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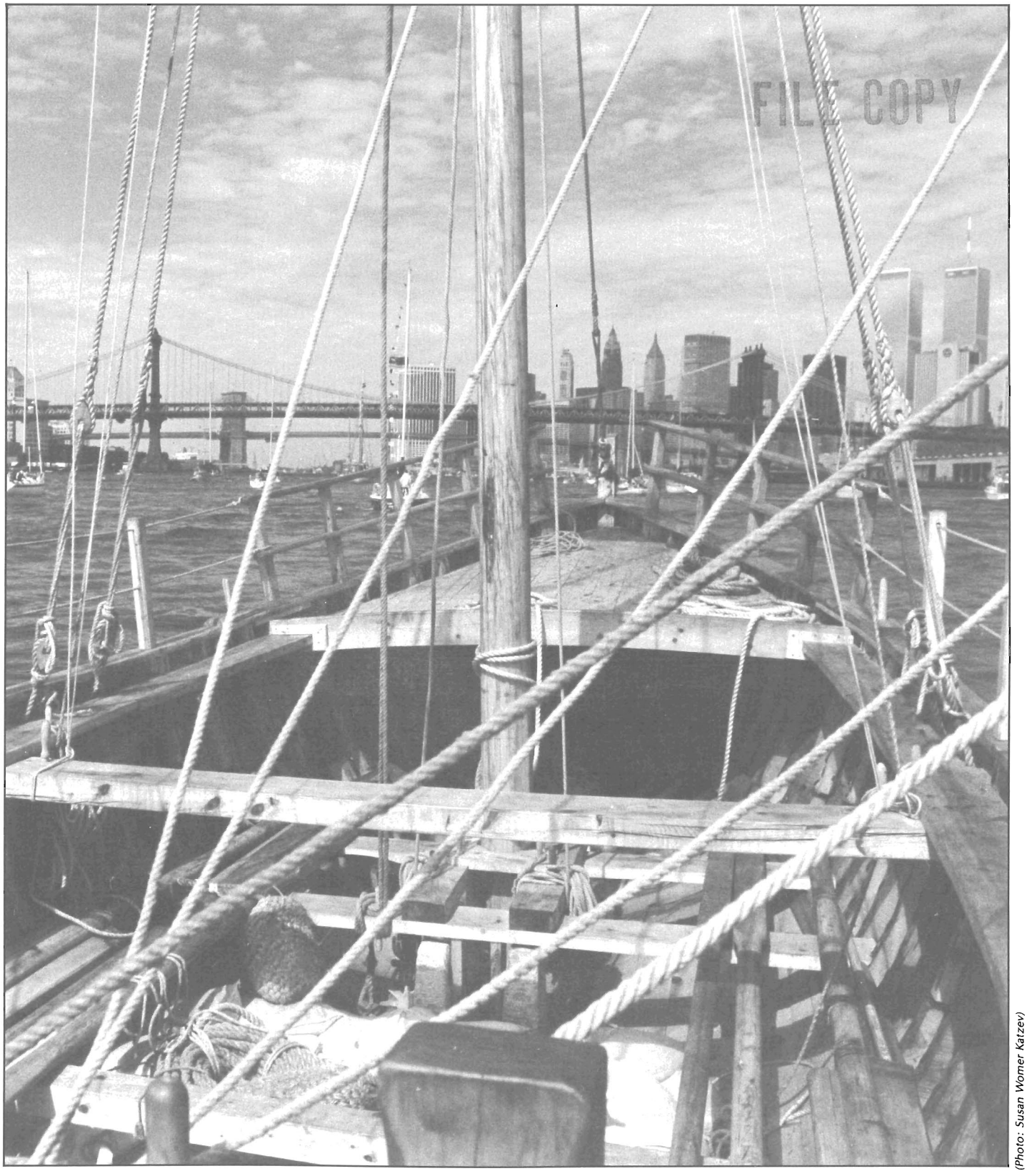
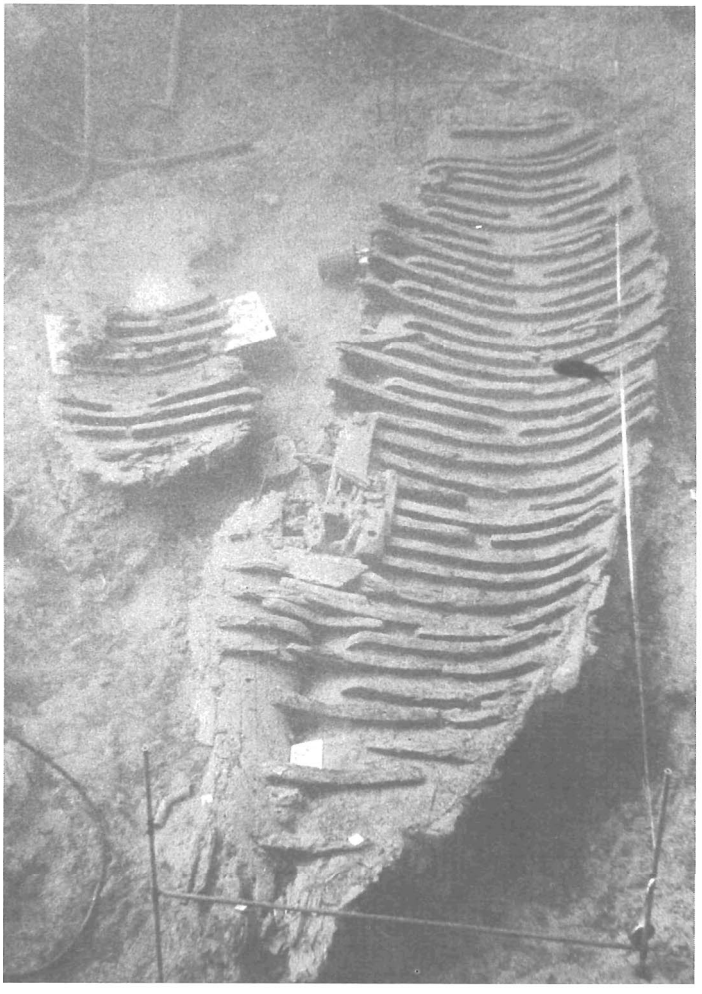
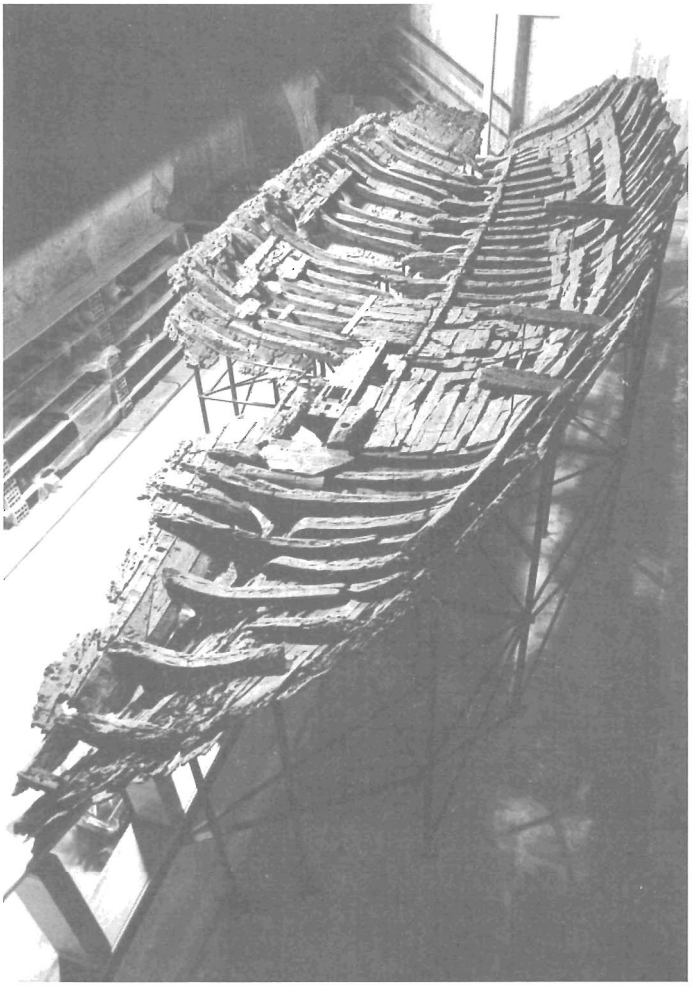


