A FEW WORDS ABOUT THIS PICTURE

An 1852 artist's view of New York Harbor reveals itself to be an invaluable document of the wood-and-canvas technology of another era

by Erik A. R. Ronnberg, Jr.

New York Harbor, by Fitz Hugh Lane (1804 – 1865); oil on canvas, thirty-six by sixty inches.

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only a few hundred clipper ships ever built, the number depending on how strictly one defines the type and how much one can trust surviving records. If it was a ship that included no such ship, it is likely that none was in sight when he was sketching for the painting.

The simultaneous development of clippers and very large packets in the early 1850s led to a new design that combined characteristics of both, permitting a large, capacious hull with only a moderate sacrifice in the clipper's speed. Many of these ocean carriers were put on the packet runs, where they were admired for their handsome profiles and speed. After the Civil War, the shipyards of Maine specialized in this breed, which came to be known as the down easters.

The large ship in the right mid-ground is an early example of this breed, with a graceful bow that combines the fancy headrails of the packet with the hollow lines and flare of the clipper bow. In cross section the hull is very nearly flat at the bottom and nearly vertical sides. The rig on these ships was enormous; their lowest yard was three feet or more in diameter, with lower shrouds and topmast backstays nearly four inches thick. The height of the mainmast from deck to flag halyard truck often exceeded 160 feet, and the square sails that hung from the lower and fore topsails were made from canvas nearly one-eighth of an inch thick; one of these sails could weigh well over a ton. For all its mass and power, a crew of forty could work such a ship, whereasclipper ships of similar tonnage might require one hundred men.

Sailing the Coasts

Although New York's deep-water trade employed the port's largest ships and has had a historic and legendary under its spell ever since, the more prosaic fleet of coastal vessels actually carried more cargo, connecting New York with virtually every coastal community that had a landing. New York merchants even had their ships plying the West Coast, capitalizing on the gold stampedede in California, but also mindful of fish, lumber, and furs. The West Coast was still preserved by our mercantile laws for American ships only, and this protectionism did much to insulate coastal vessels from rapid technological changes.

By mid-century cotton was undisputedly the country's most important export, and New York ships and New York agents were carrying most of it. The cotton was first taken from the plantations in bales to four principal southern ports: Charleston, Savannah, Mobile, and New Orleans; from there it was sent to New York via the coasting trade. At New York the cotton was transferred to large packets and ocean carriers for delivery to Europe. Such a central role for New York in the cotton business might seem illogical and even preposterous, but the city's capital, in the form of loans and advances, actually made possible the expansion of cotton production in the South on such a vast scale. Save for Charleston, the Southern ports were poor for the direct export business, as shifting sandy bonts and sandbars limited the depths of vessels entering them; the shallow-draft coasters required for that end of the trade were not well suited for the transatlantic trade.

In the center of the painting, we see an inbound brig with a side-wheel towboat alongside. Near four hundred tons, the brig is about as large as any commonly used in the cotton trade on runs to Savannah, Mobile, and Charleston. The large cabin indicates accommodations for passengers; thus it is a vessel built for coastal packet service, making regular runs south with passengers and cargo and back north with passengers and cotton. The brig rig — with two masts, square-rigged — was, from the time of its out of favor, has reached its practical limits in size. The rig that replaced it was the hermaphroditic brig, a two-master whose foremost was square-rigged but whose mainmast carried the fore-and- aft rig of the schooner. This represented a fifty-fifty compromise between the brig and the schooner rig, but the hermaphrodite brig was more like those of the coaster schooners — shallow and

Following are profiles and definitions for vessels that appear in lighthouses, mentioned as being active on the coast:

**BARK** — A large three-masted vessel whose foremost and mainmast are square-rigged, but whose mizzen (third) mast is fore-and-aft rigged.

**SHIP** — A large vessel with three masts, all square-rigged. Clipper ships, packet ships, and large ocean carriers were usually ship-rigged.
In the far left background is a typical hermaphrodite brig of the period: a small vessel, less than two hundred tons, her deck loaded with lumber. The lumber trade was a Maine specialty, and most of the vessels working in it also came from there. Their hulls tended to be very boxy and full-ended, with little or no fancy paintwork nor even a figurehead. The hulls were strictly built and plainly fitted for a decade’s worth of hard work, then disappeared from the registers, unremembered for having brought millions of board feet of pine and spruce into New York to build hundreds of tenement houses and other rough carpentry. Hermaphroditic brigs were never as common as schooners in the coastal trade, but their larger rig made them better for the longer passages along the coast, and the square rig gave them an easier motion in heavy seas.

