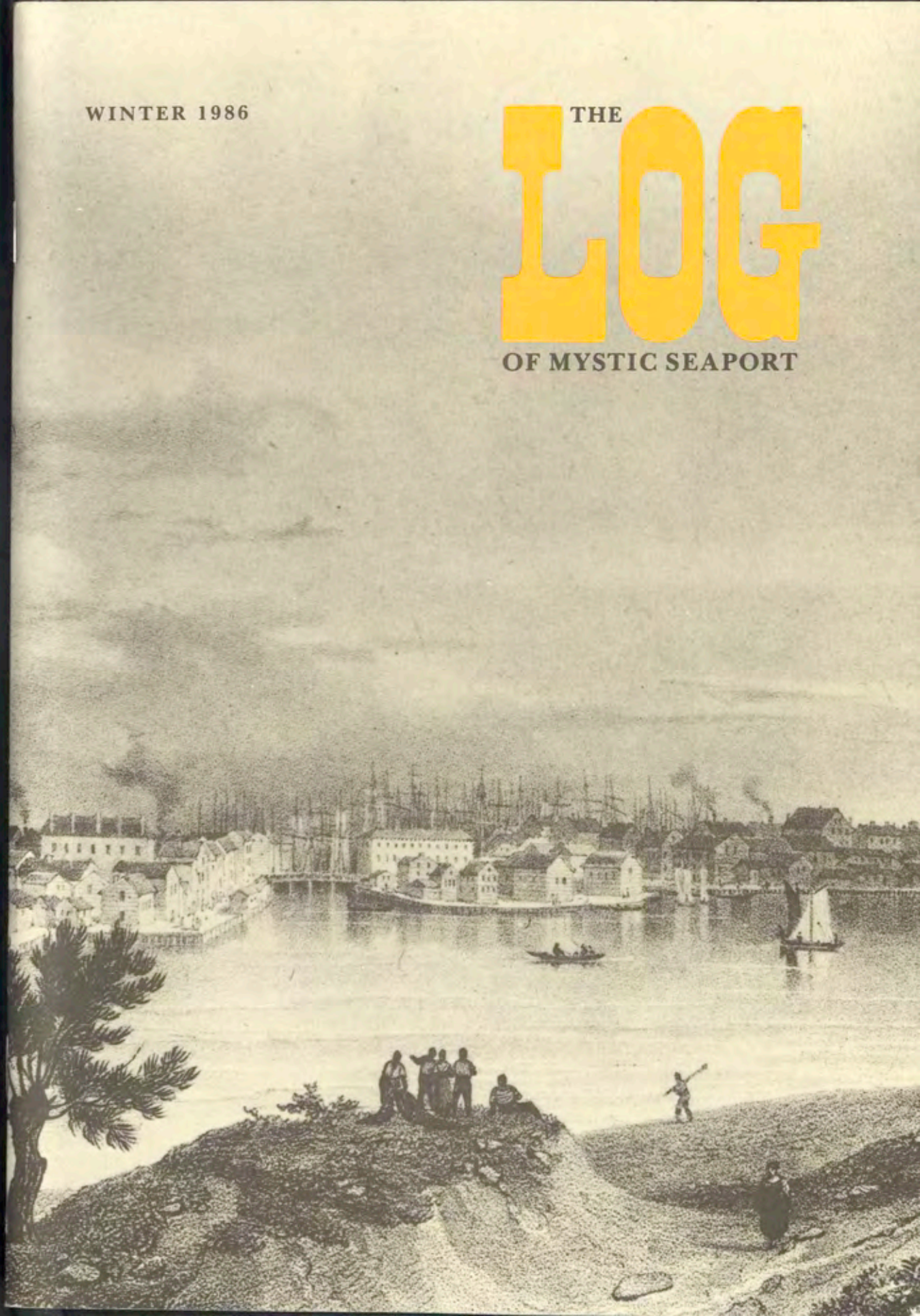
WINTER 1986

THE LOG OF MYSTIC SEAPORT



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FRONT COVER: *Detail of north view of Providence, from Smith's Hill, 1827. Lithograph, from Jacques Gerard Milbert's* Itineraire Pittoresque de Fleuve Hudson et des Parties Laterales [de] l'Amerique du Nord. . . *(Paris, 1828). (Courtesy Rhode Island Historical Society, RHi x3 1460)*

BACK COVER: *During Lantern Light Tours, "Miss Buckingham" may tell of a time when Christmas was not a festive New England holiday. (Photo by Mary Anne Stets)*

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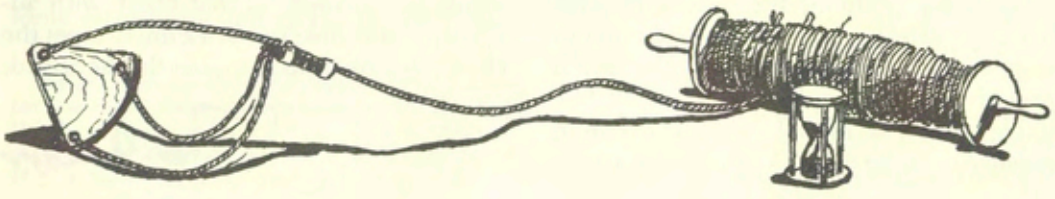
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SIGHTINGS



It is a widely recognized phenomenon that strength is often born out of adversity. It is evident in individuals, groups, and even organizations that have challenged their minds, energies, resources, and courage. It has been seen throughout history: in England as that nation withstood the Blitz, or more recently in Mexico City as people worked together to recover from the earthquake. We've seen it in maritime history when, for example, Captain "Bully" Samuels, despite a broken leg, was able to sail the rudderless clipper *Dreadnought* backwards for hundreds of miles to safety.

For Mystic Seaport our successes are a mixed blessing. Certainly anyone who is close to the Museum knows that these accomplishments have not been achieved without a great deal of hard work and commitment by the staff, trustees, volunteers, and members. However, as we have grown and matured as an organization we have naturally developed departments and divisions with specialized responsibilities. Each of these groups focuses on its area of particular interest, and the field of vision narrows, so a common sense of purpose and effort can become weak.

This fall there was a reassuring moment for many of us. That moment, which was in fact three days long, involved the visit to our area of Hurricane Gloria. As the storm gathered strength and maneuvered into a threatening position, the representatives from the various museum elements met to review the Museum's standard hurricane procedures and begin preparation. The single goal was crystal clear: everything possible must be done to protect the Museum's collections and property. As the pace of preparation increased it became more evident that any isolation between aspects of the Museum had suddenly disappeared and everyone, staff and volunteers, were working feverishly to do their best to insure the survival of the Museum. People who are normally office-bound were out carrying artifacts, or equipment, or files to safety. People whose normal work seldom brings them in contact were working side by side, or more likely at opposite ends of whatever they were carrying.

The most gratifying aspect of the event was yet to come. After the hard work of the storm preparation it would have been logical to assume that it would be difficult to find enough motivated people to get the place put back together. What an incredible, gratifying surprise. On the Saturday morning after the storm the staff turned out in force to recreate what they had dismantled two days before. The motivation then was partially economic, since the Museum was losing tens of thousands of dollars of needed income each day it was closed, but I sense that the greatest impetus was the desire to have the Museum properly prepared for its visitors. This dedication and commitment was reflected time and again that day, and remarkably the Museum was open to visitors on Sunday morning following Friday's storm.

No doubt in the Museum's future there will be many more challenges. They will require the best of our minds, energies, resources, and even courage, but having witnessed what was done surrounding Hurricane Gloria I am greatly encouraged. The storm reminded us all of our common purpose, represented tangibly by the Seaport, and I am confident that the strength of this institution, evident in that brush with adversity, will enable this Museum to meet the challenges and opportunities that lie ahead.

J. Revell Carr

The Impact of Jefferson's Embargo on Coastal Commerce

WILLIAM JEFFREY BOLSTER

Jefferson's embargo struck at the roots of American maritime prosperity. Imposed in late December 1807, it prohibited American vessels from clearing for foreign ports. The embargo thus destroyed the lucrative "neutral trade" that had enriched American merchants and the federal treasury during fourteen years of Anglo-French war between 1793 and 1807. Most maritime historians' treatment of the embargo covers the dramatic losses sustained by merchants with ships in international trade.[1] Surprisingly little has been written on the brisk coastal commerce that flourished in spite of seaport inhabitants' general gloom.[2]

Most of the scrutiny that historians have directed at coasters sailing during the embargo has stemmed from the romantic belief that those vessels were probably smuggling contraband across the nation's northern and southern borders. There was much more, however, to coastwise American maritime activity during the embargo than shady voyages by unscrupulous skippers. Yankee mariners expanded the whole scope of coastal commerce in 1808. They tried new trades and sailed to more ports than ever before. Theirs is a story not just of smuggling, but of surviving through ingenuity and perseverance despite the embargo.

According to the National Archives and Record Service, complete coastwise customs records for the embargo years exist only for the ports of Philadelphia, Baltimore, and Providence.[3] This study is based on the Rhode Island records. From Entries and Clearances, Foreign and Coastwise Manifests, Enrollments, and Registers we can determine how traders, shipowners, and captains in the coastwise business reacted to the embargo's disruption of trade. For instance, did coastwise entries and clearances increase in the absence of international shipping? If so, how did coastwise commerical patterns in 1808, the embargo year, differ from those established by coastal carriers in previous years? What did coastermen haul in 1808? What new routes and trades did they pioneer under the stress of Jefferson's policy?

The answers to such specific questions provide the foundation for a broader view of our nation's domestic commerce in the first decade of the nineteenth century. Economic historians now realize that internal trade played a more important role in the nation's commercial well-being than most men of finance acknowledged at the time. Many of those men, prestigious merchants accustomed to trading with China, Batavia, and Europe, would have essentially agreed with President Jefferson when he wrote in 1808 that coastwise trade "may be of some trifling advantage to individuals . . . but it is not a farthing's benefit to the nation at large . . . ."[4] This paper, among other things, examines whether there is any evidence that overseas merchants turned to domestic trade during the embargo. It first, however, examines legitimate coastal traffic during the fifteen months of the embargo, and suggests that the relative importance of

When ashore Jeff Bolster teaches maritime studies for the Sea Education Association in Woods Hole. Otherwise he sails as Master of the schooners *Westward* and *Te Vega*. A Munson Institute graduate, he has an M.A. in history from Brown University.



Considerable information on early-nineteenth-century shipping is available in newspapers. This heading was used for the shipping column in the *Providence Gazette* during the embargo. (Courtesy Rhode Island Historical Society, RHi x3 458)

smuggling during those months has been somewhat overstated.

Jefferson's restriction of commerce in December 1807 provoked creative resistance. Within three months the *Providence Gazette's* "Port of Providence" column carried the following notice:

> The ship *Polly* of this port, homeward bound from Savannah, having met with very tempestuous weather about the seventh of February last, was reduced to the necesssity of bearing away for the West Indies and is arrived at Antigua in a leaky condition.[5]

No doubt *Polly*'s captain sold his cargo for a handsome return, but no seaman and few landsmen believed his yarn about the necessity of making a thousand mile detour to windward. Likewise, few believed the expressed intention of three captains who each cleared outbound from Providence on a "mackeral fishing party" in 1808.[6] Fishermen never cleared. Those skippers were flagrantly thumbing their noses at the government. But such valiant resistance to the government's commercial embargo was not nearly as widespread as the more prosaic changes that most mariners made in their routine activities.

Men who depended on coastwise shipping for a living exhibited a dogged persistence to make a profit despite the embargo's obstacles. Many coastwise tramps sailed more frequently during the embargo. Many mariners strove to develop new contacts and new trade in more domestic ports than ever before, and after December 1807 they went into marginally profitable businesses such as hauling firewood. A shift in the nature of local maritime enterprise accompanied these shifts in business. Not only did some Yankee skippers return to the smuggling at which their forefathers had been so adept, but voyages in which masters bought a cargo to sell on speculation became more frequent.

The most dramatic effect of the embargo on coastal commerce was the unprecedented increase in coastal arrivals and departures. Within the first six months of the Act's duration coastal voyages to and from the port of Providence doubled from what they had been between January and June of the previous year; within the next six months they doubled again. By the end of 1808 more than twice as many entries and clearances of coastal vessels had been duly logged in Providence than in any year since such records were first kept in 1791 (see Table 1).[7]

TABLE 1

Port of Providence

Coastwise Entries and Clearances

Date	Entries	Clearances
1791	333	306
1801	299	274
1802	263	327
1807	329	386
1808	780	819
1809	542	514
1810	426	394
1813	553	322
1820	359	294

A similar increase in Boston's coastwise traffic during the embargo was noted by historian John D. Forbes.[8] Forbes, however, attributed that substantial increase primarily to vessels bound down east to connect with Passamaquoddy Bay smugglers. Due to his interest in those glamorous clandestine voyages, he neglected many more pro-



The bustling Providence waterfront, on the east side of the river below Plant Street, as depicted on the Providence Marine Society certificate, drawn by T. Young, engraved by William Hamlin, 1798. (Courtesy Rhode Island Historical Society, RHi x3 2308)

saic explanations for increased coastwise traffic.[9]

One obvious factor explaining the soaring number of coastal voyages during the embargo was the overabundant supply of available tonnage. Records in the Providence customhouse for 1808 reveal a 25 percent increase in the number of vessels newly enrolled for the coastal trade. Those ships, normally engaged in foreign commerce, had been brought home by the embargo. Prior to the embargo it certainly was not uncommon for a vessel occasionally to shift between foreign and domestic service. Yankee sloops and schooners could sail with equal facility to the West Indies or to Charleston. In fact, 40 percent of the vessels enrolled in Providence the year before the embargo had been registered for foreign trade at some time previously. But in 1808 that figure rose to 60 percent.[10] Forced to withdraw from the high seas, some owners opted to venture their ships in domestic trade.