(Photo: Susan Womer Katzev)





KYRENIA II

Research on an ancient shipwreck comes full circle in a full-scale replication

By Michael L. Katzev and Susan Womer Katzev

Left: Viewed from her bow, the 2,300-year-old Kyrenia Ship was stunningly complete as she lay on the seabed after her excavation and, later, after her reconstruction (Photos: Robin C. M. Piercy, Susan Womer Katzev). Above: Kyrenia II, *a full-scale replica of the ancient Greek merchantman, proudly joined OPSAIL 86 in New York on the Fourth of July (Photo: Eugenia Marketos-Schnee).*

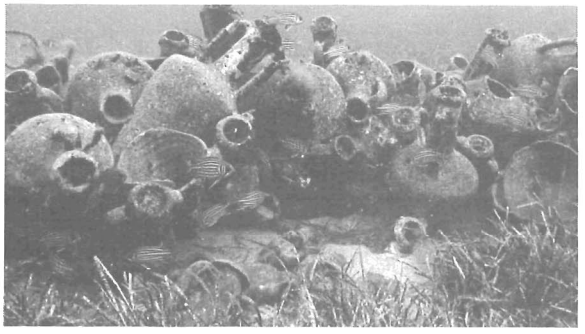
(Ed. Note: In devoting this Newsletter *issue entirely to the Kyrenia Project, we honor a program of research which, for two decades, has continued to set landmarks in the development of techniques and products for the scholarly study of shipwrecks. Excavation and conservation of the Kyrenia Ship were begun when INA was still an idea, but from the time of the organization's formation in 1973 during the shipwreck reconstruction, the Institute and its personnel have contributed actively to many aspects of the project. The culmination of these efforts is seen in* Kyrenia II, *a full-scale, sailable replica of the ancient Greek merchantman.)*

Kyrenia II slid under the Verrazano Narrows Bridge, and noise exploded from all directions. Naval gun salutes boomed in the distance; helicopter wings beat, beat, beat overhead; speedy Coast Guard launches roared in and out amid the cheering and honking from pleasure boats that lined our path. Yet, in the exuberance of this moment—the largest assembly of Tall Ships in modern history, all joined to celebrate Lady Liberty—those of us on board were most aware of the *silence* of the sailing ship that was carrying us toward the Statue. It was a silence equal to that experienced on our first dive over her namesake in the sea off Kyrenia, Cyprus, nearly twenty years ago.

