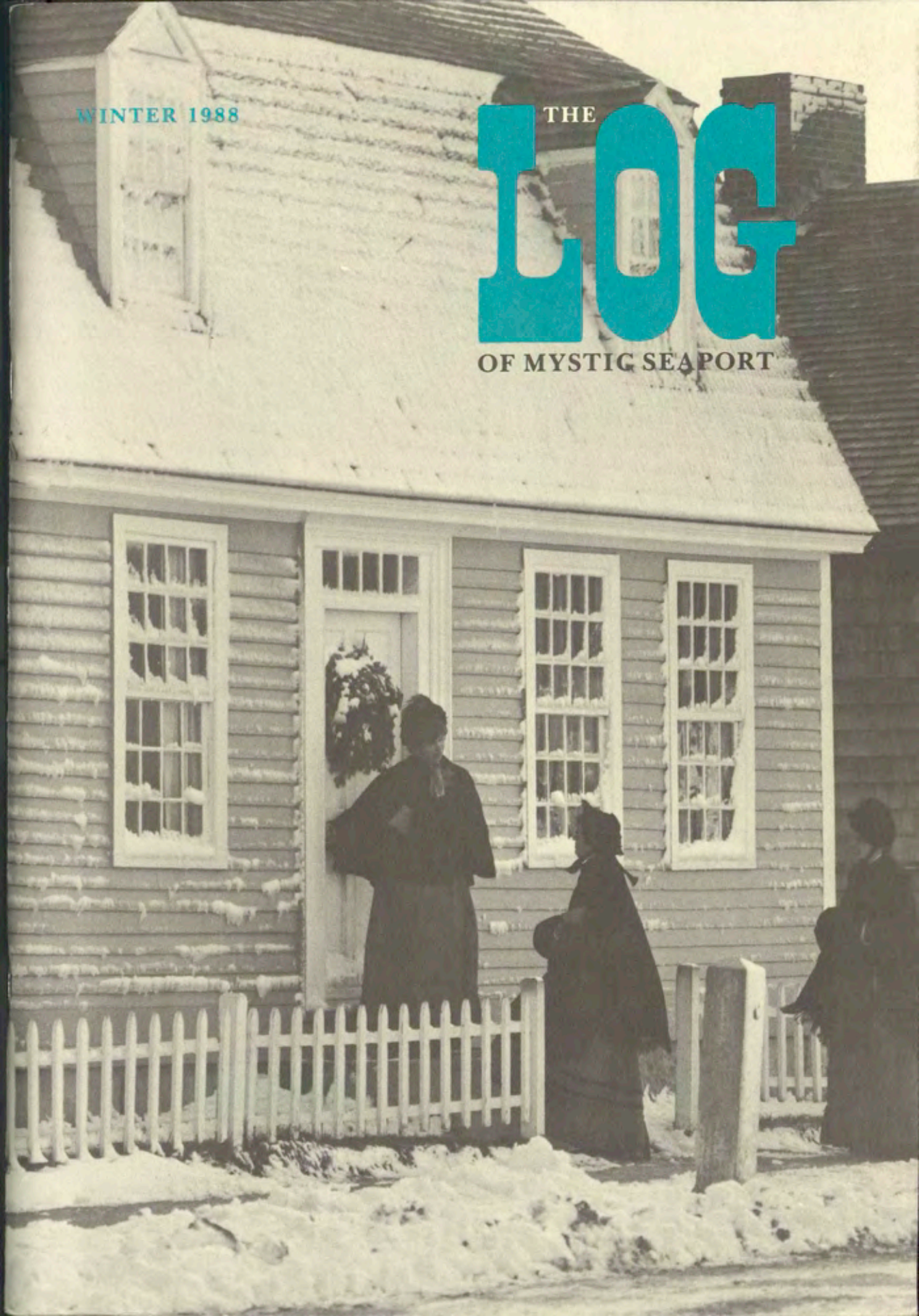
WINTER 1988

THE LOG OF MYSTIC SEAPORT



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FRONT COVER: *Lantern Light Tours highlight the Christmas season at Mystic Seaport. (Photo by Mary Anne Stets)*

BACK COVER: *Smelt fishermen and skaters on the Back Bay, Boston.*
(Ballou's Pictorial Drawing-Room Companion, *15 January 1859)*

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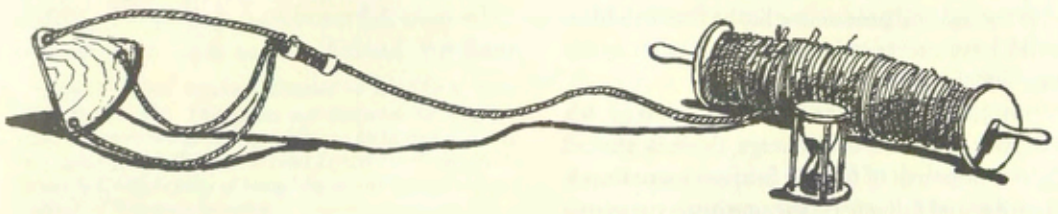
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SIGHTINGS



In his article in this issue of *The Log*, John Gardner shares his perspective on the state of the small craft preservation movement today. With his years of experience and his knowledge of activities in the field, he provides a glimpse of the evolution of various small craft collections, as well as the philosophies that have guided the development of these collections and their utilization. In all of the museums with small craft collections there are people who were aware of the importance of traditional watercraft and have taken action to focus their museums' collecting in this area. Many have had their awareness heightened by John Gardner.

The museums of our world reflect the art, culture, science, and technology of this and past eras. They also reflect the people who have influenced the courses the museums have followed and the development of their collections. Those people have been curators, trustees, educators, donors, benefactors, administrators, advisors, and in some cases bureaucrats, politicians, and even royal patrons.

It is a rare moment when a museum is able to attract one of those people who can make that truly significant impact. When John Gardner joined the Mystic Seaport staff, Mystic secured an individual with the stature and vision to influence not only the Seaport but also other museums, colleagues, and future generations. John came to Mystic Seaport at an age when most people begin to consider retirement. Indeed, with the full and productive life he had led, John could have retired with real satisfaction in his long list of accomplishments.

But John is not that sort of man. With his curiosity, intellect, and energy, he has guided the development of Mystic Seaport's small craft program and influenced the maritime museums of the world during nearly twenty years on the staff. The results of John's work can easily be seen. Since his arrival, the boat collection at Mystic has almost tripled to over four hundred. John has also devoted much of his time to teaching and has given thousands of people the opportunity to work directly with him and learn from him. These classes provide the occasion to exchange information and seek advice. There is the chance to apply boatbuilding skills under his keen eye and get quick corrections and encouragement. Those are memorable moments for any of us who have taken a course with John.

What John wrote and published prior to coming to Mystic, along with what he has produced here, constitutes an extraordinary document. These writings are used by students, scholars, and amateurs working in small craft history, preservation, and construction. While the written word lacks the immediacy and interaction that is possible in his classes, John is able through this medium to share his knowledge with additional thousands and create a permanent record.

John has chosen, at this point, to ease back a bit, and others are stepping in to pick up some of the work. Indefatigably, John continues to contribute very actively, as evidenced by this *Log* article. He continues willingly to give his sound advice and he continues to bring distinction to Mystic Seaport.

J. Revell Carr

Current Thoughts on the Restoration of Boats of Historic Significance

JOHN GARDNER

Boats are neither paintings nor pieces of fine sculpture. They belong to quite a different order of artifacts that call for quite different treatment at the hands of museum professionals. Art objects produce their effects on human sensibilities through visual channels. They exist to be looked at, and museum viewing galleries are their natural habitat. Boats were contrived for transportation on the water, as a means of mastery over an element both treacherous and benign that humans have instinctively feared, and not without reason, while being intensely drawn to it. The boat's utilitarian function is primary. Permanently removed from the water to dry land, like wild animals removed from the forest and placed in a zoo, boats' essential identity is eroded, and they are bound eventually to become something less than boats. Only as our native traditional small craft continue to be built and used in the water will their preservation be assured. Anything short of this will sooner or later prove futile.

It is true that boats have an esthetic component, but this is subordinate to their primary utilitarian function as boats. To those who have grown up in traditional boats, who have worked and played in them, who have entrusted their lives to them, who have experienced the beauties and mysteries of nature in them, such boats are exciting, interesting, and beautiful, even when removed from their natural element. For those who have been denied such experiences, the attention received by wooden boats in recent years has made them something of a novelty. But there are now indications that this novelty or whatever it is that has claimed public attention may be beginning to wear a bit thin. This can be sensed at some of the current so-called wooden boat shows where actual heritage wooden boat types are much less in evidence than they once were a few years back.

Has the traditional small craft revival peaked? What lies ahead if it has and if this trend continues? Are the boats in our collections destined to become relics, of little interest to anyone except a few antiquarians, sooner or later to be removed to storage on the one-way route to the dump? Is the outcome here dependent on forces beyond our control, or will what museums do or don't do make the difference? Who can know for sure? Nevertheless, we are obligated to proceed on the assumption that what we do does make a difference, that we can influence future developments, and that we can play a positive role in preserving the best of the past for the enrichment of future living.

Generally obsessed with a concept of static exhibits immobilized behind barriers for passive viewing by throngs of casual museum visitors, maritime museums started collecting old boats a few decades ago for the purpose of restoring them, that is building them over and making them into new boats again, or what would pass for new boats in the sheltered museum environment. Making new boats out of old ones is of course impossible, just as it is impossible to make an old man young again. And such resto-

John Gardner is Associate Curator for Small Craft Studies at the Seaport. This paper was prepared for the June 1986 conference of the Early American Industries Association, sponsored by Friends for Long Island's Heritage, Early Trades & Crafts Society of Long Island, and Nassau County Division of Museum Services.

ration efforts are often highly time consuming and very expensive. Better yet, set the old boat to one side for convenient reference and build a working replica. In most cases a replica will be less costly of time and effort, and you will have two boats when you are done, one that can be used as a boat, and even exhibited side by side with the original, and one that will remain a model, an inspiration and a teacher for other builders.

What has happened to the structure of a boat over many years of use and, too often, abuse, is useful and important to know, yet such information is something that restorative procedures, taken over from the art museum, purposefully conceal or eliminate. The tests of time and use undergone over many years by old boats are severe, in fact in some cases to the point of destruction for various components of the structure, and there is much to be learned from the results. Dr. Robert Bruce Inverarity was aware of this, and when he was Director of the Adirondack Museum, he lost no opportunity to collect pieces from wrecked and abandoned guideboats when he came upon them, recognizing their unique informational value.

For my part, I like to think of a collection of traditional small craft as a reference library, where builders and small boat connoisseurs can come for research and study, but especially builders, for the only way that small craft can be preserved for any appreciable length of time is by continuing to build and use them. Or to turn this proposition around, wooden boats naturally and inevitably wear out in use, and if use is to continue, replacements must be provided. Too frequently, professionals in maritime museums have proceeded with collections of traditional small craft as if they were taxidermists preparing exhibits of dead animals or morticians embalming corpses. And, unfortunately, it begins to appear that in too many cases that was what they were doing.

Who is responsible for the widely-held notion that a museum is a place of visitation where the remains of the past are decently and attractively exposed for viewing? Who, indeed, if not museums themselves, at least in part?

A few museum voices have spoken out against this concept, but they seem rarely to have been heard or understood. Nearly 100 years ago George Brown Goode of the U.S. National Museum said: "The Museum of the past must be set aside, reconstructed, transformed from a cemetary of bric-a-brac into a nursery of living thoughts." Although on this occasion Goode was considering the obligation of museums to become, like libraries and universities, the seedbeds for new and creative ideas, the broader intent and application of his declaration is clear. Museums are obligated to take an active part in the contemporary process. Applied to our heritage of traditional small craft, this can hardly mean less than using them to contribute something of value to the quality of modern living. Yet it is hard to see how much of a contribution

John Gardner rows a Chamberlain dory-skiff built at the Seaport. Gardner made plans for this traditional type available to a wide audience through publication in the *National Fisherman*. (MSM 71.238, photo by Russell A. Fowler)



can come from a collection of boats immobilized in conventional museum exhibits. I feel sure that Goode would have supported the view that historic boat types will make their greater contribution when they are in their natural element, performing as boats.

As for their contribution to the quality of life in the future, the future is largely beyond our ken and control, yet it seems reasonable to suppose that experiences with boats that contemporary generations find enjoyable and beneficial, future generations will be inclined to repeat. So long as the quality of the boating experience is maintained, and its continuity remains unbroken, the preservation of our heritage of traditional boats is assured, but once the boats are pulled out of the water, taken indoors, and immobilized in static exhibits behind museum barriers, their future is in jeopardy.

