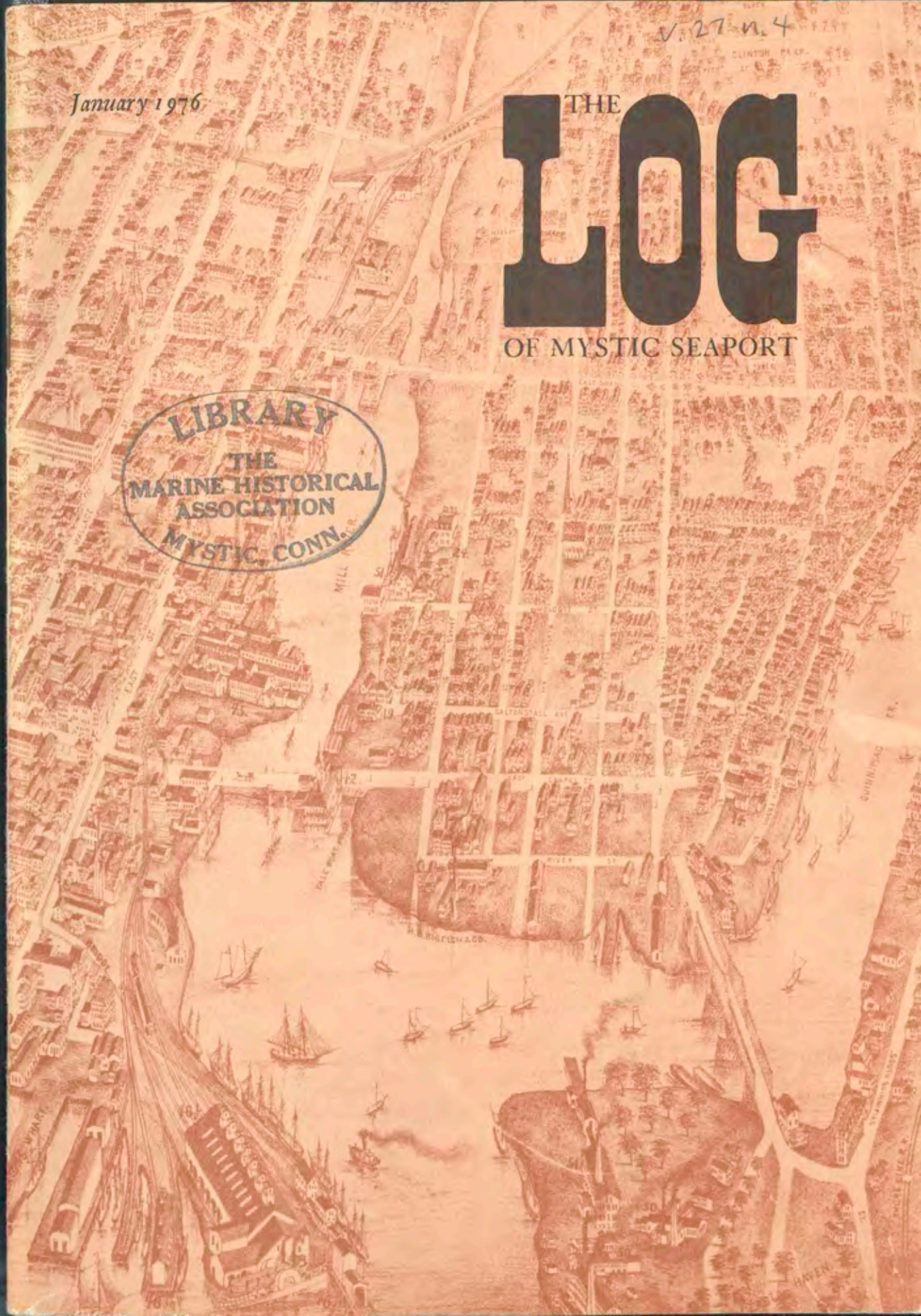
v. 27 n. 4

January 1976

THE LOG OF MYSTIC SEAPORT

LIBRARY
THE
MARINE HISTORICAL
ASSOCIATION
MYSTIC, CONN.



Officers and Trustees of Mystic Seaport, Inc.

Francis Day Rogers, *Chairman of the Board*
William C. Ridgway, Jr., *President*
Waldo Howland, *Vice President*
Clifford D. Mallory, Jr., *Vice President*
William H. Moore, *Vice President*
Atwood C. Ely, *Treasurer*

TRUSTEES EMERITUS
John P. Blair
Jan S. Irvine
Leonard P. Moore
Joseph S. Santin
Rudolph J. Schaefer
Jerome W. Sinsheimer
John R. Wheeler

BOARD OF TRUSTEES
Robert P. Anderson
Homer D. Babbidge, Jr.
Rensselaer W. Bartram III
E. Jared Bliss, Jr.
James L. Christy
Percy Chubb II
Briggs S. Cunningham
John Deupree
John W. Draper
F. George duPont
Mrs. Henry B. duPont
Atwood C. Ely
William P. Gwinn
Waldo Howland
Jakob Isbrandtsen
Lionel Jackson
Irving M. Johnson
Donald B. Kipp
Robert P. Koenig
Stanley Livingston, Jr.
Charles S. Lowry
John Macomber
Clifford D. Mallory, Jr.
G. Barron Mallory
Margaret P. Mallory
Richard C. McCurdy
Thomas L. Miller
William H. Moore
Robert L. Newell
Alfred Ogden
Harris B. Parsons
Hugh M. Pierce
William C. Ridgway, Jr.
Critchell Rimington
Francis Day Rogers
Peter D. Sanger
Rudolph J. Schaefer III
Henry A. Scheel
Emil Silberman
E. Newbold Smith
William Wikoff Smith
Olin J. Stephens II
Robert G. Stone, Jr.
Oscar S. Straus II
Rudolf L. Talbot
Alexander O. Vietor
Thomas J. Watson, Jr.
William Blunt White
Thomas R. Wilcox
Jacques D. Wimpfheimer

Staff Officers

Waldo C. M. Johnston, *Director*
Donald P. Robinson, *Associate Director, Museum Operations and Finance*
Franklin Kneedler, *Associate Director, External Affairs*
J. Revell Carr, *Curator*
Oliver Denison III, *Secretary and Assistant Treasurer*
Michael D. Sturges, *Associate Director, Education and Interpretation*
Benjamin W. Labaree, *Director, Munson Institute*

The Log *of Mystic Seaport*

Editorial Board: Percy Knauth, *Editor*; Dorothy E. R. Brewington, J. Revell Carr, Flora H. Fairchild, John Gardner, Waldo C. M. Johnston, Donald R. Judge, Franklin Kneedler, Albert O. Louer, Michael D. Sturges
Photography Staff: Ken Mahler, Mary Anne Stets, Claire L. White
Design and Production: Klaus Gemming
Copy Editor: Elizabeth Gemming

Members and friends of Mystic Seaport are encouraged to submit articles and photographs for consideration by the Editorial Board. Prospective authors may obtain editorial guidelines from the Publications Department at the Seaport. All articles published in *The Log* are the responsibility of the signed authors and may not always express either the views of the Board or the policies of Mystic Seaport, Inc. © 1976, Mystic Seaport, Inc., Mystic, Connecticut 06355. All rights reserved. Composed by Finn Typographic Service, Inc. Printed by The Meriden Gravure Company. Bound by Mueller Trade Bindery Corp.

COVER: The City of New Haven, Conn., 1879 (*detail*). *Drawn & published by O. H. Bailey & J. C. Hazen, Boston.*

FACING PAGE: *The fishing smack* Emma C. Berry, *built at the R. & J. Palmer shipyard in Noank in 1866 and restored at Mystic Seaport in 1971. Fourth in a series of drawings by the late John F. Leavitt depicting vessels built on the Mystic River.*

Volume 27, Number 4 / January 1976

THE LOG
OF MYSTIC SEAPORT

CONTENTS

Some Aspects of the Sharpie and Its Work
JOHN M. KOCHISS *98*

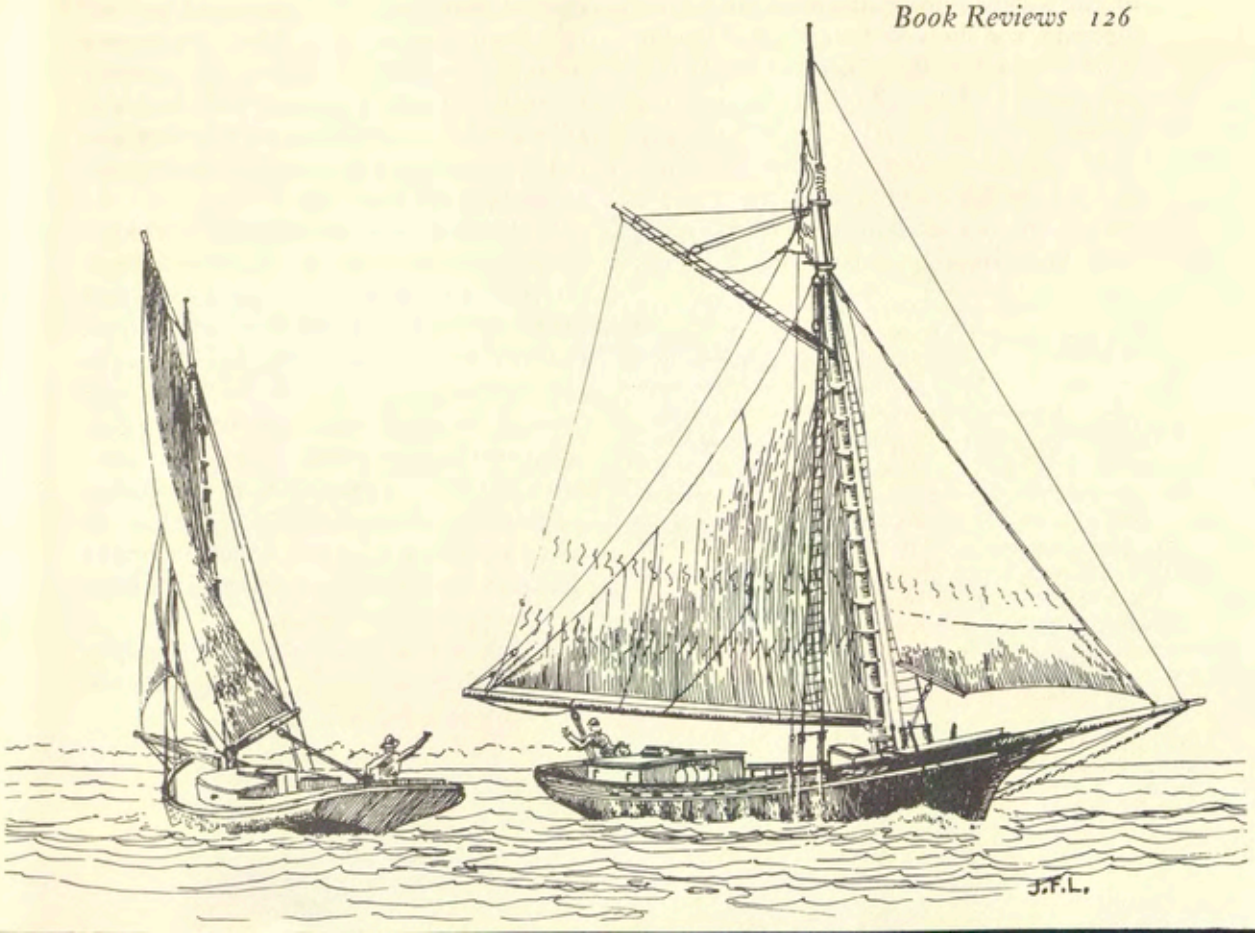
Salt Cod in New England: From Ocean to Table
SANDY OLIVER *104*

The Search for the Shad Boat
ISABEL BARTEN *112*

Cod, Menhaden, and Lobster Fishery
JOHN M. KOCHISS *118*

Director's Page *125*

Book Reviews *126*



Some Aspects of the Sharpie and Its Work

By JOHN M. KOCHISS*

Are you, by any chance, coming to the Seaport by way of southern Connecticut? If so, and if you can keep one eye safely on the road and the other roaming the seascape, then you can psych yourself up for our New Haven sharpies and for the new oystering exhibit. For out there on your right as you drive up on Interstate 95 is the Sound with all the watery indentations where skiffs, dugouts, sharpies, sloops, and schooners sailed and worked at gathering that "delectable morsel," the oyster.

Of all the boat types the Connecticut oystermen loved and hated or were indifferent to, the sharpie remains the most unique, indigenous, and above all functional of the lot. It fit so well into the scheme of things that you might have thought it was somehow a product of nature like the oyster it pursued.

As you drive along, consider the oyster first, for it is after all the *raison d'être* of the sharpie. In colonial days and earlier, oysters grew in nearly every creek, inlet, bay, and estuary along this coast. In these rather protected areas, which can be termed inshore grounds, the depth of water ranged anywhere from a few inches to ten or fifteen feet. Oysters were gathered here by hand, bull rake, and, most notably, by tongs from small boats.