At thirty meters deep, on a flat, sandy seabed ruffled mainly by eelgrass and manta rays, lay a tiny mound of eighty graceful amphoras—the tombstone of a wreck that would become known as the Kyrenia Ship. Guiding our archaeological team from the University of Pennsylvania Museum to the site was Andreas Cariolou, Kyrenia councilman, citrus farmer, and respected diving instructor, who had made his chance discovery while sponge diving. As we quietly examined the evident remnants, which measured a mere 5 by 3 m on the seabed, we wondered how much material might be buried below. A comprehensive survey conducted during subsequent dives using mechanical and electronic means established that subsurface wreckage extended at least three times these distances. Moreover, amphora expert Virginia Grace of the Athenian Agora determined that the shapes of the Kyrenia Ship jars placed the wreck in the latter third of the 4th century B.C., just when the empire of Alexander the Great was disintegrating in the wake of the young king's untimely death.

The Cypriot government quickly granted us permission to begin excavation the following summer, and during two field seasons beginning in 1968 no fewer than 100 specialists from twelve countries united in a common effort to uncover the ancient wreck. Layer by layer, the seabed sediments were airlifted away to reveal additional amphoras—more than 400 in all—as well as crockery, millstones, iron ingots, ship's equipment, the remains of nearly 10,000 almonds, sundry other artifacts, and the implication that perishable items such as bolts of cloth or foodstuffs probably also had been part of the Kyrenia Ship's cargo. Finally, we uncovered more than sixty percent of

The Kyrenia Ship: From discovery to display



the hull of a trading ship that had been built before Alexander was born and that had met her fate about thirty years after his death. The vessel had been sealed in sand and the silt from centuries of flash floods that flow sporadically into the seas off northern Cyprus. Aided by currents, a muddy blanket had built up around the ship, blocking oxygen and, hence, sea life that would have attacked the timbers.

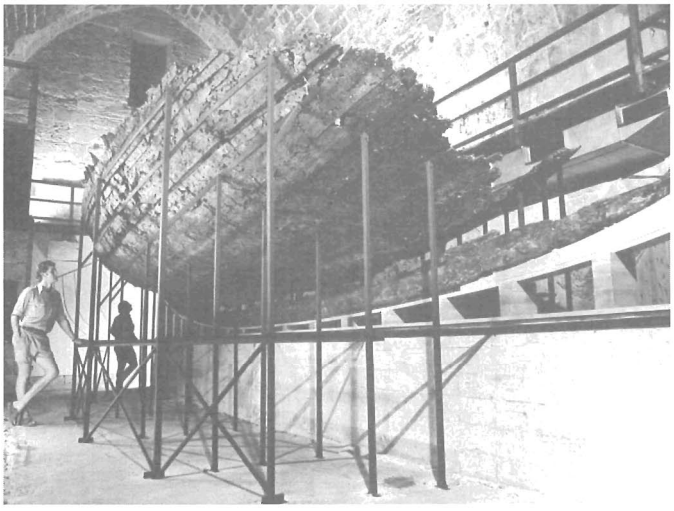
Our excavation and subsequent analysis of recovered remains also revealed information about the crew and their circumstances aboard the Kyrenia Ship. On a vessel seemingly crammed with trade items, the captain and mates no doubt ate and slept in areas cramped by the unwieldly cargo of wine jars they had picked up on Rhodes. Their odd assortment of millstones from Nisyros was stowed below as ballast. Whether the mariners were free citizens or slaves is an unanswerable question. It is clear, however, from evidence of their crockery that the crew numbered four: we found four examples of each type of plate, bowl, saucer and drinking cup, and remnants of four wooden spoons. Most of the crockery had been made on Rhodes, suggesting that island as the ship's home port.

Yet, we found virtually no traces of personal belongings within the wreckage. What had happened to the crew? What had become of the captain and his purse of coins that would have been necessary for this voyage of trade? Of the seven corroded bronze coins which were recovered, most were found amid the remains of fishing nets on the foredeck. Although they equalled only a few drachmas to the ancients, these coins were invaluable to us in dating the ship's sinking to between 310 and 300 B.C. Equally absent from the cargo was some heavy commodity that probably had been loaded in the bow. Without it, according to our studies, the ship would have been stern-heavy and unseaworthy.

So again we asked ourselves, "Where are the private possessions of the captain and crew? Did the mariners escape clinging to bedrolls and the ship's mast or some other flotsam in a storm?" This was our first hypothesis, considering what we had learned about the dates of organic remains. Carbon-14 tests had suggested that trees used to build the Kyrenia Ship were felled in about 389 B.C. but that freshly-harvested almonds in the cargo dated to 288 B.C. One hundred and one years separated these materials, giving us the impression that our "tramp caique," which we discovered had been many times repaired and lately sheathed in lead to shore up the seepage, may have sunk from old age.

Mysterious new clues

This seemed a nice, tidy argument until unexpected evidence appeared several years into our study of the artifacts. During the excavation, amorphous blobs of concreted iron had been found in various areas of the site. When we finally conserved these items, we discovered that they represented eight iron spearheads that had been found *underneath* the hull, and that several had bits of the ship's lead sheathing attached. What did this mean? Had the merchantman sunk on the site of a previous naval battle? In the great expanse of the Mediterranean Sea, this seemed an unlikely coincidence. We then thought about how spears were made. Whether for marine or terrestrial engagements, they likely carried wooden shafts far more buoyant than their iron points. Thus if spears launched in a naval engagement had missed their targets, they would have floated



Left: A humble mound of amphoras scarcely suggested the cache and the legacy that lay beneath, but excavation revealed a wealth of data about Classical Greek maritime trade. As sediments were removed, clues emerged concerning the ship's cargo—which had included millstones used for ballast—and the ship's construction in areas where original wood had not survived. The timbers exposed, every scrap of wood meticulously was recorded in anticipation of the hull reconstruction. Divers worked without fins because of the wood's fragility (Photos: Michael L. Katzev, John Veltri, project staff).