This is not to reject all exhibits per se. This is not the intention here at all. We would not think of denying that conventional exhibits of historic boats for public viewing have a legitimate and useful place in the museum program, but strongly insist that this is a minor and subordinate place, which must not be permitted to encroach on the more positive and productive features of a small craft program, nor under any circumstances to supplant them. Likewise, we grant without question the need for varying amounts of restoration to prepare boats for exhibition. The danger here is too much rather than too little, in going overboard, as was the rule rather than the exception in the past. Sometimes a thorough cleaning will suffice, in others a fresh coat of paint or varnish is enough. Should complete rejuvenation be required, it may be best to build a new boat from scratch and to exhibit it side by side with the old one. This is likely to be the simpler and less costly way to go, as well as making an effective display with the two boats. Complete restoration jobs, as were frequently carried out in the past, have tended to drag out interminably, with expert attention diverted to the most trivial details while costs mounted. For instance, old paint would often be painstakingly lifted layer after layer after layer, while protracted research attempted to ascertain its composition and the original colors of successive coats. What useful objective was served is a mystery.

There are no general, hard-and-fast rules to be laid down governing restoration, except, perhaps, that it should not be over done. In my view, complete rebuilding jobs are out, as well as restoration for restoration's sake, harking back to occasions I have observed where it seemed that boats were collected mainly as objects on which to practice restoration skills. Rare specimens must be handled with kid gloves, being careful to do nothing that cannot be undone. Indeed, in many such cases it were best if the restorer left them entirely alone. Examples of more common types obviously do not require such careful treatment. Minor repairs are in order when necessary, as well as

Unrestored, this Moosabec Reach boat illustrates the uses and abuses of such a boat far better than it would if restored to float again. (MSM 74.978, photo by Maynard Bray)



refinishing. Missing parts may be replaced, so long as some indication is provided to show that they are new.

No two boats are the same, and this must be taken into account when working on them. There is no substitute for boatbuilding experience, for good judgment acquired on the water, and indeed, for ordinary common sense, none of which are to be got out of books or in the academic classroom. Too much theory and too little practical experience is a very real danger, especially at this early stage of museum involvement with boats. Also it appears, and deserves to be taken into account, that some seem to have a natural, instinctive aptitude for working with boats, and some do not. It takes more than steady habits and job responsibility to make a small craft program work.

The boats included in the well-rounded museum program that is being considered here divide into two distinct groups, those that have been retired from active service on the water, and those participating in the museum's waterfront program. What has been said about restoration so far applies principally to boats for display and study in the first group. Those in the second group, assigned for use in the water, must be as serviceable, neat, and seaworthy as skilled maintenance can make them. There can be no restrictions on repairs, or even extensive rebuilding, when these are needed. Ideally, as time goes on, and a program matures, many of the boats used on the water will be replicas, built in the museum boat shop, examples of classic types included in the museum's study collection. After a visitor has become interested in a boat on display, or in one held in reserve for study, he can visit the waterfront to see one like it in the water, and perhaps go for a row or sail in it with staff supervision. If he should decide he wants to build one himself, the museum will supply building plans at a nominal cost, materials lists and the like, and will recommend sources of supply. If a visitor feels that he could use some boatbuilding instruction, there are museum boatbuilding classes. If problems arise during construction, he can consult boatbuilding professionals in the museum boat shop for advice and direction. Later on, after the boat is finished, the proud owner can bring it back to one of the museum's small craft meets to show it off to other amateur builders and small craft enthusiasts.

Such well-rounded small craft activity is a far cry from what passed, not so long ago, at maritime museums for an acceptable small craft program, namely, the treatment of boats as lifeless artifacts, their collection, restoration, display, and preservation by museum staff. No public participation was provided for except passive viewing of formal displays. Yet even this sterile treatment marks a watershed advance over the situation of only a scant few years earlier, when small boats did not yet exist within the museum pale, and before they were considered worthy of notice and attention by museum professionals.

Already at least half a dozen maritime museums in this country have moved in this direction, with portions of such a multiform program of boating activity already functioning. In two of these, The Center for Wooden Boats, in Seattle, and Mystic Seaport Museum at Mystic, Connecticut, an entire program is in place and working, although at Mystic the waterfront portion of the program is still at a rudimentary stage. This portion of the program is probably the hardest to implement, not because of any inherent difficulties, but because of its heavy demands upon staff supervision, and the necessity for strict safety precautions. These requirements are considerable, admittedly, but far from prohibitive. One likely source of assistance is to enlist the help of qualified volunteers from the various organizations involved with small craft boating.

Such a broad-based small-craft program that gives museum visitors, hopefully museum members, an opportunity to become active participants rather than merely passive viewers is the wave of the future, I truly believe.

The involvement of American museums with boats as distinguished from large vessels is a very recent development, more recent than is generally realized. With possibly one exception, it is barely thirty-five years since boats first began to be recognized by American museums as artifacts within the purview of their responsi-



In the Seaport's boat shop, Bret Laurent and Clark Poston help build replicas of classic small craft, such as these Rushton model 109 double-ended pulling boats. (Photo by Mary Anne Stets)

bility, or that they first became aware of the opportunity that boats offered them as a growing public attraction. In that short space of time museums have changed, and changed greatly, as the public's demands on them have changed. Their responsibilities have enlarged and broadened, their structure and activities have altered, and these changes still continue and accelerate as the social environment in which museums function is also changing with increasing rapidity.

What museums will be like a generation from now we have no means of knowing, except for one thing of which we may be certain: they will be different. Still, there are trends that may give us some indications. It is my assessment that the current of wide-spread interest in traditional small boats runs deep enough and strong enough to continue to keep moving on much the same course for some distance into the future. What is working today seems likely to continue to work a while longer.

The first attention received by boats from an American museum dates back approximately 100 years, when the Watercraft Collection was assembled at the U.S. National Museum in Washington. This was a collection of models, not of full-size boats. The difference is important, in fact crucial. They were models of native fishing craft, from small fishing boats to good sized vessels, brought together in the first place for the International Fisheries Expositions held at Bergen, Berlin, and London in the 1880s.

The first boat to be collected by an American museum (aside from the New York four-oared gig, *Knickerbocker*, destroyed by fire when Barnum's Broadway Museum burned early in the nineteenth century) was the locally built sandbagger *Annie*, acquired by the Marine Historical Association, now Mystic Seaport Museum, in 1930. Shortly thereafter, a collection of small craft exotics imported from abroad were put on display at the Mariners' Museum, Newport News, Virginia, founded in 1930, one year after the Marine Historical Association.

So far as I have been able to ascertain, these are the only two American museums that took small craft into their collections prior to the 1950s. Other maritime museums and marine historical societies then in existence ignored small craft, focusing their attention and research efforts on large vessels exclusively. Even at the Mariners' Museum there seems to have been no follow-up. Examples of Chesapeake fishing craft brought to the little artificial lake on the museum grounds, seemingly for atmosphere, sank at their

moorings for want of attention and maintenance. Only at Mystic did the number of small craft increase, but very slowly at first—four in the 1930s, with twelve more in the 1940s.

Outside the museums, public interest in traditional boats was spreading. The small craft revival was getting underway. A number of seminal articles by Howard Chapelle on neglected native American working types for sail and oars, published in *Yachting* during the 1930s, did much to turn attention to these fine boats, notably Friendship sloops, catboats, and sharpies, and to make a case for their conversion to recreational use. In 1937 M. V. Brewington published his pioneer study of the Chesapeake log canoe. In 1941 Howard Chapelle brought out his *Boatbuilding*, the first complete manual for wooden boat construction to be printed, and still one of the best. But perhaps as much as anything else, it was the steady, continuing flow of articles by L. Francis Herreshoff in *Rudder*, as the decade wore on, particularly those later reprinted in book form as *The Common Sense of Yacht Design*, that educated a new generation of wooden boat enthusiasts, and whetted their appetites for what was yet to come.

The 1940s were the war years, fiberglass had not yet come on the scene, and the Navy, Army, and Coast Guard had need in a hurry for an unlimited number of wooden boats and launches. This demand brought practically every surviving wooden-boat builder, regardless of age or decrepitude, out of retirement. They became the teachers, and the boat shops became the schools, for the education of a new generation of wooden-boat builders who, after the war, contributed mightily to the wooden boat revival that followed.

The Seaport's annual small craft weekend brings together enthusiasts with both experimental and traditional watercraft, such as Dick Everett's Whitehall *Anodyne*. (Photo by Kenneth E. Mahler)



In 1952 Howard Chapelle published *American Small Sailing Craft*, unquestionably the most influential book of its kind, a book from which literally hundreds of replicas of classic craft have since been built by enthusiastic amateurs. In that same year the Adirondack Museum was founded at Blue Mountain Lake, New York. The founding director, Dr. Robert Bruce Inverarity, an anthropologist who had studied the dugouts of the Northwest Pacific Coast Indians, recognized the unique significance of the Adirondack guide-boat for the Adirondack region, and made the guide-boat the centerpiece of the new museum's program. For the first time an American museum had given small craft the attention it deserved. In the 1950s, the Marine Historical Association at Mystic added forty-six boats to its growing collection, although a considerable portion of these were foreign exotics. And then in December 1959 Mystic brought out an illustrated descriptive catalog of its small craft collection, the first catalog of a collection of boats, not models, to be compiled and printed, a landmark event in the emerging small craft revival.

But it was during the decade that followed that the floodgates opened, and the barriers of conservatism and neglect began to crumble. The built-up pressure of public demand forced the museums to respond. Nine new maritime museums came into existence between 1961 and 1969, all of which either set up small craft programs from the start, or shortly after began to develop them. Classic small craft had finally breached the citadel of museum indifference.

Some of the factors responsible for the new turn have been considered. One that has not, and one of the major ones, was the swelling flood of tourism that swept across the country during that period of unparalleled post-war prosperity from 1950 to 1973. Large numbers of middle-class Americans had the money, the vacation time, the cars, the cheap gas, and the improved



Group participation at Seattle's Center for Wooden Boats: bending in a steamed oak frame for a twelve-foot Nova Scotia sailing skiff. Photo by Marty Loken. (Courtesy Center for Wooden Boats)



A variety of traditional and innovative craft can be found at the Center for Wooden Boats on the waterfront in Seattle. In the foreground is a twelve-foot Nova Scotia sailing skiff. Beyond the Center's boatshop is the schooner *Wawona*. Photo by Marty Loken. (Courtesy Center for Wooden Boats)

roads to an extent undreamed of before. Their appetite for new sights and new experiences was voracious. They intended to see America and see it all. Boats had special appeal for them, and museums that were awake tailored their offerings accordingly. Boats placed high among the new attractions. Since then, boats have ceased to be a novelty. The post-war economic boom has faded and to some extent reversed. Tourism shows signs of tapering off. If this trend continues, as appears inevitable, museum programs are bound to be curtailed. Only those for which there is demonstrable public demand can be counted on to survive the shake out. Lengthy and costly restoration projects, if any still continue, cannot be justified, and will be among the first to go. There is nothing like economic necessity to stimulate the thought process and to open closed minds. While the rapid increase in the number of new maritime museums that characterized the 1960s fell off abruptly after 1970, museum participation in the expanding wooden boat revival that followed was not slackened. That revival, which has now won full acceptance and which now takes many forms and finds expression through many diverse channels—publications, shows and meets, hands-on building instruction, and more—did not originate in museums, far from it, yet museums have been an organic part of this development from early on. The first instruction in recreational boatbuilding as distinguished from purely vocational training was initiated in 1970 by a museum. Now there are such classes and courses in profuse abundance. The first noncommercial wooden boat show likewise took place that same year under museum auspices. This year wooden boat shows are scheduled from coast to coast.

With acceptance in recent years has come stabilization and leveling off. With maturity has come less incentive to leave the beaten track and set out anew. Yet that is the way of progress. What is undoubtedly the most recent progressive and promising development in museum utilization and preservation of our small craft heritage might have seemed experimental and risky a few years ago. It is now an established and proven success that can well serve as a model for other museum efforts. To be specific, this is The Center for Wooden Boats in Seattle.

Ten years ago it all started around the kitchen table in one of the floating houses moored on the shore of Lake Union in downtown Seattle. There was a coffee pot on the stove, and friends who sailed and rowed together at Lake Union used to drop in evenings to talk wooden boats. The numbers grew, regular meetings were held, meets and regattas were organized, a newsletter was printed. Time came when the group had to move, when it had to have more room and a



The hands-on approach at the Center for Wooden Boats engenders skills and enthusiasm. Here a Chamberlain dory skiff takes shape in the Center's shop. Photo by Marty Loken. (Courtesy Center for Wooden Boats)

place of its own, if it was to continue and grow.

After extended negotiations with the city, they were permitted to lease an unused and unimproved lot of land on the lake shore. Today, amidst tastefully landscaped surroundings, they have their own dock and boat storage and a skills-preservation boat shop where members can build and repair their own boats, as well as the Center's, in use the year around on Lake Union. Also there is a meeting hall, classrooms where a teaching program with lectures and seminars goes on most of the year, and a library of books and boating publications.

The coffee pot is still on the stove, and good boat talk still is heard. The door is always open, and more and more of the Center's business and professional neighbors in downtown Seattle wander in to discover the joys and relaxation afforded by rowing and sailing on the lake in classic small boats.

There is only one way to preserve heritage small craft, which is to continue using and enjoying them. That is what it all boils down to in the end.