Oysters also grew naturally in depths of fifteen to thirty-five feet in certain deeper waters up to a mile or so offshore. In these waters only a hand-hauled dredge was used, generally off a larger and heavier boat such as a sloop. Both of these tonging inshore and dredging offshore oyster grounds, where oysters grew naturally, were and are still called natural oyster beds. The wider expanse beyond these beds in waters over roughly thirty-five feet were not ordinarily favorable for reproduction and remained relatively barren of oysters until the arrival of oyster cultivation after the Civil War.

In the early days, and quite unlike today, all one had to do to satisfy his desire for oysters was to wade into the shallows and pick his fill by hand or gather them from a boat. But there are many who were not inclined to get their feet wet or able to use a boat, so as demand increased, watermen turned to oystering at the appropriate season. Next some of them began to specialize, or concentrate on either the inshore or the offshore beds. In other words, they became either tongers or dredgers. It seems, though, that most of those early oystermen were tongers.

You can almost sense this in the geography as you drive through Stamford, Norwalk,

*John Kochiss has been a research associate with Mystic Seaport for the past eight years. During this time he has written *The Deadeye: How It Was Made in Lunenburg, Nova Scotia* and the recently published *Oystering from New York to Boston*. The article printed here is a spin-off from the oystering research. Most of the material came from the memories of the following Connecticut oystermen: Eric Ball and the late Elisha Ball, of Fair Haven and Stony Creek respectively, whose father owned and worked the Seaport's two sharpies and dugout canoes; George Chase, Jr., of Milford, a one-time sharpie man; Bill Ciaurro, Bridgeport's harbormaster; and the late Charles Gertsch, an oyster-boat captain whose father was a New Haven sharpie man.

Bridgeport and Stratford. Oysters once grew abundantly here. Only a small tonging boat of less than twenty or twenty-five feet was needed, and almost any small boat was used, like the ubiquitous and common skiffs and scows. There were no long distances to travel to market or to the oyster grounds. But after we pass Milford and hit New Haven we have another story.

Sharpen your eyes now as you take some four minutes to pass by New Haven harbor, the home of the famous sharpies. About two miles after leaving the West Haven toll station the landscape opens up at City Point to reveal the full expanse of the harbor. Oysters propagated and grew all over that expanse, from the Quinnipiac River at the head of the harbor all the way out to the present breakwaters on your far right.

You may be lucky to hit it at low tide and see the stretches of flats and the long sandbar on your extreme right reaching out toward the center of the harbor. Ages ago the oystermen called this "the beach," and they deposited Chesapeake oysters there for further growth before marketing them when their own local supply began to dwindle.

A little farther on, just after the Interstate 91 cut-off, you cross over the Quinnipiac River. Now sit high in your seat and if you're quick you'll spot on the left the river and the houses, chimneys, churches, and oil tanks clustered about it. This is Fair Haven, now a part of New Haven but once a separate little community devoted to oystering and the allied industries of boatbuilding and coopering. And somewhere on one side or the other of that river, sometime way back in the early 1800s, was the actual birthplace of the famed sharpie. All that you now fleetingly see was once sharpie territory—the scene of its birth, life, work, and death.

The birth of the sharpie, like almost everything, followed a long period of incubation. New Haven's long tradition of oyster-gathering reaches back to the time of the Indians.

Heading home, a fully loaded sharpie sails up the harbor before the wind. The oysterman, who tonged this load through weary hours, is grateful for a rest.



Yet, up to roughly 1812, oystering here, and elsewhere for that matter, was a primitive, rather unorganized affair conducted primarily by individuals. Few if any oyster companies existed. As increasing demands for oysters kept pace with an expanding population, companies started to form, during the 1830s and 1840s. But even these were essentially one- or two-man organizations, or family units at best. The individual free-lance oysterman sold his oysters locally or to these oyster companies.

By the mid-nineteenth century New Haven with its vast oyster supply and large concentration of oystermen had emerged as the chief supplier to inland Connecticut, western Massachusetts, Vermont, and parts of New York State.

Well before the sharpie appeared, the batteau, scow, skiff, and most notably the dugout canoe served the New Haven tongers quite well. But the sharpie evolved nevertheless, perhaps because of the disappearance of the hefty trees needed to build the oysterman's favorite, the dugout. In any case there was obviously a need for another, more effective craft. And so the sharpie appeared, perhaps as early as the 1820s, as a replacement and indeed as a direct descendant of the dugout and the skiff. Actually, it is nothing but a big, refined flat-bottom skiff with a centerboard and sails. But what a refinement! It fulfilled all the demands the oyster business, human nature, and geography placed upon it, with good looks and speed thrown in.

Sharpies were inexpensive and easy to build, rugged for holding oysters and shoveling them out, and required little attention and repair—hence they were long-lasting. They could be sculled the full length of the five-mile long harbor if necessary (oars were not practical), and could also work to windward like a yacht. Seaworthiness was not a requirement and was not built into the sharpie, for her working grounds, as you can see, were within rather well-protected bounds. She was simply a harbor or bay tonging craft.

The sharpie's most characteristic feature is her flat, almost nonexistent underbody. New Haven demanded it. The harbor has always been as shallow as a dish. In the 1830s, when the sharpie was evolved, the deepest part, a natural channel, ran down the center. The depth in the river at Fair Haven to "the beach" was at most seven to nine feet, and from there to the lighthouse seventeen or eighteen feet at low tide. From the channel it shoaled for long stretches to one foot, and a large section ran bare at low tide. The harbor was truly the client to the sharpie's designer.

The oystermen's homes in Fair Haven were built just up from the sandy beaches along the river banks (try to find the sand today!). For lack of water depth, few if any docks were built here before 1850. Boats were simply pulled or rolled up on the river banks for unloading and for the night. No deep-keel boat would do here or anywhere else in New Haven.

The environment and the day-to-day activities of oystering combined to fashion the sharpie's characteristics—low free-board, side decks a man's foot in width, easily shipped spars, simple rig, and others.

The oystermen took full advantage of the six-foot tidal range here. They worked only on the lower part of the tides, to avoid both lifting that additional distance and having to add the extra lengths necessary on the tong handles. Therefore they set out for the beds on the outgoing tide so that they would have two to two and one half hours' work on each side of dead low. Sometimes they left at four in the morning to hit the tide right. They occasionally worked two tides a day, or twelve hours, which meant little sleep. Since many in Fair Haven lived deep in the harbor, the outgoing tidal flow helped them on their way out and the flood aided them coming in. They seldom or never fought the tides. With fair winds they sailed out; in calms they sculled.

The geometrically shaped beds were all marked like any land property, but instead of a stake or pipe at the corners New Haven oystermen drove or anchored long saplings,



Waiting for the bridge, two sharpies are anchored together in the swift-running tide. This is probably an early morning scene, as suggested by glowing lights on the bridge.

often with the leaves still on, into the bottom. The waters, especially at Morris Cove just north of the lighthouse, looked like a veritable forest growing out of the sea.

Upon reaching the bed, the tonger tried to position or anchor his sharpie parallel to the current, if any, with the stern to it. The wind was allowed to come from almost any direction except forward of the beam. To anchor this way, the oysterman forced two brass-tipped yellow pine poles (sometimes called spuds), almost as long as his boat, into the bottom. One was set a few feet in from the bow on the starboard side, and the other one on the port side (sometimes on the same side) a few feet in from the stern. Lines hitched to the poles and cleated to the sharpie held it in place. Some men preferred to use only the forward pole. In this case the tiller was removed and the rudder allowed to swing freely under the influence of the current. Perhaps because the rudder was counterbalanced, it apparently kept the boat steady as she swung from the single forward pole.

Using a regular anchor off the boat was considered inefficient, for the boat might swing at the mercy of the current and wind and tonging then became spotty. If an anchor was used, however, the boat was anchored by the stern.

Anchoring by poles, though, was not the only way to steady the boat. It all really depended on the tide, wind, currents and bottom. In the Housatonic River in Stratford, some ten miles to the southwest, the sharpies were anchored by the bow, and a bushel basket hung a few feet off the stern kept the boat in line in the swift-running river.

Tonging required technique and brawn. The New Haven tonger stood on the side deck and worked one side at a time with his twelve- to fourteen-foot tongs. He lowered the tongs, scissored for a load, raised and dumped the half bushel or so in the boat, and repeated the process over and over again, perhaps culling in between. When both sides were tonged out, he moved the boat sideways about a quarter to half a boat width. One way

to do this was to lift the after port pole, untie the forward one, shift the boat and then tie the port bow to the pole still in the water. The after pole was then driven in at the starboard quarter. Tonging now on the port side cleared the area formerly under the boat which the tonger could not previously reach; the starboard side was, of course, fresh ground. If a current were flowing he made sure he tonged on the upper end of the flow so that later on he could catch any oysters that had fallen from the tongs and drifted with the current.

When winds were strong, sails were lowered and furled on the sprit. Most commonly, though, the halyard was wrapped around the sails and mast and the sprit was placed on the deck somewhere out of the way of the oysters. In light airs on one-masters, the stern was positioned to the wind and the sails and sprit allowed to swing right around over the bow to flop gently completely clear of everything. For this one reason, at least, the sharpie's mast had no supports whatever. It must have been a strange sight for those yachtsmen who were accustomed to lots of shrouds and stays. The mast was usually stepped into a brass cup, which gave the mast's heel a relatively friction-free pivoting point, for the mast might indeed rotate with the sails.

A day's tonging might run to about thirty to fifty bushels of oysters. An experienced man working on good ground could tong 100 bushels, but that was some tonging! If two men worked on the same ground they might conceivably gather 200 bushels, but a 200-bushel boat was not really necessary even with two men, for they did not ordinarily tong anywhere close to that amount. Two sharpie sizes were therefore built—a seventy-five to 100-bushel boat about twenty-seven feet long for a lone tonger, and a bigger, thirty-five-foot boat that could carry up to 175 bushels for a two-man team.

When quitting time came, poles were pulled and home they went. After the arrival of the oyster steamers in the 1870s, sharpie men waited for a tow through the bridges that regularly swung open for the steamers in the afternoon. Even today, the diesel-powered oyster boats come through the bridge around the same time, about 3:30. Look for

The catch is transferred to a horse-drawn cart at the water's edge. From here the oysters will go either directly to market or to a commercial oyster firm.



them on your way home if it's a weekday. In the early days the bridges were not manned at all times, and the sharpie men often had to unstep the masts and scull under them. They must have been mighty strong men to handle the heavy, unwieldy masts. It seems likely, though, that those spars may have been extra light, and there was a certain knack to the operation. Perhaps the bundled-up sail at the foot helped as a counterbalance or support of sorts.

This brings up the matter of the number of masts used on the working sharpies. From at least the 1890s, or within living memory, most sharpies, of all sizes, carried one mast, not only because of the nuisance of the bridges but also because two masts would get in the way when tonging. Additionally, two masts in any kind of a wind required too much attention for one man and plenty even for two. One mast and sail was really enough to sail home on even in the bigger, so-called two-man sharpies. By all oral accounts, two masts were stepped only on Sundays for a sail with the family or for racing.

The New Haven sharpie era spanned about 100 years. According to some, the sharpie evolved in the 1820s, established itself as a popular type by 1849, and ended its days shortly after World War I, when pollution forced health authorities to ban oystering in New Haven harbor. Now oysters still grow somehow in parts of the harbor, but only the big companies are left and can afford to oyster there. They are required to transplant harbor oysters to their other grounds in cleaner waters offshore or on Long Island, where the oysters eventually purge themselves of harmful bacteria and are then suitable for eating.

Upon passing New Haven again on your way home from the Seaport, send your mind's eye back 125 years to the sharpie's heyday. Your day is done. You have a good load. Tongs and poles are shipped and thoughts turn to home. Is the sea calm or ruffled? Will you have to scull, tired in back and muscles, or can you finally relax and gently sail home?

PAINTINGS BY MAX DELLFANT (1865–1944) COURTESY OF MRS. WILLIAM VEALE.

The "watch house" on the beach off City Point housed a watchman who protected the oyster beds against poachers. At low tide it was considerably above water.



Salt Cod in New England: From Ocean to Table

By SANDY OLIVER*

If New England's rocky and forested coast really looked as forbidding to early explorers as tradition claims it did, then the cold, clear waters full of fish must have seemed to hold much more promise for them than the land. For centuries prior to English settlement both Scandinavians and European mainlanders had fished the North Atlantic, establishing temporary fish-drying camps along the coasts of Newfoundland, Nova Scotia, and possibly even New England that they abandoned at the close of the fishing season when they sailed home.

In 1602 an Englishman named Bartholomew Gosnold, looking for sassafras along the New England coast, anchored his ship, the *Concord*, near a cape where his crew took on board a great quantity of codfish. In honor of their catch, they named the place Cape Cod.[1]

About twelve years later, Captain John Smith explored the New England coast and noted the abundance of fish. When he returned to England in 1616, he wrote his *Description of New England*, in which he expressed his conviction that fish was the most easily extracted resource of the New World, and predicted that settlers there could build a healthy economy based on the fishing industry.[2]

We know, of course, that the Puritans who settled in Massachusetts meant to found a commonwealth dedicated to the glory of God, but there were, no doubt, those who had read Captain Smith's pamphlet and were well aware of the marketable value of the fish that were theirs for the catching.

