitation, and in fact continues today.

From 1930 to 1968, large parts of the Zuider Zee – called the Ijsselmeer since being dammed off from the North Sea in 1932 – were drained for reclamation. This sea-arm jutting into the heart of the Netherlands had been for centuries a busy route for local and international traffic. During the late Middle Ages, it stood at the crossroads of the east-west and north-south routes of the Hanseatic trade; local trade in the Zuider Zee region was primarily waterborne as well, owing to the poor state of the roads along the marshy shores. These waters were also active fishing grounds. But strong winds came up quickly in this area, and the combination of hazardous sailing conditions and heavy congestion has left a seabed strewn with shipwrecks. To date, some 350 wrecks – ranging in vintage from the thirteenth through the twentieth centuries – have been found buried in a layer of clay below the mud. Lodged in a damp environment untouched by the air, these vessels have held fairly true to form.

As the water table of the reclaimed land continues gradually to sink, however, these wrecks are in serious danger of being destroyed. Not only is the humid, anaerobic environment in which they have been preserved breaking down, but the clay layer has begun to dry and fracture, and several of the wrecks are cracking with it. The considerable number of endangered wrecks and the concomitant pressure to develop the land have delayed the excavation process, and in the late 1970s a preservation method was developed that allows archaeologists to keep the wrecks indefinitely in an anaerobic environment.

The shipwreck is now surrounded with plastic foil that reaches from below the water table to the top of the wreck, leaving an opening that serves as a rain trap. The clay layer underneath the carcass keeps the water from seeping out, while the plastic foil on top reduces evaporation and still allows sufficient rain in, so the required water level is maintained. The entire structure is covered with sand as an additional protection. More than twenty wrecks have been protected in this way and are now awaiting study. The oldest type among them is the so-called cog vessel. The cog features an angular profile, a flat bottom with flush strakes, and steep lapstrake sides. This was the leading seagoing vessel of late-medieval northern Europe in general, and of the Zuider Zee in particular.

In the spring of this year, one of these cog-like vessels was being brought up in the middle of a farmer's tract of land, a not-unusual location for a dig as the discoveries are frequently made during irrigation work. Once the vessel was taken from the ground, it would be moved to the museum in Ketelhaven, where its timbers would be laid out and kept wet by a sprinkler system, and later coated with a preservative. The museum has excavated and reconstructed a number of vessels; it continues to learn more about the watercraft types prevalent to the region, and about the history of shipping and shipbuilding.

No historic survey of shipping and shipbuilding would be complete without a visit to Rotterdam, the biggest and busiest of modern-day shipping centers, near the mouth of one of the Rhine River's branches. This bustling city has been almost completely rebuilt since its destruction by German bombs in 1940, yet it maintains strong links to Dutch maritime heritage through the Prins Hendrik Museum and the Maritime Buitenmuseum.

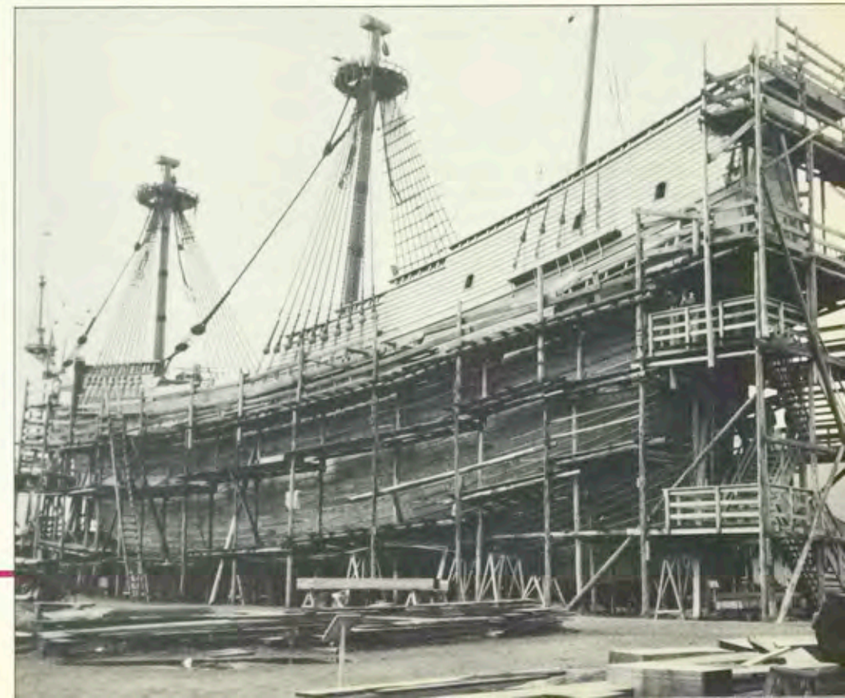
Relocated just six years ago to a modern building abutting the huge harbor, the Prins Hendrik focuses on the history of shipping, both of the Netherlands and of Europe in general. The museum was fortunate to be able to employ the latest in technology, and has made accessible its entire collection – a staggering accumulation of ships models, charts, and paintings – both through actual exhibition and on videodisc.

Just outside is the Maritime Buitenmuseum, a working museum engaged in the preservation and restoration of the historic shipping vessels that line the quay. Along the wharf are three separate buildings, staffed mostly by volunteers, who work respectively to restore the vessels' wooden components, their steam engines, and combustion engines. The volunteers – mostly retired engineers – need little encouragement to display their work, and the steam-engine workshop at one point during the tour roared with the sound of successful restoration.

The Dutch pride in their maritime heritage is contagious. And the country is now actively trying to spread that enthusiasm. The Netherlands Maritime Museum has organized – in collaboration with the Congress Bureau of the Ministry of Cultural Affairs – the first Common European Maritime Heritage Congress, scheduled to be held 31 August through 4 September 1992. The primary goal of this gathering is to generate cooperation, in historic watercraft preservation, between the member states of the European Community.

It is not the first time the Amsterdam museum has solicited cooperation in its efforts to preserve the maritime story: in 1988 it convened a meeting of ten private Dutch associations of historic craft owners, to discuss such topics as central registration of historic craft; the founding of museum harbors, targeted specifically toward accommodation of historic craft; and liaison with institutions involved in historic building restoration. The museum followed this initial gathering with a maritime history symposium in 1989; publication of a thorough guide to the nation's historic watercraft; and a second symposium last year. The Amsterdam museum was hoping to extend the collaboration, through this year's congress, to include other European associations, that the greater European maritime heritage be preserved. Representatives from each of the member states (excepting Luxembourg) were slated to speak at the conference, as were professionals from Finland, Norway, and Sweden, all countries with considerable experience in historic craft preservation and restoration.

In this age of air and space travel and transportation, it is easy to lose sight of the important role the sea has played in the shaping of national and international communication, cooperation, and trade. A visit to the Netherlands is a celebration of a rich maritime heritage, and a tribute to the people who have built that heritage. ■



POTATOES and THE SEA



Reflecting the Peruvian ancestry of the potato was the "Cuzco," which "yields well with good cultivation, is a good table potato, of large size, keeps well, brings a high price in market, and has been claimed to be 'rot-proof.'"
(The American Gardener's Assistant, 1866)

SANDRA L. OLIVER

Imagining modern life without the potato is practically impossible, but who gives a thought to its origins or its course through history? And who would dream that this ubiquitous tuber, so firmly rooted in the earth, has spent so much time at sea?

Although it has been part of the North American diet for only a couple hundred years, the potato is a major element in our everyday eating habits, for both snacking and formal dining. Consider potato chips, potato skins, and french fries. Consider the substantial, simple, and comforting sound in the phrase "meat and potatoes." Consider your own memories when someone says "mashed potatoes and gravy." Respected a hundred years ago as food fit to eat three times a day, it is recognized now as a nutritionally balanced carbohydrate complex that can satisfy even the requirements of the weight and health-food conscious.

As part of the extraordinary exchange of plants resulting from Columbus's visit to the New World, the potato has crossed the ocean twice. Traveling once from its native South America back to the Mediterranean and Europe, it crossed the Atlantic again a century later, arriving in North America with the name Irish potato to distinguish it from the sweet potato, which had also traveled east, then back west.

The white potato, *Solanum tuberosum*, is native to mountainous areas of Peru, where it has been cultivated for 10,000 years.[1] The sweet potato, *Ipomoea batatas*, which prefers more tropical and sub-tropical climates and was found by Spaniards in the Caribbean Islands, is actually not at all related to the white potato, but the identity and use of these two were confused over the first three hundred or so years they spent with Western civilization.[2]

The white potato became a seagoing food shortly after the Spanish conquered the Incas of Peru in 1536. First used as a cheap food for sailors on Spanish ships in the Pacific, the potato was eventually carried round Cape Horn to Europe, where the Basques began to cultivate it.[3] The potato was featured in John Gerard's *Herball, or generall historie of plantes* in 1597, but for decades both white and sweet potatoes were grown out of botanical interest and eaten only experimentally. The white potato was dispersed slowly through Europe, apparently carried by monks and papal legates.[4] Sir Walter Raleigh is credited with making it known in England, late in the sixteenth century. The sweet potato caught on more quickly, was attributed with aphrodisiac powers, and was an item of trade between Spain and England in the sixteenth and seventeenth centuries. Most recipes calling for potatoes in early English cookbooks refer to sweet potatoes, so that the tarts and puddings named "potato" would to our eyes resemble sweet potato or pumpkin pies.[5]

But the plain starchy white tuber did not seem to fit into the European diet dominated by grains. Fernand Braudel says that Europeans considered potatoes a "sticky and indigestible food."[6] When a new food item is not similar to familiar foods, there is a little hesitation in the kitchen before ways are developed to use it. Besides, because it was recognized as part of the *Solanaceae* family, which includes deadly night shade – as well as tomatoes, peppers, and tobacco – there may have been some reluctance to use it for food.

Part of the story is missing, because peasants were among the first to recognize the value of the potato, and they left scant record of their actions or their decisions. However, in the short growing season of northern Europe, the potato was a reliable crop that could be grown in the rye fields periodically left fallow, and it could be eaten as a root vegetable, like carrots or turnips. We now know that the potato provides more nutrition than a straight diet of rye bread, and peasants found that, compared with rye or wheat, potatoes could produce four times the calories per acre. With the explosion of European population after 1750, the potato would become essential.[7]

War was another factor. As armies roamed Europe, foraging grain from the peasants, or as rulers increased grain taxes to support their battles, peasants sought a crop they could protect. Potatoes in the ground became more valuable than wheat or rye in the barn, as Flemish peasants found in the 1680s. The potato then took root in Germany and Poland during the War of the Spanish Succession and the Seven Years' War in the first half of the eighteenth century, and moved into Russia with the Napoleonic Wars at the beginning of the nineteenth century.[8]

We know that Basque fishermen introduced the white potato to the Irish before

1650. Irish peasants became entirely dependent upon potatoes after 1652, when Oliver Cromwell's Protestant army conquered Ireland and confined the native Irish to the soggy west coast. Irish peasants soon learned that an acre of rented potato fields could feed a family while it labored for the new English landlords to earn the rent.[9] During the following century and a half, despite its origins in South America, the white potato was so closely associated with the Irish that it became known as the "Irish potato."

Some researchers believe that the potato had migrated from South to North America and was found here by colonists in the seventeenth century, but the issue is still in debate. We do know that the potato was returned to the New World, to North America, along with a lingering prejudice against it, by the earliest English settlers, and its cultivation was reinforced during the eighteenth century by potato-growing immigrants from Germany, Scotland, and Ireland.[10] Nevertheless, the average New Englander in the mid-1700s ate beans, peas, and bread more often in a week than potatoes.