As a prototype for the well-rounded small-craft program, the Center for Wooden Boats in Seattle offers experience in the shop and on the water. Here, a twenty-foot recreational rowing wherry is shown under construction, and being launched from the Center's floating docks. Photos by Marty Loken. (Courtesy Center for Wooden Boats)





Mackerel Fishing out of Gloucester in the 1930s

DR. WILLARD H. BOYNTON

In 1931 I graduated from Groveland High School at the age of seventeen and subsequently spent three or four futile weeks trying to sell magazines and Fuller brushes. By 1931 the depression was in full swing and money and jobs were very scarce.

While I was looking for work my high school Latin teacher, who was the hostess of the Baldpate Inn in Georgetown, Massachusetts, invited my best friend, Harold Sleeper, and me to dinner at the Inn. Captain Ben Pine, who was the racing skipper of the *Gertrude L. Thebaud*, was staying at the Inn. He had had his frontal sinuses surgically drained to relieve his sinusitis. The dampness of Gloucester aggravated his sinusitis so he spent some time at the Baldpate Inn, which is located on a high hill. During dinner our teacher introduced us to the famous Captain Pine. Being brash juveniles we told him our greatest desire in life was to go fishing on a Gloucester schooner. He told us to come to the Atlantic Supply Company in Gloucester on Wednesday and he would put us aboard a vessel.

Harold and I showed up at Gloucester with a few old clothes in a bag after hitch-hiking a ride from Groveland. We found the Atlantic Supply Company at the head of a dock on the inner harbor adjacent to the Gorton-Pew Fisheries. The headquarters of the Atlantic Supply Company was a low wooden building with some offices and store rooms. Captain Pine and a matronly Ms. Rogers ran the company. At the head of the dock opposite the office was a ramshackle dwelling said to be a house of ill repute. The dock was principally occupied by a long storage warehouse full of nets, ropes, cables, barrels, masts and spars, anchors and chains, and a variety of maritime hardware fascinating to us two young landlubbers.

I can still see Captain Pine surveying the wharf and the schooners. He was of average height but extremely thickset. He always wore a cloth cap and had a scar on his forehead from surgical drainage of his frontal sinus. He had a florid complexion and rugged neck, chest, and arms. He was said to have come from Newfoundland to Gloucester as a regular hand and worked up to become the head man of the Atlantic Supply Company and the racing skipper of the *Gertrude L. Thebaud*.

The schooner *Arthur D. Story* lay along the dock and the *Gertrude L. Thebaud* lay at the end. On the other side of the dock there were a few seine boats and two or three small gill-netters with some of the gill nets wound on enormous spindles to dry. Of course, first thing we had to climb the shrouds to the crosstrees of the *Thebaud*.

Captain Pine was as good as his word, so after a couple of days of waiting my pal and I sailed out of Gloucester Harbor on the *Arthur D. Story* with Captain Williams and a crew of thirteen in all. I remember the number thirteen, because Manuel the cook kept saying "thirteen mens aboard da vessel, no good luck." Captain Williams was one of the youngest captains, probably in his late thirties or early forties. The captain got two shares and the engineer and the cook got a dollar a day plus one share. Everyone else shared equally except for me. I got half a share as an inexperienced newcomer. The crew

Dr. Willard Boynton, a graduate of the Yale University School of Public Health, has been a public health physician for fifty years. He is an expert on dehydration diseases in Third World countries. Most recently he has been a consultant for Westinghouse Electric in Amman, Jordan. He contributed these reminiscences in response to the Museum's call for information on the *L. A. Dunton* and fishing schooners of her era.

was a motley bunch with plenty of experience fishing. I remember one man from Prince Edward Island, one from Vinalhaven, Maine, a couple were herring chokers from Newfoundland, a couple were from Gloucester, and some seemed to have no home.

The *Arthur D. Story* (ex-*Mary*) was named for the famous shipbuilder of Essex, Massachusetts. The Story family built a great many of the Gloucester fishing vessels during the last three centuries. The schooner was 110 feet long with two masts about 80 feet high. At the time she carried only a jib, foresail, and, in place of the mainsail, a large triangular sail without a boom called a staysail. She had a stubby bowsprit and no topmasts. She also had a 150-horsepower semi-diesel engine that would probably push her along at five to ten knots.[1]

The *Story* was a typical Gloucester schooner, very similar in design to the *L. A. Dunton*. The captain and the engineer bunked in the aft cabin, handy to the engine room and the compass and wheel located just aft of the cabin hatchway. The hold of the vessel was taken up



Captain Ben Pine (ca. 1883–1953), a native of Belleoram, Newfoundland, joined the migration of his countrymen to serve in the Gloucester fishing fleet. A noted racing skipper, he commanded the *Gertrude L. Thebaud* against the *Bluenose*. (Courtesy Cape Ann Historical Association, Gloucester)

The Atlantic Supply Company Wharf, Gloucester, ca. 1920. Photo by Gordon W. Thomas. (Courtesy Gordon W. Thomas Collection, Cape Ann Historical Association, Gloucester)



with storage bins entered by two deck hatches. Several dories were stacked between the masts. The crew, including the cook, had bunks in the forecastle. Being the youngest crew member, I got a narrow, tapered top bunk right in the bow, with the planks curving along the outboard side of my bunk to give the bow proper curve and sheer.

The forecastle was our home. One could slide down the bunks and sit on a bench attached to them to eat from the table fixed in the center of the forecastle against the foremast. During rough weather the sides of the table could be fastened upright to hold the dishes from going on the floor. The cook's galley was just aft of

the forecastle ladder. He had a big iron cookstove on which there were always two enormous pots, one for tea and one for coffee. Our cook was a Portuguese named Manuel so there was usually a big pot of delicious soup with cabbage, peppers, onions, and so forth. There was a cupboard or cuddy where there were always leftovers from the meal. Coming from work or watch, one could always get a mug-up of tea or coffee, a cold mackerel, bread and meat, or some such. But one took his life in his hands if he disturbed any of Manuel's cooking or took any food other than that in the cuddy. Food was good and plentiful. I once ate six eggs for breakfast. We had lots of meat and potatoes as well as fish. Manuel was a good cook who made tasty soup and good cakes and pies.

Life in the forecastle was quite chummy as space was very restricted. Washing facilities consisted of a bucket of water drawn over the side of the vessel with a rope. This did not lead to much cleanliness. Toilet facilities were non-existent. I soon learned to urinate over the lee rail after one attempt to windward. One also fetched a bucket of water and sat on it on deck to defecate. I vividly recall a scene during a stormy day when my friend Ike was straining on a bucket and the *Story* buried her nose in a wave so that we took green water all over the deck. As the water poured over the deck it rose higher and higher until Ike's bottom was thoroughly cleaned, for once.

The forecastle was often filled with pipe smoke and sea yarns while the men were playing cards. I heard many a tale of big schools salvaged and lost, of great storms, sails carried away, wrecks, and dead reckoning navigation in the fog. Several of the crew had done dory trawling on the banks. They had great tales of near misses by steam ships in the fog, and one man claimed to have been in the forecastle of a schooner when a steamer cut her in two. Several men had been in dories when the weather shut down and they had difficulty getting back to the schooner. Stories of hardware in sharks' stomachs and swordfish putting their swords through the bottom planks of dories were common.

Of course I heard the story of Howard Blackburn's getting lost in a snow storm on the banks. I heard how his dory mate froze to death and how Blackburn froze his hands around the oars and rowed for three days to Labrador where he was rescued by the Indians. Thus, it was a great thrill to walk from the docks to Blackburn's Cigar Store and actually see the stubs of the fingers on this great Gloucester hero.

Our working dress consisted of a black, stiff sou'wester made of oilcloth. The back dropped over one's neck to shed the water onto our oilskins instead of down our necks. Rubber boots and oilskin overalls and jacket were worn at



The *Arthur D. Story* (ex-*Mary*) skims along during the elimination races for the International Fisherman's Cup, 1930. (MSM 74.142.86)

work. In those days the oilskins were made of a sort of canvas or linen fabric, which was literally oiled, and in hot weather they could get a little smelly and sticky. I remember investing a considerable sum, such as a couple of dollars, to buy my set of oilskins at the local factory in Gloucester. Cotton gloves were necessary to protect the hands when handling the seine or

lines. Some of the men were so poor that they did not have a complete set of clothes. I remember one man with leaky boots, torn oilskins, and no gloves. When he did make sixty-four dollars on one trip, he showed up Monday morning with a new but wrinkled and dirty suit, bleary eyes, exhaustion, but still no proper oilskins or gloves.

On the first trip out of Gloucester we went by Provincetown, and Cape Cod Light, to Nantucket Lightship. We found a few mackerel, got five or ten thousand pounds, and went back to Boston to sell them. The word in Boston was that the mackerel were down in Maine, so we started down east. I remember going by Thacher Island twin lights, the Isles of Shoals, and Boon Island. That day the ocean was covered with blackfish breaking the surface everywhere. We saw hundreds of these small whales. The next day we sailed by the cliffs of Monhegan, and I heard unrepeatable stories about Monhegan Island. The next night we were near Matinicus, and I counted the lights of seventy-eight boats that had converged to chase the schooling mackerel.

We made a few sets but had little luck. Many of the other boats were World War I sub-chasers of about seventy-five feet length, which had been converted to fishing boats. They were usually crewed by Portuguese or Italians. Because they were faster and more maneuverable than our schooner, they could get to a school of fish easier than we could.

The crew called mackerel seining yachting, because most of our time was spent waiting for fish. Mackerel migrate in schools from the Virginia Capes in spring to Nova Scotia by late summer. They usually surface in schools early in the morning or in the evening and stay down during the day. Of course there are exceptions as fish don't read the rule book. When there is likelihood of a school showing, two or more men would be kept aloft sitting on the crosstrees up at masthead. From masthead one can see the fluttering movement on the surface of the sea made by a school of mackerel at a considerable distance. An experienced fisherman can distinguish the flutter of a slight breeze on the surface from that of a school of mackerel; they can also usually distinguish the rippling of the surface caused by a school of mackerel from that caused by herring or menhaden.

On moonless black nights we also stood watch at masthead to look for schools of mackerel. When it is dark, any movement in the water causes a phosphorescence that looks like fire, thus it is easy to see and identify a school of mackerel and to estimate its size at night. One of the most beautiful sights imaginable is to sit on the crosstrees at masthead and watch the fire of phosphorescence roll along the sides of the vessel and trail behind in the wake. As the vessel moved through the water, the fish ahead of the vessel would dart out of the way and stir up the fire. It was quite a sight to see the fire caused by the movement of the fish darting away from the path of the vessel.

When the lookout spotted a school of mackerel the skipper, called "the old man" even though he might be younger than most of the crew, would go aloft to direct operations. First he would determine if the lookout had really spotted a decent school of mackerel worth making a set. If he felt there were sufficient mackerel in the school he would determine the direction of the school's movement. The seine boat would have been brought from towing astern to a close position attached to a side boom on the starboard beam.

The seine boat was a double-ender of about thirty-five feet. It contained a large purse seine neatly faked down aft and a small gasoline engine with a drum to wind in the purse lines of the seine. A dory with two crewmen was towed behind the seine boat. All the crew except the cook and engineer would jump into the seine boat. After the captain determined the size and direction of the school, the schooner towing the seine boat and dory would be brought just aft and to the port of the school. The seine would be let go and start playing out, and the dory would simultaneously be cut loose to pick up one end of the cork line and purse line. The schooner would circle the school with the seine playing out and come back to the dory holding the end of the lines. At this point the seine boat

would be cut loose to come up to the dory while the schooner drifted away.[2]

Once the seine had completely encircled the school and the cork line and purse line had been retrieved from the dory, the purse lines on the bottom of the seine, which ran through the lead rings that kept the bottom of the seine down, would be pulled back into the seine boat to close the bottom of the seine. This was normally done by winding the purse lines on the drum of the purse engine.[3]

While the purse lines were closing the seine, mackerel could escape through the opening under the seine boat. Often eighteen-foot oars would be thrust into the water, alongside of the seine boat, to scare the mackerel back into the net. If there were sharks mixed in the school, they would scare the mackerel and tear the seine. In shallow water the seine might get hung on a rock and tear. Sometimes the seine might pucker and the dory would try to straighten out the ring of corks, or a line might be put aboard the schooner, which could yank on the seine boat to straighten the corks. Too many fish in a school would sometimes sink the corks so the fish could escape over them.

All in all, there was usually plenty of excitement and cursing until the purse lines were secured and the seine held the fish. I learned a lot of alliterative swearing that summer, and also learned not to stick my head over the side of the seine boat when an eighteen-foot oar was popping back up out of the water.

Once the school was secure in the seine, the crew started to dry in the seine by pulling the cork lines aboard and carefully folding the twine in the bottom of the seine boat while the lead rings were lined up on a stick. The corks, twine, and purse lines had to be carefully faked, or folded, so that they would run out smoothly during the next set. When the seine was dried in, that is, all back in the seine boat except a pocket holding a good concentration of fish, the schooner would come alongside the seine opposite the seine boat and a piece of seine would be brought in over the gunwale of the schooner. The skipper would then proceed to bail the mackerel from the pocket in the seine onto the deck of the schooner. He did this with a large dip net that would hold about 500 pounds and was suspended by a tackle with the line running to a drum of a donkey engine on the deck. As the skipper dipped the net into the seine pocket the engineer would wind the line around the drum while the skipper maneuvered the great wooden handle to steer the dip net aboard the schooner. Then he pulled a draw string in the bottom of the dip net and beautiful, fluttering mackerel would bounce around the deck. This was repeated until all the mackerel were dipped

The double-ended powerboat *Beatrice E.* cruises for mackerel with a lookout aloft and her seine boat alongside. With such a small crew, she must set her seine under power, as mackerel schooners later did. The seine boat has a small hoisting engine amidships, forward of the neatly faked purse seine. (*Yachting Magazine*, October 1912)



out of the seine boat. Then the seine boat was put back on the side boom or towed astern and the crew proceeded to skid the mackerel down a chute into the hold where other members of the crew packed them in bins between layers of cracked ice. The *Story* carried ten tons of cracked ice for that purpose.