New ships, contracted for during the months of substantial commercial profits that preceded the embargo, also swelled the coastwise fleet. Vessels launched in 1808 had a simple choice of enrolling for coastal work or else lying idle, irrespective of the business for which they had been built. Several new vessels were thus added to Providence's coastal fleet, including the splendid 313-ton full-rigger *Howard*. The *Howard* was launched at North Providence just as the embargo took effect, and departed shortly thereafter for Charleston laden with lime.[11]

The addition of deepwater ships to the coastal fleet is not the only explanation for the dramatic increase in the number of coastwise voyages. Under the pressure of rising competition and falling freights, individual ships often made many more trips in 1808 than they had previously, or than they would once the embargo ended. A sample of seven tramps working out of Providence between 1806 and 1810 revealed that six of them sailed more frequently during the embargo. Tramps were vessels that sailed any routes on which a cargo was available. That differentiated them from regular traders, which ran consistently between the same ports and were thus more likely to have established connections for cargo. The tramp schooner *Britannia* more than doubled her usual number of trips to ports on the Connecticut and Hudson Rivers in 1808. And the *Hunter*, under Captain Mooers, began an aggressive and unprecedented series of runs out to Nantucket, each one punctuated by a rather fast turn-around. Within Narragansett Bay itself the sloop *Fame* made seventeen trips between Providence and Newport that year instead of her normal ten.[12] Many mariners thus broke with routine to pursue new business in 1808, despite the fact that it added wear and tear to their

TABLE 2

Regional Distribution of Coastwise Voyages
Originating or Terminating in Providence

	1795		1807		1808		1810	
Region	*In From*	*Out To*	*In From*	*Out To*	*In From*	*Out To*	*In From*	*Out To*
New York City	80	97	165	132	139	137	139	115
Narragansett Bay	58	80	80	111	269	251	118	103
Southern New England	8	27	15	39	167	207	24	29
Mid-Atlantic States	40	58	35	44	66	65	48	55
North Carolina	10	8	15	14	24	27	32	34
Deep South	25	22	20	33	38	39	53	53
Eastern New England	9	14	18	11	101	73	12	8

vessels and kept them away from home longer than usual.

Regular traders plying established routes did not, on the other hand, significantly increase their sailings during the embargo. The same owners sailed the sloop *Juno* between New York and Providence from 1793 to 1820.[13] The *Juno* showed little variation in her annual schedule on account of the embargo. Neither did the sloop *Becca and Betsy*, which for thirty-two years linked Bristol and Warren with Providence. Less affected by the embargo than international merchants and domestic tramp operators, the owners and crews of vessels operating on regular coastal routes managed to hang on to much of their normal trade. An increasing number of marginal competitors scrambled for the shrinking business that remained.

Just as regular traders' business suffered less from the embargo than did that of tramps, larger ports' coastal commerce suffered less interruption than did that of the backwaters.[14] To measure the effect of the embargo on "normal" coastwise trade patterns between Providence and other ports, and to see whether the changes which the embargo wrought persisted after 1809, I analyzed commercial connections between Providence and the regions with which that city traded between 1791 and 1820 (see Table 2).

During the embargo no region of the United States maintained a healthy business climate. Within a week of the embargo announcement, for example, commercial confidence had collapsed in New York City and an acute financial crisis had developed.[15] Rufus King wrote to Massachusetts senator Timothy Pickering on 7 January 1808 commenting on Manhattan's financial plight. "Bankruptcies follow each other daily, and the distrust that exists among men of business will oblige many more to stop payment."[16]

The embargo brought economic stagnation to most smaller east coast towns too, preventing their inhabitants from purchasing goods from the cities. In his magnificent study, *The Browns of Providence Plantations*, Professor Hedges explains how Jefferson's

policy destroyed the domestic markets for cotton yarns that Almy and Brown, a Providence firm, had so carefully developed over fifteen years. In 1808 the proportion of yarn distributed through coastwise connections by Almy and Brown was only 17 percent of what it had been previously.[17] However, despite such gloomy indicators as Almy and Brown's 83 percent drop in business, the national demand for coastal shipping services did not dry up altogether. In fact, some inter-regional coastwise shipping patterns that had developed before the embargo remained relatively normal in 1808.

The maintenance of virtually normal coastwise shipping connections, in spite of the embargo, was most apparent in the trade between Providence and New York. From 1791 to 1807 this route had accounted for one-third of all the coastal vessels' entries and clearances recorded at Providence. Without question, New York City was Providence's most important domestic trading partner. Put another way, Providence was already becoming a commercial satellite of New York. Either way, vessels on that route were nearly always full, and often laden with expensive cargoes. The profitable connections that Brown and Ives, Benjamin and Charles Dyer, Edward Aborn, and other Providence merchants had with their counterparts in New York guaranteed that the choicest imports and the usual assortment of local manufactures and produce would continue to flow between those two cities despite the embargo. Cargo manifests from the sloop *Juno*, and from many other regular traders in 1808, barely reflect the embargo's commercial dislocation. Tea, nankeens, sugar, and other foreign commodities warehoused before the embargo, or occasionally arriving from foreign ports, moved steadily between shippers and consignees in New York and Providence throughout 1808.

Another indication of virtually normal coastwise shipping patterns between those two entrepots during the embargo is provided by the volume of coastal traffic linking them. Despite the overall doubling of coastal arrivals and departures recorded at Providence in 1808, the number of voyages between Providence and New York that year remained constant with the number of voyages recorded in 1806 and 1807.

There was no dramatic commercial disruption during the embargo between Providence and the ports of Charleston and Savannah either. Though the number of trips by coasting vessels sailing between those cities and Providence rose in 1808, it did not double. And the manifests of the ships on those routes reveal a healthy exchange of both foreign and domestic goods. Coastwise traders in major commercial centers like New York, Charleston, and Savannah were able to withstand the embargo's dislocation to some extent because they had well-stocked warehouses, and an established network of domestic commercial connections.

Shipowners and traders in backwater ports, however, had a much tougher time. With the evaporation of markets abroad for American foodstuffs, the tramp sloops and schooners that normally carried flour, cereals, and produce to the seaport cities found themselves without cargoes. Pressed by the failure of conventional trading patterns, skippers and owners of coastal tramps aggressively searched out new opportunities for profitable cargoes in places that previously had been little-frequented. Customhouse records show that between 1791 and 1807 coastal vessels linked Providence with an average of forty-eight different ports per year. But in 1808 coasters entered from or cleared to eighty-one different ports. Unable to break into the relatively stable coastwise shipping network between traders in large cities like New York, Charleston, and Savannah, small-scale operators were forced to pioneer new routes. Thus, while the number of coastwise trips between Providence and New York remained constant in 1808, the number of

trips to and from North Carolina ports, and ports in the Chesapeake and Delaware Bays almost doubled.

It was to ports in New England, however, that Providence-based mariners directed the bulk of their creative energies during the embargo. Whereas the number of trips to the deep south, North Carolina, and the mid-Atlantic region doubled in 1808 from what it had been the previous year, it rose five-fold to eastern New England and seven-fold to southern New England. During the years between 1791 and 1806 southern New England connections had comprised only 7 percent of Providence's coastal trade, as measured by number of voyages. In 1808 that skyrocketed to 23 percent. By 1810 it had returned to the norm of 6 percent. In actual number of voyages this meant that the 54 entries and clearances to southern New England ports in 1807 increased under the embargo to 374 in 1808.

Ties were established with the Connecticut towns of Norwalk, Milford, Fairfield, and Branford, which had rarely before traded with Providence. Coastal connections were also made with six towns on Cape Cod and another half dozen down east, none of which were normally part of Providence's commercial network. Many of those connections were simply opportune stopovers on longer voyages. Vessels en route between Providence and Maine regularly touched at the Cape Cod ports. Likewise Norwalk and Fairfield, Connecticut, were intermediary stops between New York and Providence. An enterprising man like the captain of the sloop *Seabrook* might sell part of his cargo of Hudson valley boards there. During more flush times such trifling stops had been unwarranted.

The embargo had an especially dramatic impact on mariners from such smaller outports as those on Cape Cod. At least nineteen sloops and schooners hailing from Falmouth, Barnstable, Dennis, and Sandwich ran consistently out of Providence in 1808. They brought a sizeable proportion of the boards, joists, shingles, and laths arriving from Maine that year. Only three of them had traded in Providence in 1807, and with the return of more normal conditions in 1810 not a single one arrived there.[18] But the commercial chaos of the embargo months made the larger city especially attractive. Cape Codders who flocked to Providence with humble cargoes of fish, lampblack, oil, and cordwood hoped to assemble valuable cargoes unavailable in their own home ports. These cargoes in turn could be sold in profitable markets down east, from which they would probably be smuggled abroad. As an entrepot of some size, Providence offered not only warehoused imports and local manufactures, but also the goods that hundreds of coasters had brought from other American ports.

Coastal connections with several nearby towns that had long traded infrequently with Providence increased dramatically during the fifteen months of embargo. These links were most significant with Nantucket, New Bedford, and New London; with the Connecticut River ports of Hartford and Middletown; and with Albany and Hudson on the Hudson River. There were thirty-one trips from Providence to New Bedford in 1808 instead of the past average of one or two a year. Likewise, where there usually had been one or two annual departures to Middletown, there were fifteen in 1808.

The shift of business to New England ports brought on by the embargo was accompanied by a shift in the form of basic coastwise business transactions. Mariners in 1808 increasingly reverted to simple trading rather than carrying cargoes for a fee. Ships in the early nineteenth century were either general cargo carriers, which carried

Opposite: The 92-ton brigantine *Abeona* was normally registered for foreign trade, but during the embargo she was insured for a coastwise voyage, 12 April 1808. (Collection 21, G.W. Blunt White Library, Mystic Seaport Museum)

[No. 2394]

WASHINGTON
Insurance Company in Providence.

By this Policy of Assurance, Capt. George Hill —

doth make Assurance, and cause himself to be insured, lost or not lost, arrived or not arrived, the Sum of

Fifteen hundred Dollars on the Brig Aveona, - Coastwise in the old United States excluding New Orleans, for and during the Term of three Months in Port and out of Port, going & returning, the risk to Commence on this 12th Day of April 1808. and to Terminate on the 11th Day of July next both Days inclusive —

Vessel valued at Dols. 3000.

whereof is Master, for this present Voyage, Geo. Hill — or whoever else shall go for Master in the said Vessel, or by whatever other Name or Names the said Vessel or Master is or shall be named or called, beginning the Adventure upon the said Brig on the 12th Day of April 1808 — as aforesaid, and to continue ~~during said Voyage aforesaid, and said Vessel shall be arrived and moored at Anchor Twenty-four Hours in Safety;~~ until the 11th Day of July 1808 inclusive

And in Cases of Extremity and Distress, it shall be lawful for the said Vessel, &c. in this Voyage, to proceed to, and touch at, any Ports or Places whatever, without Prejudice to this Insurance: And the WASHINGTON INSURANCE COMPANY IN PROVIDENCE agree to bear and take upon them, in this Voyage, the Danger of the *Seas, of Fire, Enemies, Pirates, assailing Thieves, Restraints and Detainments of all Kings, Princes or People, of what Nation or Quality soever; Barratry of the Master,* (unless the Assured be Owner of the Vessel) *and of the Mariners;* and all other Losses and Misfortunes that have or shall come to the Damage of said Brig or any Part thereof, to which Assurers are liable. And in case of any Loss or Misfortune, it shall be lawful for the Assured, — his — Factors, Servants and Assigns, to sue, labour and travel for, in and about the Defence, Safeguard and Recovery, of said Brig — or any Part thereof, without Prejudice to this Insurance; to the Charges whereof, the WASHINGTON INSURANCE COMPANY IN PROVIDENCE will contribute, according to the Sum herein assured. But in case of any average Loss, not exceeding *Ten per Cent.* the WASHINGTON INSURANCE COMPANY IN PROVIDENCE, by Agreement with the Assured, are not to pay any thing towards such Loss: And in case of Loss exceeding *Ten per Cent.* the Money to be paid in Ninety Days after Proof of the same (the Premium Note, if unpaid, and all Monies due the Company from the Assured, being first deducted;) the Consideration for this Insurance having been paid to the President, in Behalf of said Company, by the Assured, at and after the Rate of

Sixty seven & a half Dollars for the Term of three Months as aforesaid.

Amo. of Prem. Dols. 67-50

And in case of Loss, the Assured is to abate *Under per Cent.* PROVIDED ALWAYS, AND IT IS HEREBY FURTHER AGREED, That if the said Assured shall have made any other Insurance upon the Premises aforesaid, prior in Date to this Policy, then the said WASHINGTON INSURANCE COMPANY IN PROVIDENCE shall be answerable only for so much as the Amount of such prior Insurance may be deficient towards fully covering the Premises hereby assured; and the said WASHINGTON INSURANCE COMPANY IN PROVIDENCE shall return the Premium upon so much of the Sum by them assured, as they shall be by such prior Insurance exonerated from. *But in all Cases of Return of Premium, One Half per Cent. upon the Sum assured is to be retained by the Company:* And that in case of any Insurance upon the said Premises subsequent in Date to this Policy, the said WASHINGTON INSURANCE COMPANY IN PROVIDENCE shall nevertheless be answerable for the full Amount of the Sum by them subscribed hereto, without Right to claim Contribution from such subsequent Assurers; and shall accordingly be entitled to retain the Premium by them received, in the same Manner as if no such subsequent Insurance had been made. *And the Assured in this Policy also expressly agrees, and the* WASHINGTON INSURANCE COMPANY IN PROVIDENCE, *by their President, undertake, that the joint Stock and Property of the said Company shall alone be responsible for any Loss that may accrue upon this Policy; and the Assured, by accepting of the Signature of the President, gives Credit thereby only to the said Stock, and disavows having Recourse to the Person or separate Property of any Member of the Company; and all Suits to be brought (if any there shall be) shall be brought against the President, who shall subscribe this Policy, or his Successor in Office, for the Time being; and all Recoveries had thereon shall be conclusive upon the Company, so far as to render the Company's Property liable, and no further.* IT IS FURTHER AGREED, That if any Dispute shall arise on this Policy, the Matter in Controversy shall be decided by Referees, to be chosen by the Parties.

Bread, Grain of all Kinds, Flaxseed, Fish, Salt, Hemp, Hides, Skins, Fruit, Hams, Cheese, Roots, and such Goods as are esteemed perishable, are warranted free from Average, unless a general one, or the Vessel be stranded.

IN WITNESS WHEREOF, the President of said WASHINGTON INSURANCE COMPANY IN PROVIDENCE hath hereunto subscribed his Name, and the Sum assured, and caused the same to be countersigned by the Secretary of said Company, at *Providence*, in the State of *Rhode-Island*, the 12 Day of April — in the Year of our Lord 1808.

N. B. It is understood that this Policy does not cover against illicit or contraband Trade.

Geo Barnes Secy. $1500. Fifteen hundred Dollars.

shippers' goods for the freight revenues, or trading ships owned by merchants primarily to carry their own cargo. According to John G. B. Hutchins, the trading function probably predominated in American shipping until about 1830.[19] The frustration and inefficiency of that old style of trading is reflected in Captain Bateman Munro's logbook. His sloop *Zoar* had been sixteen days underway from Bristol, Rhode Island, to Charleston, only to spend three and a half weeks in port selling its cargo.

Mon 16 August, 1802
at 11 brock [broke] bulk & begun to Sell
Tues 17 August, 1802
Rain at 4 P.M. Shut up hatches with a Dull Market
Thurs 19 August, 1802
Employed . . . overhauling & picking out Rotton potatoes & onions[20]

Despite Hutchins's claim that trading voyages predominated in American shipping until about 1830, cargo manifests filed in Providence indicate that a significant percentage of preembargo coastal voyages were not trading ventures like the *Zoar*'s. Instead, cargoes were specifically consigned to someone in the port of destination. The master and shipowner thus neither owned nor acted as agent for their cargo. This not only prevented vessels like the *Zoar* from lying idle, but it guaranteed a freight. The embargo's uncertainty, however, forced traders and mariners in the coastwise business to speculate on an unprecedented scale. The result was a dramatic increase in the number of cargoes either purchased by the master or, as the manifests proclaimed, "consigned to the Master on board." The search for any profitable opportunity, no matter how marginal, led the industry to revert to the primitive business practices that had been slowly disappearing.