Not until the nineteenth century did the potato become an important item of everyday diets in America. Between the time Amelia Simmons published the first American cook book, *American Cookery*, in 1796, and Mrs. Child published her *American Frugal Housewife* in 1833, white potatoes became a fairly common accompaniment to meals. Simmons included a classic recipe for using sweet potatoes in a "Potatoe Pudding" recipe. In her descriptions of "Roots and Vegetables" she discussed both sweet and Irish potatoes in a way that suggests the Irish potatoes were less familiar. Comparing the cultivation of sweets and Irish, she observed "that the Irish has preserved a genuine mealy rich Potato, for a century, which takes rank of any known in any other kingdom . . . "[11]

Though Mrs. Child's recipes were for the dishes most common in the New England diet, and were detailed enough for the completely inexperienced cook, some aspects of what she wrote of potatoes suggests that, 35 years after *American Cookery*, there was still some lingering unfamiliarity. For example, she wrote: "In Canada, they cut the skin all off, and put them in pans, to be cooked over a stove, by steam. Those who have eaten them, say they are mealy and white, looking like large snow-balls when brought upon the table."[12]

Nonetheless, by this time, white potatoes were commonly grown and eaten in New England, especially in Maine, whence by 1820 they were being raised as a cash crop and shipped on board coasting vessels from Belfast, Saco, and Portland to Boston.[13] Boston can claim the honors for marrying potatoes and codfish as canned codfish cakes, or "fish balls" as they were originally called. Patented by a Boston dealer in 1878, they combined nearly equal parts of fish and boiled potatoes, minced together with tallow, onions, spices, and saltpeter. This early form of durable, convenient, processed food found particular favor in the American West, and a quarter of a million two-pound cans were sold in 1879. The other ingredients now vary, but potatoes still form the basis of the canned fish cakes available in the stores today.[14]

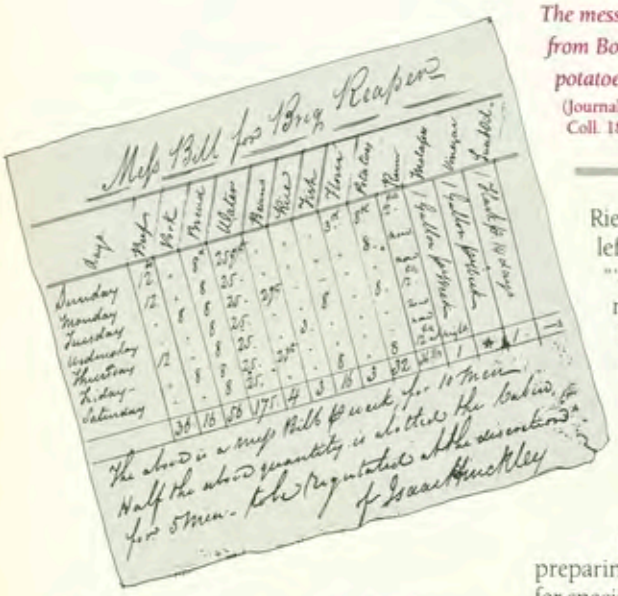
Potatoes also proved useful for starch and home yeast making. Potatoes grated and cooked provided a good matrix for yeast, which, until the nineteenth century, housewives had bought from brewers or bakers or saved from home brewing. The Temperance movement discouraged home brewing, and other people wished to avoid any contact with commercial brewers; so potato yeast provided an alternative.

Potatoes were not only diffused by sea, they also became an important part of the seagoing diet. How many were taken, how long they lasted, and who got to eat them were not trivial concerns at sea. As the nineteenth century progressed, potatoes became increasingly important aboard ship as well as ashore. Considered a starch equal to beans or peas, rice, and flour, which was often made into duff, potatoes were doled out in the weekly rotation. On the brig *Reaper* in 1809, the foc's'le crew ate potatoes with beef on Sunday and Monday, and with fish on Wednesday and Saturday.[15] In 1845, on the Stonington whaleship *Tiger*, John Perkins reported "We have rice twice a week, beans twice a week, duff twice a week, & potatoes the same."[16] Presumably, since there are only seven days in a week, something was doubled up; quite possibly it was the duff, which the crew could have eaten as dessert.

On other ships, potatoes were a rarer treat. For example, Samuel Millet on the whaling bark *Willis* in 1849 out of Mattapoisett, Massachusetts, wrote in his journal in August that their usual fare was "a quart of the meanest tea" and beef "so coarse grained it was more like eating straw than meat," and duff twice a week. "This is all the food we now see or have for months," so three months later, in November, it was an occasion when he noted "We had our first mess of potatoes."[17]



As a cheap food for the masses, potatoes became an important seagoing food by the nineteenth century. Like the poor immigrants who traveled aboard, the crews of the late-century North Atlantic liners were accustomed to a diet that stressed potatoes. (Ocean Steamships, 1891)



The mess bill for the brig Reaper's *passage from Boston to Calcutta in 1809 included potatoes three times a week.*
(Journal, brig *Reaper*, vol. 1, Coll. 184, G.W. Blunt White Library)

Things were different in the after cabin, as might be expected. Captains' wives, when reciting menus, often listed potatoes, both Irish and sweet. In his "Whalemen, Vessels and Boats, Apparatus, and Methods of the Whale Fishery," published as part of the *Fisheries and Fishery Industries of the U.S.* in the 1880 U.S. Census, James Templeman Brown reported that the officers' breakfast on a whaleship was "salt beef, pork, hard bread, soft bread or 'lobscouse' [which often included potatoes]—or perhaps bread hash, or if potatoes are plentiful, potato hash."[18]

Potatoes are more perishable at sea than the beans, peas, rice, and hardtack featured in the sailor's diet, so "as long as they lasted" is the qualifying phrase in some descriptions.[19] As one of the chores performed on board, Perkins noted that "We were set this forenoon to picking over potatoes." If there were any at all edible, they were eaten: "When the dinner hour arrived we found that by the skipper's orders we had for dinner specked potatoes & beef instead of our mush & molasses."[20]

Perkins puts potatoes into further perspective for us. He writes " . . . our manner of living is not owing to the owners, for our ship is well fitted out as it respects provision. But our captain is part owner & therefore wishes to spare all he can, he also has his wife aboard & therefore wishes not to get out of potatoes, molasses, sugar, butter &c. . . . " This meant that, if he chose to, the captain could and would deny the crew their potatoes to ensure plenty for the cabin.[21]

When the Down Easter *A.J. Fuller* arrived back in her home port of New York after a trip from Honolulu in 1898, recorded Felix Riesenberg, the small number of crew left on board were treated for supper: "'Cabin grub for supper tonight,' announced Peter, coming from the galley. Sure enough, we were given two plates of corned beef hash, made with real potatoes . . . "[22]

Ashore, from the early through the late nineteenth century potatoes grew in popularity. Virtually all printed cookbooks of the period contained various ways of preparing potatoes, including elegant ones for special dinners like Potato Rissoles, Potato Puff a la Geneve, and Potato Milanese. Restaurant and steamer menus offered potatoes prepared at least two ways. Leftover potatoes were fried up and eaten at breakfast. So it is not too surprising that by 1898 potatoes appeared on the "scale of provisions to be allowed," requiring ship owners to provide sailors at least one potato or yam a day. The same new scale of provision also supplied them with weekly rations of canned tomatoes, dried fruit, pickles, onions, and butter, so reflected overall an improved diet.[23] But if it were not for potatoes being so widely regarded as a daily essential in life ashore, as important as daily bread had been for so long, then surely it could not have achieved this status at sea.

Virtually no agricultural product is immune from periodic disaster, and the potato is no exception. The moist climate in which it flourishes also encourages the growth of the fungal late blight that can rot an entire crop of potatoes. The Irish dependence on the potato meant that the blight of 1845–46 created a famine, because perishable potatoes could not be stored against a poor harvest. The Irish Potato Famine killed more than a million people and drove another million Irish off their lands, onto ships, and on to America. Northern Europe also suffered, but nowhere was the potato as essential as it was in Ireland.

In America, a parallel blight of potatoes struck Maine in the mid-1840s, setting the industry back for years. When it recovered during the twenty years after, the railroads had reached the potato country and replaced coasting vessels in transporting them to market.[24]

So enjoy your chips, your potatoes baked and stuffed with cheese and broccoli, the little cubes swimming in your chowder, and consider the Incas, the Irish, and the Atlantic between them. ■

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EVENTS



The Morgan Takes Flight

The Charles W. Morgan leaves Chubb's Wharf and heads for the shipyard every three years, for maintenance. (Photo by Nancy d'Estang)

It's rarer than a blue moon, it's spectacular, and it's time. The *Charles W. Morgan* is due for her three-year check-up, and that means she has to be hauled.

To see the 114-foot 1841 whaling bark at home on Chubb's Wharf is something. To see her on the lift dock is magnificent. And to witness the actual hauling operation is to appreciate the expertise of the Seaport's Shipyard staff. Members are invited to do all three.

Downrigging will begin 27 September at Chubb's Wharf, and will take about a month. The hauling is scheduled to take place late in October, and is much dependent on tide and weather conditions.

Provided these are favorable, the *Morgan* will be closed to visitors on Friday, 23 October, and moved to the Shipyard. Early that Saturday morning, she will be hauled on the lift dock. Early-rising members may view the hauling, which will begin roughly at 6 A.M., for completion by 8 A.M. The vessel will be open to visitors later in the day, and for the duration of her stay at the Shipyard. The Seaport each year hauls one of its three major exhibit vessels: the *Morgan;* the 111-foot 1882 Danish sail training ship *Joseph Conrad*; and the 123-foot 1921 Gloucester fishing schooner *L.A. Dunton*. They are hauled for inspection and fresh bottom paint, and typically are out of the water for about a month. The *Morgan* is scheduled to be launched and returned to Chubb's Wharf–again, weather permitting–on Saturday, 21 November. She will be rigged up in the spring.

CALENDAR OF EVENTS

SEPTEMBER

Outdoor demonstrations of maritime activities continue. Whaleboat demonstrations, sail handling, fish splitting, and much more. Full schedule available at gates.

SS Sabino continues 1992 season, through 12 October, following fall schedule. Half-hour cruises daily on the hour from 11 A.M. to 4 P.M. A 90-minute evening cruise leaves at 5 P.M., through 4 October. From 4 to 12 October, the evening cruise is offered only on weekends. For information and reservations, please call 572-5351.

Boat livery operation continues, through 12 October.

Nineteenth-Century Garden Tours continue. Thirty-minute tour contrasting the early kitchen garden of a coastal farming family, with the decorative flower bed of the later Victorian period. From the Buckingham House, 11 A.M. and 3 P.M. daily.

American Society of Marine Artists Exhibition continues in the R.J. Schaefer Building, through 27 September.

4 to 7, 18 to 21 **Brilliant *Weekend Sail for Adults.*** Cost is $515. For information and reservations, please call 572-5323.

5 to 7 ***Labor Day Fish Fry Weekend.*** Three-day food festival, prepared and served by the Mystic Lions Club. For information, please call 572-5315.

6 ***Dixieland Jazz Cruises.*** Two 90-minute downriver cruises with a Dixieland Jazz Band aboard steamboat *Sabino*, leaving at 5 and 7 P.M. For information and reservations, please call 572-5351.

7 ***Labor Day Observed.*** Holiday schedule in effect.

8 ***Boat Livery*** begins weekend-only operation. Hours are 10 A.M. to 5 P.M. For information and reservations, please call ext. 4233.

8 ***Fall Schedule*** begins. Mystic Seaport will be open 9 A.M. to 5 P.M.

10 ***Come Grow With Us – An Evening of Discovery.*** Explore the Seaport gardens and grounds with a self-guided landscape search, then enjoy cocktails, a light supper, and a fascinating talk on Victorian horticulture. For information and reservations, please call 572-5378.

11 to 14 **Brilliant *Race Weekend for Adults,*** including the Mystic Schooner Race, with WoodenBoat School. For reservations, please call the WoodenBoat School at (207) 359-4651.

12 ***Twenty-fifth Annual Invitational Schooner Race.*** Traditional and modern schooners from throughout the Northeast will rendezvous at the Seaport Friday evening, with an early-morning start for the races on Fishers Island Sound. Awards ceremony will be held Saturday evening. Please call ext. 5010 for details.

12 & 13 ***Family Photo Weekend.*** A picturesque weekend to capture the Seaport on film, as models in nineteenth-century costume pose on the Seaport ships, boats, and grounds. The weekend, sponsored by Kodak, includes a contest and exhibit, and a special emphasis on children's photography. For information, please call 572-5315.

12 ***Williams-Mystic Alumni Day.*** The program – which offers undergraduates a semester-long intensive study of maritime history and literature, oceanography or marine ecology, and marine policy – celebrates its fifteenth anniversary.

15 ***Basic Celestial Navigation*** course begins in the Planetarium. Classes are held 12 Tuesday evenings, 7:30-9:30 P.M. Cost is $135 ($150 for nonmembers). Please call 572-5355 for information and registration.

16 ***Piloting and Dead Reckoning*** course begins at the Planetarium. Classes are held 12 Wednesday evenings, 7:30 to 9:30 P.M. Cost is $135 ($150 for nonmembers). Please call 572-5355 for information and registration.

26 ***Members' Day.*** Special events for adults and children. Annual meeting for members. Watch for your special mailing, and see the back wrap for details.

26 ***Plant Sale.*** The Greenhouse Gang will host its fourth plant sale, at the southeast end of the Rossie Mill. As usual, proceeds from the sale will go to the Greenhouse Fund. Be here early – the sale runs from 9 A.M. to 3 P.M. – for the best selection.

26 ***Thirteenth Annual Mystic International Exhibition*** opening reception and dinner for patrons and artists, at the Mystic Maritime Gallery, Seaport Stores. For information and reservations, please call (203) 572-8524 or (800) 344-0675.

27 ***Thirteenth Annual Mystic International Exhibition*** opens, continuing through 8 November at the Mystic Maritime Gallery, Seaport Stores. Please call (203) 572-8524 or (800) 344-0675.