The most common rig in the coasting fleet was the schooner. A number of them have survived to this day and still make a living as summer cruise boats on the Maine coast. In 1850 the two-masted schooner was nearly universal among the coasters. Called stern schooners, had yet been built. Schooners fitted for the packet trade often carried square topsails on their foremost, which steered their motion in rough seas and gave them an extra push when hugging the coast. The majority of coasting schooners had simple fore-and-aft rigs, which were the handiest for short hauls from one port to the next. Vast stretches of the Atlantic seaboard were still more accessible by sea than by land, even after the coming of the railroads. On the highways of water the coasting schooner was the analogue to the modern motor truck and bus combined, carrying people, mail, and freight to towns and villages that had no rail or road communication with the rest of the world this way since their colonial origins.

Lane included two coasting schooners, in the extreme right foreground and the right middle ground. The former is quite small, probably no more than sixty tons, and of a very old model. But for the presence of the large trunk cabin abait the main mast, she might have passed for a Marblehead schooner, a type of fisherman decended from the colonial fisheries. Her rig is the simplest that still defines a schooner: two masts and three sails, including jib, foresail, and mainsail. The other, much larger schooner, approaching two hundred tons, is rigged with topsails from which she can set additional jibs as well as the fore- and main courses on the topsails. In the decade preceding the Civil War, progressively larger coasting schooners were built until it was realized that the sails set from two masts were too large and difficult for small crews to handle. When a third mast was added, the rig could be made lower, and individual sails smaller and more manageable. The resulting tern schooner did not become common until after 1865. The sloop — a single-masted fore-and-aft rig — had a complex history in New York waters. Small versions with the simplest rigs were frequently found working from the seaward end of the harbor, but up the Hudson the traffic was dominated by a magnificent class of large sloops whose graceful hulls and enormous sail plans had no parallel elsewhere. Lane shows a solitary example along the waterfront, but alas, no Hudson River sloop is to be seen. Like the schooner, this rig had its practical limits in size; the sloop that exceeded ninety tons was a rarity. The large mainsail was a brute thing to handle, and as crew wages increased, many such vessels were rigged over as schooners to make them easier to handle by a smaller crew.

The Coming of Steam
By 1850, the steamship was well established in the coastal trade and had assumed two basic forms. The older was that of the river steamers built for Robert Fulton, with shallow hulls, flat bottoms, and extensive superstructures. The superstructures reached even farther, overhang- ing the sides of the hull and merging with the paddle-wheel housings. The hulls were lightly constructed and very flexible, and the boats were generally confined to runs between New York, Providence, and ports on Long Island Sound. Travel beyond these sheltered waters was as yet risky. One of these steam sounders can be seen in the center background. Very noticeable is its walking-beam engine, which was the cheapest and simplest steam engine suitable for ships and could still function if its parts got out of alignment as a result of the flexing of the hull. At the time of the painting, river steamboats and sound steamers still looked fundamentally alike. Riverboats had open decks around their sterns fitted with gunwale rails, and often two stories of open air spaces; the sound steamers were completely enclosed, to shelter their passengers from the less gentle ocean breezes. Both these types remained popular among commuters and travelers well into the twentieth century. Only gradually did the paddle wheel and walking-beam engine yield to the screw propeller and compound engine, and there was always a great reluctance to give up the side-wheeler's distinctive form.

As the steamship ventured farther out into the Atlantic, the weaknesses of the riverboat hull became obvious; hulls for ocean service would have to be stronger, stiffer, and more sea-worthy. The British took an early lead in constructing ocean steamers. American builders were handicapped by unreliable cast- or forged-iron engine parts and the difficulties of building large, rigid hulls in wood. Ever eager to push the wooden steamship to its limits, steamship owners seldom had the patience to allow the technologies of shipbuilding and engine making to catch up with their demands. Not until the mid-1860s were there transatlantic steamers numerous and reliable enough to maintain frequent scheduled crossings.

A coastal schooner was like a modern truck and bus combined, carrying people, mail, freight.

They came too late for Lane's painting. The operators of coastal steamship lines were more successful in these years. As early as 1846 they were making regular runs from New York to the cotton ports, as well as to the West Indies and Central America. A terminal at the isthmus of Panama allowed westbound passengers to transfer to coastal steamers on the Pacific side, which took them on to California. It was on these routes that the American deep-water steamship was refined and made practical for long ocean passages, and in the far right background of Lane's painting one of them is visible. With her stern hidden from view, one can only assume that she had three masts and that the foremost could carry square sails, which were set from the deck. There is no sign of a walking-beam engine: American steamers built for this service before 1850 were fitted with side-lever engines whose components were mounted very low and contributed much to the stability of the hull. The height of the stack seems exaggerated, but if this were modified, the ship might well pass for either the Cherokee or the Tennessee, both built in New York in the late 1840s and employed on the Savannah run.

Harbor Boats and Small Craft
The diversity of New York’s harbor craft is well represented in this picture, but by no means comprehensively. Oars, sails, paddle-wheels, and screw propellers moved an amazing variety of vessels and cargo in and out of the harbor, from large to large towsboats, which continuously shuttled about people, goods, and other vessels. Large inbound ships were taken in hand by towboats that moved them to and from wharves. If tied up at an anchorage, their cargo could be taken on or off by lighters, small bargelike sailing vessels that engaged solely in transferring goods between vessels and wharf. By 1850 steam-powered ferryboats were transporting thousands of people into Manhattan from Long Is- land, Staten Island, and the New Jersey shore in a modest prologue to the swarms of commuter traffic of the next century. The ferries bore a strong resemblance to river and sound steamers.