During the first decade of Puritan settlement, fishing supplies and fishermen were as welcome from England as food for the colony. The fish would keep the settlers alive while they learned to farm in New England, even if the fish were not always as well appreciated as they might be. As one member of the company backing the Plymouth Plantation wrote Governor Bradford from England in 1623, "If the land afford you bread, and the see yeeld you fish, rest a while contented, God will one day afford you better fare."[3]

Not for food alone, however, were fish enticed to Puritan nets and hooks. Efforts were made to encourage fishing as an economic venture in New England, and as one historian has observed, "In the colonial history of that section, commerce smells as strongly of fish

*Sandy Oliver is a native of Brookfield, Connecticut, and an alumna of the University of Connecticut at Storrs. In her varied career she has been a gardener, a weaver, and, above all, the organizer of the fireplace cooking demonstrations at the Seaport's Buckingham House, for which she researched all the recipes and cooking techniques. She is currently on a leave of absence to continue her studies in history at Clark University.

[1]Albert C. Jensen, *The Cod* (New York: Thomas Y. Crowell Co., 1972), p. 86.

[2]Capt. John Smith, *Works*, ed. Edward Arber, The English Scholars Library, no. 16 (Chilworth and London: Unwin Brothers, The Gresham Press, 1884), pp. 198–9.

[3]William Bradford, *Bradford's History of Plymouth Plantation*, ed. William T. Davis, "Original Narratives of Early American History" (New York: Barnes and Noble, Inc., 1908), p. 155.

as theology does of brimstone."[4] During the first hundred years of colonization, much of the codfish catch was sold to the Catholic countries of Europe, and much was carried also to the West Indies, where it was traded for sugar and molasses. In the days of the triangular trade routes—from New England to Spain and the African coast, thence to the West Indies, and then home—codfish formed one leg of the lucrative fish-slaves-rum exchange that established the fortunes of many of New England's oldest families.

Other industries, too, were stimulated by the fishing business. Salt works, for example, sprang up all along the coast, pumping sea water into evaporating vats to produce the much-needed preservative for the far-traveling fish and justifying Francis Higginson's observation in 1630 that "there is a probability that the Country is of an excellent temper for the making of Salt." The fishermen of Salem, Higginson wrote, found natural sea salt "candied by the standing of the Sea water and the heat of the Sunne, upon a Rock by the Sea shore."[5] From the seventeenth to the nineteenth centuries the production of salt, while not a key industry, was at least important enough for Connecticut to institute a bounty on salt during the Revolution.[6] This was done to encourage domestic production and reduce dependence on foreign supplies.

To say that the shipbuilding industry was stimulated by fishing is almost an understatement. The impact of fishing is illustrated by the existence of specially designed craft adapted to specific fisheries and of diverse geographical requirements for working vessels. Shipbuilding itself stimulated other crafts and manufactures, so that gradually a network of economic interdependence evolved from the foundation of fisheries. A good illustration of this is nineteenth-century Essex, Massachusetts, whose shipyards built most of the schooners used by Gloucester fishermen.[7]

Of all the fisheries in existence along the New England coast from the first settlement until the recent past, the best known flourished during the nineteenth century. Gloucester fishermen pulled millions of tons of codfish out of the Atlantic, split and salted them, then raced one another home to market. At the same time, coastal families fished cod in season for their own use, salted and dried it at home, and hung the fish by their tails on attic clotheslines for Saturday-night suppers. The salted cod's route from the ocean to the table, whether commercially or domestically processed, is a fascinating one. The amount of salt used in preserving the fish varied. The size of the fish, the season of the year, and the ultimate flavor of the fish had to be taken into consideration by the salter.

Kenching and pickling were two methods of preservation by salt. Kenching was a dry process in which the brine formed by the salt and the moisture it extracted from the fish ran off and was pumped out of the vessel. Pickling was a wet process in which the brine was retained; the salted fish were pickled in coopered containers such as barrels or butts. In the nineteenth-century Gloucester fishery, the fish were kenched aboard and pickled ashore. On the Grand Banks schooners, alternating layers of fish and salt were arranged in kenches, or mounds, in fish pens built in the hold. The salter took care to stagger the load to maintain the trim of the vessel. The pens prevented a disastrous shifting of the catch from one side of the vessel to the other.

On arrival in port, the load of fish was discharged, washed, and sometimes resalted, with the fish going into containers to await

[4] James Truslow Adams, *The Founding of New England* (Boston: Atlantic Monthly Press, 1921), p. 11.

[5] Francis Higginson, *New England's Plantation with the Sea Journal and Other Writings* (Salem: Essex Print and Book Club, 1908), p. 98.

[6] Carol Kimball, *The Groton Story* (Stonington: Pequot Press, 1965), p. 20.

[7] Dana Story, *Frame Up* (Barre: Barre Publishers, 1964). Written by a shipyard owner's son, this is a fascinating account of life in a shipbuilding town.



In old Gloucester, acres of codfish lie drying in the flake yard. Fishing schooners are tied up at piers in the background.

drying. When it was time to dry the fish, they were piled up in kenches again, with the weight of the fish squeezing out excess water. This was called water-horsing. A kench was usually rearranged to give the top fish some time on the bottom of the heap. Then the fish were spread on drying racks, called flakes, where they stayed until the fish was as dry as the market required.

The farther the fish had to travel to market, the drier and harder they had to be. If they were to be boned and packed for sale in the familiar wooden boxes, they had to be dried for only a day or so. If they were to be exported there were some additional steps in their preparation. After the initial two or three days of drying, the fish would be piled up once more in kenches where they "sweated," or collected moisture, for a couple of days; then, after sweating, they would be dried for three or four days. This routine of sweating and drying might be repeated two or three times more before the fish received their final drying of a week or ten days. They were then ready for shipping.

As the nineteenth century progressed, more sophisticated processes and equipment were developed to prepare the fish for market. Different sorts of salt were tried, various new techniques of salting and drying were adopted, and a number of machines were invented that more or less efficiently removed the skin and bones and packaged the fish, in solid blocks for boiled dinners or shredded for codfish balls.

Other products of the codfish—the liver, "sounds" or air bladders, tongues, and cheeks—deserve some attention. During the first half of the nineteenth century, the livers, saved during the splitting process, were put in a barrel on board the fishing vessel. They were allowed to rot, and eventually the oil floated to the surface, dark and potent, ready for medicinal use. By the middle of the century a steam process was used to refine a lighter colored and less odoriferous cod-liver oil. It was a widely used tonic long before vitamins were discovered in it, during the twentieth century.[8]

[8]Jensen, pp. 58–9.

The sounds were sometimes saved in fish splitting and salted and sold for the making of isinglass, a gelatin that could be used in glue making or as a thickening agent in cooking. A publication of the United States Fisheries Commission in 1899, however, recommended that they be discarded with the backbone because their low price did not warrant saving them.[9] Domestic fish processors probably kept the sounds, salted or fresh, for food. Enough flesh surrounds the sound bones to make a very decent dinner when properly prepared.

In the early days, the tongues were set aside as a count of the fishermen's catch. Later they were salted and kept to be cooked. Because of the labor involved, tongues and cheeks were no doubt less frequently removed on board the schooners of the later nineteenth century than by fishmongers and home fishermen working ashore. Ways of cooking the sounds, tongues, and cheeks will be discussed later.

Fish splitting and drying demonstrations have been carried on for about a year at Mystic Seaport by the Special Demonstrations Squad. We follow the procedures described here, combining the aspects of home and commercial processing most suitable for our needs. Any problems we have encountered here have not been new: sunburned and softened fish, and flies too, had to be dealt with in the nineteenth century as well.

Sunburning is caused by excessive exposure to the sun, which overdries the fish, very much as freezer burning does, and turns it yellow. In the nineteenth century, cotton awnings were stretched on frames above the fish flakes when the sun was hottest. Because we at the Seaport have been drying fish year round, our sailmaker has made us an awning which we use during the troublesome months of July and August. We also turn the fish flesh side down so that the skin is towards the sun. Traditionally, October and November, when cool, clear weather predominates, have been the best months for fish drying.

Softening occurs if not enough salt is applied during the first salting, or if there is cloudy, damp weather during the drying period. Flake boxes—wooden covers—were put over the piles of fish to protect them from inclement weather. In fact, the fish were covered every night to keep the dew off and laid out again in the morning. If the fish are rained on, they can be resalted, but the final product is of inferior quality.

By keeping the drying area perfectly clear of refuse, fish processors discovered a century ago that they could reduce the number of flies; failing that, the flakes and the ground around them could be sprinkled with lime or salt to kill maggots. We have found that a careful initial salting of the fish goes further in preventing maggots than any subsequent measures. The salt also discourages rodents and other animals, but our experience is that both cats and dogs will attempt to raid the flake anyway, usually abandoning the fish once they have discovered its excessive saltiness.

Given proper care, the fish will keep indefinitely once they are dried and ready for storage. Hot and muggy or rainy weather causes the salt in the dried fish to absorb moisture out of the air, and the fish sweat. They will then begin to disintegrate or mildew unless they are set outdoors in the sun or spread apart for a while in a dry room. Mildewed fish can be scrubbed with a stiff brush and used as planned. Probably the best storage area for salt fish is a dry place where the fish can be hung with the air circulating all around them.

What did a nineteenth-century housewife do to prepare a salt fish for dinner? Like all dehydrated foods, the fish first of all had to be soaked. Even if the fish was just corned, that is, salted through but still wet, it had to be freshened. Personal taste determined the

[9] Charles H. Stevenson, *The Preservation of Fisheries Products for Food*, U.S. Fisheries Commission Bulletin for 1898 (Washington: Government Printing Office, 1899), p. 391.



Ready for cooking, a salted and dried codfish lies in the sun in the Buckingham House kitchen.

length of soaking time required, but an overnight bath in fresh water softened the fish and removed enough salt to make it palatable. Saltiness could be regulated by the number of times the water was changed during either soaking or cooking.

Recipes for preparing salt cod can be found in the writings of the seventeenth and earlier centuries. The first recipe included here was recorded in 1763 by a Mrs. Gardiner of Maine. She suggested the following preparation of "bacalao," or salt dried codfish:

Dried Fish, to dress

Ling, Bacalao, Dumbed Fish &c should be steeped in lukewarm Milk and Water, for twelve Hours, keeping the Milk and Water, all the time of the same Degree of warmth, as nearly as possible; which may be done, by putting them into your Fish Kettle, and hanging it in the Chimney Corner. After they have been thus steeping for twelve hours, they should be taken out, and hung up, by the Tails, untill they are dressed. By thus hanging them up, they soften equally, as in steeping without extracting too much of their Flavour, or rendering them insipid. When you dress them, cut them into oblong-square pieces, about twelve Inches long, and eight broad, and lay them upon an Elm or Ash or Oak Board or Trencher, about half an Inch thick and about half an Inch wider and longer than your pieces of Fish and place another such board or Trencher, over the Top, or upper part of pieces of Fish and, with Twine or very small Cord, tie all together. Having thus got your fish prepared put the same into your Fish Kettle, covering the whole with Milk and Water, and keep the flame just simmering over an equal Fire; where they will be done in two or three Hours. About ten minutes before you take up your Fish, let your Kettle boil. Get a Napkin, make a little warm,

The first step in preparation is to break the fish in pieces. Dried cod are hard and break quite easily.



and turn your Pile of Fish from between the napkin and cover them up with such Napkin so that the fish may be kept warm, all the time it is at Table.[10]

The women who cooked in homes like the Buckingham House during the first quarter of the nineteenth century were the daughters and granddaughters of Mrs. Gardiner's generation; they may have found her recipe less appealing than the less complicated one written by Lydia Maria Child in *The American Frugal Housewife*, first published in 1829. She recommended the same treatment for salt fish as most cookbook writers:

Salt fish should be put into a deep plate the night before you intend to cook it. It should not be boiled an instant; boiling renders it hard. It should lie in scalding hot water, two or three hours. The less water is used, and the more fish is cooked at once, the better.[11]

The cooks in the Buckingham House have found that a few steps should be taken before soaking the fish to make handling it simpler. We usually start with a whole dried fish, which we break into three or four pieces so we can use a smaller container for soaking than would be otherwise required. The skin is sticky and difficult to handle once the fish is reconstituted, so it and the fins with all their tiny bones can be peeled away from the flesh most easily before soaking. Whatever parts of the fins do not come off with the skin can be removed later. The tail and any remaining backbone is also removed and discarded.

Most nineteenth-century New Englanders preferred their cod boiled with vegetables—potatoes, beets, carrots, turnips. Mrs. Child recommended a sauce of "Water thickened

[10] Anne Gibbons, *Mrs. Gardiner's Receipts from 1763* (Hallowell: White and Horne, Co., 1938), p. 45.