Right: Fragments large and small were measured and drawn to enable graphic reconstructions of the ship's lines by Dick Steffy, seen here reviewing a tracing of the surviving steering oar. More than 5,000 pieces of wood from the Kyrenia Ship required nearly two years of treatment before they could be reassembled under Steffy's direction. The ancient ship is now displayed with artifacts and models in the Crusader Castle in Kyrenia (Photos: Susan Womer Katzev).

and drifted away. So why did our merchantman strike bottom with spear points in her outer hull?

We now suspect that they were embedded in her sides at the time of sinking. Indeed, we suspect that around the year 300 B.C., the old ship was attacked by pirates, whose swift, rowed vessels could have hidden from passing merchantmen in the numerous coves along Kyrenia's coast. If this had occurred, it would explain the disappearance of the crewmen, who probably were taken to be sold as slaves. The pirates would have combed the ship's cargo, taking any valuable coins, small trade goods and personal belongings, before axing a hole in the bilge to sink the ship, thus covering evidence of their attack. At that time, Athenian punishment for piracy was harsh. Excavations in Piraeus, for example, revealed skeletons of several pirates who had been captured and crucified, then left exposed to die along the shore as a warning to others. All the more reason for pirates to be wary of leaving any evidence!

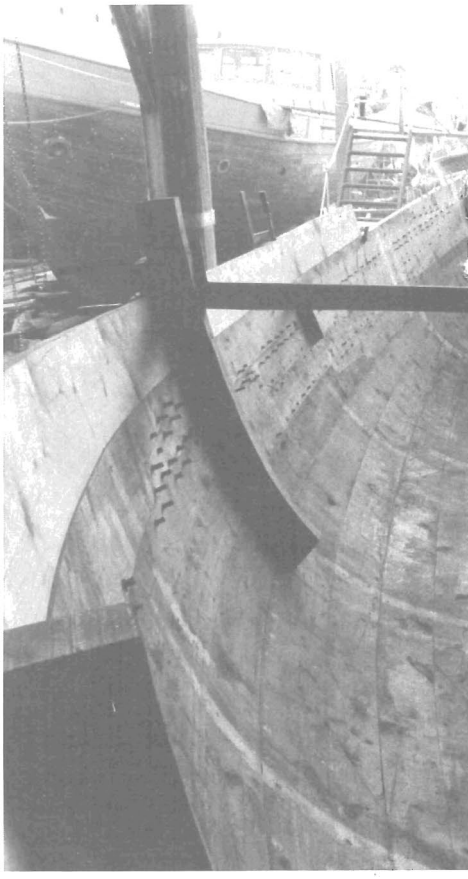
We would like to think that we have exposed a crime committed nearly 2,300 years ago. Unfortunately, in its early years on the seabed, the Kyrenia Ship's waterlogged hull split open under the weight of the cargo, exposing broken planks to attacks by marine life before sand and silt covered them. Most of the vessel's planking was lost at the critical turn from the keel to the garboard, where the pirates' scuttling chop most likely would have been delivered.

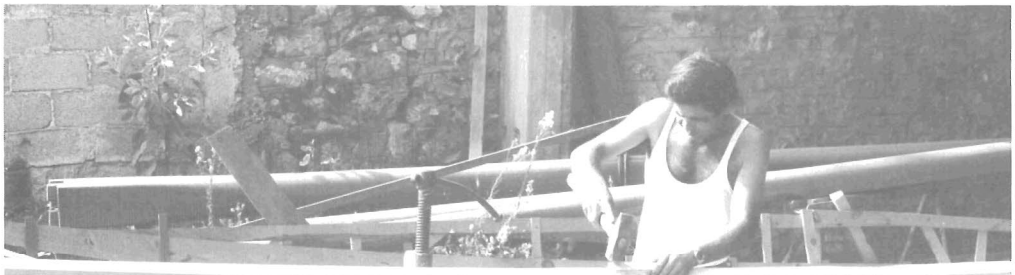
Reconstruction of the hull

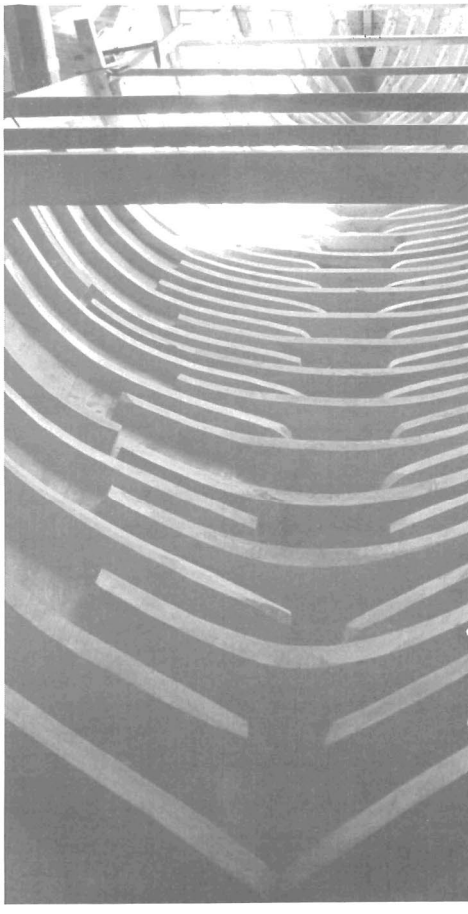
What *is* certain, however, is that the Kyrenia Ship represents the best preserved hull of the Classical Greek period ever found. About sixty percent of her total area and more than seventy-five percent of her representative timbers survived to be recorded in meticulous detail. Five years went into raising the hull piece by piece, preserving it in polyethylene glycol, then mounting it for exhibition in a handsome sandstone gallery of the Crusader Castle at Kyrenia.