Though profits were not guaranteed on trading voyages within the New England region, risks were minimized with inexpensive cargoes on short hauls. The same items often moved back and forth between towns. Wool, lime, and nails, for example, all were shipped from Providence to Nantucket and New Bedford in 1808, and in the reverse direction as well.[21] This type of traffic reflects the desperation of beleaguered entrepreneurs. With freights depressed and cargoes scarce, and with no guaranteed markets, mariners felt compelled to sail more frequently than they ever had before.

It is important to note that even though the volume of coastal traffic soared during the embargo, its commercial value did not rise correspondingly. Rare among hundreds of clearances was a ship sailing to Savannah with a cargo valued at $12,000.[22] More common was the embargo cargo from East Greenwich aboard the *Nancy and Polly:* 5 empty casks, 2 bags of bags, 1 hogshead of molasses, 1 bale of dry goods, 4 tons of ballast. Many of the coastal voyages in 1808 were make-do affairs at best.

Coastal trading shipowners and captains searching for profits not only dispatched their vessels to previously unfrequented ports during the embargo, but they entered new trades as well. The most significant new trades entered by Rhode Island coastermen were those in cordwood and building materials. Up until the year of the embargo very little firewood arrived in Providence by boat. In 1807 for example, all the coasters hauling firewood brought a total of only thirteen cords. Teamsters normally hauled fuel for both domestic use and the distilleries. But with the paucity of freights available during the embargo hauling cordwood became appealing, and hundreds of cords began to arrive from Sag Harbor, from Troy (now Fall River), from New Bedford, and especially from Cape Cod. Hauling firewood paid very little: the sloop *Pelican's* eighteen cords were appraised at only forty dollars. The freight profits were thus abysmally low, depressed by the state of the economy in general, and by the new competition between teamsters and mariners.

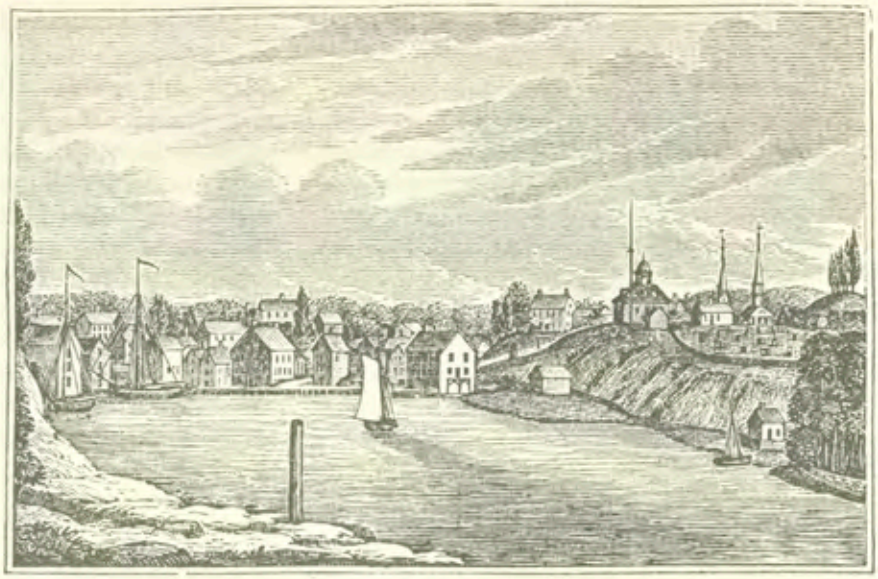
Much more significant than the new

cordwood trade in terms of profit and the number of vessels engaged was the trade in building materials. An unprecedented volume of lumber and bricks moved into Providence during the embargo, foreshadowing the mid-century decades when two of the American coastal schooners' most important cargoes were lumber and building stone.[23] That mid-century boom lasted for years, a result of America's swelling population and the demand it created for housing, public buildings, and factories. But the boom in 1808 and 1809 had no such profound roots.

The brick business was a local Narragansett Bay enterprise coincidentally just beginning to grow as the embargo began. The new freight trade in bricks was similar to that in cordwood. In 1807 no bricks at all had arrived in Providence by ship. By 1808 hundreds of thousands arrived from Taunton, with lesser shipments from Dighton and East Greenwich. Though local, and not terribly profitable, the transportation of bricks kept small Rhode Island coasters working during the embargo. Like cordwood freighting, it was a legal alternative to laying up.

The coastwise delivery of timber into Providence in 1808 was a legal venture too. But as that timber trade was so integrally associated with clandestine commerce along the Maine border, one cannot be examined without the other. Timber in various forms had long arrived in Providence by ship, mostly from North Carolina and the Connecticut and Hudson River valleys.[24] Seamen did not consider it worth the risk to round Cape Cod and tempt Maine's thick fog and racing tides for a low-value bulk cargo like wood. In 1807 only one vessel arrived in Providence from the entire coast of Maine. But in 1808 over ninety ships entered from Maine, mostly laden with timber.[25] The profits from that trade were by no means substantial. When the brig *Matilda* arrived from Machias her entire cargo of boards and shingles was worth only $569. Such profits on the return trip to Providence, however, provided only a small part of the attraction that Maine's coast then held. A ship arriving down east with foodstuffs during the embargo found a ready market, for American provisions could ultimately be smuggled quite profitably into New Brunswick. From there they

Norwalk, Connecticut, one of the small ports frequented by Providence vessels during the embargo. Drawn by John Warner Barber and published in his *Connecticut Historical Collections* (New Haven, 1838).



were shipped to the European and West Indian markets, which still depended on them. Never before had the sparsely-populated eastern Maine ports received such a bountiful supply of the necessities of life.[26]

Few vessels sailing out of Providence during the embargo were directly involved in smuggling themselves. Not one cleared for Saint Mary's, Georgia, the southern smuggling entrepot from which American goods were slipped into Spanish Florida. And only four clearances and four entries in all fifteen months of the embargo linked Providence with Eastport and Passamaquoddy, the smuggling havens along the Maine-New Brunswick border. Instead of trading there, Providence ships frequented a dozen Maine ports further to the west. Bath was the most important of these. It accounted for 90 percent of Providence's entrances from Maine in 1808, and over 60 percent of her clearances to that coast. Bath was a prominent timber port for much of the century, and in 1808-09 it became a staging center for smuggling as well.

The southern New England men preferred to let Maine coast locals actually run the risk of crossing Passamaquoddy Bay with contraband. Establishing the requisite network of contacts in New Brunswick was a local enterprise, and only local seamen had the detailed knowledge of Quoddy Bay's quirky tides and rock bound coast essential for success. Consequently, Rhode Islanders remained peripheral to the outright lawbreaking, and the bulk of their Maine coast transactions were recorded in the customhouse. Bound by their surety bonds to discharge their cargo in an American port, they did so at Bath, Biddeford, Hallowell, and Castine—far from New Brunswick—and invested in the profits to purchase timber for the trip home.

Not all of the Maine trade was tainted by illegitimate ends. A precedent had existed for ships to sail occasionally from Bath to Providence with timber. And some vessels bound down east during the embargo carried goods that were much more likely to be used in Maine communities than smuggled abroad.

Much of the Maine trade originating in Providence in 1808, however, had its darker side. When the brig *Hunter* sailed for Scarborough with flour, pork, molasses, coffee, sugar, and rye, all consigned to the master, Collector Olney in Providence had cause to suspect the cargo's final destination. Consignment of provisions "to the Master on board" did not necessarily mean those provisions were destined to become contraband, but it certainly implied the possibility. Skippers bound down east with cargoes in demand abroad wanted the flexibility to peddle them as opportunities presented.

Coastwise shipping during the embargo provided innumerable opportunities and temptations to those who would defy the law. But the over-romanticization of smuggling in much of the literature concerning the embargo tends to obscure the legal trade that persisted despite the obstacles thrown in its way by the Jefferson Administration.[27] It is true that more ships worked between Providence and Maine in 1808 than ever before, and that cargoes bound for Maine were likely to become contraband, but the entire Maine connection only comprised 10 percent of Providence's coastal entries and clearances in 1808. The bulk of the mushrooming coastal trade flowed in legal channels.

At least one historian has claimed that the embargo's encouragement of illegal trade centered in Boston was typical of American commerce in 1808. According to John D. Forbes, legitimate commerce nearly ceased altogether in Boston in 1808. A lively illicit trade grew up in its stead.[28] But there are a number of problems with using Massachusetts's embargo history as a model for the rest of the nation. To begin with, Boston was geographically much closer to Maine's many-fingered coast than were southern New England or mid-Atlantic ports. Proximity encouraged

smuggling between Boston and ports in Maine.

Another problem with using Boston and its extensive smuggling as a model for other American ports during the embargo is the record of then Massachusetts Governor James Sullivan. Of all the governors authorized by President Jefferson to issue warrants to merchants for the importation of necessary supplies in coastal ships, only Sullivan seemed unable to refuse any request.[29] Secretary of the Treasury Albert Gallatin wrote to the President on 16 September 1808.

> Dear Sir.
>
> I am again compelled to address you on the subject of Governor Sullivan's certificates, which he continues, as I am informed from several quarters, pertinaciously to issue. . . . Of the effect I can speak with certainty. Those permissions . . . materially interfere with the execution of the embargo laws. . . . The provisions imported into Massachusetts in large quantities are intended for exportation and are the foundation of the violations of the embargo there.[30]

Smuggling out of the port of Boston was thus virtually encouraged at the highest levels of state government for much of the embargo. Massachusetts geography and politics combined to make Boston's coastal commerce during the embargo, with its emphasis on smuggling, rather atypical. The coastal traders in Providence who reacted to the embargo by expanding into new legal routes and trades, as well as smuggling, are more representative of domestic American shipping in 1808.

Up to now we have seen how coastwise ship operators reacted, both legally and illegally, during Jefferson's embargo. What role in coastwise trade, however, was played in 1808 by men who had been accustomed to trading abroad?

Prestigious merchants involved in foreign trade reacted to the embargo in varying ways. Some turned to industry. Brown and Ives, one of Providence's most established mercantile firms, wrote in 1808 that "the increasing embarrasments attending Commerce" were their "only motive for taking an Interest in this New [cotton spinning] Establishment."[31] Other merchants, such as Bostonian P. T. Jackson, turned to coastwise commerce. Jackson began to speculate in commodities such as rum and brandy, shipping them to markets in Philadelphia and New York.[32] As Kenneth W. Porter notes in *The Jacksons and the Lees,* "The more able merchants, such as Jackson, did not allow the embargo to force them into inactivity, or even to change entirely their previous business interests."[33] It was probably atypical, however, when P. T. Jackson shifted from Calcutta trade to peddling spirits in New York, or when Henry Lee shifted from trading with merchants in European ports to trading with men in New Orleans.[34]

According to the Providence customhouse records, there was no noticeable shift to coastal trade during the embargo by men accustomed to international commerce. At least eighty-eight Providence merchants were actively involved in foreign trade in 1806-07. They can be identified in the Inward Cargo Manifests for foreign trade from those years. Shipowners and shippers, they dispatched vessels and cargoes to all parts of the world. In 1806-07 twenty-nine of those eighty-eight overseas merchants were simultaneously shipping some goods coastwise. In 1808, however, when coastal shipping was the sole avenue for maritime trade, only twenty-four of those eighty-eight merchants were involved in domestic commerce. Although seven men whose business ventures in 1806 had been strictly international did turn to domestic shipping under the duress of the embargo, none did so on a large scale. In Providence at least, there was no substantial shift by international merchants to domestic trade in 1808.

In 1808, as in 1806, a significant distinction remained between merchants who primarily engaged in international commerce and those men often referred to as traders,

who primarily carried on domestic trade. The former still regarded the bulk of local voyages as beneath their station in life. On the whole, it was traders and mariners who boosted the volume of coastal traffic during the embargo, not merchants who had recently done business in European or Batavian ports. Most of those merchants still refused to try to make a profit with ventures such as hauling nails from New Bedford to Providence. They did not yet perceive domestic trade as especially advantageous.

Was Jefferson correct then when he wrote in 1808 that coastwise trade "may be of some trifling advantage to individuals . . . but it is not a farthing's benefit to the nation at large"?[35] According to John G. B. Hutchins, until about 1820 the bulk of the nation's tonnage was engaged in foreign trade, with coasting remaining incidental to that business.[36] Hutchins's model, and work done by Edward Kirkland and Guy S. Callendar, suggests that not until domestic industry became increasingly complex, and the cultivation of cotton and other agricultural staples intensified, did America depend on efficient internal transportation.[37] The inference is that coastwise transportation played a secondary role to overseas trade in the early-nineteenth century. Though undoubtedly accurate in terms of gross national economic growth, this view fails to acknowledge the importance of coastal shipping to many individuals and lesser ports in the first decade of the nineteenth century.

Several times as many Providence men were involved in coastal commerce in 1806-07 as were involved in international trade.[38] Nor were coastal traders all men of lesser means. Benjamin and Charles Dyer were prominent citizens. Though a clearance for Boston was not likely to be as romantic or as profitable as one for Batavia, and although on the balance sheet Sag Harbor cordwood compared poorly with Cap-Haitien logwood, it is obvious that even in 1806 coastal commerce provided a livelihood for many of the nation's mariners and traders. Its importance for individuals and for waterfront communities in the early-nineteenth century heretofore has been understated.

Throughout the decade following repeal of the embargo in 1809, annual coastal arrivals and departures at Providence remained more numerous than in the period 1791-1807. This may have been a result of the commercial confusion stemming from the Non-Intercourse Acts and the War of 1812. Or the persistence of more numerous annual coastal sailings may be a reflection that coastal traders and captains maintained the patterns of legal domestic trade that they had established during the embargo.

The embargo devastated American commerce. But it did not cause the entire fleet to lay up. Instead it spurred coastwise navi-



Though built in 1811, the 170-ton ship *Rising States* of Providence is representative of the vessels forced to shift from international to coastal trade during the embargo. Drawn by Charles Simmons, 1812. (Courtesy Rhode Island Historical Society, RHi x3 1011)

gation to an unprecedented level of activity, the bulk of which was untainted by clandestine ends. The embargo did not lead many overseas merchants to shift to domestic trade. Not until the next generation would such men perceive the value of prosaic coasting voyages. But the embargo did reveal the determination of New England mariners to get ahead in the world despite all obstacles. Captain George Munro's log from 1808 expresses the core of that Yankee creed. "May God grant us a Safe & Speadey Voyage, & a profitable one also."[39]

NOTES

[1]Samuel Eliot Morison, *The Maritime History of Massachusetts* (Boston: Houghton Mifflin Company, 1961), pp. 187-93; Robert G. Albion, William A. Baker, and Benjamin W. Labaree, *New England and the Sea* (Middletown: Wesleyan University Press, 1972), pp. 76-81; Robert Albion and Jennie Pope, *Sea Lanes in Wartime*, 2nd. ed. (New York: Archon Books, 1968), pp. 95-103.