[11] Mrs. [Lydia Maria] Child, *The American Frugal Housewife*, 12th ed. (Boston: Carter, Hendee, and Co., 1832), p. 59. A facsimile edition of this cookbook has been printed by the Publications Committee, Office of Educational Services, The Ohio State University Libraries, November 1971.





Above: The backbone and tail are removed before the fish is soaked. This operation rids the fish of most of the bones. *Below*: For codfish balls or creamed codfish, the dried fish is shredded before soaking, when it comes apart most easily.

with flour and water while boiling, with sweet butter in to melt."[12] If milk were substituted for the water, this would be the familiar cream sauce.

In the last half of the nineteenth century, salt fish and cream sauce were mixed together as creamed codfish and served on boiled potatoes or toast. In southeastern New England, creamed codfish was sometimes served on johnnycakes, though how widely practiced this was I have not been able to determine.

Another, cheaper sauce was suggested by Mrs. Child: "It is more economical to cut salt pork into bits, and try it until the pork is brown and crispy. It should not be done too fast lest the sweetness be scorched out."[13] The boiled fish was then dished up with the salt pork fat dribbled over it and the pork scraps, sometimes called scrunchions, sprinkled on top. I believe that in the late nineteenth century, in northern New England and the Canadian Maritime Provinces, this sauce was known as "salts and rinds" and was served over boiled fish and potatoes.

If hardtack was soaked overnight, boiled, mixed in with the salt fish and potatoes, and then served with salts and rinds, it constituted a dish called "fish and brewis." Most commonly made aboard Yankee and Canadian ships and fishing vessels during the nineteenth and early twentieth centuries, it has come ashore since in the Maritimes.

The boiled dinner of fish and vegetables traditionally eaten by coastal New Englanders on Saturday night was perhaps even better as leftovers for Sunday breakfast.[14] Mrs. Child wrote:

> Salt fish mashed with potatoes, with good butter or pork scraps to moisten it, is better the second day than it was the first. The fish should be minced very fine, while it is warm. After it has got cold and dry it is difficult to do it nicely. Salt fish needs plenty of vegetables such as onions, beets, carrots, &c.[15]

Codfish cakes could also be made from the salt-fish-and-potato mixture. "There is no way of preparing salt fish for breakfast, so nice as to roll it up in little balls after it is mixed with mashed potatoes; dip it into an egg, and fry it brown,"[16] said Mrs. Child.

In the last part of the nineteenth century, shredded codfish was commercially made especially for codfish balls or cakes, skipping the leftover-boiled-dinner stage. Most recipes from that period suggest potatoes exclusively to be mixed with the fish, with an egg mixed in as a binder.

Another way of preparing salt fish was suggested by the recipe that follows, taken from the *Art of Cookery Made Plain and Easy* published in 1758.

> *To Make a Salt-Fish Pye*
> Get a side of Salt-Fish, lay it in Water all night, next Morning put it over the Fire in a Pan of Water till it is tender, drain it and lay it on the Dresser, take off all the Skin and pick the Meat clean from the Bones, mince it up small, then take the crumb of two French Rolls, cut in Slices and boil it up with a Quart of new Milk, break your bread very fine with a Spoon, and put it to your minced Salt-Fish, a Pound of melted Butter, two Spoonfulls of minced parsley, half a nutmeg grated, a little beaten Pepper, and three Teaspoonfulls of Mustard; mix it all well together, make a good Crust, and lay it over your Dish and cover it up. Bake it an Hour.[17]

This recipe's provenance may be French, which could account for my having been unable to find a comparable nineteenth-century recipe in American cookbooks. "Frenchified" recipes do appear in many of the eighteenth-century English cookbooks that were popular in some sections of early American society. When Americans began to produce their own cookbooks, their recipes reflected a much simpler mode of cooking than existed

[12] Ibid. [13] Ibid.

[14] Mrs. E. A. Howland, *The New England Economical Housekeeper* (Worcester: S. A. Howland, 1847). This is one of several sources that suggests the Saturday boiled salt fish dinner, with fish hash or fish cakes for Sunday breakfast.

[15] Child, p. 59. [16] Ibid.

[17] A Lady, *The Art of Cookery Made Plain and Easy* (London: A. Millar in the Strand, T. Trye near Grays Inn Gate, Holburne, 1758), pp. 225–6.

at the time in France and England.

The codfish sounds, already mentioned, could be prepared in a number of ways. *The Experienced American Housekeeper or Domestic Cookery* printed in 1823 instructed the cook to "Scald [the sounds] in hot water, rub well with salt, pull off the dirty skin, and put them to simmer until tender; take them out, flour and broil."[18] The dirty skin mentioned is merely a thin, gray membrane that covers the top of the sounds and pulls away quite easily. Because the sounds fall apart so readily when cooked, it has proved very frustrating to try to broil them on the gridiron that we use in the Buckingham House. Usually we dip the sounds in cornmeal, then fry them as we do fresh fish. The cooked fish falls neatly away from the bones and the sounds themselves can be discarded. *The Experienced American Housekeeper* recommended this sauce: "Season a little brown gravy with pepper, salt and a teaspoon of soy, and a little mustard; give it a boil with a bit of flour and butter, and pour it over the sounds."[19]

Another recipe in this cookbook suggested a way of preparing the sounds so that they "look like small chickens." To do this, the cook was to boil them in milk and water; then, while they were cooling, make a forcemeat, or stuffing, of oysters, breadcrumbs, butter, nutmeg, salt, and the yolks of two eggs; then, "spread it thin over the sounds, and roll each up in the form of a chicken, skewering it," and roast slowly in a tin oven.[20]

The sophistication of both of these last two recipes indicates to me that they probably did not reflect the most common way of preparing sounds for the average family. It is likely that most families ate them plain, boiled or fried. Care not to waste any part of the fish (or pig or beef animal) is typical of most early cooking.

The tongues and cheeks made the finest delicacy available from the cod. It is reasonable to assume that tongues and cheeks are to be found historically and at present only along the coast. Storage does not improve them and, unless salted, they could not travel very far. As a food restricted to coastal areas, they only occasionally appear in early cookbooks.

The tongues kept salted as a count of the fisherman's catch had to be soaked before cooking just as corned fish was. The usual way of preparing them was to dip them in beaten egg, then into flour, then into egg again, before frying them in butter. The cheeks were prepared the same way. Late-nineteenth-century cookbooks suggest scalloping tongues and cheeks.

In 1895 one writer optimistically observed about the American fisheries that "there is no reason to suppose that there will ever be any diminution in the supply of fish. There is no limit to the area of American waters where edible fish are to be found."[21] When he was writing, Gloucester still had a great fishing fleet; towns like Essex were still building beautiful fishing schooners; inventions that would revolutionize the fishing industry were still in the future. With his turn-of-the-century exuberance, he could not have foreseen two world wars and the industrialization that would so drastically shrink New England's fisheries. Nor could he have imagined the millions of hungry people yet to be born all over the world, who would come to the North Atlantic to fish for food, reducing the numbers of even the prolific cod.

Cod are not gone from New England waters, but they are certainly not as abundant as Gosnold and Smith knew them to be. Yet scarce or plentiful, salted or fresh, cod has made an impact on New England's economic history and gastronomic culture.

[18] *The Experienced American Housekeeper or Domestic Cookery: Formed on Principles of Economy for the Use of Private Families* (New York: Johnstone and VanNorden, 1823), p. 15.

[19] Ibid. [20] Ibid.

[21] Chauncy DePew, *One Hundred Years of American Commerce* (New York: D. O. Haynes and Co., 1895), p. 395.

The Search for the Shad Boat

By ISABEL BARTEN*

The Hudson River shad boat is an artifact of a regional fishing tradition that has been all but obliterated in modern times. Smooth-planked, round-bottomed, eighteen to nineteen feet in length and with a beam of some five feet, the shad boat is finely built fore and aft for easy rowing. Her wide wineglass sections aft provide ample buoyancy for hauling nets and carrying fish.

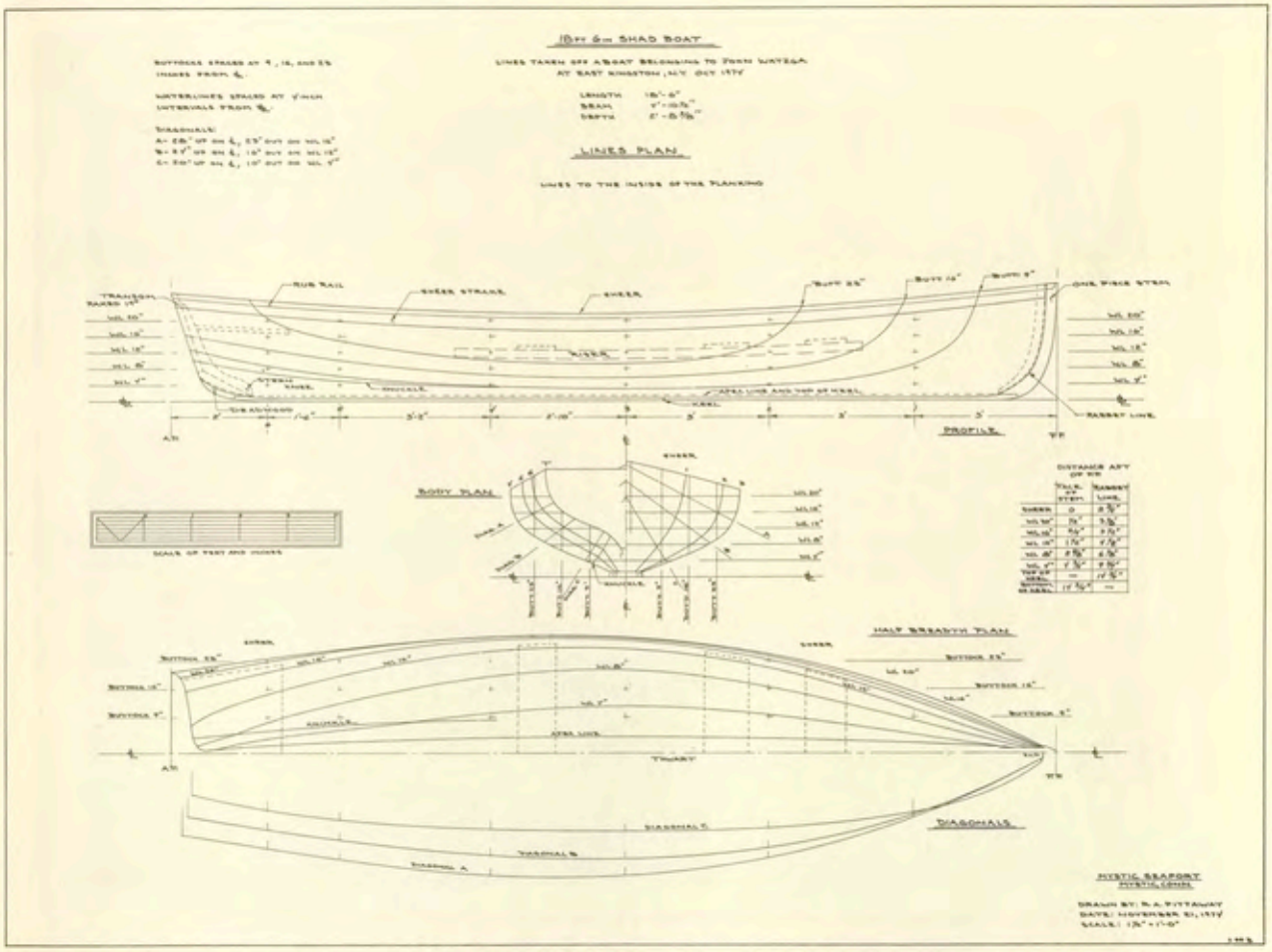
The shad boat's forerunner was the New York Whitehall, the hardworking craft that for so many years ferried passengers around the harbor of New York. The Whitehall, it seems, finally traveled upriver to lend its graceful and utilitarian lines to the fishery, which still supplies gourmets with two of the most succulent delicacies to come from the sea: shad and shad roe.

In recent years, with the mounting pollution of the river and the introduction of new and more efficient ways of catching and processing the shad, the Whitehall-derived shad boat has all but disappeared. Some few do remain, however, and in the fall of 1974, while working on the Hudson River sloop *Clearwater*, I determined to see if I could find some of them and learn what I could of their history, construction, and the state of the fishery today.

There is little about the shad boat to be found in contemporary maritime literature. Howard Chapelle includes a short sentence on it at the end of his essay on Connecticut River drag boats in *American Small Sailing Craft*: "Another boat of this class was the Hudson River shadboat, on the New York Whitehall model." A 1941 essay by Chauncey B. Davis in *Yachting* shows a simple lines plan along with a descriptive essay. Some fairly recent photos of existing shad boats were supplied by John Gardner of Mystic Seaport. Armed with these, I took to scanning the river banks with binoculars when I sailed in "shad boat territory"—the Kingston-Port Ewen area about 100 miles upriver from New York. I spotted one boat there, made the acquaintance of its owner, and was able to follow a chain of men and boats until I had located five of them in varying states of repair and reconstruction.