27 ***Jewish Lunar Calendar Program.*** Half-hour program, offered daily at 4:00 P.M., through 6 October in the Planetarium. Explore the origins and development of this calendar. For information, please call 572-5355.

28 ***Members-Only Lantern Light Tour Ticket Sales*** begin. Please call (800) 522-1841, 24 hours a day. Tours will run 4 through 20 December.

OCTOBER

2 to 5, 9 to 12 **Brilliant *Weekend Sail for Adults.*** Please call 572-5323 for information and reservations.

5 ***Lantern Light Tour Ticket Sales to the Public.*** Please call (800) 522-1841 to secure tickets to the tours, which will run 4 through 20 December.

10 to 12 ***Chowderfest.*** Sample all kinds of chowders, prepared by six regional civic groups, under the tent this Columbus Day Weekend. Other menu favorites will be available as well, and all food is purchased separately. Sea chantey music will be featured, and the festivities will continue from 11 A.M. to 3 P.M. each day. For information, please call 572-5315.

12 ***Columbus Day Observed.*** Holiday schedule in effect.

15 ***Morning Fun for Kids,*** for 2½- and 3-year-olds. Please see page D for details.

17 ***Morning Fun for Kids,*** ages 4 and 5. Please see page D for details.

17 & 18 ***Fall Pilots Weekend.*** A working weekend for membership volunteer group.

22 to 25 ***Weekend Boatbuilding Class.*** Intensive hands-on course, held from 9 A.M. to 5 P.M. each day, covers every aspect of traditional wooden boatbuilding. Demonstration and assistance are provided, but food and lodging are not. Cost is $265 ($295 for nonmembers). For information and reservations, please call ext. 5028.

24 ***Dyer Dhow Derby.*** Annual event to express our appreciation to those who donate the Dyer Dhows for our sail education programs. A fleet of Seaport sailing dinghies race on the Mystic River with members of many East Coast yacht clubs at the helm. A full day of racing for adults and juniors is followed by an awards ceremony. For information and reservations, please call 572-5323.



Tulip "Angelique" in the Memorial Garden.
(Photo by Judy Beisler)

26 ***Museum Hours Change.*** The Seaport will be open daily from 9 A.M. to 4 P.M.

29 to 11/1 ***Weekend Boatbuilding Class.*** See 22 to 25 October entry.

NOVEMBER

5 ***Volunteer Reception.*** Annual recognition banquet, held at Seamen's Inne.

6 ***Dutch Book Auction.*** Prices reduced hourly. Hundreds of titles from which to choose in this annual event sponsored by the Fellows of the G.W. Blunt White Library. 10 A.M. to 5 P.M. at the Library.

6 & 7 ***Symposium on Southern New England Maritime History.*** The twelfth annual symposium will feature speakers on a variety of topics. Please see front wrap for details.

6 to 8 ***Historical Society Days*** at the Mystic Seaport Museum Stores. A community effort with members of the Mystic River Historical Society, which will receive a portion of sale proceeds. 10 A.M. to 5 P.M.

15 ***Four Marine Masters*** members' opening at the Mystic Maritime Gallery, Seaport Stores. The artists will be in the Gallery to meet members from 3 to 5 P.M. Gallery patrons are invited to brunch, which will be served from 10 A.M. to 1 P.M. The show will be exhibited through 31 December. For information, please call 572-8524 or (800) 344-0675.

26 ***Thanksgiving Day Observed.*** Mystic Seaport will be open on a limited basis, with three staffed and 20 unstaffed exhibits open from 9 A.M. to 4 P.M. A traditional Thanksgiving meal will be prepared on the open hearth in the Buckingham House. Reduced admission – $5 for visiting adults and $2.50 for youths – will be in effect. For information, please call 572-5315.

27 to 12/4 ***Ornament Contest Delivery*** to the Museum Stores. Please call 572-8551 for details.

27 to 29 ***New England Field Days.*** Special activities for families, including wagon rides. For more information, please call 572-5315.

DECEMBER

1 ***Gerald E. Morris Prize Article Contest*** deadline. Guidelines and entry forms are available at the Seaport's Publications Office, (203) 572-5347.

2 ***The Star of Bethlehem*** mystery unfolds at the Seaport Planetarium, in a half-hour program offered daily at 2:45 P.M., through 31 December.

2 ***Daytime Yuletide Tours*** of selected exhibits and ships–escorted by a costumed guide–leave the Visitor Reception Center every 15 minutes 9:30 A.M. to 2:30 P.M., Wednesday through Sunday, through 19 December. For information and reservations, please call 572-5331.

4 ***Lantern Light Tours.*** One-hour walking tours leave the Visitor Reception Center every 15 minutes each evening, through 20 December. Please see page D for details.

5 ***Members' Shopping Day*** at the Mystic Seaport Museum Stores. Extra discounts for members all day – 10 A.M. to 7 P.M. Refreshments will be served.

12 ***Ornament Contest*** winners will be announced, at the Seaport Stores.

20 ***Community Carol Sing.*** An hour of caroling in Anchor Circle, beginning at 3:30 P.M. The Seaport carolers sing in the Aloha Meeting House at 2:30 P.M. Admission is free, but please bring a canned food donation.

24 ***Christmas Eve Day*** observed, with limited opening – three staffed and 20 unstaffed exhibits – and reduced admission.

25 ***Christmas Day.*** The Seaport will be closed.

26 to 31 ***Kids After Christmas.*** Special activities for children: games, crafts, and entertainment. Plum Pudding voyages ($2) at 11 A.M., 12 P.M., and 1 P.M.

JANUARY

1 ***New Year's Day.*** Limited opening – three staffed and 20 unstaffed exhibits – and reduced admission.

4 ***Winter Hours*** begin. All exhibits will be open 10 A.M. to 4 P.M., through 11 April.

4 ***Maritime Mystic Insight Tours*** begin. Special tours – free with the price of admission – take visitors behind the scenes and back to a time when Mystic was a major shipbuilding port. Weekday tours leave the Visitor Reception Center at 11 A.M., 1 P.M., and 3 P.M. Weekend tours begin at 10:30 A.M. and run every fifteen minutes until 3 P.M. No tours 12 to 22 February.

6 ***Basic Celestial Navigation*** will be taught by Planetarium staff at the Loomis Chaffee School in Windsor, Connecticut, twelve Wednesday evenings from 7:30 to 9:30. Please call 572-5355 for information and reservations.

12 ***Morning Fun for Kids,*** ages 2½ to 3. Activity hour for preschoolers and parents, runs six Tuesdays from 9 to 10 A.M. Cost is $35, and a second child can attend for $14 more.

14 ***Morning Fun for Kids,*** ages 4 and 5. Activity hour for preschoolers and parents, runs six Thursdays from 9 to 10 A.M. Cost is $35, and a second child can attend for $14 more.

15 ***Registration for March Boatbuilding classes*** begins. Please call ext. 5028 for details.

18 ***Martin Luther King Jr.'s Birthday.*** Holiday schedule in effect.

FEBRUARY

1 ***February Frame Sale*** at the Mystic Maritime Gallery, Mystic Seaport Museum Stores, throughout the month.

1 ***Registration for Victorian Yankee Symposium*** begins. Please call 572-5356 for details.

12 to 22 ***Liberty Days.*** Special activities for vacationing kids and their families. Please call 572-5315 for details.

15 ***George Washington's Birthday Observed.*** Full holiday schedule is in effect.

17 ***Basic Celestial Navigation*** begins. Class meets 11 Tuesday evenings, 7:30 to 9:30, at the Seaport Planetarium. Cost is $130 ($144 for nonmembers). Please call 572-5355 for details.

23 ***Morning Fun for Kids.*** Please see 12 January entry.

25 ***Morning Fun for Kids.*** Please see 14 January entry.

Rise and Shine! It's Time Again for Morning Fun

We've got some good news and some bad news. First, the bad news: summer will soon be over.

Now, the good news: Morning Fun for Kids will be starting up again very soon. Now is the time to reserve your spot in this really popular morning activity time for pre-school members and their grown-up friends. Beginning 13 October and running through to 24 November, Tuesday mornings will be set aside for members aged 2½ to 3, and Thursdays will be special times for 4- and 5-year-olds.

Morning Fun leaders are full of surprises, but we can think of a few fall activities they might have up their sleeves. The Seaport will be exploring the history of navigation (figuring out how to get where you want to go), and you might learn how to use a compass or some other navigational tool (there might even be a field trip to the Planetarium, or to a new navigation exhibit).

Halloween means dressing up and trick-or-treating; a fall harvest walk in the Buckingham House kitchen garden would be fun; and Thanksgiving might mean packing for a long voyage to America aboard *Little Lou*. What would you bring?

Morning Fun—for one pre-schooler and a grown-up friend—costs $32 ($36 for nonmembers), and an additional child can join in the fun for just $12 more. If you need more information, or you just want to sign up, please call 572-5322.

(Photo by Claire White-Peterson)

What Is It?



This "creature" makes periodic appearances on the Museum grounds. Can you guess what it is? The first ten Seaport members to identify this object correctly will receive a special prize. Send your answer to the Editor at the Seaport address.

Bulletin Board

Some Seaport members have reported receiving duplicate – or even triplicate – copies of the Spring Log of Mystic Seaport. Rest assured: the membership records are in order, the labeling machine was not. And, the glitch has been located and repaired. Thanks go to those who notified us of the problem, which fortunately was not widespread.

Many Happy Returns!

The Williams College-Mystic Seaport Maritime Studies Program celebrates its fifteenth anniversary on 12 September, and the Seaport grounds are sure to swell with rollicking reuniters. The success of this undergraduate program has been phenomenal, and this reunion is a well-deserved celebration. Honors at the birthday bash will be shared by program founder Ben Labaree, Program Director Jim Carlton, Williams College President Frank Oakley, and the Seaport's own Director, Revell Carr. Happy Birthday, Williams-Mystic!

Lantern Light Tour Tickets: Members Enjoy Early-Bird Advantage

Once again, members may enjoy exclusive purchasing rights on Lantern Light Tour tickets for one week—24 hours a day!—before ticket sales are opened to the general public. Members-only ticketing days this year are 28 September through 4 October, and the number to call is (800) 522-1841. To help us help you and your fellow members most expeditiously, please have your membership number, your charge card number and its expiration date (VISA, MasterCard, and American Express), and several tour dates in mind when you call. Tours leave every 15 minutes from 5 to 9 P.M., 4 through 20 December. Tour guides take Tuesdays off. Ticket prices for the 1992 tours have been set as follows:

Weeknights: Adults, $14 ($16 for nonmembers); Children, ages 6 through 15, $6.50 ($8.50 for nonmembers);

Friday through Sunday nights: Adults, $16 ($18 for nonmembers); Children, $7.50 ($9.50 for nonmembers).

All sales are final.

The Portugaliae Monumenta Cartographica *at Mystic Seaport*

PAUL O'PECKO

Now that the quincentenary of Columbus's arrival in the New World has come, we have the opportunity to consider hundreds of articles and books written about him and his influence, positive and negative, on civilizations on both sides of the Atlantic. If you think about the initial voyage of the "Admiral of the Ocean Sea" to America, you realize that if Columbus had not accomplished this feat someone else would have, and probably not much later than 1492.

For Columbus was not unique. Numerous other explorer/adventurer/visionaries coexisted with him in the last quarter of the fifteenth century. After all, this was the Renaissance, an artistically and intellectually explosive period in western history with the likes of Leonardo da Vinci, Thomas More, Michelangelo, Nicolaus Copernicus, Bartholomeu Dias, John Cabot, and Vasco da Gama testing the bounds of the unknown. Columbus happened to be in the right place at the right time when he landed somewhere that he thought was somewhere else.

Perhaps the most important element of Columbus's "discovery" was that he was able to find his way back home and then return again to the "New World" once he had left. Columbus knew the earth was round, but he had few tools to find his way on its surface once he left the sight of land. The mariner's compass was almost 400 years old, he could determine the ship's speed with an hourglass, and the quadrant allowed him to measure the angle of celestial bodies to determine his latitude in relation to known landmarks. But the chronometer for the determination of longitude was still a few hundred years away. What Columbus knew of the art of dead reckoning he had learned from the Portuguese, and he had learned it well. To retrace his route after being out of sight of land for so long was an admirable feat.