[2]Israel Ira Rubin, "New York State and the Long Embargo" (PhD. diss., New York University, 1961); John D. Forbes "The Port of Boston, 1783-1815" (PhD. diss., Harvard University, 1936).

[3]Forrest Holdcamper, "Preliminary Inventory of the Records of the Bureau of Customs" (Washington, D.C.: General Services Administration, National Archives and Record Service, December 1968.)

[4]Jefferson to Albert Gallatin, 6 May 1808, quoted in Louis Martin Sears, *Jefferson and the Embargo* (New York: Octagon Books, 1966), pp. 75-76.

[5]*Providence Gazette*, 26 March 1808, p. 3.

[6]United States Customs Records for Providence, Rhode Island, Entries and Clearances, 1808, MSS. 28., Manuscript Collection, Rhode Island Historical Society, Providence. All citations to customs records hereafter noted are to this collection. All figures and statistics in this paper, unless otherwise noted, were derived from these records.

[7]Customs Records. Entries and Clearances, 1791-1808.

[8]Forbes, "Port of Boston," p. 40. His figures were compiled from newspapers instead of customs records. He specifically noted that coastwise arrivals in Boston more than doubled in 1808, while coastwise departures nearly doubled.

[9]*Ibid.*, pp. 79-94.

[10]Customs Records, Enrollments of Vessels in the Coasting Trade, 1808.

[11]*Ibid.*; see also *Providence Gazette*, 16 January 1808, p. 3.

[12]Customs Records, Entries and Clearances, 1806-10.

[13]*Ship Registers and Enrollments of Providence, Rhode Island, 1773-1939* (Providence: National Archives Project, 1941), p. 614.

[14]Morison, *Maritime History of Massachusetts*, p. 191.

[15]Rubin, "New York and the Embargo," p. 251.

[16]*Ibid.*, p. 146.

[17]James B. Hedges, *The Browns of Providence Plantations, The Nineteenth Century* (Providence: Brown University Press, 1968), pp. 169-70.

[18]Customs Records, Entries and Clearances, 1807, 1808, 1810.

[19]John G. B. Hutchins, *The American Maritime Industries and Public Policy*, Harvard Economic Series, Vol. 71 (1941; reissued New York: Russell & Russell, 1968), p. 239.

[20]Logbook of Captain Bateman Munro, sloop *Zoar*, 1802. Rhode Island Historical Society.

[21]Customs Records, Inbound and Outbound Coastal Manifests, 1808.

[22]Customs Records, Outbound Coastal Manifests, 1808. During the embargo coasters' cargoes were appraised by the customs service because the shipowner had to post a surety bond of twice the value of the ship and cargo, guaranteeing that he would land the cargo in an American port. It was returned when he produced proof that he had done so.

[23]Albion et al., *New England and the Sea*, pp. 132-35. Charles S. Morgan, "The New England Coasting Schooners," in *Workaday Schooners*, ed. Edward W. Smith, Jr. (Camden: International Marine Publishing Company, 1975), pp. 156-73.

[24]Customs Records, Inbound Coastal Manifests, 1791-1807.

[25]*Ibid.*; Entries and Clearances, 1807-08; Inbound Coastal Manifests, 1808.

[26]Albion and Pope, *Sea Lanes in Wartime*, pp. 100-101.

[27]Samuel W. Bryant, *The Sea and the States* (New York: Thomas Y. Crowell Company, 1947), p. 155. See also Forbes and Rubin. Rubin's dissertation, in explaining the failure of the government to enforce the embargo, dwells on smuggling.

[28]Forbes, "Port of Boston," p. 30.

[29]Sears, *Jefferson and the Embargo*, p. 80.

[30]Gallatin to Jefferson, 16 September 1808, *Ibid.*, p. 87.

[31]Hedges, *Browns of Providence*, p. 175.

[32]Kenneth Wiggens Porter, *The Jacksons and the Lees*, 2 vols. (Cambridge, Massachusetts: Harvard University Press, 1937), 1: 629.

[33]*Ibid.*, 1: 633.

[34]*Ibid.*, 1: 629, 2: 841.

[35]Jefferson to Gallatin, 6 May 1808, quoted in Sears, *Jefferson and the Embargo*, pp. 75-76.

[36]Hutchins, *American Maritime Industries*, pp. 223, 229.

[37]Edward C. Kirkland, *A History of American Economic Life* (New York: F. S. Crofts and Company, 1932), pp. 256-64; Guy Stevens Callender, *Selections From the Economic History of the United States* (New York: Augustus M. Kelly, 1965), pp. 6-9.

[38]Customs Records, Inward Foreign Manifests, Inward Coastal Manifests, 1806-07.

[39]Logbook of Captain George Munro, sloop *Lilly*, 17 March 1808. Rhode Island Historical Society.

Colonial Wharf Construction: Uncovering the Untold Past

ANDREA J. HEINTZELMAN

Each year, new construction in urban areas threatens to destroy for all time the remains of the earliest American wharves, now buried under landfill along old riverbanks, harbors, and shorelines. Other than from early paintings or drawings, they can only be learned about through records left by colonial builders, or studied and documented as they are discovered—before they are completely eradicated by the bulldozer.

Early in 1981 the author directed an archeological excavation of the New London, Connecticut, historical waterfront as part of an environmental impact study undertaken prior to the up-grading of the Amtrak northeast corridor.[1] After nearly ten months of continuous excavations, a wharf was uncovered in January, with temperatures in the low 'teens, the ground and water at the site beginning to freeze, and contract money running out. The way the wharf was fastened together, and the date of the artifacts found inside the structure, suggested an early construction date. It was imperative to learn what had been written about colonial wharves while the site remained open, to help verify its age. Inquiries at numerous maritime museums brought forth nothing more in print than one pamphlet written in 1941[2] and two project reports on the 1973 and 1979 excavations at Central Wharf in Salem.[3]

Research undertaken since the New London wharf discovery verifies that "blueprints" of these uniquely engineered structures do not exist. Extant data are scattered throughout the United States in the form of field notes, site files, project reports, and a few photographs—usually located in little-known laboratories, offices of contracting agencies, private files of local historians, or in collections of a few historical societies, museums, and libraries. Some private papers of shipping companies or merchants contain information on the building and/or repair of their wharves, but rarely have the papers been indexed to identify that topic. Nevertheless, the search for documentation of early wharf technology is essential.

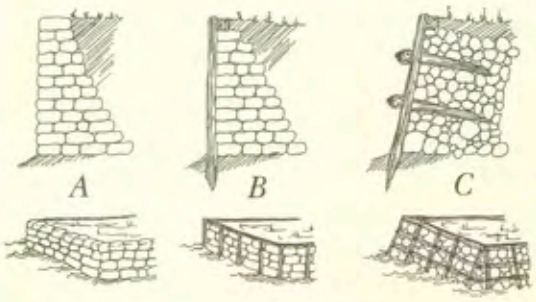
Landing places for immigrants grew into harbors and ports because of strategic location close to existing and developing commercial trade networks. Wharves were built to accommodate the increased volume of traffic in goods and people as coastal towns prospered. Thus, information about early wharf technology should interest not only engineers and archeologists, but also architectural and maritime historians, preservationists, and demographers.

Wharf design and composition was related to the socio-economic conditions of the individual wharf owner and of the community; the port's pursuit of commercial trade in certain goods; availability of raw materials; and the environment at the time the wharf was built. For practical purposes, however, colonial wharves can be generally classified as either stone or timber structures.

Stone Wharves

Three types of stone wharf construction are known to have been used in colonial

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Three types of stone wharves indentified in the land records of the South Bristol County District, New Bedford, Massachusetts, have stone containment walls and earthen fill. Type *A*, dressed or semi-dressed plain stone (Book 1: 6, 1878); Type *B*, dressed or semi-dressed stone with oak cap and fender piles; and Type *C*, undressed stone with cap and piles, using transverse fenders and bolted oak/spruce drifts for stability (Book 1: 100, 1894). (Redrawn by the author from illustrations by Stuart M. Frank)

times. Probably the earliest, and that requiring the least skillful stonework, had a containment wall of undressed stone with wooden caplog and piles, often with transverse fenders and bolted drifts for stability. Somewhat more complex was a stone containment wall with caplog and fender piles. With fewer timber supports than the previous structure, this wall required careful stonework to make it nearly self-supporting. The purest stone wharf type was built entirely of stone. It had no timber reinforcement and required expert stonemasonry and a ready supply of stone.[4]

A portion of Derby Wharf in Salem, Massachusetts, from the mid- to late-eighteenth century was built with undressed stone. In New London, the undressed stone walls of a wharf dating from the mid-1700's were later used as foundations for Samuel and Carlos Barry's mid-nineteenth-century sail loft.[5] In both instances, the stones were dry-laid, with remaining chinks and cracks filled in with smaller rocks.

Another portion of Derby Wharf from the late 1700s is an example of the stone wall with cap and fender piles. We have no extant example of the stone wharf with cap, piles, transverse fenders, and drifts. Any of these variations could be built using undressed, semi-dressed, or dressed stone.[6]

A wharf type of mixed construction had facing walls of stone laid on a timber raft. Once the structure was floated into position, it was sunk with various fill materials.[7]



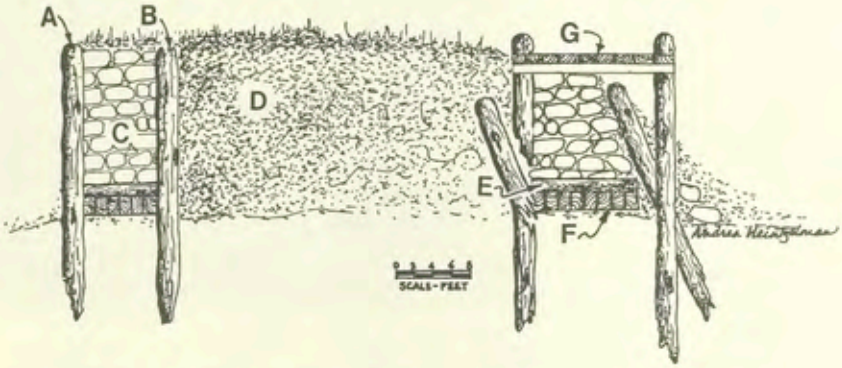
Exposed to the wave action of tides and storms, this east-side jog in Derby Wharf, Salem, has survived since the eighteenth century without a wooden cap sill. (Photo courtesy Salem Maritime National Historic Site, National Park Service, Salem, Massachusetts, Neg. #14B-196)



A section of Derby Wharf depicting semi-dressed stone containment wall with oak cap and fender piles. (Photo courtesy Salem Maritime National Historic Site, National Park Service, Salem, Massachusetts, Neg. #14B-213)



Cross-section of a cobb wharf illustrating two separate openwork cribs formed by *A*, headers and *B*, stretchers, filled with *C*, cobblestones. These cribs, in turn, are positioned a convenient distance apart to act as retaining walls for the confinement of *D*, earthen fill between them. (Redrawn by the author from Lykes's illustration in Small's *Early Wharf Building*)



A wharf with *A*, fender piles outside, *B*, guide piles inside, and *C*, a stone facing wall in between. *D*, earthen fill was used between the rafts to make up the entire wharf. Each raft was built of *E*, 8-inch-round timbers fastened by oak pins to *F*, 14-to-16-inch-square timbers below. Occasionally a wall became dislocated, necessitating *G*, a platform to be built over the ruined section. (Redrawn by the author from Lykes's illustration in Small's *Early Wharf Building*)

Timber Wharves

A timber wharf commonly found along the New England littoral is the "crib" wharf. Either rough or square-hewn timbers were laid in alternating rows of "headers" (length-running timbers) and "stretchers" (width-spanning timbers) to construct a solid cribwork. Most often, a floor was built near the bottom to support the fill. The principle of the crib wharf is many centuries old. During excavation at the Custom House Site in London, England, in 1973, a crib wharf dating from the second century was discovered.[8] A similar style of construction, dating from the eighteenth century, was uncovered at the Charlestown Navy Yard archeological excavation in Boston, Massachusetts.[9]

The "cobb" wharf was an openwork version of the crib, using cobblestones to fill up and sink the timber crib. Other materials such as ballast rock discarded by trade vessels, brush, and tree stumps were also used as fill. If the cribwork was "solid," or closed, leaving no space between alternating rows of headers and stretchers, a finer fill such as mud, sand, earth, and general refuse was most often used. Cobbles and ballast stones,

however, were sometimes used in the solid crib-type wharf.

In the past five years, two wharves—one in New London, Connecticut, and the other in lower Manhattan, New York—have been unearthed during urban construction projects, adding to the growing body of information on wharf-building technology. In addition, building instructions for two wharves in New Haven, Connecticut, have been found, providing insight into building techniques proposed for colonial-period wharves.

Douglass Wharf

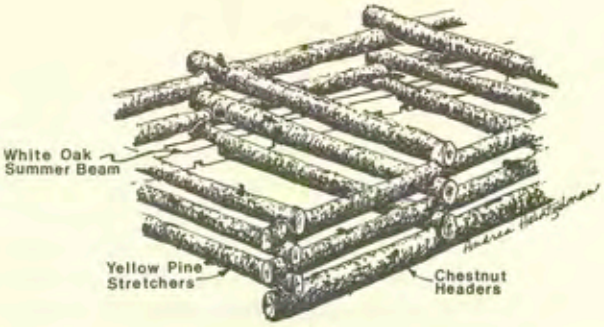
New London, Connecticut, located near the mouth of the Thames River just three miles inland from Long Island Sound, was first settled in 1645. Its location made it important as an entrepot serving inland towns.

Until 1710, docking facilities in New London for loading and unloading trade vessels remained simple. Wharves were not necessary, since the water was from ten to fifteen feet deep at the shore. Lighters or shallops may have been used to transport goods to and from ships remaining at anchor in the harbor when the waterfront was too crowded for them to berth alongshore. Thereafter, New London merchants doing business along Bank Street (laid out between the first houses and the bank that dropped to the sandy shore of the Thames River) found it advantageous to build wharves to serve their own vessels as well as visiting ships. New London land records and a historical account indicate that by 1724 at least five wharves were situated along the Bank Street waterfront.[10]

In 1712 Richard Douglass a cooper, purchased a three-rod-wide lot extending uniformly from Bank Street down to the water's edge.[11] By 1720 Douglass had a shop on the property, probably his cooperage.[12] Although a wharf is not mentioned in the earliest deeds, it is reasonable to speculate that Douglass erected a wharf on his property to better serve the vessels frequenting the port and his business. It existed by 1760, when Richard's grandson Jonathan, also a cooper, got "the wharf and building thereon" from his father William.[13]



Douglass Wharf in New London as it looked at completion of excavation. (Photo courtesy Deleuw, Cather/Parsons, Washington, D. C.)