John Watzga of East Kingston had a shad boat which was a superior example of the type. Reputed to be more than 100 years old, she was cedar-planked, copper-rivet fastened, with keel and stem of oak, oak frames, and hackmatack knees at the stem and transom. The after end of the keel was rounded in exactly the manner mentioned by Davis, to prevent fouling of the net when it was hauled over the transom. Stem and keel were shod with iron, a common practice on these boats to protect them from the wear and tear involved in hauling on the beach.

* Isabel Barten was raised in Florida, and majored in history at the University of Florida in Gainesville. She was mate of the Hudson River sloop *Clearwater* in 1973 and 1974 and holds an operator's license for sailing craft up to 100 tons. She has been an instructor in sailing, rowing, and outdoor living at the Hurricane Island, Maine, school of Outward Bound. This winter she is working in the Henry B. DuPont Memorial Preservation Shipyard at Mystic Seaport.



When Isabel Barten found John Watzga's Hudson River shad boat, a crew was dispatched by Mystic Seaport's Small Craft Laboratory to take off her lines. Here is the lines plan as drawn by Robert E. Pittaway.

This boat was selected as the best example for study, and her lines were taken off and construction details recorded by the Small Boat Laboratory of Mystic Seaport. Other features proved to be markedly similar to those of Whitehalls. These included the shape of the transom, the heavy sheer strake lapped over the strake below, the lack of a keel batten, and the natural crook frames whose heavy, solid timbers fastened to the floors. Most of these attributes, all of which recapitulate Whitehall construction, are lost in the boats commonly used in the shad fishery today. The use of power, the loss of boatbuilding skills, and the lack of suitable materials all contributed to a switch from the fine-lined, round-bottom shad boat to the flat-bottomed skiff prevalent today. On the entire Hudson River I was able to find only one man who still used round-bottomed boats for shad fishing.

How were these boats used? Shad were taken in nets—a wide variety of nets—so these boats were adapted to that kind of fishery. Every year the semi-anadromous mature shad return from the sea to the Eastern seaboard rivers of their origin, there to breed upstream in fresher water. To intercept these spring migrations, pound nets, gill nets, fyke nets, bow nets, and dams were devised. Of these, only three techniques of gillnetting survive in the Hudson today: stake netting, anchor netting, and drift netting.

The accompanying illustrations from an

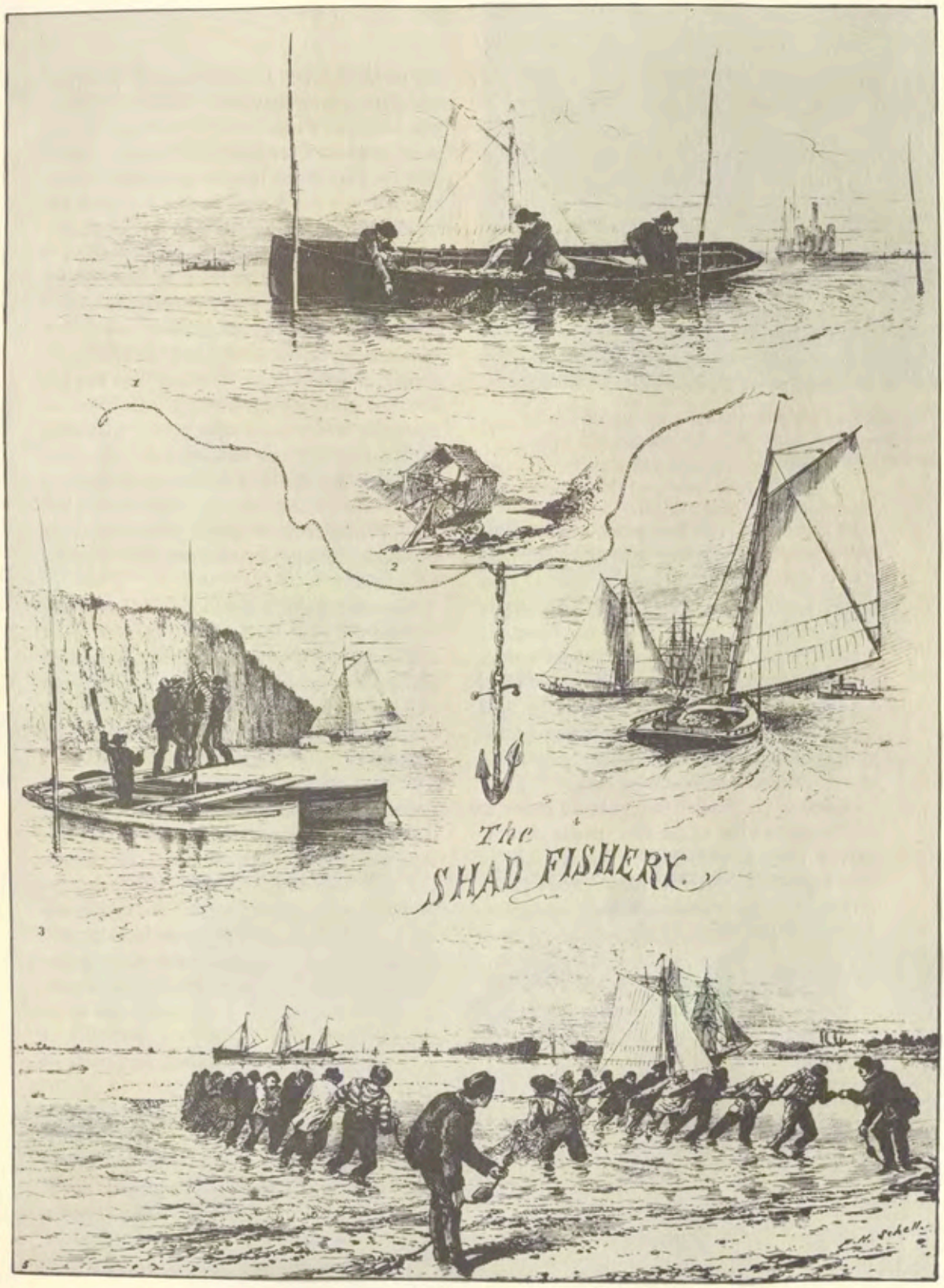


John Watzga's shad boat is shown as the lines are being taken off.
Rob Pittaway (foreground) checks his notes as Barry Thomas studies the stern.

1873 edition of the *New York Graphic* show stake netting as it was practiced in the lower Hudson, on the New Jersey side just a few miles upriver from New York harbor. The boats here being used are the traditional shad boats, and their Whitehall ancestry is clearly evident in their fine rowing design. Vignettes 1 and 3 show the fishermen lifting their net—in this case over the port side rather than over the transom—and setting the stakes to which the nets will be anchored. Vignette 4 shows a buy boat headed downriver, perhaps for the Fulton Fish Market on South Street, loaded with fish purchased on the spot from the fishermen. Clearly implied is a constant interaction of the lower bay and New Jersey fishermen with the New York City watermen and the fish markets so many of them served; hence the possibility of the diffusion of Whitehall design in the Hudson River fisheries and the resulting incorporation of Whitehall features in shad boats.

These shad boats cannot be separated from the living tradition of the fishery. Every fisherman I met emphasized the human element involved, speaking fondly of the river, the old boats, and the old days. This attitude of respect for a fine boat that served him well is still strong in Hugh Clark (who is now eighty-nine years of age), his wife, and their son George. Their round-bottomed boat disappeared ten years ago, vandalized and set adrift by riverside gangs, so today the Clarks use a flat-bottomed skiff. But they still remember and praise the dryness of the traditional shad boat, her easiness in rowing, and her remarkable carrying capacity.

The picture the Clarks gave me of their old



Shad fishing in the Hudson River was portrayed in the 23 April 1873 issue of the *New York Daily Graphic*. These were great years of the fishery.



This photograph, taken in 1935, shows the Clarks' shad boat ready for a day's fishing, her nets piled astern in the "cutty."

boat shows a fine-bowed workboat beached and stowed with fishing gear. Her oars are ready, and the large net box, or "cutty," rests in the stern. The heavy rubrail and lapped sheer strake are readily apparent. To quote Davis again: "Due to tide and wind conditions on the Hudson, a short, steep sea kicks up, especially in the wider reaches, but the easy lines of these skiffs made them admirably suited to the work of seining, regardless of conditions." The Clarks agreed.

Much of the fishery still goes on today in the lower reaches of the river in the shadow of the George Washington Bridge, where Ron Ingold and his crew are pictured hauling in fish over the transom of their wide, flat-bottomed workboat. This is where the shad, on their run upriver, will encounter the first of the stake nets, such as those set by Ingold. The stakes are set in the bottom like fence posts. The curtainlike net is set on the poles in slack water, just before the flood tide. Weighted on the bottom by rings, it will "fish" with the incoming tide. Right at the end of the flood it is quickly lifted and "picked." Careful timing gives the fishermen a few hours' grace during which the fish are sorted, iced, and sent to market. The nets must be set again in the next slack just before the flood tide comes in.

Farther upriver, past the broad Tappan Zee and Haverstraw bay, the Hudson narrows and deepens. Here in the "reaches" of the river around Cornwall, Highland, Poughkeepsie, Port Ewen, Kingston, and Red Hook, the drift gill net is used to fish for shad. Instead of being hung from stakes, this net, also weighted by rings along its bottom edge, is suspended from buoys by long lines. With great skill and care the net man throws net and buoys astern as his partner rows. The Hudson River historian Carl Carmer aptly describes the motion: "bending over the net box, straightening up, letting the net fly over the water with a quick upward lift, throwing the buoy and its long line out and away from the boat." Net and boat drift down or upriver on the tide. When the buoys start to sink, the net is fishing. It is retrieved when judged to be full to capacity or when the tide becomes unfavorable.

The anchor net, a combination of the stake net and drift net methods, is reported to be still in use in the Verplanck area. Like a drift net, it is suspended from a series of buoys, but one end is made fast to the bottom. Unlike the stake or drift net, this net is not removed entirely from the water when it is hauled.

Through the years, from generation to generation, the elements of the fishing tradition have somehow been passed along. Design and construction of boats, techniques and river lore of the fishery, economic relationships and organizations of the crews—all these are still alive and traceable along the Hudson's shores. Words, motor-visual imitation, and writing all played their part in passing these traditions along. A common set of terms defined such specifics as varieties of fish, gear, weather conditions, and parts of the boat. A drift net was stowed in the "cutty"; the net was thrown after the boat had been rowed out into the "reach," a line-of-sight section of the river selected for fishing; it was watched carefully while it "fished" and also so that it could be lifted quickly over a "fast," or obstruction, if the need arose. Motor-visual imitation has played its part in

transmitting tradition from the older to the younger generation; a number of fishermen spoke of their years as "net boys." Net boys acted as assistants to the net men by tossing out the buoys as the men threw out the body of the net.

There is no written tradition on the shad fishery. Someday there may be one, if records of boatbuilders or financial records of fishermen are ever discovered.

What of today's Hudson River shad fishery? Is it still thriving, or is it slowly passing, like the round-bottomed shad boat? Within the last two or three years there has been an upsurge of hope. Better-tasting and hence more marketable fish have raised the spirits of shad fishermen and environmentalists. The river is cleaner; the sludgy aftertaste that spoiled the fish for gourmets is gone. But questions still remain. The presence of polychlorinated biphenyls (PCB) discharged by chemical plants is an unsolved problem; only extensive testing will determine whether or not it will continue to threaten the marketability of shad and other Hudson River fish.

Warnings of pollution problems are nothing new along the Hudson—the first official ones were sounded nearly ninety years ago. Yet over the years a series of affronts to the Hudson has not only contributed to the decline of a fishery, but also to the gradual decline in number of the self-reliant rivermen and their broad-sterned pulling boat. Fisherman, fishery, and fishing boat are three intertwined elements of a tradition that cannot help but be affected by a larger world.

Bibliography

Brown, George Goode. *The Fisheries and Fishing Industries of the United States*, section 5, vol. 1. Washington: Government Printing Office, 1887.

Carmer, Carl. *The Hudson*, rev. ed. New York: Grosset and Dunlap, 1968.

Chapelle, Howard I. *American Small Sailing Craft, Their Design, Development and Construction*. New York: W. W. Norton and Co., Inc., 1951.

Davis, Chauncey B. "Hudson River Shadboats." *Yachting*, June 1941.

Durant, Kenneth. Unpublished typescript. G. W. Blunt White Library, Mystic Seaport.

Gardner, John and Pittaway, Robert. "Whitehall Boat. History and Construction." Unpublished draft manuscript.

Hasslof et al. *Ships and Shipyards, Sailors and Fishermen, Introduction to Maritime Ethnology*. Copenhagen: Rosenkilde and Bugger, 1972.

Stevenson, Charles H. *The Shad Fisheries of the Atlantic Coast of the U.S.* U.S. Commission of Fish and Fisheries, part xxiv. Washington: Government Printing Office, 1899.

Present-day fishermen such as Ron Ingold (right) use outboard-powered flat-bottomed skiffs. Here they haul net in the shadow of the George Washington Bridge.