Even though King John II of Portugal failed to take advantage of Columbus's offer to find a new route to the Indies, much of the credit for Columbus's view of the world and his ability to navigate offshore can be given to Portugal, a country approximately the size of the state of Maine. Because of her relatively

To the Portuguese, Christopher Columbus owed the navigational skills that allowed him to cross the Atlantic and return. One hundred years ago his accomplishment was celebrated as a triumph of Western rational thought, resulting in such romantic paintings as this one attributed to James W. Carmichael.
(M.S.M. 53.2562)





Left, *held by the Archives Departmentales de la Gironde, Bordeaux, France, the earliest chart published in the* Portugaliae Monumenta Cartographica *dates to 1485.* (*Portugaliae Monumenta Cartographica*, vol. 5)

Far right, *Prince Henry the Navigator (1394–1460), pictured with the future King John II, sponsored much of the early Atlantic exploration and cartography that preceded Columbus's voyage.* (National Museum of Ancient Art, Lisbon; *Portugaliae Monumenta Cartographica*, vol. 1)

Bottom, *Seaport member Arthur W. Herrington commissioned this carved and inlaid chest and rebound the volumes in leather before presenting his set of the* Portugaliae Monumenta Cartographica *to Mystic Seaport.* (Photos by Claire White-Peterson)

peaceful walk through the late-fourteenth and early-fifteenth centuries, while the other nations of Europe were at war with each other or the countries of Islam, Portugal was able to support exploration in the southern Atlantic and to take the lead in expanding into previously unknown regions.

In 1960 Portugal celebrated a quincentenary: that of the death of the person directly responsible for this expansion, Prince Henry the Navigator (1394–1460). At the age of 21, Henry fought in the 1415 battle in which Portugal gained a foothold in Africa by capturing Ceuta, the Moroccan city at the entrance to the Mediterranean. This experience whetted Henry's appetite for travel and conquest. Around 1420 he established Europe's first navigational school and an observatory at Sagres, a village near Cape St. Vincent at the southern tip of Portugal. Here he planned and coordinated voyages ranging along the coasts of southern Europe and western Africa. Although he was disappointed with many of his ventures, Henry persisted and laid the groundwork that helped others to better understand the geography of the world. Henry's work not only prepared the way for Columbus, it also paved the way for Ferdinand Magellan, who in 1520 began the voyage that succeeded in doing what Columbus set out to do: sail west to get to the East.

Henry's drive, foresight, and interest in cartography inspired an extraordinary publication commemorating the five hundredth anniversary of his death. The *Portugaliae Monumenta Cartographica* was written by D. Armando Cortesao and Avelino Teixeira da Mota and published in Lisbon in 1960. This set of bound facsimiles of charts is massive, both in size and scope. There are six volumes, five of which are folio size—two feet high by one and one-half feet wide by two and one-half inches thick—and contain charts in color and black and white, the text pertaining to them, and a brief sketch of the science of cartography into the twentieth century. The sixth volume contains lists of cartographers, addenda, and an index.

The work includes more than 600 plates representing all the known work done by Portuguese cartographers from the late-fifteenth century (1485 is the earliest substantiated chart) to 1706, with the bulk of the illustrations covering the sixteenth and seventeenth centuries. Each one is identified and described by the authors. Although the authors are confident that many Portuguese charts were produced during Henry's lifetime, they were able to locate only one entire chart and a portion of another that could be documented to the years before 1500. Nevertheless, they believe that Portuguese sailors, in their far-flung quests, preceded Columbus and visited the Antilles as early as 1424.



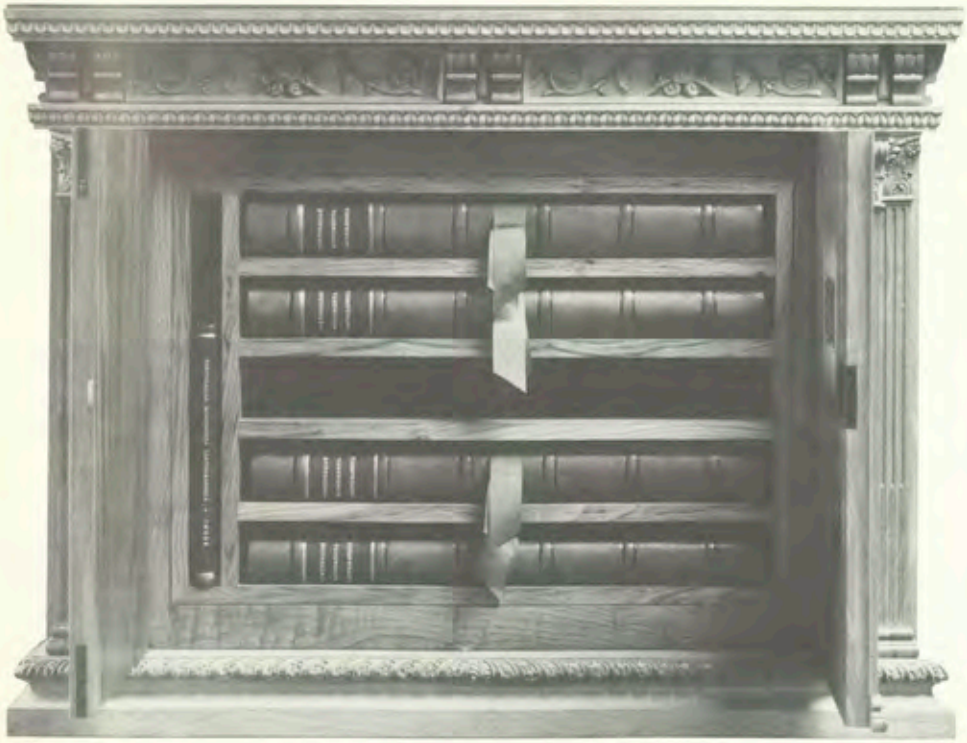
In his preface to the *Portugaliae Monumenta Cartographica*, J. Caeiro Da Motta said that it was "a work that will find its way into the principal cultural institutions of the world and will there remain as a permanent testimony to the debt owed by civilization and the modern world to the Portuguese." A few copies of the *Portugaliae Monumenta Cartographica* were given to libraries in the U.S., and the G.W. Blunt White Library at Mystic Seaport was fortunate enough to receive a set from one of our generous members, Arthur W. Herrington. There are now about a dozen copies in U.S. libraries, as well as a second edition in print, but probably none is as ornately bound or housed as the set at Mystic Seaport.

Mr. Herrington and his wife shared an interest in Henry and were surprised at the lack of information in English about him. They therefore went to the university in Coimbra, Portugal, to study about him firsthand. While there they were befriended by someone directly descended from Henry, and eventually they purchased a set of these fabulous books. Mr. Herrington learned about the proposed new library at Mystic Seaport and decided to support it through the gift of this set of books as well as some others that he had acquired. After the death of his wife in 1966, he gave the *Portugaliae Monumenta Cartographica* to the Library "in memory of his wife, Nell Clarke Herrington and in appreciation of her patient work and research into the history of the life and works of Prince Henry the Navigator."

This inscription appears on a brass plate inside the handmade case that Mr. Herrington purchased for the Seaport's G.W. Blunt White Library. A suggested format for a chart case to house the *Portugaliae* came with the set, but the one commissioned by Mr. Herrington went far beyond the specifications. He contracted with the Fundacao Ricardo Do Espirito Santo Silva to build the case. This organization was formed to provide employment to artists, furniture makers, and other craftsmen in Portugal. Mr. Herrington said that this was made as a copy of an old Portuguese piece, with an early navigational motif appearing on one of the doors, and musical instruments on the other. To complement the case, the books were rebound in handsomely tooled leather.

Mr. Herrington died in 1970, but his tribute to his wife and Prince Henry the Navigator lives on in this splendid gift, which is considered one of our prize possessions and is located prominently in the G.W. Blunt White Library. ■





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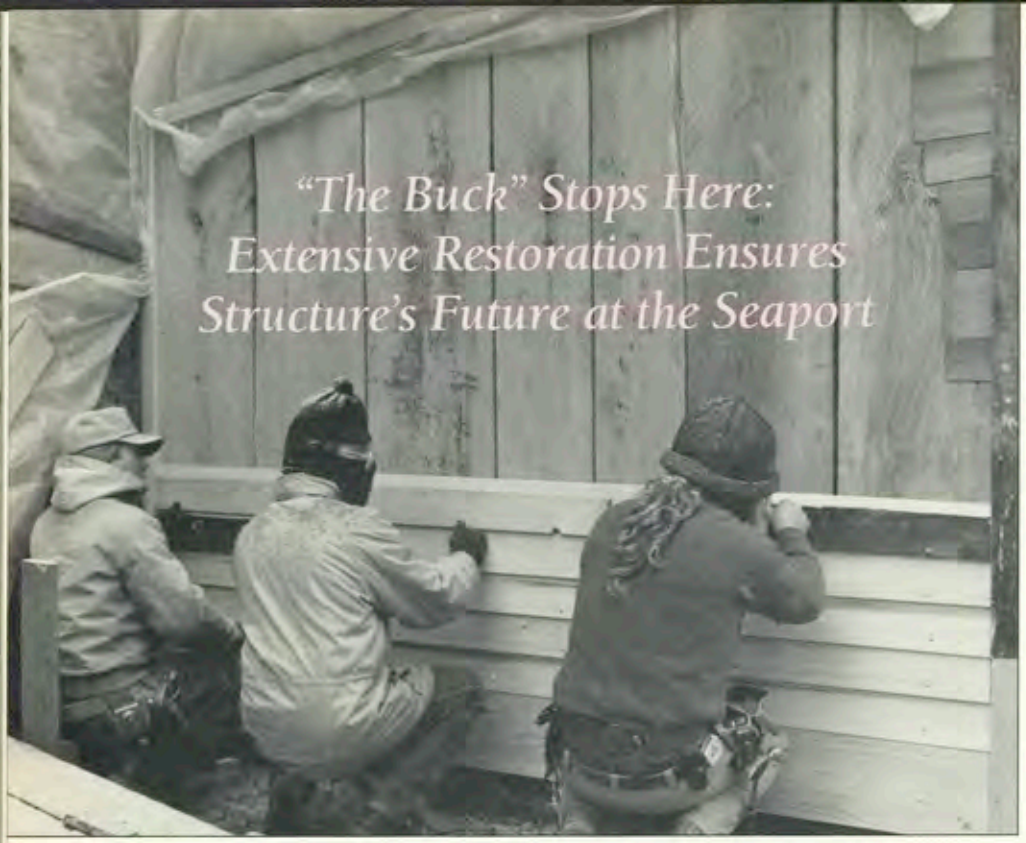
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"The Buck" Stops Here: Extensive Restoration Ensures Structure's Future at the Seaport



George Teed (left), *Volunteer Jim Baranski* (center), *and Andy Derr* (right) *install clapboards on the east elevation of the Buckingham House, north of the kitchen ell.*
(Photo by Judy Beisler)

Mystic Seaport's Preservation Shipyard has set the international standard for wooden vessel restoration and preservation. Its staff maintains the integrity of the Museum's fleet, and perpetuates the use of traditional tools, methods, and materials.

But the maritime community was not comprised solely of boats. Its houses, shops, and other structures played a vital role in the social, economic, and political shaping of shoreside life. The Seaport is committed to the preservation of these important structures, that they may stand as honest representatives of a pivotal period in this nation's evolution.

And it is in this spirit that an extensive restoration of the Samuel Buckingham House – funded in part by the Connecticut Historic Commission – was launched last year.

The house came to the Seaport in 1951 – when it lay in the path of the Baldwin Bridge cloverleaf turnpike construction project in Old Saybrook – and was carefully restored, with many modernizations reversed. Since then, the windows have been replaced in the front section; the kitchen ell has received new reproduction seventeenth-century windows; and new old front doors have been installed. But no major work – other than painting – has been done to the house in the last 40 years.

And it needed attention. Some of the building's clapboards, window casings, and corner boards were rotted or split, and covered with myriad layers of failed paint. The deterioration of the siding and leaks in the flashing had led to areas of rot in the sheathing boards and framing. Several of the ceilings were sagging badly, due to considerable rot in the frame. Making matters worse, many of the replacement pieces added through the years did not match the originals. A major restoration was in order.

An initial walk-through and assessment had identified much of the work that needed to be done, but the project has grown. "You never know what you're going to get into until you get into it," says Seaport housewright Andy Derr, who has been heading up the project.

The work began in earnest just after Labor Day last year, and – thanks to an exceptionally mild winter – continued through to the spring, when other Seaport needs took carpenters Derr and George Teed away from the Buck more and more. Teed has worked most closely with Derr on the project, which has benefited as well from the support of volunteers Ed Crotty, Jim Baranski, and Sandy MacDonald. Greenhouse staffer Kaari Sullivan also spent roughly two months on the project last winter.

Derr got his start in the historic restoration trade in 1982 in Staten Island, New York. Facing tough times in the carpentry business in Boston, Massachusetts – at a time when interest rates had skyrocketed to 20 percent and building starts had plummeted accordingly – Derr had accepted a position at the Richmondtown Restoration. One of a crew of six, he learned and practiced the painstaking craft of the restoration housewright. It was a good learning experience, he recalls, and after six years he brought his preservationist skills to the Seaport. When they are not taking care of other business for the Maintenance Department, Derr and Teed – another skilled carpenter – can be seen at work on the Buck.