This conceptual drawing suggests how the Douglass Wharf may have been constructed. (Drawn by the author)

During archeological excavation in 1981, the Douglass Wharf was found 200 feet inland of the present shoreline of the Thames River, seven feet below the existing ground surface. It had been situated at the end of a narrow street leading from Bank Street to the water's edge.[14] Studies of early waterfront developments show that with few ex-

ceptions wharves were located at the end of streets or roads for public access and to facilitate loading and off-loading of goods, produce, and passengers. When shorelines were extended farther into the water, the wharves were usually covered over to extend the new street addition.

When the Douglass Wharf had been completely exposed, an early date of construction was obvious. Not only was it fastened with treenails, but seventeenth- and eighteenth-century diagnostic artifactual material was found among the rough timbers used in its construction. Some of the items retrieved included fragments of early tin-enameled ware such as delft and faience, and eighteenth-century case-bottle bases and lips. No artifact had a cross-over date into the 1800s.[15]

Only the bottom two levels of timbers of the wharf remained. However, significant elements of its design were learned: it was just over twenty feet wide, and was of cobb-type (open log-work) construction. No platform or floor remained apparent, although one may have deteriorated over time. It had no vertical "spiles" or supporting timbers to help hold it in place or in alignment.

Fill inside the wharf consisted of large cobbles, ballast rock, branches, and stumps of wood. Some of the stumps showed evidence of burning.[16] The domestic refuse found inside the wharf may easily have been dropped on the surface and then worked its way down into the interior, becoming lodged between the rocks and cobbles. It may also have been washed in by the nearly two-knot current of the Thames River as it passed through the log timbers. It seems clear that the use of small trash as a major source of fill in this type of wharf would not have been practical, because of the constant leaching effect of the water.

The headers in the Douglass Wharf were the largest pieces of timber used in its construction, generally thirteen inches in diameter, and of chestnut, a common forest species in this part of the country at that time. One header, however, was a hand-hewn beam of white oak measuring ten inches by twelve inches wide and eighteen-and-one-half feet long. The beam conformed in size and workmanship to that of a "summer beam," an integral part of colonial buildings of two or more stories, supporting the floor joists between the upper and lower floors. The beam showed evidence of burning on one surface, an indication that prior to its use in the wharf's construction it was part of a building that burned. Because the beam was only marginally scarred by fire and remained solid, it was reused in the foundation of this wharf.[17]

The stretchers, or width-spanning members, measured from nine to eleven inches in diameter, and were of yellow pine, also a predominant forest species of that region, as well as the southeastern United States, during the colonial period. The distance between stretchers was approximately five feet, with ends treenailed to the headers. With the exception of the summer beam, all of the wood used in the wharf was rough timber.

Long Wharf

Settled in 1638 by devout Puritans, New Haven, Connecticut, was planned as a vigorous commercial colony. The town center was established at the head of a broad but shallow harbor, abutting the harbor between two shallow creeks. East of the town center a broad peninsula was bounded by the Mill River on the west and the Quinnipiac River on the east. A ferry was established at this point for communication with the section of the town east of the harbor and with the shoreline towns.

In 1644, six years after New Haven was founded, George Lamberton and others petitioned the town to permit the building of a wharf across the mud flats. The town soon realized the need for a wharf, and asked every male between the ages of sixteen and sixty to give four days work toward its construction. By 1663, a wharf had been

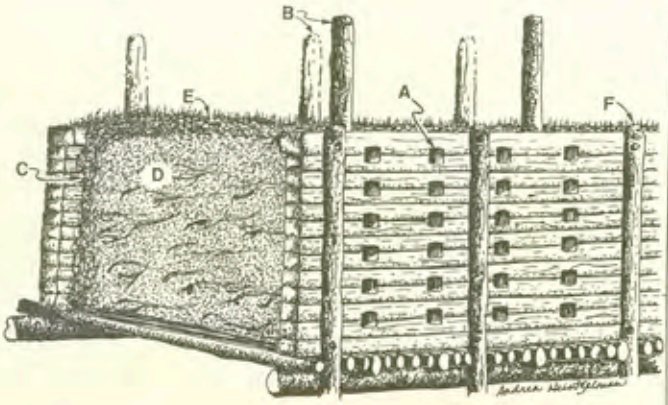
completed at the end of Fleet Street, still not long enough, however, to cross the mud flats.[18]

New Haven developed slowly as a maritime trade center as a consequence of its poor harbor conditions, but in the eighteenth century developed a substantial coastal trade, as well as a West Indian trade. Improved harbor facilities had become necessary. By 1738 Long Wharf extended 26 rods, or 429 feet, into the harbor, and was extended again in 1748.[19] By the 1760s merchants had constructed storehouses along the west side of the wharf.

As New Haven grew in importance as a commercial trade center, not all entering vessels could be accommodated at the same time along Long Wharf. Even with lighters, New Haven could not easily service vessels anchored in the harbor, because of the shallow depth (about one foot or less at low tide) on the mud flats. To alleviate congestion at the wharf, an 80-foot-square pier was constructed in 1770 about one-third of a mile from the end of the wharf, at which vessels could moor in safety for loading and unloading.[20]

Within two years after the square pier was completed, the proprietors of Long Wharf realized how much would be gained if they could find some way to extend the wharf all the way out to the pier. A lottery was suggested to raise money for the extension, and the plan was approved by the Connecticut General Assembly.[21] Once the money had been raised through the sale of lottery tickets, an advertisement placed in the 11 February 1774 issue of *The Connecticut Journal* notified the public that construction of the Long Wharf extension to the pier would go to the lowest bidder, and must be completed by Christmas next. Also published were the exact dimensions and building instructions for the completion of the wharf as ordered by the company of proprietors.

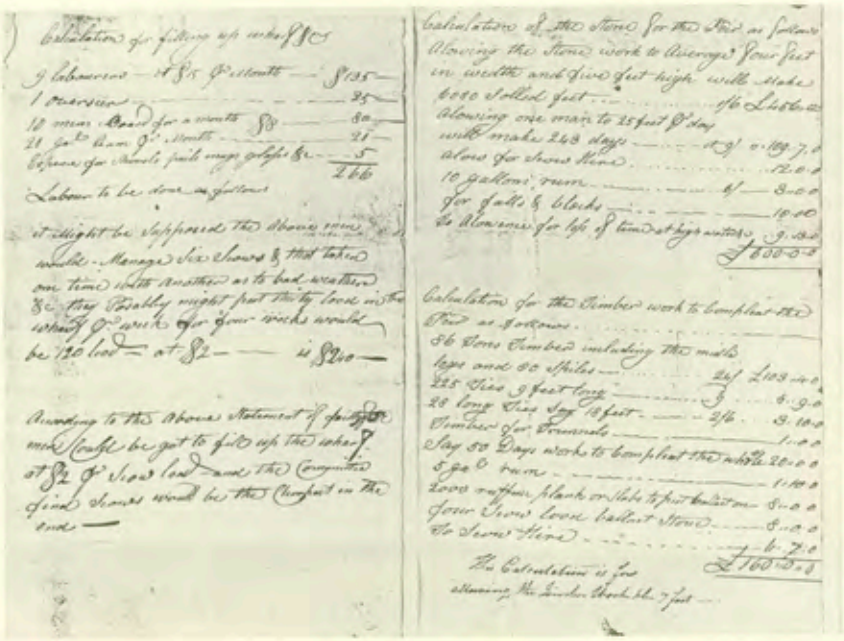
The description of this wharf indicates that it was to be of solid crib-type construction, sixteen-feet wide on top. The exposed cribbing was to be of oak or chestnut securely treenailed together. Fill was specified as mud and bushes, with layers of peat at the edges and six inches of earth on top. Posts set inside the wharf jutting six feet above its surface would serve as bollards for vessels to secure to while moored alongside. Vertical defenders (fenders) were to be attached at eight foot intervals along the face.[22] But, with increasing unrest and commercial turmoil in 1774 and 1775, this project apparently was not completed.



Interpretation of Long Wharf's 1774 extension as specified in *The Connecticut Journal*. *A*, stretchers of white oak or chestnut dovetailed in; *B*, 12-inch round posts of white oak or chestnut; *C*, salt meadow sod lining the sides; *D*, mud and layered brush fill; *E*, 6 inches of earth fill to cover the entire surface; *F*, oak fender piles 8 inches in diameter. (Drawn by the author)

Further insight into the maintenance of Long Wharf can be found in the papers of the Union Wharf Company, 1797 to 1803. It is unlikely that the methods and materials then used in the wharf's upkeep differed significantly from those that had been employed nearly twenty-five years earlier.

Proprietors operating on the wharf leased wharf space and owned shares in the Union Wharf Company. Each proprietor was responsible for keeping his wharf section in good structural condition. Atwater Mills & Company leased a section of Long



Account for one Long Wharf proprietor to construct or repair his section of the wharf, ca. 1800. (Add 14, Box 74, William Griswold Lane Memorial Collection, Yale University Library, New Haven, Connecticut)

Wharf from the Union Wharf Company for a period of eight years in 1797 and had to "keep the wharf in good repair from its head until it comes to the end of the solid part of said wharf at Messrs. Bradley & Huggins Store."[23] Receipts for the year 1802 indicate that proprietors routinely purchased fill material for their wharf sections when it was in need of restabilization. Requisitioned fill varied from sand to mud, cedar brush, shells, shavings, sod, gravel, stone, ballast, spreading stone, or stone chips. The methods used to get fill to the wharf area included horse-drawn carts and hired scows.

In 1803 Atwater Mills & Company, filled sections of the wharf with 2,495 cartloads of sand from Trowbridge Hill, 55 cartloads of sand from Nuk Hill, 113 scowloads of sod, 161¾ scowloads of mud, 9 scowloads of sand, and 14 loads of brush.[24] Obviously wharf owners could not rely on the general public to dump refuse into the wharf, as it would take more trash and time than there was to spare, to fill up a cavity of the size demonstrated here.

Sizable amounts of timber were also required periodically. In 1802 proprietor Simeon Sage agreed to furnish 100 tons of sound, straight chestnut timber for the wharf.[25] In the conduct of vigorous maritime trade, frequent maintenance was necessary to keep the wharf functional.

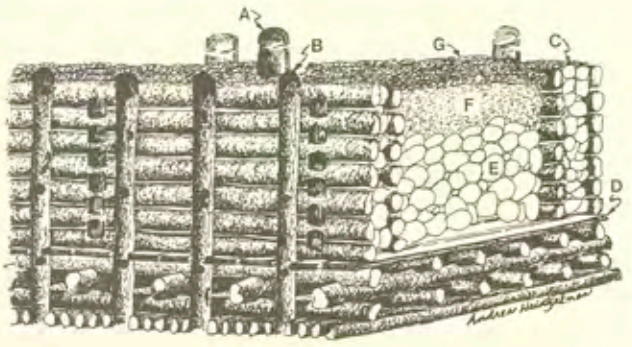
Ferry Point Wharf

As New Haven grew in the eighteenth century, the neck between the Mill and Quinnipiac Rivers became more important. Ferry Point at the end of the neck connected the expanding eastern part of New Haven to the center, and settlement was beginning on the neck itself. About the time of the 1748 expansion of Long Wharf efforts were made to establish a wharf near Ferry Point.

In 1750, Noah Tuttle & Company were

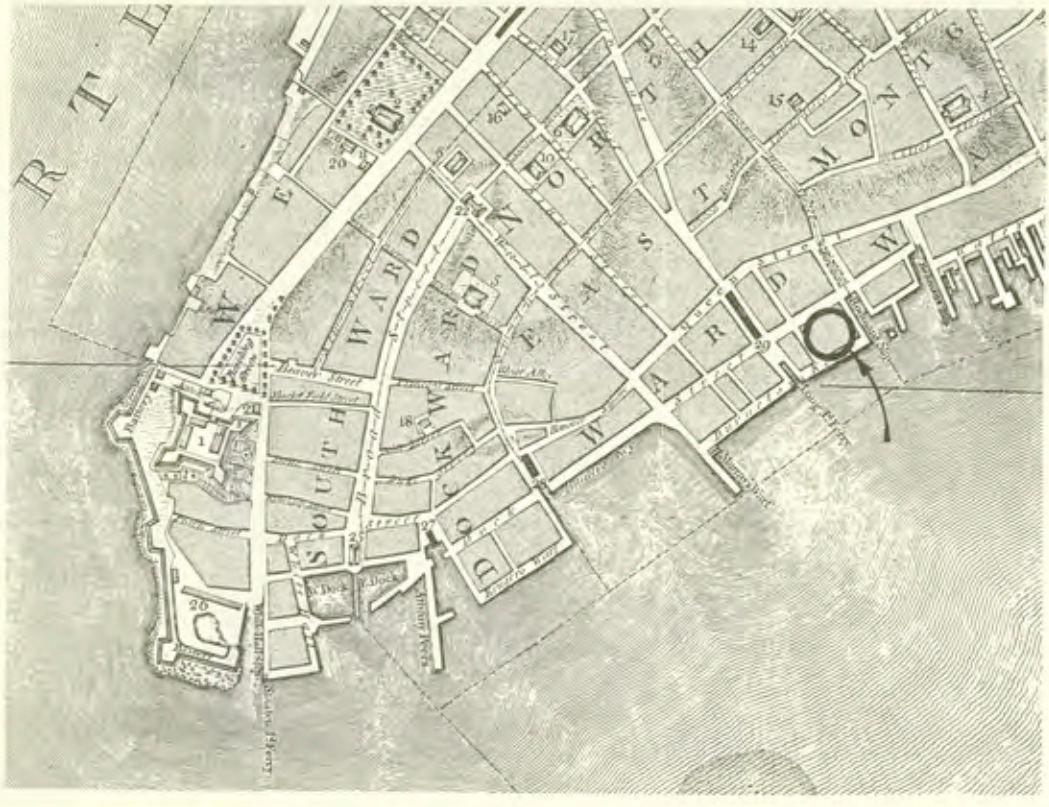
commissioned to construct a sixty-rod (990-foot) wharf at Ferry Point. It was to be built in three sections, divided by twenty-foot channels for the passage of water from the Mill River. The entire wharf was to be a full eighteen inches higher than the highwater mark and a full thirty feet in width. The first seven rods (115.5 feet) of the wharf were to be solid, without any hollow work at the bottom. The rest of the wharf was designed in a unique manner, in that it included an interior lining, or wall, of stone.[26] In no other wharves studied was this technique employed when the outer shell of the wharf was constructed in a cobb-like manner. Indeed, the outside timbers in this wharf are so close together that it seems almost to conform to the design of a solid crib-type wharf. Perhaps future archeological investigations of early wharves will reveal whether this design was unusual, or merely a variation on the cobb-type wharf.