Cod, Menhaden, and Lobster Fishery

By JOHN M. KOCHISS

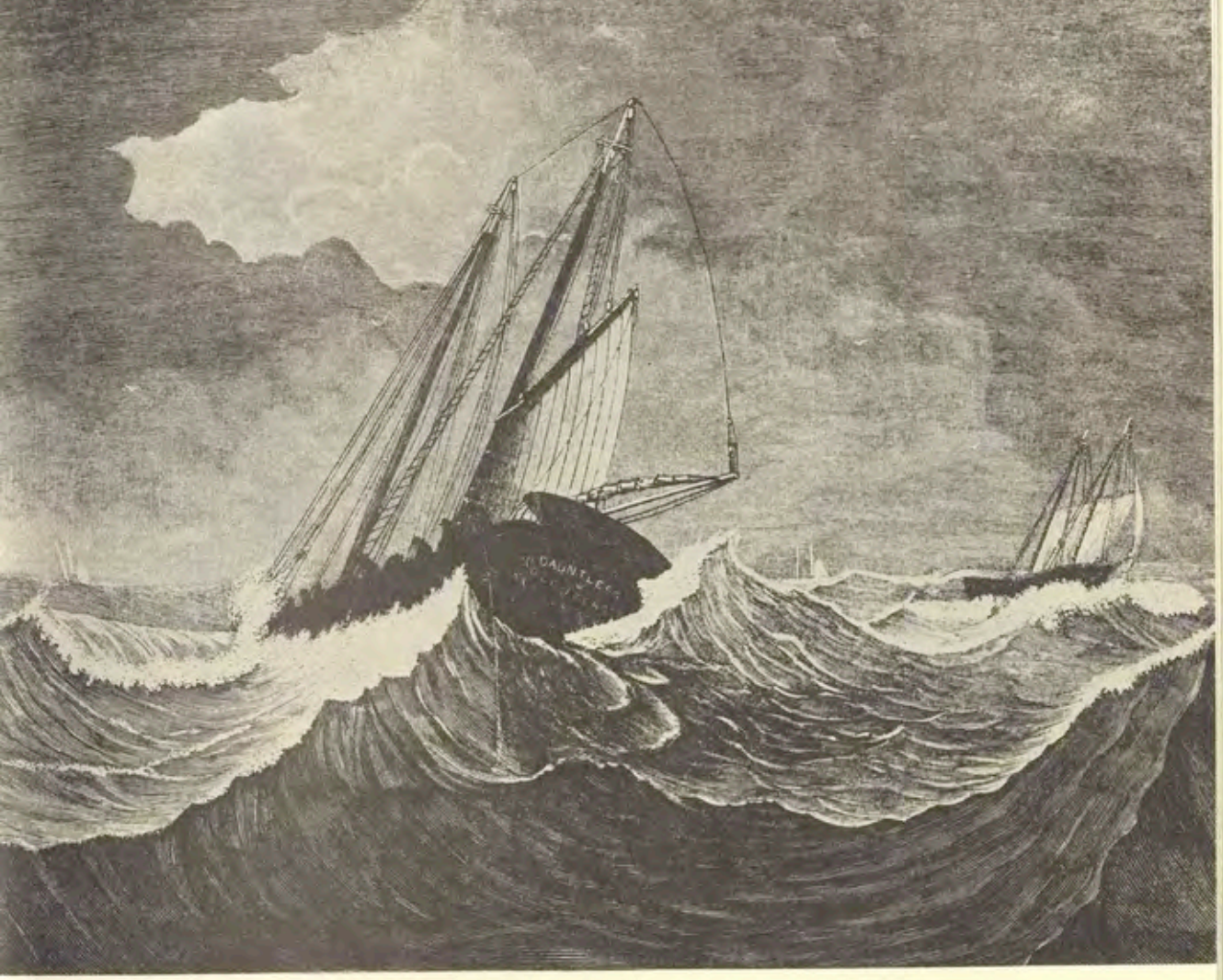
Long before Kodak, Nikon, and Polaroid became part of our language and a way of recording events, the simple pen and pencil worked equal marvels. Though photography has been around since the 1830s, it was not until this century that photography had been perfected enough to catch action without a disconcerting blur. That is why we have very few exciting photographs of life aboard vessels of that era. Perhaps it is just as well, for instead we have the wonderful illustrations in *Harper's* and *Leslie's* and especially in that great work of George Brown Goode and his associates, *The Fisheries and Fishery Industries of the United States*. Prepared through the cooperation of the Commissioner of Fisheries and the Superintendent of the Tenth Census, it was published in seven large volumes from 1880 to 1887 and covers in exhaustive detail every fishing endeavor known at that time. Nothing like it had been done before nor, perhaps, since. One volume was devoted solely to sketches and drawings. Some of the non-action scenes, interestingly enough, were copied from photographs. From this we present selections covering three of the forty-three distinct fisheries recognized at that time—the cod, menhaden, and lobster.

Cod

Today codfish cakes, scrod (small cod), and cod-liver oil are almost our only known and occasional contact with the cod fishery. Yet in days gone by, cod was synonymous with fishing. It was not only a staple food and the leading fishery but was responsible in part for the settlement of New England and the rise of our shipbuilding industry. The people

This is hand-line dory cod fishing on the Grand Bank. The dory initially appeared in the Gloucester fishing fleets in the mid-nineteenth century. At first the men fished with hand lines, as they had previously done from the decks of their schooners; later they used trawls.





A Gloucester schooner lies uneasily at anchor on the Georges Bank, 140 miles from Cape Cod. The crew are fishing with hand lines from the deck. The schooner is rigged without topmasts for rough weather.

of Massachusetts made the cod their state emblem and considered it so important that they referred to it as the "sacred cod."

Cod remained our chief fishery until the early part of this century because it was plentiful, tasty, and well suited to preservation by salting and drying. Technological developments at sea and ashore influenced the trend away from salt cod to fresh filleted and frozen fish. In the early 1900s, the powered vessel and the otter trawl were introduced, and produced far bigger catches than dory fishing could, as well as quicker runs home with fresh fish of all kinds. After World War I frozen foods were improved and the public's taste and desire grew for other fish, such as haddock, ocean perch, and flounder, that could not be preserved as well as by the older methods. Then scallops and shrimp were added to the popularity list. All this tended to shunt cod to the side. But in spite of the variety of seafood available today, cod is still considered by many of us as one of the best of fish—although we may not quite realize it. It is no wonder that the fish sandwiches and fried fish we now eat with such delight are mostly cod, although they generally are not advertised as such.



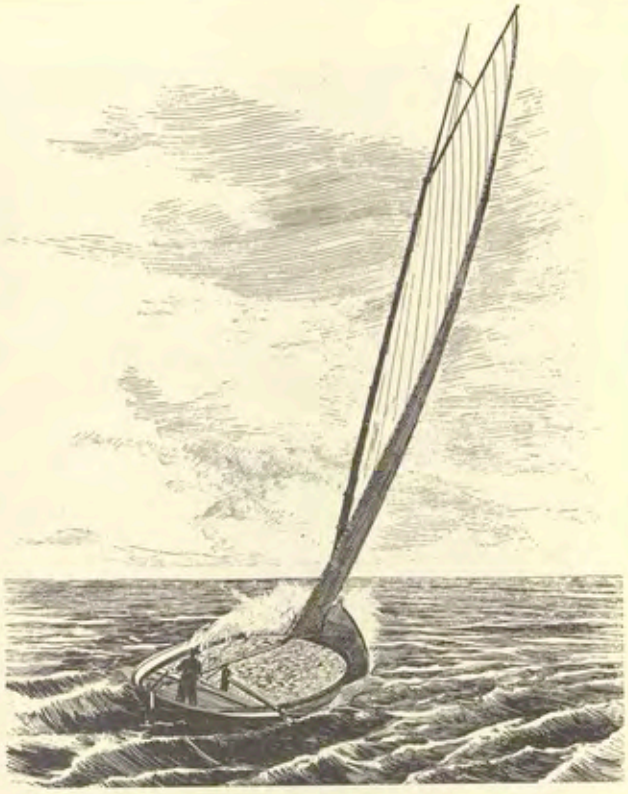
Above: Dressing cod on the deck of a fishing schooner on the Georges Bank, three men are engaged in a precision operation. The header on the right cuts off the head and throws it overboard. The gutter in the center removes the insides and throws the guts overboard and the liver into the basket by his side. The splitter cuts out the backbone and lets the fish fall into the washing tub.
Below: Not all cod were caught far offshore; this Block Island boat and crew are shown hand-lining for cod.



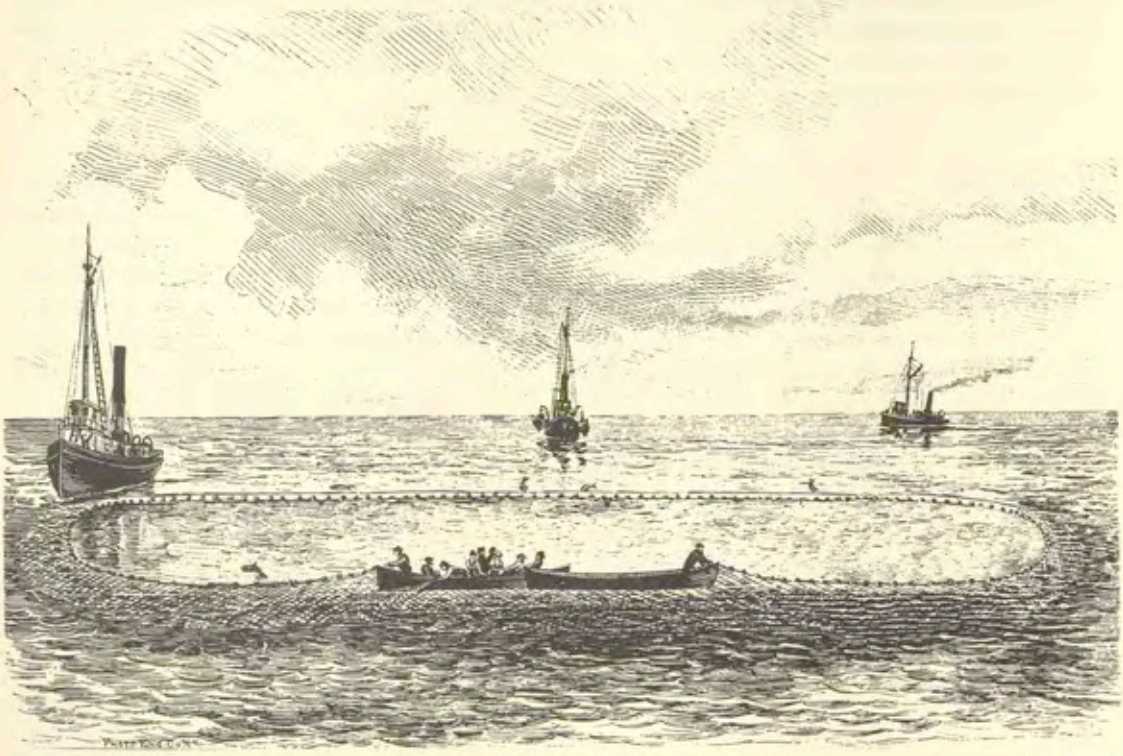
Menhaden

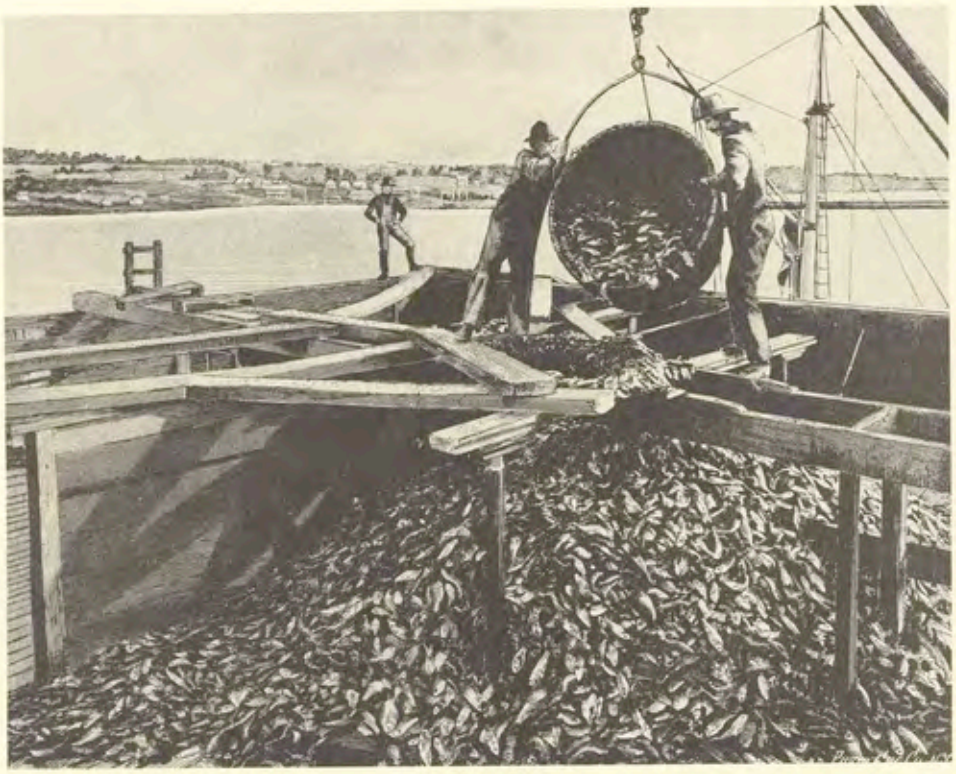
Very few people have ever heard of the menhaden. Other names for the same fish might help: pogy, bonyfish, mossbunker, or bunker. If that still doesn't help, it is small wonder. The fish was seldom eaten, for it is a bony and very oily fish. Because of that it has remained one of our leading industrial fish.