We were handicapped by having an engineer who could neither keep our main diesel motor running nor start the purse engine in the seine boat when it was needed. Thus, when we put the seine around a school of fish we often could not haul the purse lines tight by hand before the fish escaped. My job in the seine boat was to stand right in the bow and pull the corkline back into the boat while the big men did the skilled jobs of faking the seine properly, coiling the purse lines, and lining up the lead rings. It took about one hour to get the seine aboard without an engine, so I got plenty of exercise.

In one trip, which lasted six days, we got a bumper trip of mackerel near Matinicus Island, Maine. We made the set at the crack of dawn and the set went smoothly. The school was so big that mackerel were escaping under the seine boat before the purse lines could be gotten in, and from time to time the fish would charge the side of the seine, pull the corks under water and escape over the top. The mackerel were very large and the crew swore violently as they saw potential ten-cent pieces swimming away from the seine. However, we managed to salvage much of the school, and when we were through dipping we had mackerel all over the waist of the *Story* higher than my knees. It took us all morning to get the mackerel carefully packed in cracked ice in the hold. With a full trip we hurried for Gloucester using both motor and sails. Somewhere between the Isles of Shoals and Thacher Island our motor quit, and there

A fine haul of mackerel is dumped on the deck of the seiner *Pinta*. Photo by Albert Cook Church, ca. 1906.
(Courtesy the Whaling Museum, New Bedford, Massachusetts)



was practically no breeze. After some delay a Coast Guard boat showed up and towed us around Eastern Point and the breakwater into the inner harbor, and we managed to get to the Davis Bros. dock.

Mackerel were selling some days for a cent, or a cent and a half, but we had the good fortune to land our prize catch the day the price was four cents. One cannot exaggerate the size of the catch because it was carefully weighed and paid for by the pound. We sold 50,000 pounds from that one school to Davis Bros. at four cents a pound. After the expenses of the trip for food, fuel, and ice were paid, the remainder was split equally between the Atlantic Supply Company and the crew. Each share turned out to be sixty-four dollars, and I, as a youngster, was given a half share of thirty-two dollars plus all the mackerel I could carry. The thirty-two dollars was the biggest sum of money I had ever had in my possession at once up to that time. I was a proud fisherman when I returned to my family in Groveland, after hitch-hiking home with thirty-two dollars and a bundle of mackerel.

In those days there were usually dozens of schooners alongside the docks on the inner harbor and a couple of schooners on the ways having their bottoms cleaned. There were flake yards where split and salted cod fish were drying.

Most of the Italian and Portuguese boats were located on the peninsula toward the harbor entrance, called, I believe, Stage Fort. There was a busy area there where the vessels took on ice by the ton. Many of the Italian and Portuguese boats were World War I sub-chasers refitted for fishing. In those days before ethnic sensitivity, they were called guinea or Portegee boats. My chum and I visited the famous double-towered Portuguese church on the hill where candles were burned for the safety of fishermen and for good catches.

Navigation of the fishing schooners was relatively simple. There was a compass in the binnacle in the after end of the aft cabin trunk. In those days we boxed the compass and did not care about degrees. The skipper knew the coast well enough to navigate with a marine chart and a compass. He supplemented the compass readings with a lead line.

One day when we were to the sou'ward of Monhegan the weather report on the radio warned of a storm. We had a radio to hear WHDH broadcasts, but had no sending capacity. The skipper decided to head to Boothbay Harbor, and a real heavy fog developed so that one could hardly see the end of the vessel. As we neared the coast we kept heaving the lead line with a pocket of soap in the bottom. The line gave us the depth and the soap picked up enough gravel to give the nature of the bottom. The skipper navigated the vessel with such skill on the basis of this information that, when we first saw land, we were going down the inner harbor at Boothbay with land on both sides of the vessel.

We always took turns standing two-hour watches with two men, one at the wheel and one at the bow. On my second trip I stood watch as one of the crew. It was quite a thrill for a seventeen-year-old to have the wheel of a 110-foot schooner with a moderate breeze filling the sails and pushing her along. When it was calm and we were not fishing, or at night, the wheel was frequently lashed, so that we just jogged about with the triangular riding or staysail up to keep the vessel steady.

In rough weather we youngsters got a thrill out of hanging onto the stays on the short bowsprit and watching the schooner lift its bow up and then bang down into the sea. It was also fun to go to the crosstrees and swing out beyond the gunnels of the vessel as the eighty-foot mast swung like a pendulum.

Occasionally my chum and I would dive over the side of the vessel on a warm day to take a swim when we were not fishing. The crew of tough fishermen blushed and blanched to see us swimming naked, even though they talked endlessly of their exploits in houses of ill fame. They warned us about the liability of "getting browned" and the danger of sharks.

They always posted someone at masthead for sharks when we went swimming, and still worried about the possibility of sharks lurking in the shadow of the boat. They told many stories

of sharks with all kinds of hardware and clothing in their stomachs. On dull days when there was nothing to do, some fishermen had caught sharks and told of putting a shovel full of live coals in their mouths before liberating them. The fishermen really hated sharks because they tore their nets and were a danger to the men. Sharks were dangerous even on deck because they could still bite or scrape your skin off with their sandpaper hide.

Most of the fishermen could not swim, even though they spent their lives on the water. They figured that if they went overboard in the North Atlantic they would last only half an hour, so they would rather drown quickly and get it over with. They ignored the utility of being able to swim if one was in harbor or in a position to be rescued quickly. Once when we were tied up in Portland harbor, a non-swimming crewman accepted a fifty-cent bet that he could jump overboard and grab a round life buoy to get back to the vessel. He stood on the rail and jumped feet first into about fifteen feet of water next to the life buoy. His splash caused the buoy to fly away beyond his grasp, and he went under twice before another crewman dove in to rescue him.

Since fishing was entirely by shares there was a lot of luck involved in earning some money. We were relatively fortunate to have earned sixty-four dollars a share on one trip. Our other trips either made no money or shared only a dollar or two. That year, the famous *Gertrude L. Thebaud* was said to have shared only two dollars in six months, and during that period had lost two men overboard.

I stayed with the *Story* during July and August and left to go to college in September. The next summer of 1932 I returned to Gloucester but conditions were even worse as the depression deepened. After college I never got back to fish out of Gloucester, as I was too busy working at more certain jobs and studying to become a Public Health Physician. Now I have a summer home on Monhegan Island, where one son is a lobsterman and my grandson is his part-time helper. When one of the family spots mackerel schooling in front of the house we still respond to the cry of "mackerel!" by dropping everything and hurrying into my sloop *Fiddlehead* to jig forty or fifty of the best fish in the ocean.

NOTES

[1] The *Arthur D. Story* was designed by Arthur Binney and built by Arthur D. Story as the *Mary* in 1912. For a while in the 1920s she was owned in Newfoundland. In 1930 she was rebuilt as the *Arthur D. Story* to compete in the elimination races for the International Fisherman's Cup, which were won by Captain Pine in the new *Gertrude L. Thebaud*. The *Arthur D. Story* foundered on St. Pierre Bank, 3 March 1935, taking her crew of seven to the bottom with her.

[2] From its general adoption by the mackerel fleet about 1870, until the 1920s, the purse seine was set by the crew rowing the seine boat around the school of mackerel as the seine was thrown out. Mackerel-fishing schooners were among the first to receive auxiliary power in the first decade of this century, but the use of the vessel to tow the seine boat around the school was probably introduced by small powered boats around 1910, and did not become common in large schooners until economical diesel engines were available later in the teens.

[3] The small gasoline-powered purse engine in the seine boat replaced the brawn of the seine-boat crew for hauling the purse lines by the 1920s.

Albatross

America's First Full-Time Deep-Water Research Vessel

SUSAN PETERSON

For as long as men have ventured upon the sea they have wondered about its mysteries. Where do all the mackerel go in the winter? How does the Gulf Stream flow so tirelessly and strongly along our coast? These and thousands more questions have been asked by seamen and fishermen for generations.

In response to disputes over fishing methods in New England, the U.S. Commission of Fish and Fisheries was established in 1871 to investigate the fisheries of our coasts and to try and unravel some of the sea's many mysteries, especially as they influenced the profitability of the commercial fisheries. It was the Fish Commission, under the able and energetic leadership of its founder, Spencer Fullerton Baird, that was responsible for the construction of America's first ship designed and built solely for research. This was the steamship *Albatross*, launched 105 years ago. For many years she was the most advanced ship of her type in the world.

During her thirty-nine-year career, the *Albatross* investigated coastal fisheries and performed deep-sea research that contributed greatly to both our knowledge of the sea and to the development of oceanography as a systematic science. Like the far better known British ship *Challenger*, she was a pioneer in marine research. But she also served long enough to see oceanography progress from being a largely descriptive inventorying of physical data and sea life, to the beginning of precise quantitative measurement and understanding of ocean-wide physical processes.

During her long service, the *Albatross* introduced hundreds of scientists and students to the wonders of the sea. In addition to her many direct contributions to oceanography and fishery science, some of the research techniques and instruments devised by the ship's crew and scientists are forerunners of gear still widely used today.

The *Albatross* was the brainchild of S. F. Baird, Assistant Secretary of the Smithsonian Institution and, from 1871 to 1887, the first U.S. Commissioner of Fisheries. Baird urged her construction in 1881 because he realized that answers to the many problems of the nation's coastal fisheries being investigated by the Commission would have to be sought offshore, beyond the range of the several small steamers the Commission then operated. Baird also set exploratory fishing as a major early goal of Commission research and wrote in his request for funds to build the *Albatross* that he hoped she would discover "important new fishing grounds of great extent in the South Atlantic and Gulf of Mexico."[1]

His arguments were convincing, for in 1881 Congress appropriated $103,000 for the construction of a "first class sea going vessel."[2] An additional $45,000 was needed the next year for cost overruns. In March 1882, the keel for the new steamer was laid at the Pusey and Jones shipyard in Wilmington, Delaware. The following August she was launched for sea trials.

Albatross was an iron-hulled twin-screw vessel originally rigged as a brigantine with 75,000

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The *Albatross* was photographed at the Washington Navy Yard shortly after her launch in August 1882. (Courtesy National Archives, Washington, D.C., 22-FFA-956)

square feet of auxiliary sail. At 234 feet and about 1,100 tons displacement, she was nearly the same size as her present-day namesake, *Albatross IV.* Like many oceangoing steamers of the last century, the *Albatross* was a handsome as well as functional vessel. Her graceful sheer, clipper bow, and counter stern were reminiscent of the days of sail, as were her moderate freeboard and relatively slender beam. Those scientists who sailed in her remembered her as a comfortable and able ship. One visiting naturalist wrote "She was a beautiful ship built like a yacht with a wide afterdeck where the officers slept on camp beds when the night was hot."[3] She was also, for many years, the best equipped ship of her kind anywhere in the world.

No effort was spared in making her an efficient research vessel, with the best and latest technology of the day. She had more laboratory space in her two large labs than some modern research vessels. She was equipped with a special "cold-room" adjacent to two large iceboxes, and also had a photographic darkroom. A small store room below the lower deck lab, with a special fire control system, was built for volatile specimen preservative storage, and the ship had on board evaporators capable of producing 2,000 gallons of freshwater a day. Distilled drinking water then was still quite new aboard ships, though its salubrious effects on the health of crews were already widely recognized.

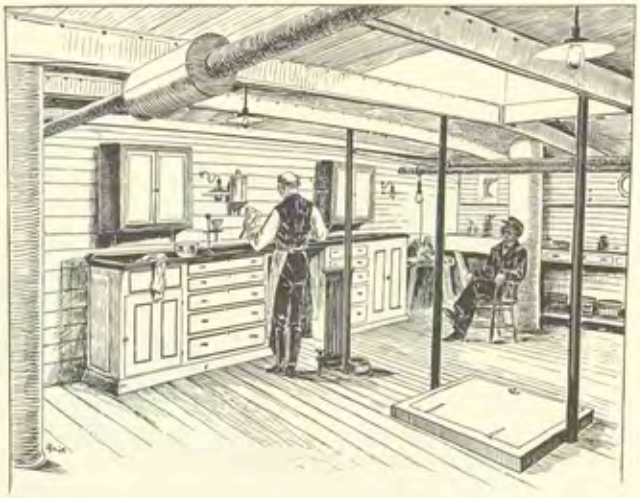
The ship was also equipped with literally tons of special collecting gear—aquaria, seawater pumps, wet tables, and other gear—and she was given the best available dredging machinery. This consisted of two separate engines, one for actually hauling back the dredge, the other for reeling up to five miles of steel cable onto a large storage drum. Because the ship often dredged with her stern to the wind, her rudder and steering gear were made heavier and stronger than usual to withstand the unusual forces imposed upon them whenever she dredged or backed down on her gear.