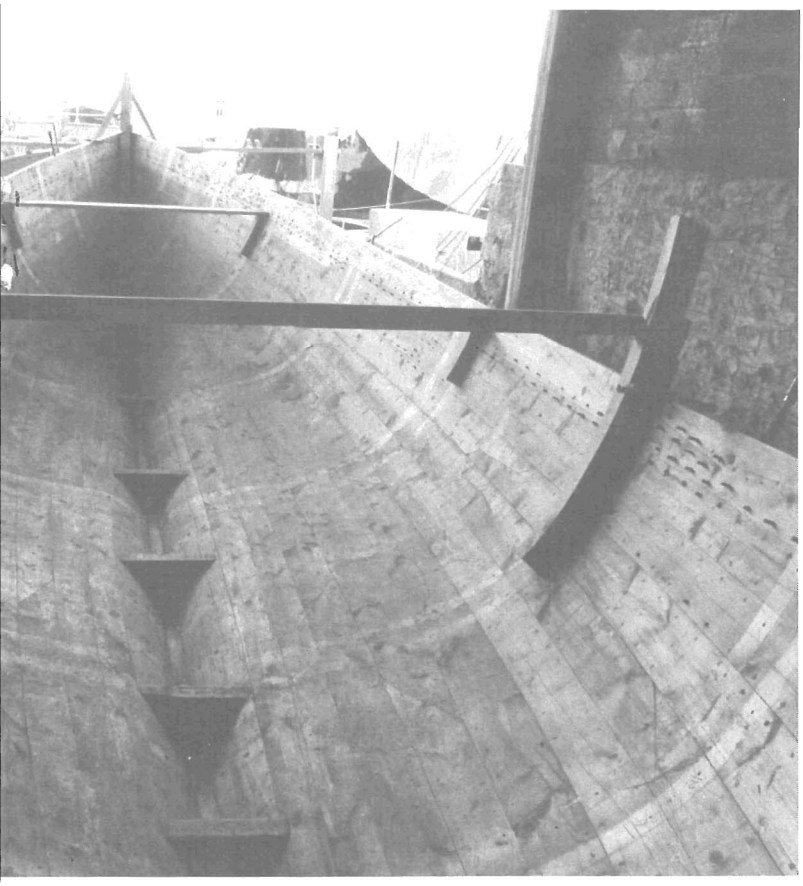
The brilliant achievement of reassembling the Kyrenia Ship was due to J. Richard Steffy, who, during those early years of the 1970s, was embarking on his second career as a ship reconstructor. Faced with more than 5,000 waterlogged wood fragments, Steffy developed ways to determine and to draw the original hull lines and then evolved the mechanics for scaffolding and fastening the conserved ancient timbers together again. As additional means to study the Kyrenia Ship, he also has fostered the production of numerous other reconstructions, including a 1:5 scale research model built with materials and techniques comparable to those used in the original craft; a fiberglass sailing model, also at 1:5 scale, which was used to test the ship's steering and sailing characteristics; and a full-scale replica of the hull's middle section. Many of the techniques developed from these reconstructions now are practiced routinely on INA projects and are taught to nautical archaeology students at Texas A&M University.

More importantly, so much solid evidence was accumulated through these studies concerning the lines and the method of construction of the Kyrenia Ship that she became the prime candidate among ancient Mediterranean vessels for full-scale replication. In 1982, Harry E. Tzalas, president of the Hellenic Institute for the Preservation of Nautical Traditions (HIPNT), approached us with a proposal from his newly formed private organization in Athens: it would fund the construction if









Kyrenia II comes to life

Pine timbers were brought from Samos to build Kyrenia II, *which was constructed in the ancient "shell-first" method. Before any internal structure was erected, strakes were set edge to edge with mortise-and-tenon joints, locked firmly in place by wooden pegs. Only after the shell had been constructed, were the internal frames added. Pictured below are (left) Manolis Psaros, in whose shipyard near Athens the replica was built, and Michaelis Oikonomou, master builder of* Kyrenia II *(Photos: Susan W. and Michael L. Katzev).*

we would provide the necessary data and consultation. INA, represented by Michael Katzev, the Institute's vice president and director of the Kyrenia Project, and Steffy, INA's ship reconstructor, was happy to cooperate in this learning venture between the two private scientific groups, and work began in November of that year.