Menhaden, which belong to the herring family, migrate in large schools close along the Atlantic and Gulf coasts. The fish were initially caught here for use as fertilizer. It wasn't until the mid-nineteenth century that the menhaden's oil content came to be valued. The fishery, with its characteristic fish factories, originated in New England and gradually spread southward. At the factories the fish were boiled, pressed, and clarified into a light-colored, sweet oil. Today they are



Above: In the days before steamers, sailboats set the seines and brailed in the fish. Carry-away boats like this cat boat then carried the catch directly to the oil factory. *Below*: Once fish are spotted by lookouts at the steamers' mastheads, the seine boats are sent out. They encircle the school of fish, bring the ends of the net together, and purse the net. The crews then concentrate the fish in the center of the seine, which will be positioned at the steamer's side while the catch is bailed into the hold.





At the factory a large hoisting tub removes fish from the hold of a steamer at the rate of 250 barrels an hour. The fish are then dumped on the top floor of the factory and led through a trough to the cooking tanks below.

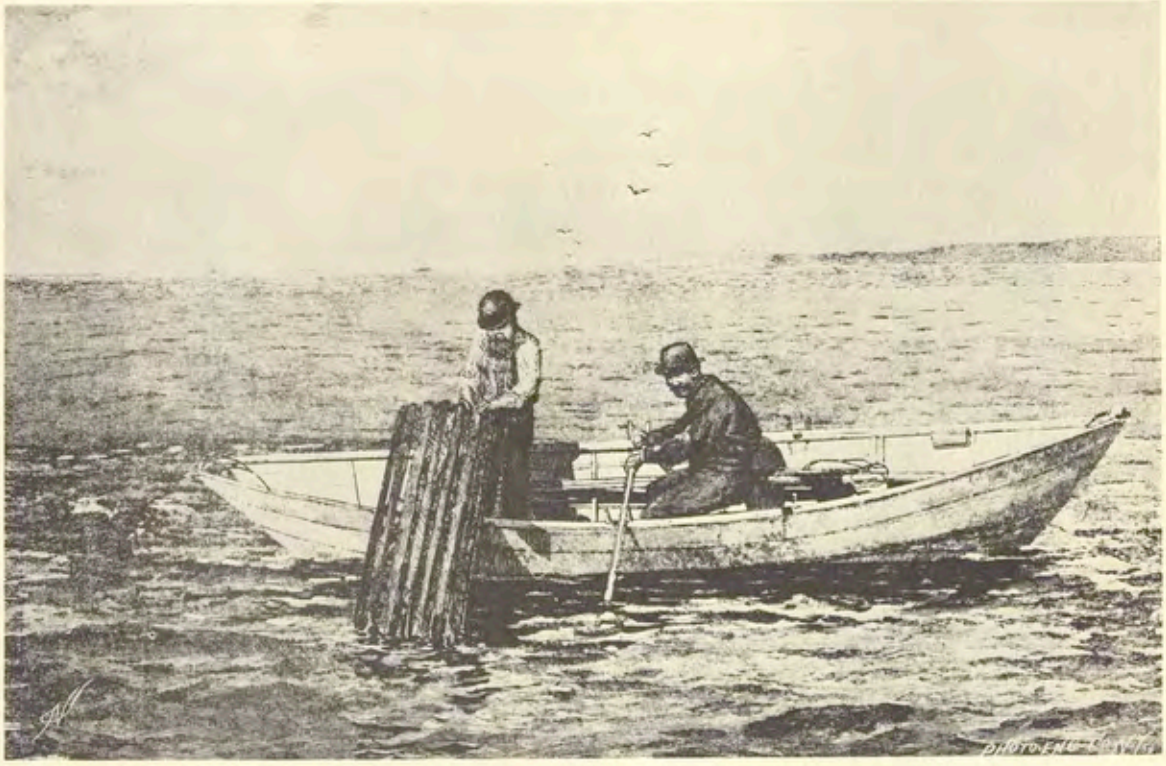
processed into condensed solubles and fish meal, prepared especially as pet, poultry, and mink food. In Goode's day menhaden had other rather interesting and revealing uses. They were sold to tanneries for currying leather, and used for adulterating linseed oil; the purest grades were sometimes sold as olive oil and whale oil.

Lobstering

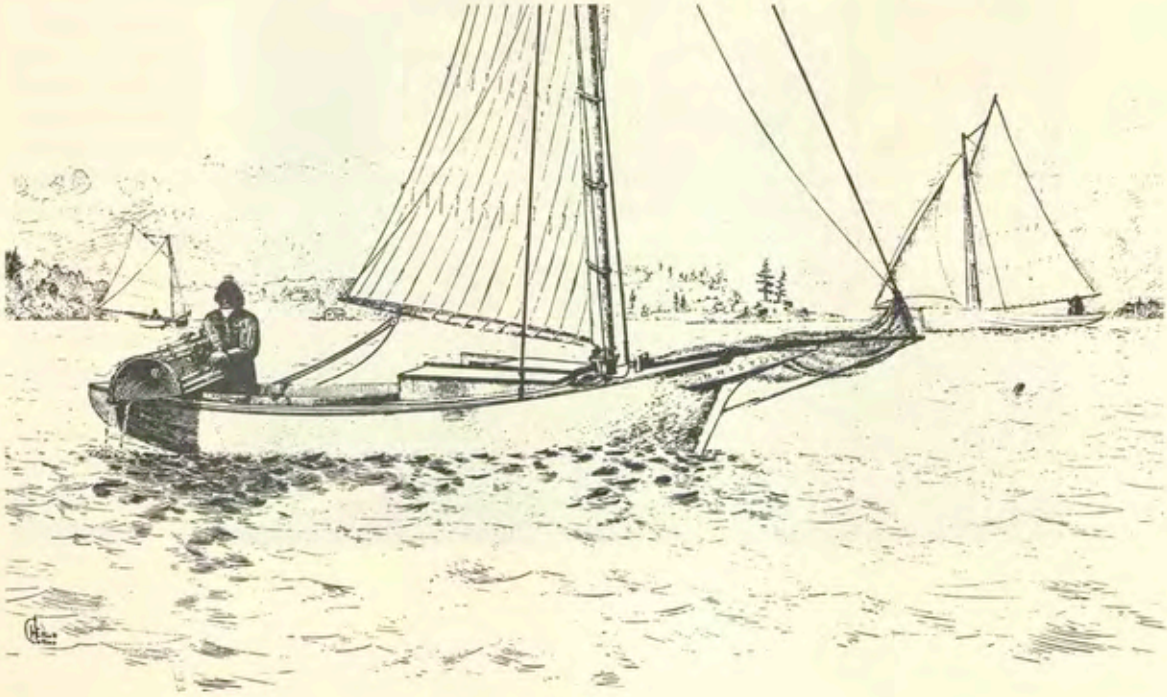
Almost everybody loves a good lobster dinner—in Goode's time it was no different. Surprisingly, the character of the fishery has not changed much either. It remains mostly an inshore fishery conducted from small boats by one or two men.

The demand for lobsters, however, is greater than ever. In fact, there are nearly ten times as many lobstermen and traps today as there were in 1890. As a result the inshore lobster grounds have been sorely overfished. Today lobsters are being caught much farther offshore, out to the edge of the Continental Shelf some 100 to 250 miles from land. A much larger and better sea boat with special traps and equipment is now needed, more than the individual lobsterman can afford. Only big companies with far greater financial power behind them can engage in this kind of operation. This may mean a dramatic shift in the basic structure of the fishery.

In any case, lobsters are here to stay, for a while at least, and so is the individual lobsterman. His familiar traps and shacks, much like those of the 1880s, are still around to remind us of Goode and his classic illustrated work on the American fisheries.



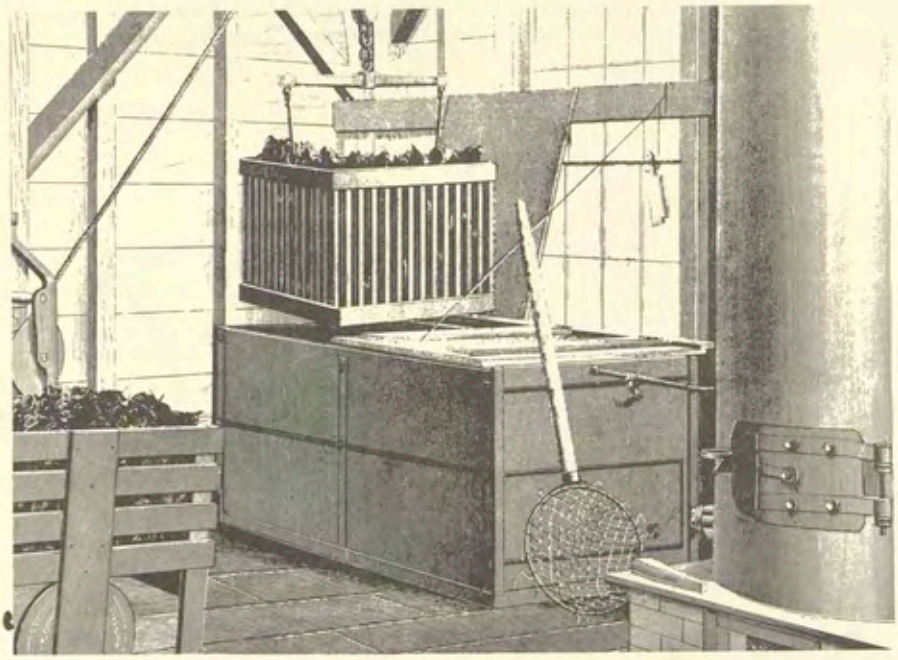
Above: These dory men are hauling lobster pots off Cape Ann, Massachusetts. The dory, peapod, and other small craft were used when lobsters were caught close to shore. In the early days lobsters were so plentiful that they could be captured by hand, spears, and gaffs. Later the hoop pot was devised, and sometime in the nineteenth century the now familiar lath pot or trap was adopted by almost all lobstermen. *Below*: In Bristol, Maine, the lobsterman set his pots on single warps all in a row instead of in trawls. He lowered his jib, eased off the mainsheet, shot up alongside the buoy, and with a gaff hauled the pot aboard while the boat lay to. After the pot was thrown back in the water, he sailed to the next buoy under main alone.





A lobster cove at Lanesville on Cape Ann shows the typical clutter of boathouses and lobster gear. Except for the dated clothing, this scene could conceivably be somewhere in Maine or Canada today.

Lobster-boiling apparatus at Portland, Maine. Lobsters are placed in the cage and lowered into boiling water, much as we cook them at home today.



DIRECTOR'S PAGE

At precisely 1100 hours on a clear September day in Oslo the stirring flourish of trumpets and drums of His Majesty's Guards Signal Corps filled the great hall of the Norsk Sjøfartsmuseum. His Majesty King Olav of Norway had arrived to open the Second International Congress of Maritime Museums. In a simple but moving ceremony, King Olav welcomed the delegates to his homeland and this Congress.

So it was that the second international meeting of the most prestigious maritime museums in the western world commenced its week of deliberations on 29 September 1975. Present were representatives from all of Scandinavia, western Europe, southern Europe, the United Kingdom, New Zealand; and from the United States, some twenty representatives from nine museums in the Council of American Maritime Museums.

The central theme of the congress was "The Role of the Maritime Museum in Society." Radiating from this, the formal sessions of the congress concentrated on the complex problems of nautical archeology, including its legal aspects, methods and technology, and the role of amateurs and professionals—a wide-ranging concern in which our European colleagues are far ahead of us in the United States. Other major sessions were devoted to researching, developing, exhibiting, and telling the story of life at sea and the contribution of the sailor—and the challenges this subject presents to the maritime museum.

The topic that generated the most prolonged discussion and debate was maritime industrial archeology, embracing the selection, salvage, restoration, and preservation of ships, and also the selection and preservation of historic buildings and installations ashore. In resolutions that followed, the Congress ordered its executive council, first, to appoint an international committee to develop a compendium of ships throughout the world that are historic and/or significant and still salvageable; and second, to develop a detailed description of the methods and technology being used by maritime archeologists to preserve ships throughout the world.