The *Albatross* was the first U.S. Government vessel to have electric lighting, installed to facilitate the night retrieval and sorting of the deep sea dredge catches. Her "Edison incandescent system of electric lighting" consisted of a fifty-one-volt dynamo belted to a small high speed

steam engine to light a circuit of seventy lamps throughout the ship. Her first commander wrote, "Mr. Edison has brought his system of lighting to an admirable state of perfection; wherever the eye rests, it is pleased by correct proportions, sound mechanical principles, and agreeable outlines."[4] Nonetheless, the ship also sailed on her first cruise with a full complement of oil lamps, for Edison's invention of the light bulb was just three years old and as yet not well tried on ships at sea.

Many of the ideas for the *Albatross*'s research gear came from her devoted and ingenious captain, Commander Zera L. Tanner, a former merchant marine officer, Civil War naval officer, and Pacific Mail steamship skipper, who had previously commanded the *Fish Hawk*, a small steamer designed by the Fish Commission for service as a mobile hatchery. Tanner put his practical knowledge and experience gained from that duty to work in the design and refinement of much of the *Albatross*'s equipment. He served as her commander for twelve years, longer than any subsequent captain, and some of his practices aboard ship differed little from those still used aboard research vessels today. He devised a "dredging quadrant" to estimate the depth his gear was fishing at that was all but identical to the inclinometer I used a few years ago as a graduate student doing subsurface plankton tows. Tanner designed a neuston net similar to those still used for sampling life at the sea's surface, and he invented a method of closing a plankton net at a given depth and then bringing it to the surface with its midwater catch uncontaminated. Eighty years later, I saw scientists using a much refined electronically triggered successor to the "Tanner net" to investigate offshore plankton patchiness and midwater distribution.

Tanner was also an accomplished practical engineer, and he and others of the ship's original company, notably her chief engineer, George W. Baird, devised and perfected a number of unusual sampling devices and procedures aboard the *Albatross*. Some of their inventions may have been simultaneously discovered by other researchers, but, nonetheless, demonstrate



The spacious lower laboratory was lit by electricity and heated by steam. Drawn by Henry W. Elliott. (U.S. Commission of Fish and Fisheries, *Report . . . for 1883*)

the creativity and ingenuity demanded of pioneering marine researchers.

Tanner worked to improve the safety of dredging procedures, and he and engineer Baird teamed up to contrive an ingenious way of transmitting signals between the bridge and engine room using "pneumatic annunciators," an early engine-room telegraph system. As Baird put it in his year-end report to the Commissioner of Fisheries, "The tax on the commander's mind in reconciling the wind, waves, current, strains on and direction of the dredging wire, while dredging in the great depths of the Gulf Stream is considerable, and when he had, in addition to this, to remember the direction both engines were moving in, it was a surprise that successful work was done at all."[5]

Deep-sea dredging, or trawling as we call it today, was (and is) a demanding and delicate operation, and the danger of an accident to

The *Albatross* dredging. (U.S. Commission of Fish and Fisheries, *Report . . . for 1883*)



either gear or crew during dredging was considerable. In his first annual report to the Commissioner of Fisheries, Captain Tanner provides a vivid and detailed description of the dredging procedures aboard the *Albatross*. Many of the routines followed by the ship's company are strikingly similar to the operations aboard fisheries research trawlers today. In reading Tanner's description of dredging aboard his ship, you can almost hear the rumble of her big winch reeling in miles of steel rope during haulback, or see the net breaking surface alongside. Tanner also wrote, "The most trying position is when we get an overload of stones, clay, or tenacious mud which will not wash through the meshes of the net, and must be hove up with the greatest care, consuming hours of valuable time, and not infrequently parting the bridle-stops or the rope just as the trawl heaves in sight, losing the entire contents or the trawl itself, as the case may be."[6] A century later crews of research vessels still face the same frustrations when a "hang up" occurs.

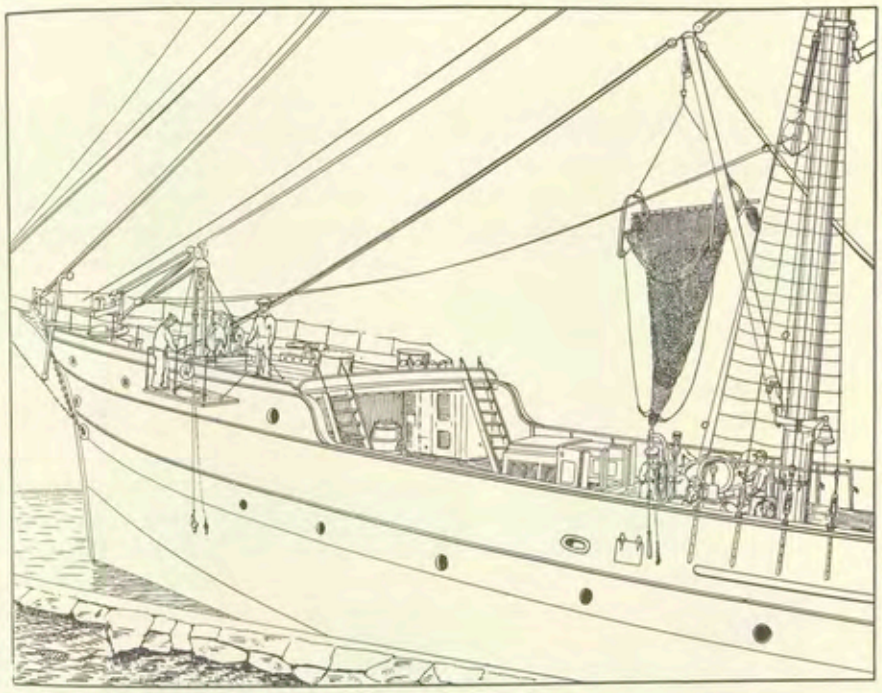
For the first five years of her life the new ship sailed out of Woods Hole, Cape Cod, Massachusetts, where the Fish Commission had established a summer shore station on the site of today's National Marine Fisheries Service lab. At Baird's direction, her missions were to investigate the effects of temperature, currents, and bottom conditions upon the presence and behavior of commercially important fishes. Baird's 1886 orders to Tanner read, "as in previous cruises, you will make collections by trawl, dredge, or otherwise, of the marine animals inhabiting the waters, whether vertebrate or invertebrate, and will gather as many data as you can respecting their relationship to each other and to their physical surroundings."[7] In later years, after Baird's death, the scientists of the *Albatross* had less opportunity to pursue this sort of basic research as the Fish Commission increasingly turned to unsuccessful attempts to augment natural fish populations with hatchery raised fish.

During the first two decades of her life, however, the *Albatross* worked in direct support of the coastal fisheries of both the east and west coasts. She engaged in experimental fishing using such new gear as the beam trawl (forerunner to the otter trawl now used around the world to capture groundfish) and she attempted to track the seasonal movements of commercially important migratory fish species such as the bluefish and mackerel. The ship also spent much time on hydrographic survey work as she was well equipped with the complex and cumbersome sounding machinery used for measuring water depths in the days before sonar.

One of her more unusual duties in the summer of 1886 was to track down the whereabouts of Hope Bank, an elusive "new" fishing ground supposedly east of the Grand Bank. She sailed in August, and a few days later was hove to over the position of the phantom fishing bank. Here her sounding machine found a depth of 1,969 fathoms. Several lines of soundings were run in the vicinity of the reported bank, but no shoals were found, and after rechecking his position and navigation Tanner felt confident that the appropriately named fishing ground was just that—a hope rather than reality. He also went on in his report to the Commissioner to explain just why wishful fishermen might have conjured up a virgin new bank teeming with fat cod and haddock.

"Reference to the chart," Tanner wrote, "will show its assigned position to be near the northern edge of the Gulf Stream, where its deep blue waters, with temperatures above the normal and high specific gravity, impinges upon the colder green water of the Arctic current. The first sight of this green water on emerging from the Gulf Stream gives one the impression that he has suddenly struck soundings."[8] Once the "bank" was charted, he explained, anyone suddenly finding himself in green water in that foggy region of contrasting water temperatures and colors and difficult navigation would quite reasonably conclude he was on the shoals of "Hope Bank."

Another of the *Albatross*'s early assignments during her East Coast tenure was to search for signs of tilefish off the coast between Nantucket and Delaware. The tilefish is a large, exceedingly tasty, blue and gold fish found on the outer edge of the continental shelf along the East Coast.



At the *Albatross*'s bow were the sounding machine on the forecastle and the beam trawl dredging equipment at the foremast. The trawl is shown suspended from its towing boom. (U.S. Commission of Fish and Fisheries, *Report . . . for 1883*)

These handsome fish were not described to science until 1879, when several were caught by hook-and-line fishermen. Within a few years of their discovery an active fishery for tilefish had developed, but in 1882 disaster struck the hapless species, possibly when unusually cold water intruded along the slope of the continental shelf and killed them. That spring, vessels reported thousands of dead tilefish floating on the surface, and the Fish Commission estimated that at least a billion and a half had perished. The *Albatross* searched diligently for the once abundant fish during the summer of 1884, but found not a single one. Her dredging also revealed that the distinctive warm-water invertebrates of the tilefish grounds had also suffered severe mortalities, supporting the cold kill theory.

Fortunately, the tilefish were not completely wiped out. By the 1890s a few were showing up in commercial landings again, and soon they once more supported a lucrative fishery. But by then, the *Albatross* had left their waters to sail for the West Coast.

After Baird's death in 1887, the character of the Fish Commission and the work of its ships changed. Frequent political appoinments to the position of Commissioner were made, and not all proved effective at directing or funding the organization. The Commission (renamed the Bureau of Fisheries in 1903) did not have funding for a permanent staff of scientists at the Woods Hole station until after World War II. Increasingly, it turned to fish propagation to produce immediate, tangible results for dollars spent, though in the long run stocking proved of far less value than the kind of basic research Baird advocated for the *Albatross*.

The ship was transferred to the West Coast in 1887 to work off Alaska as a sort of auxiliary to the U.S. Revenue Service in enforcing fur seal catch quotas. She also did some exploratory fishing of the largely unexplored Alaska waters and charted several very productive new fishing banks.

Despite this prosaic introduction to service on the West Coast, it was in the Pacific that the *Albatross* made the long deep-sea collecting expeditions that insured her place in the history of oceanography. Three of these cruises were made with the support of Alexander Agassiz,

the noted and wealthy scientist who directed the Museum of Comparative Zoology at Cambridge, Massachusetts. He had previously initiated several dredging cruises aboard the U.S. Coast and Geodetic Survey steamer *Blake*, and with the *Albatross* he investigated both the formation of coral reefs and the possible existence of an "azoic zone," where no life existed, in the sea's mid-depths. On his first trip aboard *Albatross* to the Galapagos Islands in 1891, the search for life in the sea's mid depths to prove or disprove the azoic zone theory was a priority. Agassiz and Captain Tanner did their best to devise a reliable closing mid-water plankton net which they used with only limited success. Agassiz, however, concluded from his samples on that cruise that life in the ocean extended down to only about 300 fathoms. Below that depth, he believed, the sea was virtually barren until within a few hundred feet of the bottom. Despite the differing results of other scientific expeditions, Agassiz remained convinced of the existence of an azoic zone throughout his career as a scientist.