The replication challenge

In Perama, near Athens, Manolis Psaros volunteered his shipyard for the building of the replica. He did so to honor the wooden boatbuilding traditions of his father and grandfather, knowing full well that *Kyrenia II* would take shape in the "shell-first" manner, a construction technique probably not practiced in Greece for over 1,000 years. Appearing as early as the 3,400-year-old, Late Bronze Age shipwreck near Kaş, Turkey, shell-first building was outrageously wasteful of wood and labor by modern standards, although both were cheap in antiquity when ancient shipwrights, in effect, were superbly skilled cabinetmakers. The men who had built the Kyrenia Ship had joined the entire shell of strakes edge to edge from the keel up to the cap rail, using closely spaced mortises and tenons locked with pegs—all before a single frame was adzed to fit inside that shell. It was a testimony to their open-mindedness that Psaros and his two builders would attempt to construct a full-size ship in a method absolutely opposite to their own "frame-first" tradition.

Our first aim was to replicate the original lines of the 14-meter-long merchantman as closely as possible. But because her shipwrights had worked by eye alone, the 4th-century hull was not symmetrical; it had five percent more wetted surface to port than to starboard. Although we decided for reasons of cost to build a symmetrical hull based on the lines of the better-preserved port side, it is interesting that the finished replica still turned out to be slightly asymmetrical.

Another priority was to use materials comparable to those in the ancient ship. Keel, planking, frames and interior scantlings had been made of *Pinus halepensis,* but this Aleppo pine no longer is readily available in Greece. We therefore selected the virtually indistinguishable *Pinus brutia,* acquired from Samos, which is the timber most commonly used in Greek shipbuilding today. In every other possible way, we were conscientiously faithful to the ancient hull: naturally curved timbers were used for the frames; tenons and tenon pegs were made of Turkey oak (*Quercus cerris*); and all of the ship's nails were hand-forged from pure copper rod. Only occasionally, when logs of sufficient diameter or length were not available, was it necessary to change plank widths slightly or to relocate scarf joints, which the ancients would have done confronted with the same lumber.

At various stages of the construction the workmen did experiment with ancient-style hand tools, using frame-saws to cut planks, mallets and chisels to open mortises, and adzes to trim surfaces. But inevitably, considerations of time and money caused these hand tools to be replaced with a band saw, an electric mortiser (beginning with strake 4), and various power planers.

A sturdy backbone

The curved "rocker" keel of the Kyrenia Ship measured 9.3 m long and averaged 20.3 cm high and 12.2 cm wide. It had been hewn from a naturally curved tree whose heartwood followed that arc through its entirety. To duplicate this was Psaros's first task, and it proved to be a tough one. Shipbuilding timber from Samos today is cut in shorter lengths than the ancients would have cut, and modern shipwrights prefer these logs to be of straight-grained wood. After the first log had been cut, it was decided that the heartwood did not curve sufficiently through its length to give the rockered keel adequate strength, so the

piece was scrapped. The second log to arrive from Samos, when cut, revealed nests of tiny woodworms, and it too was scrapped. Psaros went to Samos for the third log. But when its bottom dimension ended up being 2 cm too thin, we agreed to abandon it as well. The fourth log did it. Perfectly curved and of proper size, it was cut down to our exact specifications. After more than six months of part-time labor by two or more men, the keel was ready to be joined by stem- and sternposts.

The ancient shipwright had made the stempost from two timbers; inner and outer planks were joined together by mortise-and-tenon joints and with copper nails. It seems unusual that he lacked properly curved or sized wood, since nowhere else in the original hull did we find a similar economic use of timber. Moreover, the joining of two planks seemingly would not have added strength to the stem, but such joinery would have required considerable extra labor. Why it was done, we simply do not know. Because Psaros had a naturally curved timber of the right size in his yard, he and Steffy decided to make the stempost of *Kyrenia II* from one plank, which was connected to the keel in a simple hook scarf locked by keys.

The forwardmost part of the original stempost had not survived, so the bow configuration of *Kyrenia II* had to be conjectural, based on ancient representations, sailing tests, and common sense. A nearly vertical cutwater was dovetailed into the end of the stempost and reinforced by a substantial knee. Luckily, a portion of the aft end of the original keel did survive, giving us the initial angle of attachment of the sternpost. A major part of the stern knee was found, permitting us to install a massive knee in *Kyrenia II*.

With these basic elements erected, the experiment in shell-first construction could begin. With rabbets cut along the upper corners of the keel, the builders used mallets and chisels to cut mortises into the keel approximately 8 cm deep, 5 cm wide and 6 mm thick, spacing them just 12 cm apart, center to center. Next, the planks for the garboard and second strakes were fashioned, essentially being carved with adzes as much as cut with saws because of their strong cross-sectional curves. In addition, because these strakes did curve so radically, their mortises had to be cut at ever-changing angles, all judged by eye. Oak tenons were sawn to nearly the same width and thickness as the mortise cuttings, and quick adze work lopped off the corners and tapered the ends before they were slid into the waiting mortises of the keel.

Building the shell

It was then that the shipwrights—still a little skeptical that this method of joinery would work—faced their greatest challenge: setting the garboards and the adjoining second strakes. Positioning a mortised plank onto more than fifty tenons is not easy even for practiced craftsmen, particularly when the plank must be twisted in several directions along its length, but our builders learned to do it well. Slowly, from one end to the other, a plank was fitted over each tenon, onto which pig fat had been dabbed, then gradually it was driven down into place until the seam was light-tight. This was done gingerly, since the chance of splitting a plank while hammering it home was high.

After several days in position, during which the wood settled, dried and shrank, the plank again was pounded down to tighten the seam. Then, holes were drilled through the top and bottom portions of each tenon, and tapered pegs were driven home to lock the joints in place. After several days, the tenon pegs were restruck to be certain they were absolutely tight. Later, the protruding ends of the pegs were adzed flush with the shell inside and out. In the case of the keel and garboard seams, and in a few areas near the stem- and sternposts, where there was not room to swing a hammer, tenon pegs were driven in from the outside. In virtually all other cases, they were driven in from the interior of the hull, just as the ancients had done.