The proprietors of the wharf could only afford to complete one-quarter of it, and in 1754 obtained liberty from the colony to hold a lottery to raise £600 to finish construction. However, the lottery did not meet expectations, and the Ferry Point Wharf was not completed as planned.[27]



Interpretation of the 1750 construction of Ferry Point Wharf. *A*, 12-inch diameter lofting timbers for bollards; *B*, fender piles or "spiles" set into mud; *C*, layer of stone 2½-feet thick, well housed; *D*, closely-laid timber platform constructed to keep wharf fill from leaching through; *E*, fill of cobblestone or ballast to help sink the crib; *F*, fill of creek clay, sod, mud, gravel; *G*, surface layer of gravel. (Drawn by the author)

"Plan of the City of New York in North America: Surveyed in the Years 1766 & 1767" by Bernard Ratzer (London: Jeffreys & Faden, 1776). The circled area marks the location of the 175 Water Street project where the "Ronson Ship" was found in situ. (Map facsimile in the Map Division, Library of Congress, Washington, D. C.)



Ronson Ship Wharf

An old, partially wrecked or burned ship was ideal for a ready-made closed-crib-type wharf or bulkhead. The hull needed only to be strategically placed, securely anchored, and filled to the required height.

Near 175 Water Street in lower Manhattan, New York, archeologists uncovered the remains of an eighteenth-century merchant ship in 1982.[28] Situated eight feet below the existing ground surface, it was two blocks from the present shoreline. As excavations got under way,[29] many structural details were brought to light: the hull frames, planks, and beams were all oak; the deck planking was pine; the treenails were juniper and hickory.[30] The cargo hold, twelve feet high and at least sixty feet long, was filled with ballast of beach stones, coral sand, volcanic black sand, and English flint.

When the excavation was completed, the ship was determined to be from 72 to 125 feet long overall and 100 feet between perpendiculars, 26 feet in beam, and between 170 and 210 tons in American registered measurement.

The ship lay on a north-south axis with the starboard side and a large portion of the stern under Front Street. New York City land records revealed that the area in which the ship lay was shoreline until the mid-1700s, when the land was extended farther



View of the beak at the bow of the "Ronson Ship" showing the port beak knee. (Photo courtesy Warren Riess and Sheli Smith, MAHRI, Bristol, Maine)



Inside the "Ronson Ship," amidships, looking aft along the port side. The crew are removing the ship's ceiling planking to better study the frames and outer planking. (Photo courtesy Warren Riess and Sheli Smith, MAHRI, Bristol, Maine)

into the East River. The orientation of the ship to the shoreline and the way it was anchored in place indicated that it had been intentionally placed there to serve as the framework of a wharf, or as a bulkhead.

The vessel was apparently stripped of masts and hardware by the colonists and pulled to her final resting place, nose-in to the shoreline. The bow of the ship, very full and almost square, had a beak extending five feet in front. Spikes driven through the beak anchored the empty hull securely to pilings on the shore. Once she was secured, excess ballast was thrown into her hold to make a solid bulkhead. The rest of the ship's hold contained earthen fill. More fill deposited between the vessel and the shore formed the new eastern quay at 175 Water Street. As years elapsed, the waterfront moved progressively eastward, and the ship eventually was covered with rubble, then buildings, and finally, a parking lot.[31]

Wharves in their many forms, like other utilitarian structures, were long taken for granted by those who used them. Through time and experience, certain design elements adaptable to most marine environments became commonplace, while other architectural features changed with innovations of the times. Wharves formed the literal foundation for colonial maritime trade. They were built in the name of progress; now, rediscovered in the paths of progress 200 to 300 years later, their ruins lend new evidence of past maritime activities.

NOTES

[1]Janice G. Artemel, Andrea Heintzelman, and Margaret Orlup, "Bank Street Waterfront, New London, Connecticut" (Report for the Northeast Corridor Improvement Project, Federal Railroad Administration, U.S. Department of Transportation, Washington, D.C., May 1984; document available through National Technical Information Service, Springfield, Virginia 22161). The study was made in compliance with the National Environmental Policy Act and 36 CFR 800.4, Detail of Effect, pursuant to the National Historic Preservation Act of 1966 and Executive Order 11593, to mitigate impact on above- and below-ground cultural resources prior to the rehabilitation of the Northeast Corridor.

[2]Edwin W. Small, *Early Wharf Building* (Salem: Eastern National Parks and Monument Association, 1941; rev. ed., 1970).

[3]Charles W. Snell, "Ingersoll/Forrester/Central Wharf" (Historic Structure Report for Salem Maritime National Historic Site, National Park Service, Department of the Interior, Denver, Colorado, 1974); Merrill Ann Wilson and Geoffrey P. Moran, "Central Wharf–Architectural Data and Archeological Data" (Historic Structure Report for Salem Maritime National Historic Site, National Park Service, Department of the Interior, Denver, Colorado, 1980).

[4]William C. L. Weinraub, "Industrial, Commercial and Maritime Introduction to New Bedford, Massachusetts, 1760-1900," ed. Stuart M. Frank (Report for Education Department, Mystic Seaport Museum, Mystic, 1975).

[5]Late-nineteenth-century uncataloged photograph in the Chappell Collection, New London Public Library, New London, Connecticut.

[6]Commenting on the period in which dressed or semi-dressed stone was used in wharf construction, Edwin Small, *Early Wharf Building*, page 3, suggested that "walls of quarry-cut stone were not built much before 1830." Up to that time, "the stone used appears to have been worked only from rock which lay on the surface of the ground." Contrary to this, secondary documentation for Long Wharf in New Haven, Connecticut, indicated that hewn stone was used in its construction as early as 1810. See Thomas R. Trowbridge, "History of Long Wharf in New Haven," *Papers of the New Haven Colony Historical Society* (New Haven, 1865), 1:98. Further research into the primary documents revealed that cut stone was used at least as early as 1802.

[7]Edwin Small noted:

For the foundations of the walls large rafts were made of hewn timbers, 14 to 16 inches square and 30 to 50 feet long, fastened together with cross pieces of oak pins. The rafts were then decked over with 8-inch round timbers laid transversely and floated into position at high tide. Guide piles driven into the mud flats held the rafts in proper alignment and wall construction was started, the rafts settling into the mud as the wall increased in height and weight.

Small, *Early Wharf Building*, pp. 6, 10 [copied from Bray, 1938]. But note that the cobb wharf illustration given in Small shows neither flooring nor a raft at the bottom of the cribwork walls.

[8]Tim Tatton-Brown, "Excavation at the Custom House Site, City of London, 1973," reprinted from *Transactions of the London Middlesex Archaeological Society* 75 (Penzance: Bordens of Cornwall Ltd., 1974), pp. 122-28.

[9]Steven R. Pendery, Project Archeologist, Institute of Conservation Archeology, Peabody Museum of Archeology and Ethnology, Cambridge, Massachusetts, to Andrea J. Heintzelman, 2 April 1982.

[10]New London Land Records, hereafter NLLR, 8:5, 114, 213; Frances Manwaring Caulkins, *History of New London, Connecticut from the First Survey of the Coast in 1612 to 1860* (New London, 1895).

[11]NLLR, 6 II:276; 8:12.

[12]NLLR, 8:218.

[13]NLLR, 17: 256.

[14]Artemel, Heintzelman, and Orelup, "Bank Street Waterfront."

[15]Slides, field records, and artifacts are now under the curatorship of the Anthropology Department, University of Connecticut, Storrs, Connecticut.

[16]A wharf excavated in Boston by James W. Bradley, Site Director, in 1980-81 also contained burned beams and stumps of wood in its fill material. James W. Bradley, Neill DePaoli, Nancy Seasholes, Patricia McDowell, Gerald Kelso, and Johanna Schoss, *Archaeology of the Bostonian Hotel Site* (Boston: Massachusetts Historical Commission, 1983).

[17]Such reuse of building material from other structures seems to have been a fairly common practice: a discarded wooden rain gutter was found utilized as a main structural member in the eighteenth-century Follett Wharf excavated at Strawbery Banke in Portsmouth, New Hampshire, in 1980. Faith Harrington, "Strawbery Banke: A Historic Waterfront Neighborhood," *Archaeology* 36 (May/June 1983): 50-59.

[18]Trowbridge, "History of Long Wharf," p. 85-87.

[19]*Ibid.*, pp. 89-90.

[20]*Ibid.*, pp. 91, 93.

[21]*Ibid.*, p. 93.

[22]Microfilm, Newspaper and Periodicals Division, Library of Congress, Washington, D. C. The dimensions were as follows:

The two Out-sides to be of hewn Timber, square edged, forming tight Joints, nine Inches thick, none of the Pieces less than 20 Feet long, and at a Medium 30 Feet long: the lower Part of any Sort of Timber, but from the Top 4 Feet downwards to be of Chestnut, and the Top Log to be 12 Inches square, the two Logs below the 4 Feet from the Top to be White-Oak or Chestnut; the two Out-Sides to be dovetail'd together at the Distance of 17 Feet from Out-side to Out-side at the Bottom, and 16 Feet at the Top, the Southwest Side to be perpendicular, and the other Side sloping 12 Inches from the Bottom to the Top, the Dovetail's running quite thro' the Wharf, and at least 20 of them to a Rod in Length, and 9 Inches over, to be of White Oak or Chestnut; the Out-side Timbers to be treeneled together with 1¼ inch Treenels, 20 Inches long, and 50 to a Rod; the Bottom to be floor'd off with round Logs 9 Inches over, running across the Wharf and laid on two round Logs, at least 19 Inches over, and at least 4 of the Floor Logs dovetailed into the under Logs in ever[y] Rod. This Floor and the Logs under it may be of any Sort of Timber. The Wharf to have a round Post set down and fastened to the Floor of 12 Inches over ever[y] 4 Rods, of White Oak or Chestnut, and to be 6 Feet above the Top of the Wharf, and a Defender ever[y] eight Feet on the Out-side, of Oak, at least eight Inches over, and treeneled to the Top Log.

The Wharf to be filled in this Manner:–Next the two Out-sides to be lined with Sods of Salt Meadow, and to be filled inbetween, solid with Mud and Layers of Bushes, except 6 Inches of the Top, which is to be of Earth. This Wharf to begin 20 Feet from the End of the present Old Wharf, and extend towards the Pier, and to be 6 Inches higher than the End of the Wharf now is on a Water Level; the two Ends of this new Piece to be built and secured as the Sides above described.

[23]Union Wharf Company Papers, Add 14, Box 74, William Griswold Lane Memorial Collection 1797-1803, Archives of History, Yale University Library, New Haven, Connecticut.

[24]*Ibid.*

[25]*Ibid.* Specifications for the timber required that it be:

[N]ot less than twenty-five feet in Length and as much Longer as is convenient–to be squared 10 Inches on two sides, the other two sides to be not more than fourteen Inches deep, and not less than 8 Inches. Three sides of said timber to be strait . . . two sides of them 10 Inches & one side of the other. I agree to furnish one hundred straight spiles from eighteen to twentyone foot in Length and Long enough to square 8 Inches at the but[t] and five Inches at the smallest end; one thousand ties thirteen foot in Length to square four and half Inches at the Smallest end to be at Seven pence for each tie, to be delivered on or before the 15 June next.

[26]Contract for Ferry Point Wharf, 1750, Manuscript 57, New Haven Harbor Collection, 1750-1925, Whitney Library, New Haven Colony Historical Society, New Haven, Connecticut. The contract required that

the Said Noah Tuttle and Comp[y] are to cut good straight poles of about Six Inches Diameter, on the mud breadthways of said Wharf, quite close together; the Said Poles to extend, at least, Eighteen Inches without the Sides of Said Wharf, so that all the bottom Logs, which Run lengthways of Said Wharf, may lye firm & Steady; which bottom Logs are to be plac'd at the Distance of Six feet from each other. On which bottom Logs are to lye other good Substantial Logs, breadthways or, across Said Wharf; which are to be plac'd at the Distance also of Six feet or less from Each other; and to be so set into the Log, which lye lengthways of Said Wharf; as that all the outside Logs of Said Wharf shall lye Close together, or within Two or Three Inches of Each other. In like manner is all the lower or Under part of said Wharf . . . to be made with good large Sound, Substantial Durable Timber; and to be laid so near the bottom of Said Wharf, as that every common Tide shall overflow the same; which platform is to be laid quite close together; so as to prevent whatever shall be laid above it to fill up Said Wharf from Washing through; which platform shall be cover'd over with a suitable quantity of Stone; so as to be a proper Weight to keep Said Platform and Wharf from rising; as well as to secure the mud, Sod, or Gravel that may be put on said Wharf, from washing away. All y[e] outside of Said Wharf above the Said Platform, shall be built with good, sound, Substantial durable Timber, such as is proper and Suitable; and will well answer the Design, and to be laid Close together, and the ends of s[d] outside Logs to be Halv'd onto each other, so as that the whole Side Logs, above the Said Platform; then Shall be good substantial Dovetail, set into s[d] Logs and made of good Solid lofting Timber Extending from Each side, at least to the middle of Said Wharf; one of which to be well set in near Each End of every Side log and if the log Exceeds Ten feet in length, then to be one allso in the middle of Such Log, and so in propor-

tion for longer Timber. Just within the said outside Log, of s[d] wharf, there is to be Stone at least, Two feet and a half thick, well Hous'd, from the Said Platform, to the Top of s[d] Wharf, . . . a Platform between the Said Stone on either side of s[d] Wharf, to be filled up with Creek Clay, Sods, Gravel or Sound Timber, as y[e] builders shall think proper, only there is to be a proper quantity of Gravel laid on the Top of s[d] Wharf, So as to make the same, firm and solid, fit for Carts or other Carriages to pass, and Repass.

The Capstans of s[d] Wharf to be good, large, long Chestnut or White Oak Logs; and to be fix'd on the Top of the sides of s[d] Wharf Workmanlike; and at the distance of Ten feet, from each other, there shall be good Dovetails well set down into s[d] Capstans, and to run Slanting down into Said Wharf, so as to secure the Said Capstans, and not to be in the Way of Carts or other Carriages.

Said Wharf to be well and Substantially Spill'd off on each Side which Spiles Shall be well driven Down into the mud, and to be plac'd at the Distance of Ten feet from Each other, and well fastened, and secur'd to the S[d] Castans with Trunnels. On Each side of Said wharf, about Two feet within Said outside Logs, there shall be Posts of good lofting Timber, at least Twelve Inches Diameter, Set up, at the distance of forty feet from Each other for the fastening of Vessels. The whole of S[d] Wharf to be Compleated and finish'd Workmanlike by the first Day of November AD 1753.