When Sullivan joined the crew, Derr says, "we turned her loose on researching what the Seaport knew about the Buckingham House, because nobody knew it anymore." She pored through documents found in various places around the Museum: she went through the Archives, she went through the manuscripts collection in the G.W. Blunt White Library, she spoke to Research Associate Glenn Gordinier, and rifled through Associate Supervisor for Interpretation Holly Malloy's files. Finally, she hit paydirt, with a title search that Stuart Frank – former Research Associate – had conducted in the 1970s. It is through this document that the Seaport was able to trace the house's ownership through the years.

The project crew headed for Old Saybrook one day to comb through the town's files, viewing aerial photographs and maps to identify exactly where the house had been situated. When they went to the site, of course, they found nothing. The highway had completely obliterated any trace of its being there. Photographs of the house are sorely lacking, and Derr says Crotty has volunteered half a day each week "trying to find Clarks for us," in the hopes that descendants of longtime owners might have pictures of the house (the Clark family owned the house from 1875 to 1925). "One picture would make all the difference in the world," Derr says.

Though the house was built ca. 1768, the ongoing work will render it historically accurate to the early-nineteenth century, a relatively well-documented period in the house's history, thanks to a thorough inventory taken at the time of Samuel Buckingham's death in 1815. The coincidence with the Seaport's thematic period, and the fact that hearth cooking was still

common practice at the time, further justify the era to which the house will be restored. The Buck has long been the home of the Seaport's open-hearth cooking program.

The two housewrights began their work on the east-side exterior, where considerable rot in one of the upper corners necessitated the removal not only of all the clapboards, but of the sheathing and a large chunk of roof as well. A story pole at each end – noting the exact location of each piece – ensured that original pieces were returned to their original spots. As each of the clapboards was taken down, it was tagged for later matching to the story pole. The original pieces were stripped and repaired, and later returned to their designated place. New pieces – dutifully branded by year – replaced only the modern replacement pieces; every effort has been taken to keep the original structure intact, and the replacements match the originals in size, tool marks, and wood species.

As with the clapboards, many of the original nails were saved and used again (though the team did not insist the nails be returned to their original site, they did match the old nails with the old wood as much as possible). Sixty pounds of new nails were contracted from a blacksmith in Massachusetts, who purchased them and then manually re-headed and repointed them. Derr says the Seaport could have done this work, but it was more efficient to contract it out ("Sixty pounds of nails is a lot of nails"). The nails were then galvanized for durability.

Just as every effort has been made to preserve the original materials, considerable energy has gone as well into preserving the traditional tools and skills that built the Samuel Buckingham House. Though they do resort to certain modern conveniences – like electric drills and circular saws – a good deal of hand work – hand planing and hewing – has followed, to the end that the only difference between the tool marks on the new wood and those on the old is that the markings from 200 years ago are slightly more worn.

The attention to detail is compelling, as is the dedication to doing the job right and the commitment to keeping as much original material as possible.

Considerable deterioration over the years caused the front of the house to sag and bulge to the point that, ultimately, the plaster was holding it all together. Despite their efforts to keep some of the original boards intact, the two men finally agreed that every bit of the front first-floor sheathing, done in by rot and carpenter ants, had to be replaced.

"The front of the building is bent," says Teed, adding, "We couldn't have left it that way if we wanted to," because the clapboards could not have lain flat across the sheathing. They would like at least to have kept intact the portion of the sheathing that seated the only two original window frames remaining in the house. The windows were fitted into the wall by notches cut into the sheathing board, and a beveled extension on the sill. Because the sheathing boards will be replaced, though, the original joinery will be forfeited, and – though they will cut identical notches into the new boards – the loss bothers the two men.

"If the wood wasn't so bad we could maybe modify the board so it could stay there," says Derr. "But they're just beyond straightening."

As they go along, they continue to learn new things about the house, like the fact that there was no plaster on the second floor until about 1810. This they know because the nails in the lath are early cut nails, and cut nails were not invented until the end of the eighteenth century. They could not, therefore, have been used when the house was built.

Derr is thankful that, when in the early 1980s the Seaport decided to replace all the windows, the old ones were saved. Although they were not original to the house, they do date back to the eighteenth century, and some day, Derr says, he hopes to restore and reinstall them. In the meantime, the modern windows are being outfitted with old cylinder glass, to make them more appropriate in appearance.

The men are hoping they won't come across too many more surprises as they work their way around and inside the house. The south side appears to be in fair shape, as does the seventeenth-century kitchen ell in the rear. But again, they say, "we don't know what we'll find." ■





Left, *the windows were fitted into the walls by notches cut into the sheathing board, and a beveled extension on the sill. This photo shows how the front window had been lowered and then, in the 1950s, returned to its original position by the Seaport.*

Right, *the dark timbers – which comprise the majority – are the original clapboards. Only a relatively small amount of new wood had to be applied to the east-side exterior.*

(Both photos by Judy Beisler)

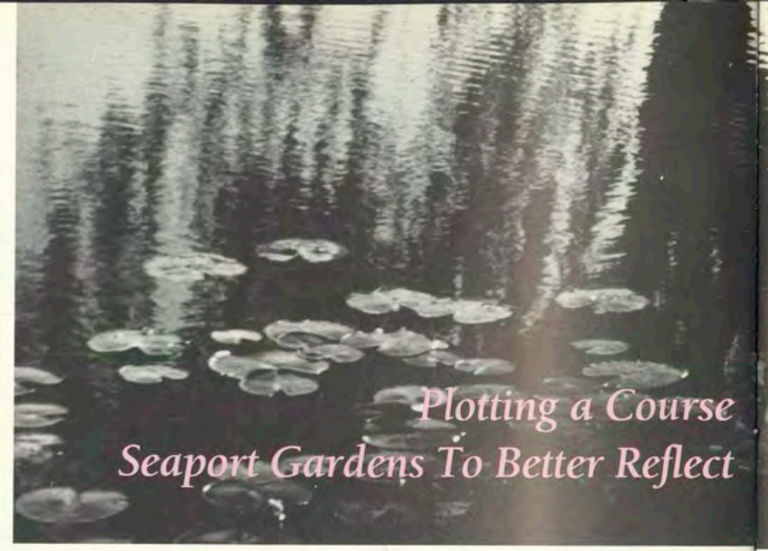
Center top and bottom, *water lilies fill the North Pond.* (Photo by Claire White-Peterson)

Top left, *the bleeding heart* (Dicentra spectabilis) *at the Burrows House represents everything the Victorians found attractive in the garden: even the name evokes romantic images.* (Photo by Nancy Spinner)

Bottom left, *this azalea is just one of many flowering shrubs along the Seaport grounds.* (Photo by Judy Beisler)







Plotting a Course for the Future: Seaport Gardens To Better Reflect Museum's Period and Theme

Long before the Seaport opens its gates to visitors each morning, Nancy Spinner and her grounds crew are hard at work, planting, weeding, watering, and pruning. The Museum's gardens and grounds are beautiful, educational, and extensive. And they don't get that way on their own.

Since Spinner joined the Seaport on a full-time basis five years ago – she had been consulting prior to that time – the improvements to the grounds have been enormous. No longer are the gardens filled only with brightly colored annuals, which may or may not be appropriate to a particular setting along the grounds. Today there is a plan.

The two beds featured in the existing Garden Tour – the kitchen garden in the Buckingham House yard and the Victorian flower garden at the Burrows House – are relatively consistent in their make-up, with only two or three species changes each year. Each has a maritime theme: the Buckingham House bed exposes the problems and possibilities facing typical salt-marsh farmers in the early 1800s, and the Burrows House plot is representative of the often exotic species brought to this region throughout the nineteenth century, by sea.

The plants in these gardens are absolutely appropriate to the Seaport's thematic period. And though visitors might expect the period theme would extend over all the grounds, the nineteenth-century gardening program is for the moment limited to just these two. Spinner explains: "The interpreters teach history, they do not teach horticulture. They use the gardens as another means of demonstrating the changes that took place in people's lives with the advent of the Industrial Revolution."

For the most part, the Seaport gardens and grounds are designed less to teach than to create an attractive and peaceful ambience that will appeal to Museum visitors. This year's self-guided Landscape Search will challenge members and visitors to view the grounds with a fresh eye, as they scrutinize the various settings for the many varieties of flora that fill these seventeen acres. The search will provide a brief explanation of the plant material, and why it is appropriate to its location. Children will enjoy their own search – through the new Garden of Animal Names at Edmonson House – for the likes of Lambs Ears, Toad Lilies, and Canary Bird Vine.

Though the gardens are not all true to the Seaport's era, they are dressed to reflect the spirit of their location. The North Boat Shed garden, for example, has been dressed up considerably this year, to conform to recent alterations at the North Gate. The whole northern grounds area, which houses the formal exhibit galleries, will become progressively more elegant and developed as time goes on – and as money and staffing allow – says Spinner.

The elegant landscaping in this area helps to delineate the formal exhibits area from the village, where the gardens and lawns are more rough-cut, as they would have been in the typical nineteenth-century shoreside community. The weeds in front of the Spouter Tavern, for example, are no oversight on the part of the groundskeepers. In fact, if they hadn't been there of their own accord, they might have been planted.

"This is something museums and [other] historic landscapes have been coming to for the last twenty years," says Spinner. "There is as much of a need for authenticity on the exterior of a properly restored building as on the interior. This has been a tremendous revolution."

Museums have long focused on the accuracy of period furnishings, correct wall coverings and draperies, and interior and exterior architecture. But it wasn't until about 20 years ago that historic landscape preservationists really began to make their point – and began to be understood – that the landscape surrounding period structures bears considerable impact on people's perceptions of life in a given time and under varied social and economic circumstances.

Spinner hopes to further develop the landscaping in an appropriate manner, to add to the beauty of the grounds and to demonstrate even more clearly the important role horticulture played in America's maritime past. She hopes to refine the existing perennial gardens, expand the period gardening activities, further develop the container gardening of unusual combinations of











Top right, *Hosta* (Hosta plantaginea) *bears fragrant white flowers in August. Enjoy its scent in the Memorial Garden.* (Photo by Judy Beisler)

Center right, *Japanese iris* (Iris ensata) *in the Memorial Garden.* (Photo by Nancy Spinner)

Bottom right, *the quartered arrangement of this rose's petals identifies it as a very old variety. The contemporary rose, in contrast, features a rounder, overlapping, and tighter composition.* (Photo by Nancy Spinner)

plant materials, and gradually replace what is essentially a monoculture of maples with a variety of interesting trees.

The gardener looks forward to the day when a new and efficient greenhouse will replace the existing one – a small and failing wooden structure – thereby greatly increasing her staff's capacity to cultivate more of their own plant materials, including more of the nineteenth-century species that are not available commercially. It is to this end – the building of a greenhouse – that the "Greenhouse Gang" was founded, by volunteers Jean Pierce, Pat Carlson, Hetsy Bisbee, Jill Urban, Pauline Lubin, and Pat Jones.

In the spring of 1991, this spirited group sponsored a plant sale, proceeds from which would be deposited into the newly established Greenhouse Fund. The first sale was not big, but it was a success.

The Gang's second sale – later that year, on Members' Day – was a bit larger. It too was a success. This past May, the Gang sponsored their biggest and most successful sale yet, and as soon as it was completed they began to plan another for Members' Day 1992. To date, "The Ladies," as Spinner refers to them (they call her "Mother"), have raised roughly $10,000. But they are frustrated by the slow progress toward their goal of $100,000. "It would take another 100 years for us to raise that money, and we'll all be in wheel chairs," quipped one of the Ladies. "We'll be pushing up daisies, never mind planting them."

The Seaport now has a greenhouse frame, which was donated by the Jiminy Peak ski resort in 1985, and which needs to be set up, insulated, and furnished. Waiting to be put together like a giant Erector Set, its aluminum pieces sit in storage in the Rossie Mill. Though the new house will be only slightly larger than the existing one, it will increase the Seaport's gardening capacity tremendously, and will provide more efficient work space and equipment storage. The existing benches will be replaced with the rolling variety that create a tremendous amount of square footage, and that have become standard in contemporary greenhouses.

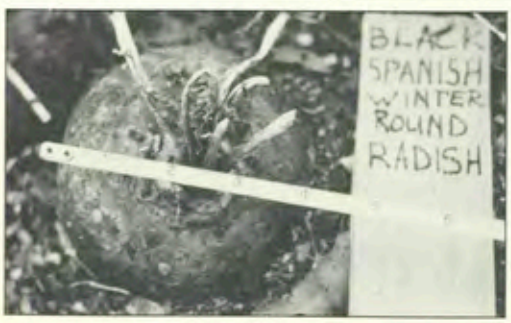
The new house will be ventilated properly to protect against the recurrence of previous situations in which plants have burned because of a sudden spring heat wave. It will be sectional in make-up, and will thus cut down considerably on heating costs: because only a small section will be open year-round, to maintain stock plants and to get the long-season plants started, the bulk of the house can remain closed until the end of March, by which time the solar gain has increased considerably.