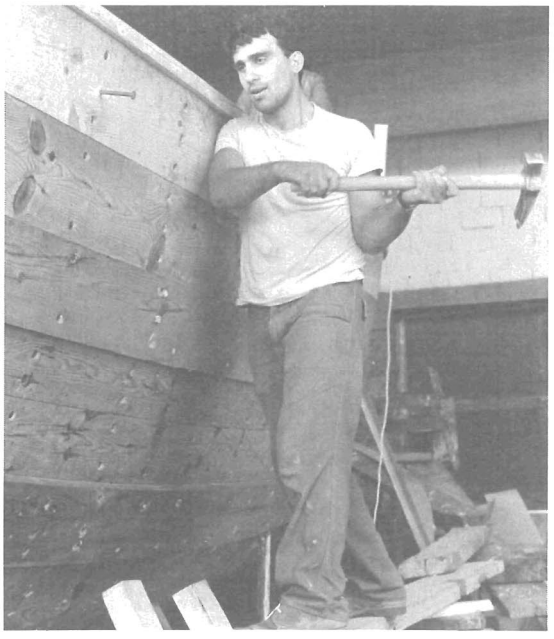
After emplacing only the first strakes, our builders were convinced that the ship could be completed shell-first. Their skill and confidence grew, as did their admiration for the precision joinery used by the ancients. In July 1984, the construction crew was joined by 56-year-old master shipwright Michaelis Oikonomou, a member of HIPNT, who became the sympathetic master builder of *Kyrenia II,* assisted by Socrates Kavalieratos, a young apprentice naval architect, who kept careful records of the work. By February 1985, the shell of *Kyrenia II* stood twelve strakes high, and four men were climbing around inside wielding heavy equipment. Amazingly, not a single frame had yet been inserted! More than 4,000 tenons and 8,000 pegged mortises were holding her rigid, while two Z-scarfed wales added enormous girdling strength to the shell.

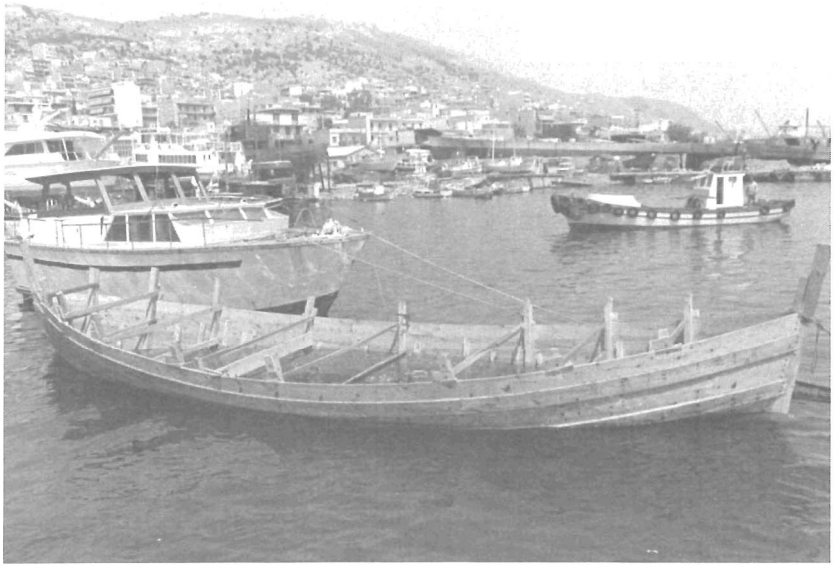
We should emphasize that none of the planks used in the replica was steam-treated. Pine still heavy with resin can be twisted without too much difficulty, although once in place, as the wood progressively dries and shrinks, more and more space opens in the seams between planks. Using dry, seasoned timber minimizes this effect, but wood that is too dry cannot be twisted into position without cracking. Therefore, wood of just the right temper—not too wet with resin nor too dry to have become brittle—had to be selected. Oikonomou's forty years of experience in wooden boatbuilding stood us in good stead; and as Steffy had done while working on previous reconstructions, Oikonomou became the alter ego of the ancient shipwright, anticipating changes his distant ancestor had made without being told about them.

The Kyrenia Ship had a system of framing which we now know was used commonly in antiquity: floors alternating with half-frames, futtocks continuing the arms of the floors, and top timbers extending beyond the ends of the half-frames. Triangular chocks filled the cavity within the keel, garboards and second strakes. Floor timbers were secured to these chocks by mortise-and-tenon joints locked with pegs. At no point did the chocks actually touch the keel; that area of potential contact had been cut out, creating limber holes for bilge water to flow through.

Work on the framing moved quickly, partly through the use of a band saw and planers, partly through Oikonomou's eye-to-hand dexterity, and partly because his older brother, Kostas, also a skilled wooden boatbuilder, joined the construction team. Aside from sawing and chiselling to open the water-courses, the only hand work required on the frames was to adze their lower surfaces to fit the inner face of the shell. With the machinery, it took eight man-hours to shape an average frame. After only one month of work, all twenty-three floor timbers, plus five futtocks, and twenty-five pairs of half-frames were in place. Pure copper spikes held these members in place, driven from outside the hull through drilled holes filled with pine treenails. After the nails had been driven home, their tips were bent, then clenched over to bite into the frame tops. The strength and tightness of these copper "staples" cannot be overstated.