With regard to the protection of historic maritime buildings and sites ashore, the Congress resolved that these "be protected by their governments from alteration and construction until a proper study can be made of the merits of preserving these sites." The executive council was ordered to notify the governments of this resolution and ask that action be taken before it is too late.

Following the formal presentations and prepared papers, time was allotted for discussion and plenary sessions, which filled our days and carried us far into the night. The candid interchange of museum philosophy and ideas in these open sessions alone would have made the Congress fully worthwhile, and in addition, a clearer understanding of the problems and progress of maritime museums all over the world will have lasting value.

At the business session in the waning moments of the Congress, Basil Greenhill of the National Maritime Museum (United Kingdom) was elected president and a new executive council was elected to serve until the next Congress. The executive council appointed Franklin Kneedler of Mystic Seaport secretary general of the Congress, to succeed David Proctor of the National Maritime Museum in Greenwich.

The Congress voted to hold the next triennial international congress of maritime museums at Mystic Seaport in 1978, in recognition of the Seaport's contributions to the Congress and its position of leadership among the maritime museums of the world. Aided by CAMM I propose to make this meeting the most productive and significant international gathering of maritime affairs ever held.

Waldo C. Johnston

BOOK REVIEWS

J. E. Buttersworth: 19th-Century Marine Painter. By Rudolph J. Schaefer. (Mystic: Mystic Seaport, 1975. xxvii + 276 pp. Illustrations, 24 in color, 197 in black and white, sources, listings, and index. $75.00.)

Members of Mystic Seaport are well aware of the many contributions of Rudolph Schaefer and his family to the Seaport. In 1975 visitors had the opportunity to see their latest gift, the art gallery housing the James E. Buttersworth exhibition described and illustrated in the May issue of the *Log*. Now we have in this beautifully illustrated monograph the results of Mr. Schaefer's years of research. Indeed, the chief value of the book lies in the illustrations and in the "listings" at the end of all known paintings by this Anglo-American marine painter, for they offer us a visual and verbal record of the range of nautical craft that plied the seas and crossed the harbors of Britain and America from the late 1830s to the early nineties. Assisted by Mr. Schaefer's useful documenting of ship and event, lovers of sailing vessels will experience the shock of recognition of the cut of a sail or the conditions of a particular race or shipwreck. The author's affectionate commentary communicates, as well, his love for the artist and his paintings.

For the study of maritime art the pictorial evidence in the book is exciting raw material, data which needs the kind of visual, historical, and cultural analysis that the author, with appropriate modesty, disclaims as not his task. The "listings" of works is not yet an adequate *catalogue raisonné* because there are documentary problems and because some attributions are accepted on scanty evidence. Buttersworth's paintings need to be seen also in the context of those of his contemporaries, now that we have such a full visual record. One of the portraits of "unidentified young ladies" here designated as rare is in fact a copy after a print of the immensely popular seventeenth-century *Beatrice Cenci* of Guido Reni, and some of Buttersworth's marines are probably also drawn from print sources, as he himself became the source for Currier and Ives lithographs. At the other extreme, the freshness of his few extant drawings shows an original hand; the superficial visual sameness of his ship portraits (even those the author sees as "identical") disappears when we confront the exciting ways in which Buttersworth plays with line, space, and atmosphere, the painter's equivalents of those physical forces that make sailing the art and craft it is. The rich visual evidence now needs to be sifted and analyzed fully in order to clarify the extraordinary interplay between life and art in nineteenth-century maritime America, which is so apparent in this book.

R. B. Stein
STATE UNIVERSITY OF NEW YORK

Children of the Light: The Rise and Fall of New Bedford Whaling and the Death of the Arctic Fleet. By Everett S. Allen. (Boston: Little, Brown and Company, 1973. vii + 302 pp. Illustrations, maps, acknowledgments, references, and index. $10.00.)

Everett S. Allen has taken as his subject the rise and fall of New Bedford's Arctic whaling fleet and has examined it from a socio-economic perspective. He has chosen to center it around two of the leading Quaker whaling merchants, George and Matthew Howland, whose fortunes (both rising and falling) epitomized the fortunes of a religion, a community, and an industry, all intimately intertwined.

The author has divided the study into five "books." This reader felt that the first book, which concentrated on the Arctic and its people, was a bit overdone and distracted from the main theme. The remaining four sections, however, are informative and interesting, particularly those chapters dealing with the vessel, its routine, and the pursuit of the bowhead, climaxing with the abandonment of thirty-two vessels and rescue of 1200 people in September 1871.

The decimation of the fleet during the Arctic season of 1871 is a frequent source of inquiry, and Mr. Allen has contributed greatly by adding this reference source to a rather scanty bibliographical list.

Pamela McNulty
G. W. BLUNT WHITE LIBRARY

Sharks and Shipwrecks. By Hugh Edwards (New York: Quadrangle/The New York Times Book Co., 1975. 127 pp. Color and black-and-white photographs. $12.50.)

This is quite possibly the most terrifying book about sharks you are likely to see in this or any other year. There is nothing fictional about it:

the shark attacks described in this dramatically illustrated book actually happened, and if you have any doubt about it, there are a couple of pictures of a diver, still in his black wet-suit, lying on the deck of a ship in a pool of blood with one leg bitten off at the knee. Miraculously, he lived; in Hugh Edwards' collection of divers' experiences, he tells his own story.

There are a few things that shark attacks appear to have in common. Several divers mention a sudden, deathly hush that seems to fall upon the water just before a shark attacks: smaller fish disappear, and nothing moves. Then, with a rush, like an express train, the shark hits and bites, dragging his victim into the depths while shaking his head violently from side to side much as a terrier shakes a rat. Lee Warner, an Australian diver, saw his buddy Bob Bartle bitten in half—so hard and so quickly that the upper part of the torso, the lungs still filled with air, floated to the surface. Rodney Fox, 1962 South Australian spearfishing champion, was seized between shoulder and midriff: "There was a queer sensation as though all my insides were squeezed over to one side. . . . Then, with the release of pressure, uncontrollable agony swept over me in waves." He survived, saved possibly by his wet suit, which his rescuers wisely left on him; it held the bitten parts together and contained his vital organs.

The shark episodes are so starkly terrifying that they tend to distract our attention from other parts of this book, notably those dealing with diving for wrecked ships. This should not happen, because these narratives of adventure—in search of sunken treasure, mostly—are fully as dramatic if not as blood-soaked as the shark chapters. There is the wreck of the *Elingamite*, for example, a steamer that in 1902 crashed head-on into a vertical cliff face at Three Kings Rocks, off the northern tip of New Zealand. There are still some 6,000 gold coins down there with her at a depth of forty-five meters. Three divers have already died trying to get them. Wade Doak, who tells how he and his friends brought up about $24,000 worth of silver, doesn't think anyone is ever likely to: "At forty-five meters the sea can be a pretty hostile place to men. . . . You don't even feel like a human down there. . . . Like a patient under an anaesthetic you have a mouthpiece between your teeth and the queer, thick stuff you breathe sets your lips tingling. You feel as if you're not inside yourself."

The pictures are a fine extension of the text. Many of them were taken underwater at the risk of the photographer's life, and they convey in convincing fashion the eerie world of the depths, a last frontier for man to conquer on this globe.

Percy Knauth
MYSTIC SEAPORT

The Atlantic World of Robert G. Albion. Edited by Benjamin W. Labaree. (Middletown: Wesleyan University Press, 1975. vii + 263 pp. Illustrations, notes, and index. $14.95.)

Maritime history in the United States in this century has produced two giants. One is Samuel Eliot Morison. The other is Robert Greenhalgh Albion, in whose honor students and associates have written a fine book. The eight essays and the book as a whole, inspired by Albion's teaching and example, illustrate that maritime history, like the sea, connects all things. Therein lies its fascination and challenge. Good maritime history is an incomparable antidote to the parochial view and to flagging imagination.

Robert Albion's career (described and placed in context in an opening chapter by John H. Kemble) demonstrates how the master historian, like the master mariner, must command an extraordinary number of skills. Above all, his resourcefulness must enable him to navigate in places or situations where others have prepared no directions. He must be alert to the smallest detail and be able to relate detail to the largest movements of wind and weather or of human affairs. Through a half century of publication Albion has done these things. Because of him we understand the connections between forests and sea power, square riggers on schedule and economic growth, personalities and performance, and much else. No one has done more to make maritime history a careful, documented investigation of mankind's interaction with the environment and not merely an indulgence in romance and nostalgia. The wonderful thing is that there is more sheer excitement in his painstaking studies of how the sea shaped lives and livelihoods than in a thousand potboilers on pirates and privateers.

The essays in *The Atlantic World* stand separately and, simultaneously, together confirm the theme of the volume (developed by editor Labaree in his essay "The Atlantic Paradox") that the ocean is both moat and bridge, separating Old World and New while binding them in a

common "maritime way of life." Thus, anyone who labors under the illusion that the American environment created totally new ideas and forms should read Archibald R. Lewis on the medieval maritime background, William A. Baker on fishing craft of both sides of the Atlantic, or Edward W. Sloan III on early transatlantic steam travel. Harold L. Burstyn on seafaring and American science and Jeffrey J. Stafford on Woodrow Wilson's merchant marine policies, meanwhile, demonstrate the importance of American separation from Europe.

The volume closes with a bibliography of Robert Albion's writings.

Gaddis Smith
YALE UNIVERSITY

BOOK ANNOTATIONS

American Nautical Art and Antiques. By Jacqueline L. Franz. (New York: Crown Publishers, Inc., 1976. 248 pp. Illustrations. $10.95.)

Despite its impressive title this is an amateurish effort, rambling and ill-informed. The fact that more than forty of its illustrations are badly focused or poorly lighted only adds to the confusion.

America's Maritime Heritage. By Eloise Engle and Arnold S. Lott. (Annapolis: Naval Institute Press, 1975. xxi + 571 pp. Illustrations, bibliography, appendix, and index. $11.50.)

The title may lead one to believe that this is a definitive work, but alas, it is not. Written primarily for secondary-school level, it could be an effective vehicle to "get your feet wet," providing, of course, you are not overly fussy about accuracy.

The History of the Sailing Ship. By Rosemary and Colin Mudie. (New York: Arco Publishing Co., Inc., 1975. 152 pp. Illustrations, 61 in color, 106 in black and white, and credits. $12.95.)

This picture book contains some very good illustrations, prints of paintings, and photographs of models, covering the period from the second millennium B.C. to modern racing yachts and training ships. The material is divided into eight chapters and covers era, areas, and types with appropriate corresponding text.

Merchant Steam Vessels of the United States: 1790–1868. Revised and edited by C. Bradford Mitchell, with the assistance of Kenneth R. Hall. (Staten Island: The Steamship Historical Society of America, Inc., 1975. xiv + 322 pp. Tables and index. $15.00.)

Scholars who are familiar with the "Lytle List" will welcome this expanded edition under the subtitle of the "Lytle-Holdcamper List." More than 10,000 steam vessels are included, in addition to a section on losses. The distributor is the University of Baltimore Press.

A Quayside Camera: 1845–1917. By Basil Greenhill. (Middletown: Wesleyan University Press, 1975. 112 pp. Photographs and index. $8.95.)

This is the American edition of a fascinating collection containing, as the title indicates, 154 photographs of maritime subjects. Many are from this side of the Atlantic, and the style of extensive captions is rightfully becoming more popular. For those of you who view the era of declining commercial sail with reverence, this is your book. Also, this holds true for the early-photograph buffs.

The Way of a Ship. By Alan Villiers. (New York: Charles Scribner's Sons, 1970. xviii + 429 pp. Drawings, photographic illustrations, and index. $5.95.)

A paperback reprint of an outstanding book. Little more can be added to its acclaim, except that this popular price should enable it to reach a wider audience.

The Wind Commands: Sailors and Sailing Ships in the Pacific. By Harry A. Morton. (Middletown: Wesleyan University Press, 1975. xxvii + 498 pp. Illustrations, list of voyages, notes, glossary, selected bibliography, and index. $29.95.)

There has been a gap in American maritime history for many years, specifically, the lack of an overview of the Pacific Ocean in the age of sail. Fortunately this very excellent volume brings the story together between one set of covers. You will find this exceptionally readable trove to be a must on your bookshelf.





Two of a kind, old and new—the interesting new acquisitions pictured here are both seine boats. As the twentieth century began, the old seine boats that used to be towed to sea by large schooners like the *L. A. Dunton* were converted from oar to power. To our knowledge, no rowing seine boats have survived, and so Willets Ansel undertook a research project that resulted in the construction of the *Chiquita* and another boat like it that is now being used by the Youth Training Program. While the boatbuilding effort was going on, this painting by Milton J. Burns became available and was acquired. The painting shows a seine boat of the 1870s, of a smaller, lapstrake type. In a style similar to that of Winslow Homer, Burns depicts the men resting at their oars or on the nets.



THE LOG OF MYSTIC SEAPORT

Mystic, Connecticut 06355

Non-Profit Organization
U.S. Postage Paid
Mystic, Connecticut
Permit No. 1