Agassiz was so pleased with the results of his first cruise aboard the *Albatross*, that he footed the coal bills for two more long Pacific cruises with her. During these cruises dredging was carried on at record depths. One haul was from 4,173 fathoms (25,038 feet). In contrast to some of his earlier experiences on long expeditions where Agassiz had chartered less well equipped vessels for research, he was well satisfied with his cruises on the *Albatross*. He later wrote: "I can hardly express my satisfaction at having had the opportunity to carry on this deep-sea work on the *Albatross*. . . . I could not but contrast the luxurious and thoroughly convenient appointments of the laboratories of the *Albatross* for work by day and by night with my previous experience."[9]

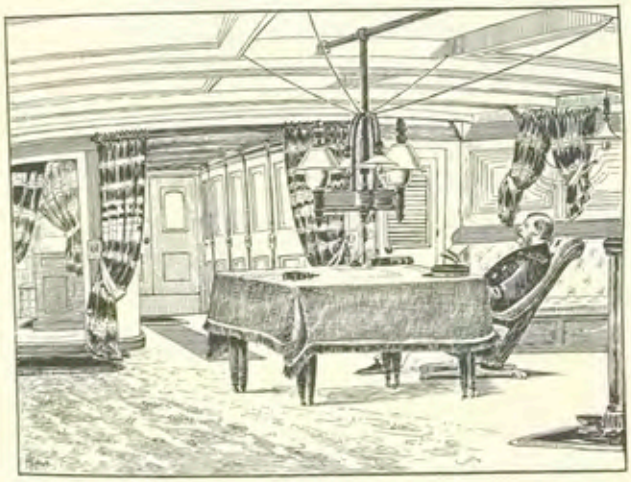
Apparently the feeling was mutual, for Tanner wrote in his year end report: "The explorations during the cruise were conducted under his general direction, and his great knowledge and experience were apparent in all our operations. . . . We took leave of him with much regret and it is our fond hope that some time in the near future we may again have his active cooperation in deepsea investigation."[10]

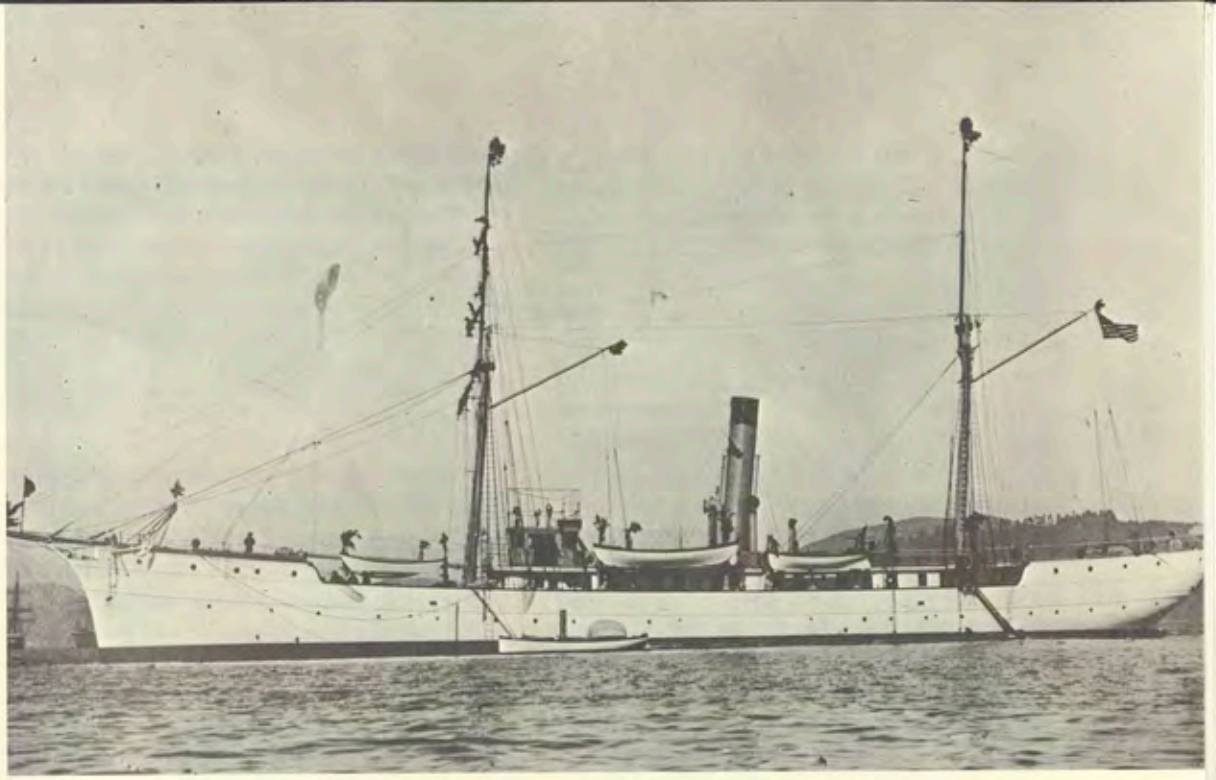
Unfortunately, wealthy men who wished to conduct deep sea expeditions were not easily found, and when the ship returned to her home port in San Francisco, orders were received from the Navy Department, which supplied the ship's crew, to cut the complement from sixty-seven to fifty-three men. This reduced crew would have been able to operate only the ship and none of her sampling gear. A compromise was worked out that allowed the additional men to be kept on at the expense of the Fish Commission, and the *Albatross* carried on with her West Coast and Alaskan work. But the ambitious broad range of research that had marked the Commission during Baird's tenure as chief was clearly past.

Not long after her first voyage with Agassiz, the *Albatross*'s commander of many years, Z. L. Tanner, who had been with the Fish Commission since 1879, left the ship. In the years to come not all of the vessel's captains were as diligent or as actively interested in the ship's research work as Tanner had been. For many later naval officers, duty aboard the civilian ship was viewed as doing little for their military careers. Nonetheless, duty aboard the ship was generally pleasant, for the vessel and her ports of call were usually quite comfortable.

In 1904 the *Albatross* was assigned to a cruise off Southern California to study the biology of the area's coastal waters and to do some explor-

Lieutenant-Commander Tanner relaxes in the well-appointed cabin of the *Albatross*, which was lit by gas as well as electricity. Note the radiator and the spitoon at right. Drawn by Henry W. Elliott. (U.S. Commission of Fish and Fisheries, *Report . . . for 1883*)





Adorned with evergreen sprays, the *Albatross* lies at anchor in San Francisco Bay, 1904. She carries a variety of boats, including a dory (forward) a whaleboat (amidships) and a steam launch (in the water). (Courtesy Archives of the Scripps Institution of Oceanography, University of California, San Diego, La Jolla, Tillie Genter Papers, 83–68)

atory fishing. A young graduate student then studying at Berkeley, named Loye Miller, went along on several short cruises and some sixty years later recollected the California survey, devoting a paragraph to the ship's mascot, a large billy goat acquired as a kid during the ship's second south sea voyage with Agassiz. Bill "had the run of the ship (barring the skipper's quarters). He could walk a spar, climb steps, eat all the cigarette butts or waste paper, and always went ashore with every party to consume a stein of beer. . . . A sailor would take a roll of toilet paper, put his foot on the free end, roll the roll down the deck, then start 'Bill' at the free end and watch him eat his way many yards along the deck. . . ."[11]

Miller remembered some of the exotic and strikingly beautiful "catches" made in plankton tows and dredging samples in great detail sixty years later.

> A closed net was sent down to 300 fathoms and then opened by a weight sent down the cable. From that point it was drawn up vertically to 200 fathoms when a second weight was sent down to close it. From 200 fathoms it came up closed so nothing else could get into it. When emptied on to our drain table the content yielded a beautiful six-inch shrimplike creature (*Gnathophausia*) of rich crimson color and very much alive. Here was a highly organized creature that was living "halfway between sky and sea" and seemingly living normally.[12]

Thus, Agassiz's stubbornly held azoic zone theory was once again disproved right on *Albatross*'s decks.

Shortly after this assessment of Southern California's marine resources, the *Albatross* was sent on her last and longest deep-sea expedition. For two and a half years the ship surveyed the marine life of the recently acquired Philippines territory and that of neighboring island regions under the direction of Hugh M. Smith, Deputy Commissioner of Fisheries. The ship's natural history surveys of the largely unknown waters of the Philippines resulted in the collection of

thousands of fish and invertebrates, many of which were new to science. Some 400,000 preserved fish alone were sent to the U.S. National Museum for classification and 577 dredging stations were made during the long cruise.[13]

Long after the cruises were past and the ship scrapped, memories of her longest voyage remained vivid among some researchers who had sailed with her. Generally the ship would anchor each night in some inland harbor surrounded by steaming jungle. The next morning her naturalists would go ashore for a few hours of collecting land animals, birds, and plants. Then the ship would get underway for a long hot day of dredging and hydrographic work. Sometimes after darkness fell, a waterproof light was lowered over the side for night fishing. Recalled Dr. Paul Bartsch, one of the naturalists on that cruise, "upon being lowered and slowly raised to the surface, a cloud of microscopic life would gather around the [light] globe like a haze. Some larger forms would mingle with this, worms of various species, small crustaceans, larval eels, small fish, and larger and larger forms. All of these would swim in a rotary motion around the globe, forming a veritable wheel of life, the larger forms preying upon the small."[14]

Another naturalist on board wrote: "In those waters [of the Celebes Sea] as blue as indigo [*Albatross*] dropped her nets sometimes a mile or even two straight down to the ocean floor. Usually the dredge contained a great mass of ice cold mud, but as this was washed away, strange sea creatures began to appear. . . . There were fish with eyes far out on stalks, others bearing phosphorescent spots like glowing port holes of a lighted ship, fish carrying little lanterns in front of their noses to light the way. . . ."[15]

After this, her longest research cruise, the *Albatross* got underway from Cavite Navy Yard in the Philippines, headed at long last for home. Within the confines of the Formosa Strait she was surprised by a fast-moving typhoon. As she pounded into the steep, rising seas wrote Roy Chapman Andrews, aboard as a visiting naturalist,

> A tense calmness pervaded the ship. We were fighting a battle for life against the elements and the odds were on their side. . . . The *Albatross* was headed directly into the seas which broke over the bow and swept the deck every time the ship dived into one of the mountainous green waves. Foot by foot the old ship crept forward, sometimes losing more than she gained but always coming back for another assault. . . . All our minds and hearts and strength went out to help the *Albatross* when she staggered drunkenly after a smashing blow. . . .[16]

Though the old ship was hard pressed for a few hours, she made Keelung Harbor just after nightfall and anchored while the storm continued to roar overhead. The next morning, while running into the inner harbor, the starboard engine broke down!

After that long and strenuous voyage, the aging steamer returned to San Francisco, only to be declared "unseaworthy" and be confined to San Francisco Bay. She conducted a thorough biological survey of the bay and its fishery resources, and finally received a long overdue overhaul and modernization in 1913 and 1914. At this time she was rerigged as a cut down schooner and her pilothouse was extended to make additional office space. Unfortunately, after all this expense there was no money left for operations, so the ship was laid up in late 1916 for lack of funds. World War I brought her out of retirement, however, and she served uneventfully for a few months on antisubmarine patrol in the Caribbean, an area she had helped chart many years before.

When the war was over the *Albatross* was refurbished and returned to the Bureau of Fisheries. More than thirty years after leaving the East Coast, she went back to work here doing an oceanographic survey of the Gulf of Maine. In 1920 H. M. Smith, now Commissioner of the Bureau of Fisheries, wrote in the organization's annual report, "The *Albatross* is now better equipped than ever before for practical fishing operations, and it is expected that . . . the vessel will make even more substantial contributions to the welfare of the fisheries than it has in the past."[17]

But it was not to be. Two years later, the new Commissioner, Henry O'Malley, wrote, "In

view of the excessive cost of coal and other operating expenses and the difficulty of securing a trained civilian staff at the salaries available, it was decided to discontinue for the present any attempt to use the steamer *Albatross*."[18] On 19 May 1920, the old ship occupied her last station, and in October 1921 she was decommissioned at Woods Hole, a victim of government budget cuts and hard times for research.

Little is known of her subsequent history. Apparently, around 1924 a Boston group purchased and attempted to operate the *Albatross* as a schoolship for the American Nautical Schools Inc. Unfortunately, her career in education was brief for the school proved no more able to raise money than had the Bureau of Fisheries. The last known whereabouts of the veteran ship was Hamburg, Germany, where she was scrapped sometime after 1928 to pay off the school's debts.

In the years between the *Albatross*'s decommissioning and World War II, most marine research in this country was supported by private institutions, as there was little government interest or funding for such work. Neither of the next two government operated fishery research vessels to bear the name *Albatross* was designed or built for research. *Albatross II* was an old deep-sea tug built in 1911 for the Navy and transferred to fisheries work in 1926. She was plagued by frequent mechanical troubles and was disposed of a few years later. In 1948 the Bureau of Fisheries acquired *Albatross III*, an elderly side trawler. Though small and well worn by years of commercial and wartime service, *Albatross III* served the Bureau for eleven years and even made an overseas trip to Portugal.

In 1957, the orbiting of Sputnik by the Soviets spurred a major government commitment to basic research programs of all kinds, and in 1963, eighty-one years after the launch of the first *Albatross*, the National Marine Fisheries Service again operated a ship named *Albatross* that had been designed and built solely for scientific research. *Albatross IV*, like her namesake, has introduced dozens of young students and scientists to the wonders of the sea, as she continues the quest to unravel the mysteries of the deep sea.

NOTES

[1] S. F. Baird, in Z. L. Tanner, "Report on the Construction and Outfit of the U.S. Fish Commission Steamer *Albatross*," in U.S. Commission of Fish and Fisheries, *Report of the Commissioner for 1883* (Washington, D.C.: Government Printing Office, 1885), p. 1. For background, see Susan Schlee, *The Edge of an Unfamiliar World: A History of Oceanography* (New York: E. P. Dutton & Company, 1973).

[2] U.S. Commission of Fish and Fisheries, *Report . . . for 1883*, p. 1.

[3] Roy Chapman Andrews, *Under a Lucky Star* (New York: Viking, 1943), p. 70.

[4] Z. L. Tanner, in U.S. Commission of Fish and Fisheries, *Report . . . for 1883*, pp. 33–34.

[5] G. W. Baird, in Tanner, "Report on the Work of the U.S. Fish Commission Steamer *Albatross* for the Year Ending December 31, 1886," in U.S. Commission of Fish and Fisheries, *Report of the Commissioner for 1886* (Washington, D.C.: Government Printing Office, 1889), p. 648.