Lane shows two types of towboat, both at work moving large sailing vessels. The paddle-wheel towboat is well represented in thenext picture, which shows the rig stem, particularly the propeller. Mechanically obsolete, these hardy engi-ines nevertheless survived in harbors that offered plentiful coal and very short distances to travel. Much more progressive, and prophetic of the steamship’s future, is the tug alongside the packet ship. Of very recent design, it combines the screw propeller with a steam plant using a much later type of engine, probably a one-cylinder vertical or an early two-cylinder engine. The superstructure extends out to the rails, unlike on later tugs, which have open passageways between rails and cabin; excepting this, we see in this boat the basic arrangement that has characterized tugs to this day. In Lane’s time American tugboats weren’t
called such; the early paddle-wheelers were known as towboats. When screw-driven boats appeared, they were called steam propellers. The term tugboat was brought to this country from England, first, probably by 1860, in speech, and much later in print.

While the rowing craft in this painting may seem unimportant, to the artist they were essential elements of contrast in a scene of harbor activity on so gigantic a scale. Lane was as meticulous with small boats as he was with the largest ships, taking care to give hulls their proper forms and proportions; the boats float in proper trim and are rowed with correct oarsmanship. Three very different types of boat are visible in the foreground. At left, the crew of the sloop is approaching in a yawl boat, a type that served as lifeboat and workboat for most sailing coasters and fishermen. Usually twelve to twenty feet long, yawl boats hung from davits when at sea. They were usually full-ended and heavily built; many could be fitted with simple sailing rigs.

In the center foreground is a handsome and large Whitehall boat, so named for New York’s Whitehall Street, whose boat shops first produced the type. Finely modeled and easily rowed, they were the preferred means of ferrying individuals or small groups between ship and shore. They varied from fifteen to thirty feet in length (or more for special uses, including racing) and were usually rather narrow. The smaller boats could be rowed by one person; larger examples had up to six oarsmen. The superb lines and handling of these craft endeared them to yachtsmen, so nearly every yacht of respectable size had one or more on the davits. Today they survive as recreational boats, and many rowers enjoy the double pleasure of building as well as owning their own Whitehall boats.

Made fast to the little schooner in the right foreground, with only its stern visible, is a boat very familiar to Lane — a dory. Although we think of dorries as piled high in nests on the decks of schooners bound for the fishing banks, they were used in Lane’s time almost exclusively for the shore fisheries — lobstering, gill netting, and hand-lining — by men who were too poor to afford anything better. Dorries were in fact better suited to be launched from the shore and beached than any other type of boat, but they were the badge of the solitary fisherman who eked out a living the way his forebears had for two centuries.

### The Nonphotographic Record

For all the variety of vessels in this picture, many others eluded Lane’s critical eye, several of which have already been mentioned. No warships — sail or steam — are in view, nor pilot boats, nor the multitude of specialized craft that were needed to maintain wharves, shipping channels, and loading facilities. In a sense the later photographic record, for all its advantages, could do no better with a single image; there were simply too many ships in too great a variety to include in one view.

In 1850 photography was still handicapped by slow film emulsions and cumbersome equipment, and it was not until the mid-1850s that photographers were able to capture the activity of a waterfront or harbor scene with satisfactory results. For a painter like Fitz Hugh Lane, the problem of "stopping" the activity in a busy harbor was even greater, considering the amount of time required to include so much subject matter in such detail on a canvas five feet wide and three feet high. Lane’s large harbor views are the combination of a detailed drawing of the background scenes and a variety of sketches and small paintings of individual vessels, carefully arranged to make a composition that draws the eye easily from one element to another. One startling aspect of Lane’s drawing technique is that there is little evidence of the use of mechanical aids for drawing fine lines or establishing proportions. Not even in his ship portraits did he use a straight edge or other device to delineate fine rigging lines. This discipline is probably the result of his rigorous training in lithography.

This view was probably painted in 1852 from sketches and small oils made during Lane’s visit to New York in 1850. Seldom has any maritime port of any age had its ships recorded so precisely, in such variety, and with such vitality.

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SLOOP — A small to medium-sized fore-and-aft-rigged oncemaster. This is a Hudson River sloop; sloops in the coastal trade usually had smaller sail plans.

LIGHTER — A small sloop-rigged craft used for bringing cargoes to and from a vessel anchored offshore.

Erik A. R. Ronberg, Jr., is a freelance ship-model maker and consultant on history and has published extensively on technical aspects of historic ships. He is vice-president of the Cape Ann Historical Association, home of the country’s largest collection of paintings and drawings by Fitz Hugh Lane.