Spinner has ambitious plans for improvements to the Seaport gardens and grounds, and is anxious to get construction of the new greenhouse funded and underway. For the time being, she does what she can to carry out a landscape philosophy she believes is appropriate to the Museum.

"We have divergent activities here," she explains. "We have the nineteenth-century village area, we have the formal exhibits area, and then we have the various twentieth-century amenities like the Galley and the parking lots. We have a wonderful opportunity to enhance the visitors' perceptions of the Museum by addressing these differences, with landscaping." ■







Upper left and right, *Nancy Spinner at work in the greenhouse, the stanchions of which are showing signs of age.* (Photos by Mary Anne Stets) Lower left, *"Black Spanish" was a radish considered to be a good winter keeper. It was planted in August, and attained this great size by the first frost. Find it in the Buckingham House kitchen garden.* (Photo by Nancy Spinner)



Kaari Sullivan (left), *Volunteer Hetsy Bisbee,* (center), *and Volunteer Jean Pierce* (right) *work their fingers around the now-famous braided rope wreaths.*
(Photo by Mary Anne Stets)

Christmas in July?

Mystic Seaport is a popular place around Christmastime; members may come for a Yuletide or Lantern Light Tour, to spend time with friends at the annual carol sing, or just to admire the holiday decorations.

The Seaport wreaths, sprays, and ribbons have become a popular Christmas tradition, and – like the general landscaping – are made in keeping with a cultural philosophy. Only those adornments that would have been appropriate to an 1870s shoreside village are used on the historic buildings, and are thus quite simple. Mystic was in an economic downturn at the time, as the age of sail was declining and local shipyard business had ebbed accordingly. People did not have the money to spend on lavish holiday decorations.

"We've done a lot of research into the types of Christmas decorations that would have been used," says Seaport gardener Nancy Spinner. Though considerable information about interior decorations exists, we know relatively little about exterior embellishments, other than the ubiquitous swags and sprays, made from available greens and decorated simply. Little mention is made in the available literature of wreaths, and they are thus used only sparingly in the village area; those that are used are handmade of juniper and laurel, which materials would have been in abundance.

Garlands were abundant, and last year Spinner and her staff – and volunteers – made more than 600 feet of garlands. "I couldn't live without the volunteers at Christmastime," says Spinner, who notes that the work for Christmas begins in July.

Even in the formal exhibit galleries, the decorations are elegantly refined. Wreaths are embellished simply with ribbons or seashells – "nothing too elaborate," says Spinner.

"It's pretty low key," she adds, "but that's what's appropriate."

BOOK REVIEWS

Looking for a Ship

John A. McPhee

New York: Farrar, Straus, Giroux, 1990. 241 p. $18.95.

The American merchant marine is a long-suffering entity. Largely ignored by the American people – until a catastrophe such as an oil spill attracts brief public attention – it has been shrinking continuously since World War II, a victim of high costs, intense foreign competition, and public indifference. In its sorry state, the merchant marine has been without a champion for too long. Fortunately for the service, and for the reading public as well, masterful writer John McPhee has filled the void with his latest book, *Looking for a Ship*, which was first serialized in *The New Yorker*.

During a recent summer, McPhee accompanied George Anderson Chase on a quest for employment offshore with the International Order of Masters, Mates, and Pilots (one of the major licensed deck officers' unions). The difficulties encountered in such an ordeal are well documented. Eventually, after traveling to several East Coast ports, Chase arrives in Charleston, South Carolina, and signs aboard the S.S. *Stella Lykes* as second mate, bound for the west coast of South America. McPhee accompanies him as "Person in Addition to Crew," and has ample time to observe and report on all aspects of shipboard operation, a job he does with a great deal of color and accuracy.

At the center of the stage is Captain Paul McHenry Washburn. Captain Washburn is a seaman's seaman and archetypal ship's master, who talks to his ship and is by his own admission "filled with vitriol." If it seems that McPhee paints Captain Washburn as larger than life it is because Washburn represents something foreign to a landsman's experience. He is the product of years at sea, dealing with all varieties of weather, crew, cargo, and sea conditions on a global scale, almost exclusively out of sight and mind of the rest of the world. Yet, for all his burden of responsibility, Washburn has a strong sense of humor. Without meaning to detract from him in the least, I must point out that there are other men like Washburn in the industry who only lack a John McPhee to bring them to prominence.

Of course the whole reason why anyone is aboard the *Stella Lykes* is the cargo; without that the ship has no purpose. McPhee delves into the cargoes carried in exhaustive detail, and those mentioned are selected to give some idea of the exotic variety of goods carried

by an American merchant ship, including, aboard the *Stella Lykes*, two dozen thoroughbred racehorses that have started to run short of food. McPhee takes the reader through the daily routine of all three major departments aboard ship – deck, engine, and steward's – describing the controlled panic of the engine room while docking and even the details of a Lykes Line menu.

Perhaps fittingly, the book closes with the ship drifting, broken down in the Pacific Ocean while bound for the Panama Canal. The *Stella Lykes* has a crack in her hull and water in her fuel, and, as Captain Washburn wryly observes, "water doesn't burn." So the reader leaves the *Stella Lykes* in the same state as the American merchant marine: dead in the water. Being active in the merchant marine, this reviewer did not miss the rueful symbolism here. But there may yet be hope if books such as this can lead America to a better conception of a much misunderstood and maligned industry. An important work, this book is an essential element for all maritime libraries.

John Wilbur
Noank, Connecticut

U.S. Steamships: A Picture Postcard History

Frank O. Braynard

Vestal, New York: Almar Press, 1991. 140 pp., 216 illustrations, bibliography, index. Paper, $14.95

Steamship authority Frank Braynard, Curator of the American Merchant Marine Museum, displays his breadth of knowledge in this new book, writing of many of the more than 20 vessels pictured here almost as if they were old friends. The steamers include both large oceangoing steamships and small river and bay steamboats, ranging from the beginnings of picture postcards in the 1890s up to modern motorships and the steamboat look-alike excursion boats *Andrew Fletcher* at South Street Seaport and *Victorian Empress* ex-*Pilgrim Belle* (it's too bad Mystic Seaport's real steamboat *Sabino* was not included). Braynard provides data on each postcard and an outline history of each vessel, including occasional anecdotes or his opinions on a vessel's appearance or performance. Unfortunately, the text is choppy and not very well edited. Although many of the cards were originally printed in color, they reproduce well here in black and white, and they remind us that even such ephemeral material can have documentary value. This book will be of interest to both steamship fanciers and postcard collectors.

The Iron Ship: The Story of Brunel's S.S. Great Britain

Ewan Corlett

1975, revised edition, London: Conway Maritime Press, 1990. 224 pp., 170 illustrations, notes, bibliography, appendixes, index.

One could easily argue that the S.S. *Great Britain* was the most innovative merchant ship of the nineteenth century. An iron ship in the age of wood, a steamship in the age of sail, a propeller-driven ship launched only five years after the screw propeller was perfected, a 322-foot ship in an era of 160-foot oceangoing ships, she was a product of the brilliant engineer Isambard Brunel, who went on to design and build the legendary *Great Eastern*.

Launched at Bristol, England, in 1844, the *Great Britain* entered transatlantic service and made the first screw-propelled crossing of the Atlantic. She stranded on the Irish coast in 1846, and after salvage and refitting with new engines and a conventional square rig in place of her six-masted rig, she became an "auxiliary steam clipper" on the Liverpool-to-Australia run. In 1875 she was laid up, and in 1882 she was put back into service as a sailing vessel. She made two voyages round the Horn to San Francisco before she was damaged off Cape Horn and put into the Falkland Islands. There she was sold as a storage hulk, and there she lay for 84 years, until she was salvaged and returned for restoration and exhibit in the drydock where she had been built in Bristol.

Ewan Corlett, himself an engineer, was the moving force in the rescue and restoration of the *Great Britain*. He has written a detailed and heavily illustrated history of the ship, including excellent discussions of iron shipbuilding, screw propellers, and early marine steam engines. He also has a lengthy section on the restoration of the ship. In a most useful concluding chapter, he puts the *Great Britain* into the context of nineteenth-century shipping and shipbuilding trends. Why, at a distance of nearly 150 years, should we be interested in this British iron steamship? In the author's words she was, quite simply, "the first modern ship."

Splendor Sailed the Sound: The New Haven Railroad and the Fall River Line

George H. Foster and Peter C. Weiglin

Tucson, Arizona, and San Mateo, California: Mid-State Associates and Potentials Group, Inc., 1989. 384 pp., 450 illustrations, appendixes, glossary, bibliography, index. $55.00.

For more than 100 years, beginning in 1815, great white steamboats were an integral part of New York's transportation link with the New England states. Their story has been told many times, yet this book is still able to fill a niche on the subject. It is a visual feast of images from all the principal Southern New England steamboat and ferry lines reproduced attractively in large size (though some

suffer from a lack of contrast in printing), and well served with extended captions.

The authors are well-known railroad experts, and it is their broad perspective on regional transportation that gives this book its special value. For, however independently the steamboat lines began, by the mid-nineteenth century they were essentially waterborne extensions of the railroads, linking New England's steel veins, through the Long Island Sound-East River artery, to the commercial heart of New York City. It is entirely fitting, then, that locomotive photographs and railroad maps and timetables share space with the steamboat photographs and steamer route maps in this lavish book. This very useful overview of the subject should have a place in any maritime library.

S.S. United States: *The Story of America's Greatest Ocean Liner*

William H. Miller

New York: W.W. Norton & Company, 1991. 224 pp., 173 illustrations, bibliography, index. $35.00.

Steamship expert William H. Miller here tells the story of "Big U," the Blue Riband liner *United States*. Designed by William Francis Gibbs of Gibbs & Cox as a transatlantic competitor to the Cunard liners *Queen Mary* and *Queen Elizabeth*, the *United States* succeeded the S.S. *America*, the late-1930s attempt to revitalize American transatlantic liner service, whose story is also told here. Laid down at the Newport News Shipbuilding & Dry Dock yard in 1950, the 990-foot *United States* was launched in 1951 and entered service the following year. On her maiden voyage she won the Blue Riband with a 3½-day crossing at an average 35 knots.

For 17 years she made fast, safe crossings of the Atlantic, carrying royalty, movie stars, the wealthy, vacationers, and (until 1960) American military dependents. But, by the 1960s, airline competition and labor disputes increasingly crippled steamship service – on one voyage, 1,000 crew members served 800 passengers – and by 1969 the liner's government subsidy equalled $400 for each ticket sold. Late in 1969 she was laid up, and more than 20 years later she still lies in limbo, quietly rusting away in Newport News, Virginia.

In telling this story in both word and picture, Miller introduces many of the people who traveled and served aboard "Big U." Through them, he makes the ship's routines come to life. Miller was especially inspired by Commodore Leroy J. Alexanderson, the ship's last captain. Alexanderson is a strong presence throughout the book, and it is apparent that, long after her final passage, he adores the ship still.

This book is both a fitting memorial for a great ship and a stirring tale for armchair travelers who never had the chance to make a four-day crossing of the Atlantic in style.

The Wherry Oarsman

On Both Sides of the Law

Hugh H. Corkum

Hantsport, Nova Scotia: Lancelot Press Limited, 1989. $9.95 Canadian.

The town of Lunenburg, Nova Scotia, is known as one of the great fishing ports of the world and her men are renowned as hardy workers on the cold waters of the North Atlantic. Not only did Lunenburgers harvest the sea, but they also had vessels to carry cured cod to Europe, the countries of South America, and the West Indies. There was a time, during the 1920s and 1930s, when a depressed market for fish led to a lucrative trade in smuggling liquor to a parched United States beset by prohibition and a Canadian problem of "blue laws."

Hugh Corkum was born into a seagoing family. His father, Captain George H. Corkum, spent most of his life in schooners sailing to the West Indies and South America. It was a hard life and it took tough men and fine seamen to survive. During his career, the captain was on a World War I voyage aboard a schooner sunk by the notorious Count Von Luckner.

Hugh made up his mind to go to sea and, after a few trips with his father, shipped in a four-masted schooner bound to the French Island, St. Pierre, to load rum. The captain was a rough, tough man and the crew the same, but Hugh's father was of the same ilk and Hugh was able to handle himself.

In 1929, Hugh took a course in wireless telegraphy and sailed as radioman aboard rum runners until Prohibition was repealed at the end of 1933. The pay was good, but getting shot at and jailed several times persuaded him to come ashore.