[6] Z. L. Tanner, "Report on the Construction and Outfit of the U.S. Fish Commission Steamer *Albatross*," in U.S. Commission of Fish and Fisheries, *Report . . . for 1883*, pp. 106–07. See also Z. L. Tanner, "Deep-Sea Exploration: A General Description of the Steamer *Albatross*, Her Appliances and Methods," in *Bulletin of the U.S. Fish Commission, Volume 16, for 1896* (Washington, D.C.: Government Printing Office, 1897), pp. 259–427.

[7] S. F. Baird in U.S. Commission of Fish and Fisheries, *Report . . . for 1886*, p. 606.

[8] Z. L. Tanner in U.S. Commission of Fish and Fisheries, *Report . . . for 1886*, p. 630.

[9] C. H. Townsend, *Natural History* (1924):619.

[10] Z. L. Tanner, "Report Upon the Investigations of the U.S. Fish Commission Steamer *Albatross* for the Year Ending June 30, 1892, in U.S. Commission of Fish and Fisheries, *Report of the Commissioner for the Year Ending June 30, 1892* (Washington, D.C.: Government Printing Office, 1894), p. 266.

[11] Loye Miller, unpublished mimeograph, 1965, Archives of the Scripps Institution of Oceanography, University of California, San Diego, La Jolla, p. 3.

[12] *Ibid.*, p. 8.

[13] Paul Bartsch, "The *Albatross* Voyage of 1907–1910," *Copeia* (November 1941):211. For a detailed list of the voyages made by the *Albatross*, see Joel W. Hedgepeth, "The U.S. Fish Commission Steamer *Albatross*," *American Neptune* 5 (1945):5–26.

[14] Bartsch, "*Albatross* Voyage of 1907–1910," p. 213.

[15] Andrews, *Under a Lucky Star*, p. 70.

[16] *Ibid.*, p. 78.

[17] Hugh M. Smith, *Report of the U.S. Commissioner of Fisheries for the Fiscal Year 1920* (Washington, D.C.: Government Printing Office, 1921), p. 21.

[18] Henry O'Malley, *Report of the U.S. Commissioner of Fisheries for the Fiscal Year 1922* (Washington, D.C.: Government Printing Office, 1923), p. 48.

BOOK REVIEWS

John Rousmaniere. *The Golden Pastime: A New History of Yachting*. Dallas: Taylor Publishing Company; New York: W. W. Norton & Company, 1986. 240 pp. copious illustrations. Price varies.

John Rousmaniere, one of our best American yachting authors, has created a thoroughly engaging introduction to the history of yachting in nine essays, portions of which appeared previously on the pages of *Nautical Quarterly* magazine. His biographical/social point of view (not that technical matters are neglected) justifies the description "a new history." This humane characteristic makes for appealing reading for the historian, yachting devotee, and even those who never dreamed they could possibly be interested in yachting history.

The book is handsomely designed by Clare Cunningham with a luscious use of color reproductions among superb black-and-white photographs. It is almost too much of a designer's dream, however. When opened up for reading, the book extends fully two feet on the horizontal, so to avoid the risk of injury to book or reader it must be read with the assistance of a table. But this book has more than visual value. It deserves another chance. Perhaps a second edition could be produced in paperback, which would prove more portable and popular.

Will the subject of yachting never be taken seriously? Although *The Golden Pastime* includes a good bibliography, this does not take the place of a few footnotes or a good index. In addition, while the subject content is implicit in chapter headings, the lack of a proper name index of people and boats poses a permanent frustration. Yet, despite these quibbles, *The Golden Pastime* is a delight.

Rousmaniere has also recently written a brief history of the yacht *America*, for a book called, rather dramatically, *The Low Black Schooner: Yacht America, 1851–1945* (Mystic Seaport Museum Stores, 1986. 71 pp., copiously illustrated. $20.00). There are many published versions of this oft-told tale, but none so handsomely presented. The color reproductions (printed, ironically, not in America, but in Hong Kong by the South China Printing Company) are stunning in their chromatic values and fidelity to the original works. It is almost worth the price of this book, for example, to discover, and be able to examine at one's leisure, four magnificent Buttersworth drawings in pencil, chalk, and gouache owned by the Dauntless Club of Essex, Connecticut. Unless one has access to such places, (especially the New York Yacht Club) dozens of paintings and portraits produced here in full color would never be available for other than private viewing. The account is crowned by a fascinating essay on the sources for the existing plans of the *America*, elaborately illustrated by three fold-out reproductions of her rigging, lines, and sail plans. This publication serves to document an exhibit held at Mystic Seaport Museum's R. J. Schaefer Building from November 1986 through March 1987 in cooperation with the New York Yacht Club.

Plum Gut

David C. "Bud" McIntosh. *How to Build a Wooden Boat*. Brooklin, Maine: WoodenBoat, 1987. 264 pp., illustrations. $36.00.

There is in this book the stuff that dreams are made of, even such dreams as owning and sailing a wooden yacht that the dreamer has built himself. It has been done, and will be done again, and why not by you? But before you begin, buy this book, read it, and read it again. Not everything you will need to know can be found herein, yet a lot can.

Besides, this book has more immediate and mundane applications. For repairing that ailing wooden yacht you may be in a quandary about, the information this book contains could prove invaluable.

Readers of *WoodenBoat Magazine* need no introduction to these pages. Most of what is printed here has already appeared serially in that publication over several years. But having such fugitive material, all together, between the covers of a single book is an advantage that only the bound volume affords.

Bud McIntosh, the author, is an accomplished, self-taught builder and designer of fine wooden, custom yachts, who for many years has continued to produce a limited number of fine craft for discriminating yachtsmen. Because Bud McIntosh was in large measure self-taught, he has run up against, and has overcome, many of the same problems and difficulties the amateur builder is certain to face. Also, because of limited resources and equipment inherent in the small scale operation, McIntosh was forced to improvise and make do with what was available and at hand, just as the amateur, embarked on his first big building project, will likewise be obliged to do.

McIntosh's building methods are not always those

once employed at Lawley's, Herreshoff's, or Nevins's, but they worked for him and for the type of small yacht that was his specialty. No, the planking methods herein explained are not those formerly used at the Sim's Bros. Yard in Dorchester, Massachusetts, when they were building double-planked yachts for Sparkman & Stevens or for Aage Neilsen, nor would they be suitable for planking a Colin Archer, or a McInnis power cruiser with abundant flare in its top side forward and a quiet turn above the bilge aft. No, there is a lot more to planking than is explained here, but what there is, is interesting and instructive.

For the inexperienced, building a large wooden boat for the first time is much like climbing a high and difficult mountain. It comes down to a test of stamina and endurance, of resolution and self-reliance. There are hidden crevices to avoid and sheer cliffs to scale. But when the peak is gained at last, and the triumphant climber finally stands on top of the world, how sweet it is to look back and savor the ascent.

If your bank balance is big enough, obtaining a wooden yacht is as simple as putting a pen to paper, but what you will get in this way will in one sense be little more than an empty shell. It can never be truly and completely yours in the same way it would have been if you had built it yourself.

Bud McIntosh in a short excerpt printed on the back of the dust cover, has this to say: "You can if you want to badly enough, gather a few hand tools and shape from wood a thing of beauty, a wooden boat. I can, if you will stay with me patiently, explain to you how I, and therefore you, can set up, frowe, plank, and deck such a boat. It will be your own boat, and you'll get from it a continuing emotional experience almost unique in this modern world."

There is no gain saying that Bud McIntosh writes very well. Indeed, had he not chosen to find beauty in boats, he might well have dedicated himself to finding it in words, which is why this text reads so easily with its lucid descriptions and apt phrases. But there is a limit to what can be said in words when it comes to explaining involved technical procedures. And that is where Sam Manning's drawings come in, which appear along with portions of text on nearly every page.

Sam has built boats himself, and has been sailing them most of his life. For the past twenty-five years and longer, he has been drawing boats and boat construction, and getting better at it all the time. No one, in my opinion, does it better when it comes to the step-by-step representation of boatbuilding procedures. Sam's drawings add another dimension to Bud McIntosh's skillful exposition, and the combination makes an absorbingly interesting and potent mix.

John Gardner
Associate Curator
for Small Craft Studies
M.S.M.

Martha S. Putney. *Black Sailors: Afro-American Merchant Seamen and Whalemen Prior to the Civil War.* Contributions in Afro-American and African Studies, No. 103. Westport, Connecticut: Greenwood Press, 1987. xi, 173 pp., notes, appendices, bibliography, index. $29.95.

Martha Putney, retired Professor of History and Chairman of the Department of History and Geography at Bowie State College, assumed a herculean task in undertaking this study of black sailors in antebellum America. Ascertaining the ethnic composition of American merchant and whaling crews is not an easy task, and focusing on a single ethnic group does not, ironically, simplify identification. As Dr. Putney illustrates early on, determining who was black is not aided by the imprecise wording in crew lists and consular records, where sailors referred to as of "dark complexion and brown hair" or "yellow complexion and dark hair" could be black, Indian, Hispanic, Portuguese, or of other ethnic origin. She cites the rather extraordinary case of a man described in a crew list as of "fair complexion and sandy hair" who was incidentally referred to elsewhere in the document as "colored." Lacking that note, he undoubtedly would have been considered as white.

To separate those who were certainly black from those who might have been, Dr. Putney employs three categories: those described in the documents as definitely black (Class I); those with descriptions such as dark complexion and dark, black, or curly hair, who might have been black (Class II); and the "no proofs"—those seamen without protection papers guaranteeing their American citizenship, who, Dr. Putney notes, were principally blacks or foreigners (Class III).

These distinctions are particularly important in the first section of *Black Sailors*, where records for eight American ports—New Orleans, Baltimore, Philadelphia, New York, Newport, New Bedford, Mobile, and Charleston—were plumbed to determine the prevalence of black seamen amongst ship crews. The statistics are intriguing, but their collection and application is somewhat erratic. New Orleans, which received a

thorough scrutinization, has copious documentation presented in tabular form for the years 1804–10, 1816–40, 1850, and 1860. Seamen fitting all three classes are documented, as are, annually, the total crews, number of ships, and percentage of Class I seamen (averaging over 11 percent annually between 1804 and 1839). In contrast, Baltimore was sampled for only three years—1806, 1807, and 1812—and only figures for 1812 are presented. In the case of the New Bedford table, the methodology seems to change from year to year. In some instances, all of the voyages for a given year were tabulated, in others only voyages with black crewmen are shown, and for some years only a few voyages were examined.

Determining the number of black seamen is only one of Dr. Putney's goals in *Black Seamen*. The various categories of black mariners—slaves, adolescents, parents and progeny, brothers, females, husbands and wives, old men, young men, and foreigners—all receive attention. Arguably, the most interesting material deals with the presence of black female crew members in sailing ships and steamers, where they found work as stewardesses—sometimes in tandem with their cook husbands—and, as passenger steamer crews grew in complexity, filled positions as seamstresses, cooks, and cooks' apprentices. The longevity of black men as mariners is also covered in detail, and a case is developed for the thesis that "older black men went to sea in far greater numbers than older non-blacks," to which could be added, "and in most cases never got beyond a common seaman's berth."

The section on black officers suffers from a few technical errors, one being the statement that, in the whaling fleet, harpooners—also called "boatsteerers"—were in charge of whaleboats, a status in fact reserved for a mate. Questions also arise over one attribution: Amos Haskins, who is identified as a black whaleship captain. While Dr. Putney notes that Haskins was identified as black when serving as mate of the whaler *Annawan*, other references not cited for the *Annawan* leave a more ambiguous description. Also, a photograph appearing in the Time-Life volume, *The Whalers*, features one Amos Haskins, identified as a member of the Wampanoag tribe of Massachusetts and one of the few Indian whaling masters.

Other topics covered include the social activism of New Bedford and Nantucket whalemen, black ownership of vessels, impressment, mutiny, and desertions. Dr. Putney concludes *Black Seamen* with a summary of black activity in the merchant marine, which reiterates that blacks made an enormous contribution to the nation's economy and its development by their presence in American merchantmen and whalers, which is hard to disagree with.

Dr. Putney states in the preface, "this is still a pilot project; one has to stop at some point and assess the findings." Read with this statement in mind, *Black Sailors* can act as a valuable aid in understanding the diverse capacities in which black mariners served. The biographical materials on black shipmasters and owners and copious listings of surnames will be of specific interest to researchers. While *Black Sailors* has some rough spots, it is, nonetheless, an important contribution to the study of ethnic participation in the American merchant marine.

Robert D. Farwell
Director
Penobscot Marine Museum

LETTERS

In Robert B. MacKay's story of the fabulous commuting yachts of the '20s and '30s [Winter 1987 *Log*], you wrote of the *Oheka*, belonging to Otto Kahn, running wild from Albany to Poughkeepsie in the Albany to New York race. Some may wonder why the "run" ended in Poughkeepsie. It was not supposed to and there was a very good reason.

I was on that trip, as a tad of nine years. My memories still are very vivid. My father, Morris Douw Ferris, at the time was an Admiralty lawyer in New York and was the New York attorney for Maybach Engines, the 480 horsepower extraordinary German Zeppelin machines, three of which powered the *Oheka*.