[27]Charles J. Hoadley, ed., *Public Records of the Colony of Connecticut*, vols. 10, 11 (Hartford: Case, Lockwood & Brainard, 1877, 1880) 10: 295-96; 11: 50-51.

[28]Following standard archeological procedure, since the name of the ship itself had not been determined, it was named the "Ronson Ship" after the site developer, Howard Ronson.

[29]Warren Riess and Sheli O. Smith, graduates of the nautical archeology graduate program at Texas A & M University, were hired as consultants by Soil Systems, Inc., to direct the excavation of the Ronson Ship.

[30]"Hickory, native only to North America, might indicate American construction, but trunnels were easily transported to England along with many other American timber products." Warren Riess and Sheli O. Smith, "The Ronson Ship," *Sea History* 27 (Summer 1983): 22.

[31]*Ibid.*, pp. 20-22. The salvaged portions of the ship have since been accepted by the Mariners' Museum, Newport News, Virginia, for eventual display. New York City has identified other areas along its East River shoreline where ships were sunk for landfill projects. In Baltimore, construction workers uncovered a ship under Light Street in the mid-nineteenth century. In Alexandria and Occoquan, Virginia, on the Potomac River, unseaworthy vessels were reported sunk along the waterfront to make new wharves and land. Donald Shomette, noted maritime historian for the Maryland and Virginia Tidewater area, found, following recent research on the Alexandria waterfront, that the British kept records on a large number of Royal Navy vessels sunk or eventually scuttled for the purpose of making wharves, bulkheads, and breakwaters. See Donald G. Shomette, "Maritime Alexandria: An Historic Overview" (Report for Alexandria Archeology, Alexandria, Virginia, City of Alexandria, 1985) and J. J. Colledge, *Ships of the Royal Navy: An Historical Index*, vol. 1 (Devon, England: David & Charles, 1969).

BOOK REVIEWS

Marie De Santis. *Neptune's Apprentice: Adventures of a Commercial Fisherwoman.* Novato, California: Presidio Press, 1984. 219 pp., photographs, illustrations. $15.95.

As the author acknowledges, "no fisherman on the coast can resist the slighest opportunity to tell, retell, embellish, polish, or otherwise stretch the art of story-telling." *Neptune's Apprentice* is first and foremost a fisherman's yarn, albeit with an added twist in that it is spun by a woman. The yarn weaves together incidents from the eight years Marie De Santis spent fishing on the West Coast in the 1970s. It captures some of the flavor of being a fisherwoman, explains techniques specific to different fisheries, and comments bitterly on the impact of foreign fleets and the two-hundred-mile limit. Written by an idealist who abandoned her Ph.D. shortly before completion to go fishing, *Neptune's Apprentice* is her valedictory on the spiritual rewards possible through hard work, fraternity, and daring to live in the world beyond the shore. It is a celebration of life and, most importantly, an affirmation that women have a place at sea.

Marie De Santis wrote this book to salute her fishing brethren who continue to fish, to recount her own adventures, and to offer a contemporary sea story with special appeal to girls and women. On another level though, *Neptune's Apprentice* is an attempt by its author to reconcile herself to the fact that she no longer lives in the fisherman's world: by preserving her years in the fleet she could make peace with her shore-bound present.

Neptune's Apprentice is not literarily sophisticated. Unlike Joseph Conrad and other great sea authors, Marie De Santis does not transcend her immediate subject of boats and the sea. Nonetheless, her book is a classic sea story. It is appealing, personal, inviting, and informative.

Like many sea stories, *Neptune's Apprentice* is a tale of initiation and maturation. There is a rare tension, however, because the initiate begins not as a deckhand, but as captain. After an early mishap she writes, "by now I should have known that you don't jump on a boat and call yourself a fisherman." Despite this naivete and seeming independence, the novice captain survived because of sage advice available from her mentors, a group of colorful old-timers. Much to her surprise, their masculine world was not impregnable. So long as she fished her own boat, rather than trying to force them to break a taboo and fish with a woman, she was accepted. "Whatever it was that the ocean lent to the kinship of the fishermen, it was there for me too."

Most sea stories have a tremendous elemental appeal because their heroes move with ease in a foreign and threatening world. *Neptune's Apprentice* is such a tale. We shore-bound readers can admire vicariously the hunters who chase an elusive prey on the immense Pacific, and experience in comfort their primal quest. Yet *Neptune's Apprentice* has a tremendous personal appeal as well. It's the story of a novice who succeeds; a woman who makes it in a man's world; a lucky fisherwoman who comes out smelling like a rose. In this there is the appeal of a winner.

This self-portrait of one woman's relationship with the sea and its community of fishermen is wonderfully inspirational, in great part because the author makes us feel as though we too could dare to face fishing's risks and rewards. The implied invitation to this new world and the sympathetic portrayal of West Coast fishermen's society and culture adds to the warmth of these pages. We share the barbecues and breakdowns, the fraternity and frustrations, of a group whose members are fiercely independent, yet bound to each other by a cooperative ethos.

Woven throughout this romantic tale of personal accomplishment is a wealth of information on small Pacific Coast fishing boats and their owner-operators. Trolling for salmon and albacore, gillnetting herring, even outwitting sharks in San Francisco Bay, the author introduces us to her gear and techniques. Though by no means a manual for aspiring fishermen, *Neptune's Apprentice* provides a good feel for the business. The twenty-one photographs include a mix of personal and technical shots, and each of the line-drawings depicts a different method of fishing: setting Dungeness crab pots, fishing lampara nets for herring, gillnetting herring, and trolling for albacore.

Neptune's Apprentice is also something of a his-

torical work. De Santis fished during the years of foreign fleet intervention and the controversy over the two-hundred-mile limit. An arch-individualist opposed to government regulation, and an impassioned spokesperson for the little-guy, her view was that the Pacific Management Council implemented its policies "with such disregard for the natural order of the sea" that it destroyed the entire American fishery. When the oldtimers reacted to government policy by lamenting "the thrill is gone," the author sold her boat and went ashore. Far from objective or disinterested, De Santis provides an insider's view of a changing industry and way of life.

My enjoyment of *Neptune's Apprentice* has not blinded me to its faults. This is an excessively romantic book written by a values-oriented idealist. It lacks the harshness and cynicism associated with fishing so vividly portrayed in *Tell it Good-bye Kiddo, The Decline of the New England Offshore Fishery* (Camden, 1976). Sidestepping even the remotest hint of mental depression or physical decay amongst the fishermen themselves, *Neptune's Apprentice* fails to portray a holistic view of a tough occupation. It also is not especially well written or subtle in places. The action and personal achievement are what carry the book.

Despite these shortcomings—and they are substantial ones—*Neptune's Apprentice* is a valuable addition to our sea literature. Infused with the joy of life, it celebrates positive aspects of working at sea which I know from experience can be deeply satisfying. Most of all, it extends an invitation to young women to share that satisfaction, to follow the sea.

Wm. Jeffrey Bolster
Woods Hole, Massachusetts

David MacGregor. *Merchant Sailing Ships 1850-1875*. London: Conway Maritime Press; Annapolis: Naval Institute Press, 1984. 256 pp., illustrations, appendices, list of references, index.

Originally printed in London, and reprinted in the United States by the Naval Institute Press, this latest effort on the part of David MacGregor is the third in a series titled *Merchant Sailing Ships*. The previous two volumes, *Merchant Sailing Ships 1775-1815* and *Merchant Sailing Ships 1815-1850*, dealt with the two earlier periods in a manner very similar to this work. Within the volumes, the reader can find a wealth of information describing sailing vessels of the nineteenth century.

The third quarter of the nineteenth century saw great change continue to overtake the ageless art of sailing. War, changes in government policy, new trade routes and regulations, and continued technological advances resulted in merchant fleets that had altered and evolved by the end of the period. This book introduces those changes and describes in detail the structure and function of many of the sailing merchant ships built to accommodate them.

Like MacGregor's other books on vessel building and design, there is an enormous body of information in this work. It is organized to offer a general introduction to the period and then a close look at the different types of merchant craft that worked during the era. Chapter one, "Free Trade 1850-1875," lays the groundwork for the era. Subsequent chapters look closely at particular types of vessels. For instance, chapter two, "Square Rigged Ships of Over 300 Tons 1859-1865," details the design and construction of many of these vessels, and chapter four addresses "Small Square Riggers and Fore-and-Aft 1859-1865." Additional chapters describe other vessels that appeared during the balance of the period in question.

Within each chapter the vessel types are largely organized by area of origin. In chapter two we are led from shipyard to shipyard, first in Dundee and Glasgow, then on to the Clyde, the south of England, and points beyond. In this way, the author describes the many variations in models, rigs, materials, sail plans, scantlings, and so on. Painstaking research, based upon government documents, company records, private correspondence, and other sources has enabled the author to describe the complex work of these shipbuilders in detail.

The book is well illustrated, relying on a variety of visual images to make its points. Period photographs, sketches, and paintings have all been included, as well as sail plan, detail, and line drawings from the boards of nineteenth-century craftsmen. In addition to this array of period illustrations there are also numerous concise line drawings by the author, a skilled artist and researcher. The illustrations are well scattered across the pages, so the reader's curiosity is spurred by the layout.

There are, however, some problems with this

informative work, not the least of which is the author's penchant for referring to information that appeared in his other books without restating it. There are repeated references to his other *Merchant Sailing Ships* volumes, and to *The Tea Clippers* and *Fast Sailing Ships*. This habit leaves the reader who does not have these books at hand wondering what is being missed.

Of greater concern for readers in America is the lack of material about shipbuilding on this side of the Atlantic. In fact, it could be suggested that if the reprinting of this series in the United States had been anticipated at the outset, a more appropriate title for the book might have been *British Merchant Sailing Ships 1850-1875, With a Brief Description of Shipbuilding on the Continent and in North America*. One example will serve to exemplify this problem. In the chapter that includes clipper ships, the only reference to clipper shipbuilding in the United States is a brief mention of William Webb and Donald McKay. In fact most of the ink is dedicated to the four clippers that McKay sold to James Baines of Liverpool for his famed Australian Black Ball Packet Line. A check back into MacGregor's *Fast Sailing Ships*, for evidence of a balanced approach on the subject and at least some mention of Yankee-built extreme clippers, proved to be equally frustrating.

David MacGregor is certainly a foremost authority on nineteenth-century ships and shipbuilding. This work, like all of his others, bears witness to his skill as a researcher and writer. This reviewer would suggest, however, that anyone interested in purchasing this book should consider the following. It would do the reader well to own MacGregor's other works, as they are, in many ways, companion pieces, and the reader should also have a special interest in the shipbuilding of Great Britain.

Glenn S. Gordinier
Research Associate
M.S.M.

John Harland. *Seamanship in the Age of Sail*. London: Conway Maritime Press; Annapolis: Naval Institute Press, 1984. 320 pp., illustrations, bibliography, index. $39.95.

Long after its working days have passed, the square-rigged sailing ship has acquired mass appeal. People will travel miles and stand in line for hours to watch a parade of "tall ships" or to walk their decks. There is something in their stately, relentless motion under a pyramid of canvas and web of lines that moves the spirit and inspires the poet.

But ask someone how to operate a square-rigged ship. Even an experienced yachtsman or a tanker deck officer will likely have only a vague idea of how to manipulate all that canvas to drive a square-rigger. True, Alan Villiers, that great promoter of square rig, provided a useful narrative outline of shiphandling in his excellent *The Way of a Ship* (New York, 1953), and the modern variety of square-rigger operation is presented in the manual *Eagle Seamanship* (Naval Institute Press, rev. ed. 1979). Someone with a strong interest and a good maritime library at hand might go further and study nineteenth-century manuals for a clearer understanding.

Now, however, Dr. John Harland, a physician far from the sea in British Columbia, has compiled a study that would take a lifetime to duplicate. With a remarkable linguistic facility and a thirty-year interest in the sailing ship, he has studied over two hundred of the world's seamanship manuals and reference works, as well as dictionaries and iconographic works, to understand seamanship in its European and American forms. Because most manuals were written for the naval services and because, with their very large crews, naval vessels practiced the most technical shiphandling maneuvers, Hyland concentrates on naval seamanship during the height of naval sail, 1600 to 1860. This should not discourage the student of merchant sail, for the principles of operation were identical, the main difference being that with smaller merchantman crews "shorthand" techniques might replace the well-ordered drills of the man-o-war.

In twenty-two chapters Harland proceeds from a very general discussion of the language of shiphandling and the names of masts, rigging, and sails through the operation of specific sails and methods of maneuvering a ship, to specific circumstances: working ship in a tideway, storm, squalls, heaving to, anchoring, lowering and hoisting boats, man overboard, and dealing with accidents to the vessel. Of special value are his early chapters "Theoretical Principles Underlying Shiphandling" and "Sails Considered Individually." Here he discusses the physical effects of wind, sea, hull form, and sail set and trim on the movement of a vessel

through the water. The chapter on sails relates the derivation of each of the common sails, its operation, and its effect on the vessel. Subsequent chapters explain setting and furling sail, shortening sail, reefing, use of stunsails, steering, and changing direction by tacking, wearing, or boxhauling.

This would be a nearly incomprehensible book for the layman were it not for the many excellent diagrams and illustrations. Marine artist Mark Myers has collaborated with Harland to produce very clear diagrams and simplified line sketches illustrating technicalities of the discussion. Some of the illustrations paraphrase situations depicted in marine art of the eighteenth and nineteenth centuries. In addition, numerous paintings, engravings, photographs, and models are illustrated.

The book is organized in a clear manner, using headings and subheadings within each chapter. The headings are then listed within the table of contents for ease of retrieval. Unfortunately, the chapter on individual sails was laid out featuring only the courses, so the other sails, while discussed, do not appear on the contents page. As might be expected in a work of this complexity, there are a few other problems, but overall the book is well conceived and handsomely produced.

Harland writes in a straightforward style, often quoting his authorities directly, letting them speak when there are controversies over practice. Citations are placed in text, rather than in footnotes, for convenience. Harland shifts easily from early works, such as Mainwaring, to later works such as Luce, and from English to French, German, and Swedish. Here is the main value of this work. It is a distillation of a massive amount of data into a clear narrative treatment of ship-handling practice, its variations and its development in the western world.

Seamanship in the Age of Sail is not a book to devour at one sitting, or even to read entirely. It is, however, an essential reference for anyone with pretensions of expertise on maritime activities in square rig. Harland and Myers should be congratulated for their perseverance in producing such a workable volume.

Andrew W. German
Associate Editor
M.S.M.

Mystic Seaport Museum Publications

We are pleased to announce our most recent publication.