Hugh heard the town needed a new policeman and applied for the position. It may seem strange that a former smuggler and jailbird would be considered a fit man for police work. However, practically everybody in town participated to some extent in the business. Hugh Corkum seems to have been universally respected, and he later became chief of police.

This reviewer has enjoyed reading *On Both Sides of the Law*. I never met Hugh, but I did make a memorable voyage to South America and the West Indies with his father aboard the three-masted schooner *E.P. Theriault*. Captain Corkum was tough; for the cook and me the voyage ended at Barbados after a complaint to the harbormaster. We received our pay and fare home.

There have been a few books about the rum-running era, mostly written by scholars. Hugh Corkum writes from the viewpoint of a man who actually participated in the trade as a practical way to earn a living. It is a fascinating tale that personalizes one of the rough spots in seagoing relations between Canada and the United States.

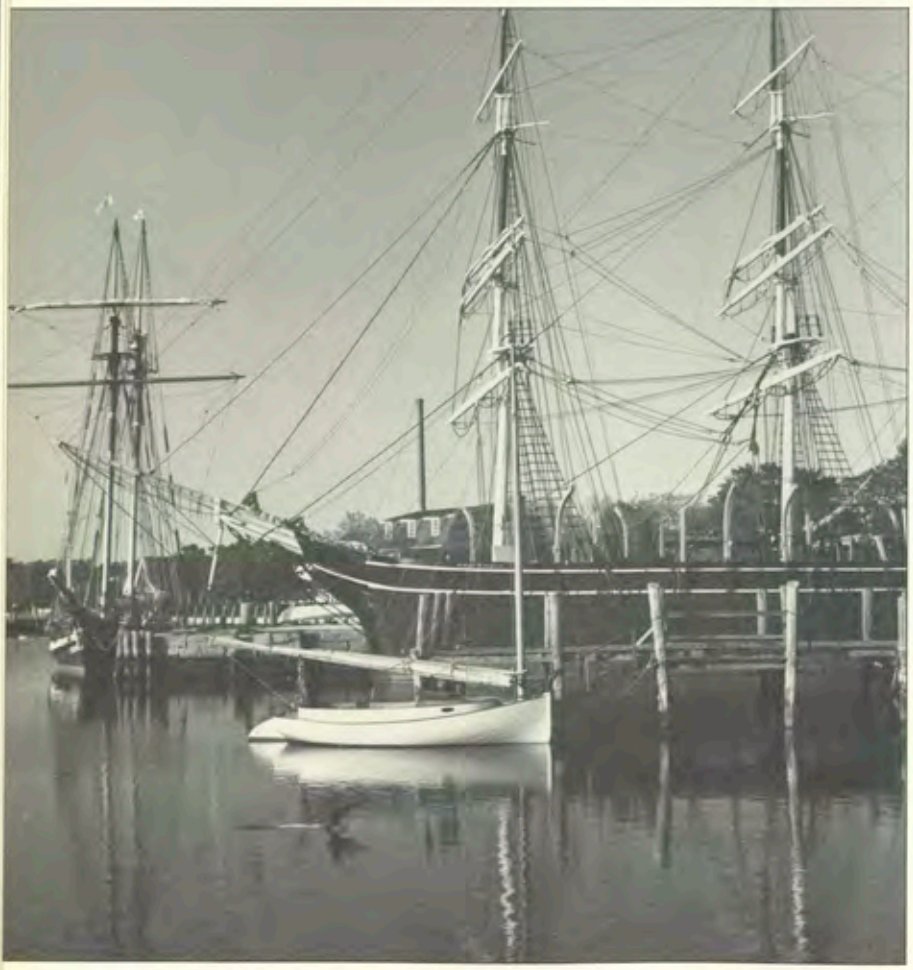
Capt. Francis E. Bowker
Research Assistant, M.S.M.

NEWS & NOTES

The Shipping List

Members and visitors frequently wonder at the visiting boats they see along the bulkhead at Mystic Seaport Museum. Several of these craft are indeed of interest, and The Log *will attempt to keep you informed. The following, then, is the first in a new feature, called "The Shipping List."*

Pacific Swift, a 1986 replica of the 1778 clipper packet brig of the same name, graced the Seaport's Chubb's Wharf in May. This beautiful vessel hails from Victoria, British Columbia, and is used much like the Seaport's own *Brilliant*, as a sail training vessel.



The Charles W. Morgan *proudly shares Chubb's Wharf with the* Pacific Swift, *a sail training vessel from Victoria, British Columbia. She stopped here in May, on a circuitous passage to Expo 92 in Seville, Spain.* (Photo by Mary Anne Stets)

The *Swift* was built and is now owned and operated by the British Columbia-based Sail and Life Training Society (SALTS), an interdenominational Christian organization that believes sail training helps young people mature physically, mentally, and spiritually. The program is open to young men and women ages 18 to 25, who may or may not have prior sailing experience. Crew members sign on for as long as they wish. The cost per day is determined from an estimation of the voyage's expenses, divided by the number of participants. For seagoing voyages, the crew typically is limited to 28 or 29, though the vessel will sleep 30 trainees plus staff.

Crew members' enthusiasm is alluring, and many Seaport visitors lingered at Chubb's Wharf while the *Swift* was in port. One participant, asked about the cost per day, agreed with her questioner that yes, it did "seem a bit steep" at first, but added that, "when you think of all we're getting from this, it's nothing." Most of the participants pay their own way, says Margaret Clark, the current master's wife and second mate. "Tuition" covers the costs of operating the vessel and providing routine maintenance. Any additional funding is solicited from individuals, corporations, and foundations.

The hull of the *Pacific Swift* was built at EXPO 86 in Vancouver as a working exhibit, and was launched in October of that same year. The SALTS were given six months – from keel-laying to launching – to complete the hull ("There was a stiff penalty for every day we were past the deadline," says Master Martyn Clark, adding, "We were not late.")

The original *Swift* – whose lines are kept in the Admiralty Archives at the National Maritime Museum in Greenwich, England – was built in 1778. The design was chosen for replication both for its historic value – this type was among the first sailing craft to "discover" the North American Northwest Coast – and for a combination of safety under sail and state-of-the-art speed potential deemed ideal for sail training.

The four SALTS masters – and their families – serve on a rotating basis. The Clarks – who visited Mystic Seaport on their honeymoon 23 years ago, and who have been travelling with their five daughters aboard – have been with the vessel since she departed Victoria in September 1991, and were to be relieved when the *Swift* reached Ontario, in July.

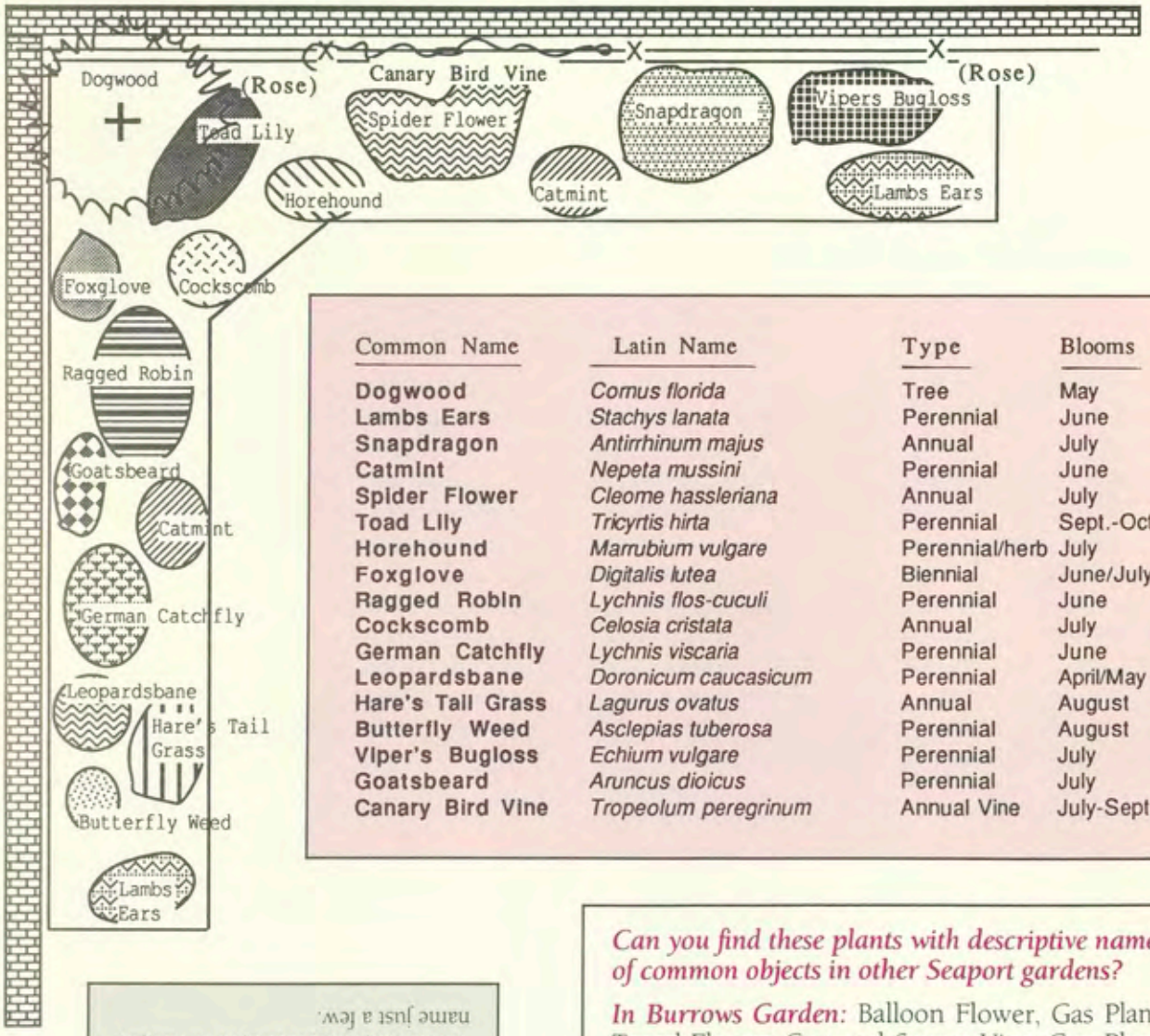
The relief crew will take the vessel on to Ireland and England, headed for EXPO 92 in Seville, Spain. Intermediate stops enroute back to Victoria – to which they are scheduled to return in June 1993 – include Morocco, Grenada, Balboa, Panama, and Honolulu, Hawaii.

A Garden of Animal Names

kids' corner

There's a new garden at the Children's Museum! And it's full of animals! Take a peek at this garden map, and bring it with you when you come to the Seaport. See how many of these garden pets you can find!

How many others can you think of? (See our answers below.)



Common Name	Latin Name	Type	Blooms
Dogwood	*Cornus florida*	Tree	May
Lambs Ears	*Stachys lanata*	Perennial	June
Snapdragon	*Antirrhinum majus*	Annual	July
Catmint	*Nepeta mussini*	Perennial	June
Spider Flower	*Cleome hassleriana*	Annual	July
Toad Lily	*Tricyrtis hirta*	Perennial	Sept.-Oct.
Horehound	*Marrubium vulgare*	Perennial/herb	July
Foxglove	*Digitalis lutea*	Biennial	June/July
Ragged Robin	*Lychnis flos-cuculi*	Perennial	June
Cockscomb	*Celosia cristata*	Annual	July
German Catchfly	*Lychnis viscaria*	Perennial	June
Leopardsbane	*Doronicum caucasicum*	Perennial	April/May
Hare's Tail Grass	*Lagurus ovatus*	Annual	August
Butterfly Weed	*Asclepias tuberosa*	Perennial	August
Viper's Bugloss	*Echium vulgare*	Perennial	July
Goatsbeard	*Aruncus dioicus*	Perennial	July
Canary Bird Vine	*Tropeolum peregrinum*	Annual Vine	July-Sept.

ANSWERS:

Crabgrass! Pussy Willow, Dogtooth Violet, Chickweed, Tiger Lily, Hens and Chickens, Skunk Cabbage, Butterfly Bush, Cowslip, Ox-eye Daisy, Horse Chestnut, Coltsfoot, Zebragrass, Turtlehead, Horseradish, Kiwi Vine, to name just a few.

Can you find these plants with descriptive names of common objects in other Seaport gardens?

In Burrows Garden: Balloon Flower, Gas Plant, Tassel Flower, Cup-and-Saucer Vine, Cup Plant, Moon Flower.

In Buckingham Garden: Jacobs Cattle Bean, Tennis Ball Lettuce (Thomas Jefferson's favorite!)

In Memorial Garden: Bleeding Heart, Ladies Mantle, Candytuft.

Something fun to try before you come: Make a picture of one of the plants as you think it should look. How about a spider flower?