Father was asked to come down on this "run for the record" to try to beat the time of the *Cigarette*, which then held the title of fastest commuter yacht from Albany to New York. I believe that he was Mr. Kahn's representative as well as that of Maybach. At any rate, father seemed to me to be running the show. In addition to the German captain and crew, there were at least six newsman aboard, perhaps more. At any rate, I was assigned to sit on a mahogany box just aft of the con.

We left dock at Albany, a little before twelve, going upstream. Timing to the split second, and going full bore, we drove under the railroad bridge at exactly noon as the whistles went off and sirens sounded as we flew downstream. It was a beautiful sunny day with only a light breeze and a calm run. It was exciting!!

My father was at the con with the German captain, pointing out the channel markers. Two hours passed and I can recall being bored and asking to see the engine room. After about half an hour of my begging, Father acquiesced. He said, "The captain should know the marks by now and we are just above West Point." We went below.

You may recall that the Hudson River at West Point is quite wide and the channel, at that time, was on the eastern shore.

Father and I were in the engine room when the *Oheka* ran up on a tremendous sand bar right in the middle of the river. She really shuddered.

Well, we lay alist assaying the situation. The West Point cadets canoed all around us but never said a word or offered assistance. They were not allowed to do so. Finally, we launched our dinghy and kedged our way off.

The rest of the ride down to New York's 79th Street was one long tremor. We got there, even so, before sunset, arriving as I recall, at about 7:30 P.M.

A short time later, I had the opportunity of seeing the hull out of the water. All that was left of the three propellers was about one-half an inch of the largest blade!

M. Douw Ferris, Jr.
Rumson, New Jersey

The Spring '87 issue of *The Log* contains a few minor errors of fact, which I presume you will correct for the benefit of your history-oriented readers.

On pages 36–37, three photographs show three Downeasters that ended up on this Coast, the *Benj. F. Packard*, *Berlin*, and *Pactolus*. It is true that all spent their last active days in the Alaska salmon industry, but you erred on three counts that all three were owned by the Alaska Packers Association. In fact, none of the three was owned by the APA.

You may not be aware that there were quite a few cannery companies operating in Alaska, with home ports in San Francisco Bay, including Oakland/Alameda and San Francisco; Astoria and Portland, Oregon; and Puget Sound, which was mostly Seattle. Many old Downeasters, such as the three named, came out to the Pacific Coast at the end of the nineteenth century and found lucrative and continued employment in the seasonal industry which allowed them to be laid up from about October till March of each year. On the average, each made one round trip to Alaska each year.

Benj. F. Packard was owned by Northwestern Fisheries of Seattle from 1908 through 1924, when she made her last voyage to Alaska.

Berlin was owned by Alaska Portland Packers of Portland, Oregon, and was operated pretty regularly in the Alaska salmon canning industry from 1907 until she was wrecked at Chignik in May 1922.

Pactolus was owned by Frank G. Peterson's Naknek Packing Co. of San Francisco from about 1911 until her last voyage was completed in 1924. She was burned at Antioch, on the San Joaquin River above San Francisco Bay, in 1937.

The Alaska Packers Association did indeed own a large number of Downeasters, many of which sur-

vived till the early 1920s, their last active season being about 1922–23. Many, if not all, were sold to the moving picture industry and ended their days in fiery explosions or sinkings, or as barges. It is understandable that the Alaska Packers Association probably enjoyed a better and wider name recognition amongst the numerous cannery fleets, and hung onto their sailing ships till well into the 1930s, but their ships were only part of the entire inventory of Downeasters which were employed in the last sustaining industry.

Captain Harold D. Huycke
Edmonds, Washington

Much of what has been written about the designing of J Boats says, or implies, that the first J Boat to be built using the results of tank testing of models of the hull was at the Stevens Institute for the *Ranger*. This was not the case. In the winter of 1932 W. Starling Burgess went to Ann Arbor, Michigan, to test some of his ideas for the *Enterprise* in the Naval Tank at the Engineering School of the University of Michigan. It was, I believe, the only facility of its kind in this country at the time. Professor Herbert Sadler, a naval architect and Dean of the Engineering School had used it in his work designing merchant ships. Although it probably was not as sophisticated as the tank at the Stevens Institute where Burgess and Olin Stephens worked on the *Ranger*, it was designed to do the same thing.

I do not have any original documentation for this but if Burgess's papers exist they would probably show that he was in Ann Arbor in 1932 and perhaps say something about the testing. Also there may be something in the archives of the University of Michigan where I believe Professor Sadler's papers are. My account is based on my own memory. My mother and father came to know Burgess when he was in Ann Arbor. The next summer I went to Camp Toltec in Westport, Connecticut. When it came time to go home there was an Infantile Paralysis scare in New York City. Burgess was kind enough to help out. My parents took the train to Albany where he met them and drove to Westport to pick me up. We stayed the night in his home and took the train from Albany the next day. I was eleven and remember the models and half models in his study.

Thomas R. Adams
Providence, Rhode Island

HISTORIC SHIPS

The *Great Britain*

Once she was the largest, most modern ship in the world. Isambard Kingdom Brunel, the innovative wizard of early iron construction, designed her in 1839 to succeed the wooden-hulled side-wheel steamer *Great Western*, which had introduced reliable transatlantic steamship service in 1837. Iron construction and screw propulsion were still in their infancy when Brunel combined them to produce the *Great Britain*.

Built of riveted iron plates, and incorporating a clipper bow, double bottom, and five watertight bulkheads, the huge hull was sleek and extremely strong. The enormous four-cylinder, two-crank inverted-V engine drove an eighteen-foot-diameter sprocket wheel with chain drive for the propeller shaft. The ship's six-bladed propeller and streamlined, semi-balanced rudder were remarkably efficient. At eighteen rpm, the engine produced 1,870 horsepower and drove the ship at an average of over nine knots, with a top speed of nearly fourteen. In addition, she was rigged as a six-masted schooner. This innovative arrangement included wire rigging, with all but one mast hinged at the deck.

The *Great Britain* was then the largest ship in the world by far. With a length of 322 feet and gross tonnage of 3,270, she had about 2½ times the volume of the *Great Western*, formerly the world's biggest ship. The *Great Britain*, with a crew of 130, could carry 1,200 tons of cargo and 360 passengers.

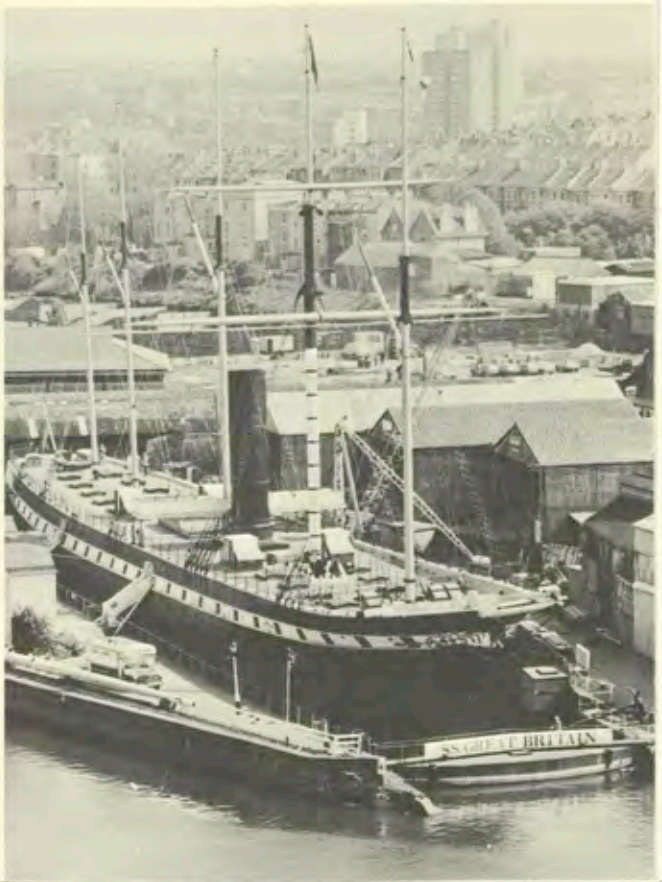
Launched from her specially-built construction dock at Bristol, England, in 1843, she was finally ready for service in 1845. On the North Atlantic run between Liverpool and New York, she grounded and damaged her propeller during the second voyage. Rerigged with five masts and a four-bladed propeller, she completed two more voyages before running ashore at Dundrum Bay, Ireland, in September 1846. The expense of salvaging her broke the Great Western Steamship Company.

Refloated after nearly a year on the beach, the *Great Britain* was sold in 1850 and began running to the goldfields of Australia. With a new engine and eventually a three-masted ship rig, she was equipped to carry 730 passengers. For twenty-five years she provided safe, comfortable service between Britain and Australia. Using the prevailing winds, she circumnavigated the globe on each of thirty-two voyages.

Laid up in 1876, she was purchased in 1882, stripped of her engine, sheathed in pine, and entered in the California grain trade as a sailing ship. Crippled off Cape Horn in 1886 during her third California voyage, she returned to Port Stanley, Falkland Islands, where she was sold for use as a store ship. In 1937 the *Great Britain* was abandoned.

In the 1950s, Karl Kortum in San Francisco and Ewan Corlett in Great Britain began crusades to rescue this historically significant ship. The British "S.S. Great Britain Project" succeeded in raising salvage funds. In 1970 a submersible pontoon was towed to the Falklands, and, after elaborate preparations, the hull was secured aboard the pontoon for the return to Britain. On 19 July 1970, exactly 127 years after her launch, the *Great Britain* reentered Bristol's Great Western drydock, the site of her construction and now her permanent home. Restoration continues, yet the ship has already been returned nearly to her earliest form, representing the magnificent dream of Isambard Kingdom Brunel.

The restored *Great Britain* in the Great Western drydock, Bristol, England. (Courtesy S.S. Great Britain Project, photo by The Picture Company, Ltd.)



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and Paul O'Pecko, Reference Librarian

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Butler, Joyce, "Building a Ship: The *Arno*, Kennebunk, Maine, 1857." (1983) 35:35–48.

Shipyards—Maine
Lipfert, Nathan, "The Shipyard Worker and the Iron Shipyard." (1983) 35:75–87.

Stark, Mary
Malley, Richard C., "On Shore in a Foreign Land: Mary Stark in the Kingdom of Hawaii." (1985) 37:79–92.

Texas, U.S.S. (Battleship)
"Historic Ships Afloat: The U.S.S. *Texas*." (1985) 36:144.

Theresa E. Connor (Schooner)
"Historic Ships Afloat: The *Theresa E. Connor* and *Cape North*." (1984) 36:36.

Thomas W. Lawson (Schooner)
Dyal, Donald H., "Death of a Schooner." (1983) 35:88–96.

Townshend, Captain Charles Hervey
Preuss, Anne M. & Donald L. Treworgy, "Taking a Departure: The Navigational Instruments and Artistry of Captain Charles Hervey Townshend." (1987) 39:21–34.

Townshend, Captain Solomon
Baldwin, Joan & Geoffrey Rossano "From Quarterdeck to Blast Furnace: The Revolutionary Career of Captain Solomon Townshend." (1985) 37:43–61.

Whalemen
Druett, Joan, "More Decency and Order: Women and Whalemen in the Pacific." (1987) 39:65–74.

Whalemen
Webb, Robert Lloyd, "Connecticut Yankees in Queen Victoria's Fort: New London Whalemen on the Northwest Coast." (1987) 39:43–53.

Whalers
Webb, Robert Lloyd, "Late News too Late: Communicating Civil War to the Whalemen." (1984) 36:3–14.

Wharves
Heintzelman, Andrea J., "Colonial Wharf Construction: Uncovering the Untold Past." (1986) 37:124–135.

Women—Nineteenth Century
Moseley, Caroline, "Images of Young Women in Nineteenth Century Songs of the Sea." (1984) 35:132–139.

Women and the Sea
Dodson, Vita, "The Lady Ships." (1984) 36:59–64.

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Druett, Joan, "More Decency and Order: Women and Whalemen in the Pacific." (1987) 39:65–74.

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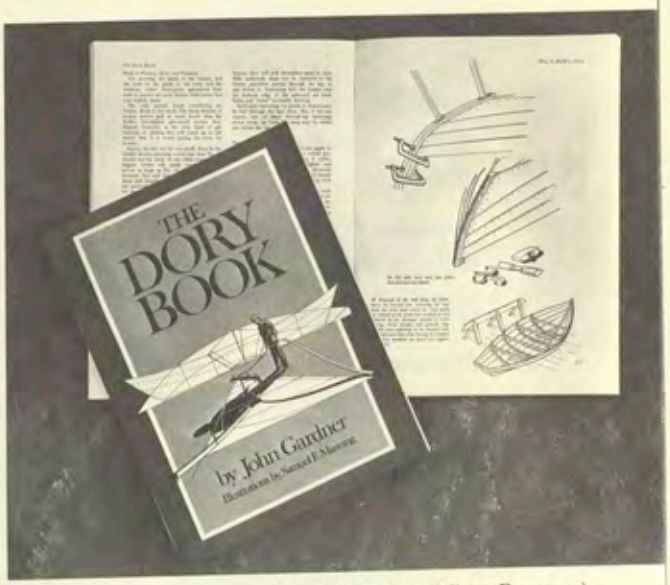
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