Historic Buildings
at Mystic Seaport Museum
By William N. Peterson
and Peter M. Coope

For the first time, the Museum has published a book on its buildings. Authors Peterson and Coope have written in depth about twenty-one buildings at the Seaport, ranging from the eighteenth-century Buckingham House to the nineteenth-century Rossie Velvet Mill. They include buildings still on their original sites, such as the Greenman brothers' handsome houses, as well as buildings transported to the Museum, such as the utilitarian Ames Fish House. The book is well illustrated with historic photographs and striking contemporary views by the Museum's staff photographers.

Historic Buildings at Mystic Seaport Museum is the third in a series of monographs funded by the Andrew W. Mellon Foundation. This lavish 136-page book is available bound in paper for $18.00.





These photos were taken by Augustus Buhler, ca. 1900, perhaps as studies for paintings. Above, a fisherman poses in a dory on a Gloucester wharf, as if hauling a line; below, three fishermen in a dory on the beach demonstrate how to "torch" for herring at night. Two men row while a third holds a dipnet to scoop up the herring attracted to the light of burning wicking in the metal basket suspended over the rail on a pole. Buhler traced the outline of this photo on the back, as if to prepare for a sketch or painting. (Courtesy Cape Ann Historical Association, Augustus W. Buhler Collection)

LETTERS

These photographs (and a lot more) came to the Cape Ann Historical Association from the estate of Miss Dorothy Buhler who died late last year in Kittery, Maine. Miss Buhler was devoted to her father (see "Augustus Waldeck Buhler: The Artist as Historian," summer 1985 *Log*) and not only dedicated much of her own life to perpetuating his memory but also to preserving a wide range of objects associated with his artistic career and personal life. Since Miss Buhler's death, the paintings and drawings she had in her possession have been divided between the Peabody Museum of Salem and the Cape Ann Historical Association. We were fortunate to also receive a number of smaller items, including these photographs and the glass-plate negatives from which they were made.

While I have yet to find any documentation indicating how Augustus W. Buhler used prints like these, it is clear that the scenes were carefully staged and then photographically recorded to allow the artist to observe, anywhere and any time, fishermen "at work." Elements from the photos, as well as from Buhler's sketchbooks (also at the Cape Ann Historical Association), appear in many of his finished paintings.

Martha Oaks
Curator
Cape Ann Historical Association

ACQUISITIONS

The G. W. Blunt White Library recently purchased a unique manuscript describing a previously unrecorded incident in the maritime history of New London. The document contains copies of the testimony, evidence, and decision and awards made by the Vice Admiralty Court at New London, Deputy Judge John Coit presiding, during March-April 1760, for prize claims resulting from the capture of the French snow

St. Ann by the privateer schooner *Hawk*. This copy of the official records, evidently made out of court by one of the interested parties, is attested by the Court Clerk and dated 8 May 1760.

At this time England was entering the sixth year of what became known here as the French and Indian War. Quebec had fallen to General Wolfe's forces the previous September, and by year's end France would suffer other defeats that forever assured the dominance of British influence in America. At sea, colonial privateers of both nations roamed shipping lanes from Canada to the West Indies, disrupting commerce and creating incidents like this one involving the snow *St. Ann*.

The *St. Ann* was sailing from Martinique to Marseilles under French colors, carrying a cargo of sugar and coffee. Among the crew were Jeremiah Smith, William Smith, and James Coneley, who had been "forced on board . . . to help navigate." The three men were treated "with great barbarity," and on 30 January 1760 they seized the vessel. With the assistance of other crew members, course was then altered toward New London.

On 26 February the *St. Ann* was overhauled by the privateer schooner *Hawk* of New London, John Deshon master. Deshon boarded the *St. Ann*, where the Smiths and Coneley gladly "delivered up" the snow, apparently agreeing to a share of the prize award.

Upon their arrival in New London Deshon filed a prize claim with the Vice Admiralty Court. Richard Morris, "Proctor for the Lords Commissioners for Executing the Offices of Lord High Admiral of Great Britain and Ireland," protested Deshon's claim, contending that the three men seized the *St. Ann* without the authority of a commission (i.e., they were mutineers rather than privateers) and should be excluded from the award. Joseph Hull, Collector of Customs at New London, filed a claim challenging the Admiralty Court's jurisdiction in the case. Finally, prominent New London merchant Joseph Chew filed a claim in behalf of Daniel Rindge, a merchant from Portsmouth, New Hampshire, who claimed to be the legal owner of the *St. Ann*.

Daniel Rindge's claim that he was the original owner of the vessel was proven correct by papers found onboard, and through the testimony of two mariners who were familiar with her. It was established that she had been built at Portsmouth as the *Lenophor*, and had been on a voyage to the West Indies when she was captured by the French privateer *Dragon* near Martinique in August 1759. She was then sold at auction in Martinique to Antonio Roux of Marseilles (possibly a relative of the artistic Rouxes), who loaded her for home and briefly considered sending her under a neutral Italian flag.

Judge Coit dismissed the Lords Commissioners' claim of Richard Morris by stating that there had been "diverse authoritys quoted to show that by the laws of nations the said Jeremiah Smith, William Smith, and James Coneley had acquired a right in themselves, and that nothing could divest them of that right but the laws of the nation unto which they belonged, and that by these laws they had the sole right thereto." In addition, he believed that Richard Morris "hath not shown any one act, or acts of Parliament, or any grant whatsoever, whereby their Lordships might have any right or claims to the said Snow *St. Ann*."

Coit replied to customs collector Hull's claim that Hull "with others of the officers of the customs are directed to hold and safely keep in their custody any prizes that may be brought into his majesty's ports until either the same shall by final sentence have been either cleared and discharged, or adjudged and condemned as lawful prize." According to Coit, Hull did not file "a proper claim and support it accordingly." The judge declared that, indeed, it was "rendered out of all doubt by a special act of Parliament" that the Admiralty should absolutely determine prize awards, and thus Hull's claim for a share to the customs service was inconsistent and "without any foundation of right."

Finally, the claim of John Deshon, "and the rest of the company owners and associates of the said Privateer *Hawk*," including the Smiths and Coneley, was accepted by the court. Important to this decision seemed to be the statements of "four persons . . . in the employ and service of the French Capt. Brun on board the said Snow as sailors," who testified that they were not mistreated by the three mutineers, and that Deshon's description of the seizure of the *St. Ann* was accurate.

The *St. Ann* was sold at public vendue (auction) to Peter Harris for £845. After deducting court costs, taxes, and other fees, a moiety (equal division) of the remainder of the money was made for Deshon's and Rindge's claims. The last



page of the document includes a copy of a receipt for £379.4.6, signed by Daniel Rindge at New London, 17 April 1760.

Beyond its local interest, this document is important in its reflection of the Vice Admiralty Court's view of its relationship with the customs service in prize cases. It also represents official approbation for a very pragmatic justification of the seizure of an enemy vessel without formal authorization (i.e., Letter of Marque).

Alice M & I.O., South Bristol, Maine is the Mystic Seaport Museum Purchase Award winner from this year's Sixth International Exhibition at the new Seaport Stores Gallery. Painted by the Connecticut artist John Atwater (b. 1954), this striking portrait of modern fishing activity may seem an odd addition to the Museum's collection; however, it contains precisely the sort of documentary detail that we now find so rare and valuable in the paintings of the last century. In brilliant color, the artist has succeeded in capturing the immediacy of the vessels, gear, and crews of one of today's Maine coast fisheries. To future generations this may be a valuable record of past maritime activity.

The scene depicts the crew of the *I.O.* unloading a catch of menhaden at Farrin's Lobster Pound in South Bristol. In the summer months the *I.O.* fishes only for menhaden, locally called "pogies," which are used as bait by the lobstermen. The crew of the *I.O.* uses a seaplane to locate schools of menhaden, then captures them with purse seines. Back on shore, the fish are salted and refrigerated. This catch of "pickled" bait will only last the lobstermen two or three days. Oil on canvas, 30 x 48". [85.104]

HISTORIC SHIPS AFLOAT

The *Jeremiah O'Brien*

Out of the dark days of World War Two came many stories of heroism and sacrifice, not only on the battlefields but in the merchant service as well. Many of these stories involve the sturdy vessels built by the thousands especially to meet the demands of wartime: the Liberty Ships.

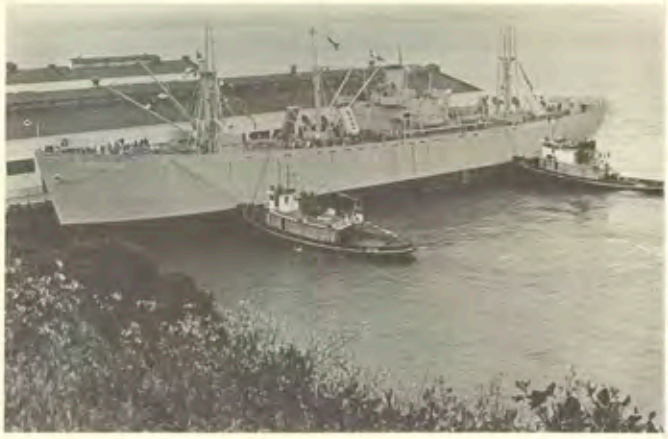
As early as 1937 the new U.S. Maritime Commission had planned construction of standard ship types, as had been done during World War One, to revive United States shipping and shipbuilding. But it was not until the Battle of Britain that a dire need for ships arose, in the face of the devastation of the British fleet by U-boats.

The first Liberty Ship was launched in September 1941. She was 441 feet long, with a beam of 57 feet. On a 28-foot draft she displaced 14,000 tons and could carry 9,146 tons of cargo at eleven knots. The Liberty was powered by an oil-fired triple-expansion reciprocating steam engine for ease of production. Like the engine, the hull form was a proven one, based upon a British ocean steamship design of 1879. However, thanks to modern technology, it was welded rather than riveted.

When America entered war on both oceans the Liberty program was accelerated to get men and materials to the warfronts. Eighteen shipyards around the country were created or geared up for nearly assembly-line production. In a burst of enthusiasm, the Kaiser yard in Richmond, California, built a Liberty Ship in 4½ days! The many women who worked in the shipyards were symbolized by Wendy the Welder. In all, 2,751 Liberties were launched.

The *Jeremiah O'Brien* was built in the West Yard of the New England Shipbuilding Corporation at South Portland, Maine, and launched in June 1943. She carried the name of one of Maine's Revolutionary War heroes. Operated by a crew of forty-four merchant mariners, plus a naval contingent to man the token armament of bow, stern, and antiaircraft guns, the *O'Brien* served in the Atlantic. During the Normandy invasion she helped ferry troops and equipment to France. Later she served in the South Pacific. After her routinely heroic service in an extraordinary maritime war effort, the *O'Brien* was retired in February 1946 and placed in the reserve fleet at Suisan Bay near San Francisco.

Many Liberties were converted for other service, and those remaining in the reserve fleet seemed superfluous by 1960. Captain Thomas Patterson was pursuing scrapping orders in 1962 when he came upon the *O'Brien*, still completely outfitted for war service. He recognized the value of this perfectly preserved example of an important ship type and began to work for her preservation. Hundreds of volunteers joined the effort. The National Liberty Ship Memorial was established in 1978 to maintain the *O'Brien*, and she was added to the National Register of Historic Places. In 1979 a volunteer crew fired up her engines for the first time in over thirty years, and the following year, after rehabilitation, she entered her new berth at Fort Mason, San Francisco.



The *Jeremiah O'Brien* at Pier 3, Fort Mason, San Francisco. (Courtesy Golden Gate National Recreation Area)

At the National Park Service's Golden Gate National Recreation Area, the *Jeremiah O'Brien* is exhibited by the National Liberty Ship Memorial to commemorate the heroic efforts of American shipbuilders and merchant mariners during the Second World War.

AN INVITATION
TO JOIN MYSTIC SEAPORT MUSEUM

Are you a Seaport member? As a member, you will be supporting the Museum's goals of preservation and education in our nation's maritime history. You will receive, in addition, the following benefits:

Unlimited free admission. At the Family level and above, this privilege is extended to the spouse of the member, their children 18 and under, or grandchildren 18 and under.

Subscription to THE LOG OF MYSTIC SEAPORT, a quarterly magazine devoted to articles on maritime subjects.

Subscription to THE WIND ROSE, the Seaport's bimonthly newsletter and calendar of events.

A discount on boat dockage for Individual, Family, and Participating members. Sustaining and above receive one night free dockage each visit, in addition.

A ten percent discount on purchases at the Mystic Seaport Museum Stores, Inc. You will also receive a catalog for shopping at home.

Purchase of guest ticket books at half the admission value.

Discounts on Museum sponsored classes and special events. A free member's window decal. Special member's ties, burgees, and scarves may be purchased.

Memberships, which also make welcomed gifts, are available in the following categories:

Individual (annual)	$ 25.00	Associate	$ 250.00
Family	40.00	Benefactor	500.00
Participating	50.00	Life (single payment)	2500.00
Sustaining	125.00		

Contributions to Mystic Seaport Museum are deductible within legal limits for U.S. income tax purposes. Please make your check payable to Mystic Seaport Museum, Inc., and send to Membership Office, Mystic Seaport Museum, Mystic, CT 06355.



PLANNED GIVING TO MYSTIC SEAPORT

The Seaport continues to benefit from the generosity of many members who included the Museum in their estate plans. Their gifts have established memorials, funded specific projects, and supported the general purposes of the Museum. The importance of these gifts to the maritime education and preservation programs at Mystic Seaport can hardly be overemphasized.

A will is the foundation of any well-planned estate; the bequest, therefore, is the method most often used to make a planned gift to the Seaport. A bequest may be for a specific dollar amount, a percentage of an estate, the residue of an estate, or may name the Museum final contingent beneficiary. In addition to financial support, gifts such as boats, real estate, collections, and artifacts have come to the Museum by bequest. With careful planning, your bequest can perpetuate your support of the Museum while deriving maximum benefits from estate and inheritance taxes.

Ways to include Mystic Seaport Museum in your will

Specific Sum or Specific Property: I give to Mystic Seaport Museum, Inc., a corporation existing under and by virtue of a charter granted by the State of Connecticut, and located in Mystic (Town of Stonington) in said State, the sum of $_____, or the property herein described.

Percentage of Estate: I give to Mystic Seaport Museum, Inc., a corporation existing under and by virtue of a charter granted by the State of Connecticut, and located in Mystic (Town of Stonington) in said State, _____% of my estate for its general purposes.

Residue of Estate: All the rest, residue, and remainder of my estate, both real and personal, I give to Mystic Seaport Museum, Inc., a corporation existing under and by virtue of a charter granted by the State of Connecticut, and located in Mystic (Town of Stonington) in said State, for its general purposes.

We hope these sample provisions are helpful to you as you consider supporting the Seaport through your will. If you have questions, we would be pleased to provide additional information. Please write or telephone the Museum's Development Office (203-572-0711).



THE LOG OF MYSTIC SEAPORT

Mystic, Connecticut 06355

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