Forever Brilliant

Renowned marine artist John Mecray has painted a compelling portrait of the Seaport's own *Brilliant*. The limited-edition color lithograph will be available for sale through the end of October, and a portion of the proceeds will be used to support the *Brilliant* Fund.

The painting was commissioned to honor *Brilliant* on her sixtieth anniversary, and depicts the vessel shortly after her launching in 1932. Mecray consulted with Captain George Moffett to ensure technical accuracy in the design, which is made in the style that has won the artist considerable acclaim: a profile view of the vessel as she slices through the sea.

A special framed edition of the painting will be available to Mystic Seaport members only. The print will be strictly limited to the number of orders received by 31 October 1992. The cost is $200 ($475 for the members-only framed edition). Each print will be individually signed and numbered by the artist. Sixty remarques, signed by the artist, will be made available at a price of $750 each, and another sixty, signed by the designers as well, will be available at $1200 each.

The *Brilliant* Fund is a restricted endowment established for the preservation of *Brilliant* and operation of the *Brilliant* Sail Education program. It currently totals just over $500,000. For more information about the print, or to place your order, please call the Mystic Maritime Gallery's print shop at (800) 344-0675.

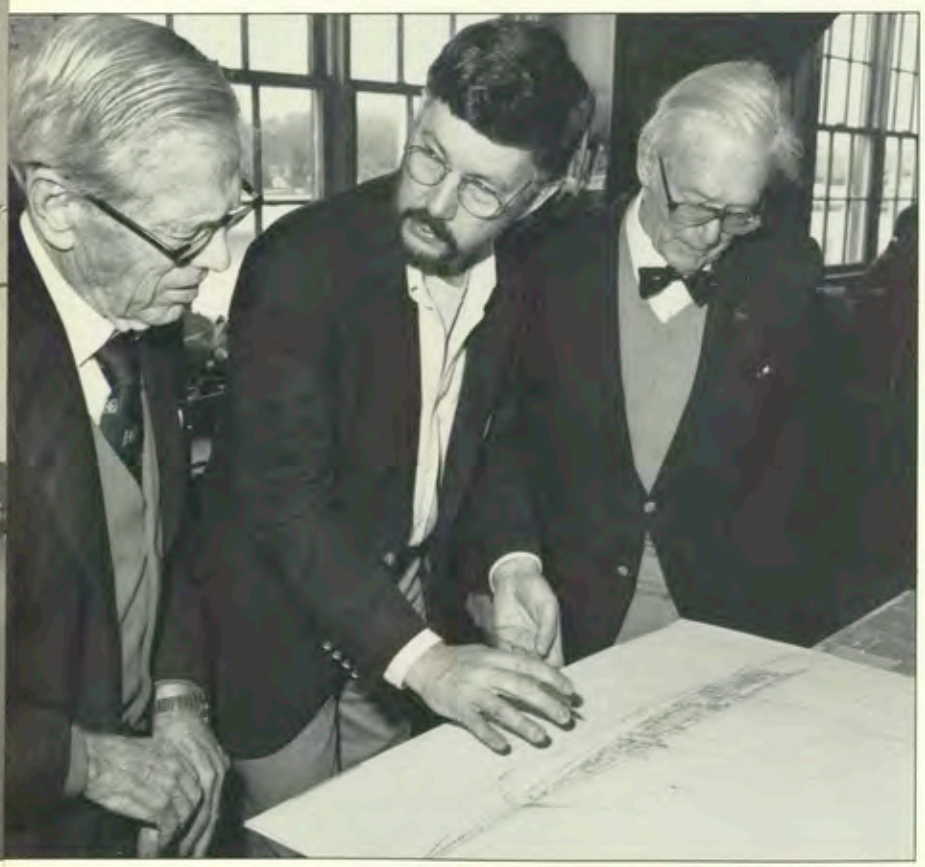
Radio Days: From Mystic to the World

When it frequently takes hours to place a telephone call to Moscow, one time-honored technology quickly clears the standard communication barriers: radio.

During Radio Relay Days—hosted by the Seaport 11 and 12 April in commemoration of the April 1912 sinking of the *Titanic*—amateur radio operators made connections with other "hams" in 46 states and 32 foreign countries, using Morse code, telephone, and packet (computer hookup) radio.

The gathering was coordinated to honor the 1,523 people who perished in the vessel's tragic sinking, to commemorate the wireless operators—John G. Phillips and Harold Bride—who sent the distress signals CQD-SOS that summoned the *Carpathia* to rescue the 705 *Titanic* survivors, and to pay tribute to the American Radio Relay League and amateur radio operators worldwide, who continue to provide volunteer communications to their communities and the world in times of need or disaster.

The weekend was a huge success, with 153 licensed operators signing the log in the Planetarium's Susan P. Howell Classroom. Planetarium Director Don Treworgy offered special thanks to members of the Tri-City Amateur Radio Club, the American Radio Relay League, Hiram Percy Maxim II, and Thomson Consumer Electronics and its RCA Division.



Olin J. Stephens II (right) and Rod Stephens, Jr. (left), with the artist, at the celebration of Brilliant's sixtieth. (Photo by Mary Anne Stets)

ABOUT THE AUTHORS

James T. Carlton is Director of the Williams College-Mystic Seaport Maritime Studies Program and Associate Professor of Marine Sciences at Williams College. His research interests center around biological invasions, including the ecology, biogeography, and dispersal mechanisms of introduced species in marine, maritime, and freshwater environments; the experimental ecology of biological invasions and their effects on the structure and evolution of natural communities; and the mechanisms of intracontinental and transoceanic gene flow in estuarine organisms.

Paul O'Pecko has been Reference Librarian at the Seaport's G.W. Blunt White Library since 1984. A native of Pennsylvania, he graduated from Pennsylvania State University and holds a Master of Library Science from Drexel University.

Sandra L. Oliver, formerly of the Seaport's Education Department, is a foodways historian and consultant living in Maine. She designed the Museum's Taste of History event.

Leslie Gifford is Associate Editor of *The Log*.



(Photo by Mary Anne Stets)

Mr. and Mrs. Rudolph J. Schaefer III

Rudie and Jane Schaefer truly personify the "Seaport family." The tradition of Schaefer leadership and generosity was established in 1951 by Rudie's father, and today the Schaefer name is seen throughout the grounds. Rudie has been a Trustee since 1975, serving from 1984 to 1988 as President, and 1988 to 1990 as Chairman, and Chairman Emeritus today. Jane serves on the Museum's Education Committee, and together they further the family tradition, by presenting each new Schaefer grandson with a Life Membership to Mystic Seaport.

They support Library Fellows and Gallery Patrons projects and have worked tirelessly on Pilot weekends, Rudie masterfully shingling a roof, Jane giving special care to the Museum's gardens.

In their 1974 application to the Pilot program, Rudie wrote, "perhaps we'll take more away from the Seaport than we will contribute." Nothing could be further from the truth: the models of Erik Ronnberg, paintings of Thomas Hoyne, *Brilliant*'s cannon, rare gardening and education books, the Planetarium's Selsi telescope, the reconstruction of *America* film, support for the *Morgan* Preservation Fund, the Bulkheads project and Greenhouse restoration, the inspiration behind construction of the R.J. Schaefer Building and the Mystic Maritime Gallery – the list goes on and on. Rudie initiated innovative and significant support for the Museum's yachting interests by creating a Charitable Lead Trust in 1985, and his and Jane's newly established Unitrust will ensure future strength for the Museum's endowment.

Nothing symbolizes Rudie and Jane's commitment to the Seaport better, however, than their devotion to the Children's Museum. The whole Schaefer family is dedicated to enhancing the experience of the young Seaport visitor, and the support of their Ramsleg Foundation has made possible recent renovations that make the new Children's Museum a place where youngsters can "be educated in a most important area of American history." With these words, Rudie reflects the tradition of his family and the spirit in which Mystic Seaport was founded. The Museum is truly indebted to this special couple for their commitment to Mystic Seaport's mission – preserving the maritime past for future generations.



Your membership supports the work of Mystic Seaport, including the restoration of wooden watercraft, the perpetuation of maritime skills, the preservation of historic artifacts, and research on all aspects of American maritime history.

These activities deepen our understanding and appreciation of our collective heritage. With a keen sense of our past and where we came from, we can set a course for the future.

Members of Mystic Seaport not only have the satisfaction of supporting a great institution's important work, but can also join in educational activities for the whole family. The gates of the Seaport are open to members year round, so you can watch the progress of work in the Shipyard and Boat Shop, examine new exhibits, and board America's oldest existing wooden whaleship time and again.

We encourage you to share your Mystic Seaport experience with others. Tell your friends and family what you like about the Museum, invite them along the next time you plan to visit, or give them the gift of a year's membership, so they can enjoy learning about our seafaring past themselves.

Memberships begin at $30 for individuals and $50 for families. Please call the Membership Office at (203) 572-5339, or write Membership.

MYSTIC SEAPORT MUSEUM®

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

Members' Day at Mystic Seaport
26 September 1992

Watch for your Members' Day invitation and reservation form.

MEMBERS' DAY HIGHLIGHTS

- ★ Enjoy free refreshments and pick up your detailed schedule at the Reception Tent (North Gate, 8:30–11:30 A.M.).
- ★ Take your place at the 63rd Annual Business Meeting at Lighthouse Point, and share free beer, wine, and hors d'oeuvres with your fellow members.
- ★ Attend the Members' Memorial Service at the Aloha Meeting House. Print a memento in the Print Shop.
- ★ Explore the Seaport grounds, with the new Landscape Search as your guide.
- ★ Investigate the Rosenfeld Collection's office and vault, home of the world-famous sailing photography archive.
- ★ Learn about the American Society of Marine Artists exhibition on a curator's tour at the R.J. Schaefer Building Gallery.
- ★ Join a quilting bee, and help make a quilt based on a nineteenth-century pattern. All levels of experience are encouraged.
- ★ Jump in and have a ball with special children's activities and tours.
- ★ Tour the sailing vessel *Brilliant*, in port just for Members' Day.
- ★ Help crank an ice cream maker, and savor the flavor of this old-fashioned treat.
- ★ Take a "Maritime Tour of Elm Grove Cemetery." Meet at 10 A.M. at the main gate of this beautiful and historic burial ground. It is located north of the Seaport on Route 27 (Greenmanville Avenue), just a short walk from the Seaport's North Parking Lot.
- ★ Meet the artists at exclusive serigraph and print signings at the Seaport Stores.
- ★ Keep time with a walking tour of the Seaport's sundial collection.
- ★ Sit in on Planetarium programs at no charge (members only).
- ★ Join a variety of behind-the-scenes tours.
- ★ Raise your voice in a Sea Music workshop for children.
- ★ Watch a carving demonstration, then try your hand at this centuries-old craft.
- ★ Gather marine life from the Mystic River. Learn how to use a plankton net, and examine zooplankton under a microscope.
- ★ Take part in a play for families.
- ★ Take a cruise aboard *Sabino*, at 5 P.M., with a Dixieland jazz band. Tickets available on Members' Day.

CELEBRATE WITH THESE SPECIAL EVENTS!

★ ★ ★

Lobster Bake

Native New England lobster dinners will be served on Saturday from 11:30 A.M. to 2:00 P.M. This Mystic tradition includes corn on the cob, coleslaw, a roll and butter, and iced tea or lemonade. Those with shoreside appetites may opt for a barbecued chicken dinner or ditty box lunch. Beer and wine will be available for purchase. Reservations are required.

★ ★ ★

Brilliant Day Cruises

Mystic Seaport's 61-foot auxiliary schooner *Brilliant* will take members out for day sails on Fishers Island Sound 25, 27, or 28 September. All participants should be physically fit, agile, and ready for an active day helping sail the boat. The voyage includes lunch. This unique opportunity is available to 12 participants per trip, ages 15 and up. Reservations are required and are limited to those who have never taken a Members' Day *Brilliant* sail.

★ ★ ★

Bid for a Handmade Quilt

Submit your offer on Members' Day and monitor the silent bidding throughout the day. This beautiful double "Churn-Dash" quilt is representative of an 1830s utility quilt, and is a pattern often used to teach young girls how to piece together designs of squares and rectangles. You may increase your bid at any time during the day.

★ ★ ★

Second Annual Fall Plant Sale

Following up on its successful first season, the Greenhouse Gang will offer perennials, dried flowers and herbs, herb vinegars, and bulbs for sale, from 9 A.M. to 3 P.M. All proceeds from the sale – which will be held in the Rossie Mill, across the street from the Seamen's Inne – go to the Greenhouse Replacement Fund.

The ADVENTURE SERIES returns this winter, after a smashing 1991 season!

Watch for the next issue of *The Log*, and check your mailboxes, for the 1992–93 Adventure Series schedule, and travel the globe with professional adventurers!

The Log of
MYSTIC SEAPORT
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DATED MATERIAL
Do Not Hold

A shipload of activities are yours on Members' Day – 26 September 1992