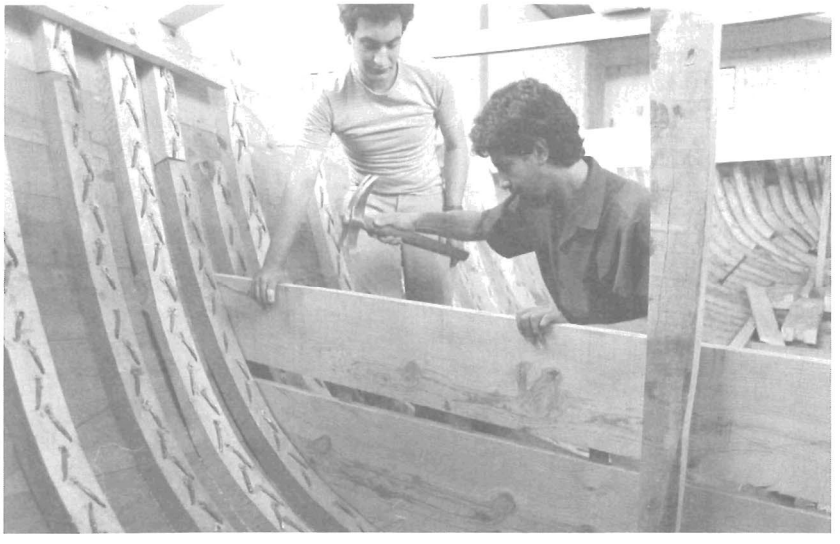
Now thirteen strakes high—as many as we had found—and two and one-half years in the building, *Kyrenia II* floated into the sea for the first time on May 9, 1985. Wood that had been drying and shrinking for more than two years had left openings in the strake seams of one to two millimeters for water to rush through. Within an hour, so much water had filled the hull that the main wale was nearly submerged. After two hours, she was totally awash. Because no evidence of caulking had been found in the original ship, we had surmised that the ancients must have soaked new boats in the sea for several weeks before the seams closed up. However, after only twenty-four hours *Kyrenia II* was pumped out, and except for a few

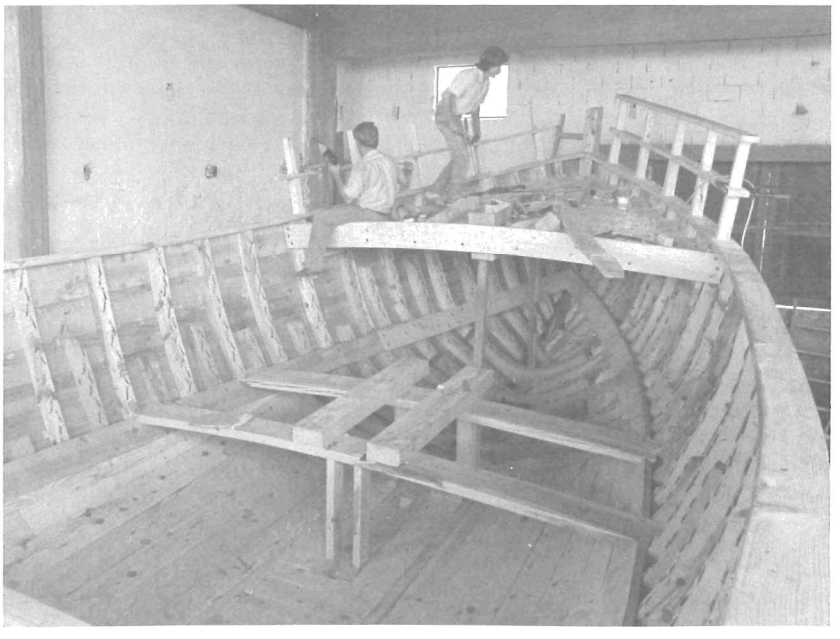




A sturdy hull is strengthened and furnished for launching

With the shell completed and internal members installed, hand-forged copper spikes were driven in to secure the frames to the outer hull. Kyrenia II *was launched and allowed to remain awash to swell and to close her seams since no caulking had been applied between planks. Once water-tight, she was hauled out again, and interior furnishing began. A bulkhead was placed in the after area, amid frames that display a herring-bone pattern of clenched copper spikes, which "stapled" the frames to the shell. After setting braces for the mast in the mid-section, workmen installed railings along the open foredeck. Finally, the ship's rigging was erected. For the most part, it was conjectural since few remnants had been found, although heart thimbles were copied from those excavated from the original vessel's "sail locker" (Photos: Susan W. and Michael L. Katzev).*





History under sail

Kyrenia II *was the embodiment of ancient history during sailing trials near Athens. Her lower hull was blackened with an organic, anti-fouling compound, and her bow was adorned with two eyes, painted by Susan Womer Katzev in the traditional style (Photo: Yiannis Vichos).*

minor leaks, she remained high and dry. Within that short time, the wood had swelled enough to close the open seams. The hull seemed very solid and sat evenly in the water. We decided to add a fourteenth strake to prevent the vessel from shipping too much water in heavier seas. A cap rail completed the shell.

When this highly unfamiliar piece of ancient naval architecture turned out actually to float, the Greek government decided that her launching would be perfect for kicking off the celebrations to name Athens the first "Cultural Capital of Europe" for 1985. June 22 was to be the opening ceremony; six weeks separated us from that date.

Furnishing the hull

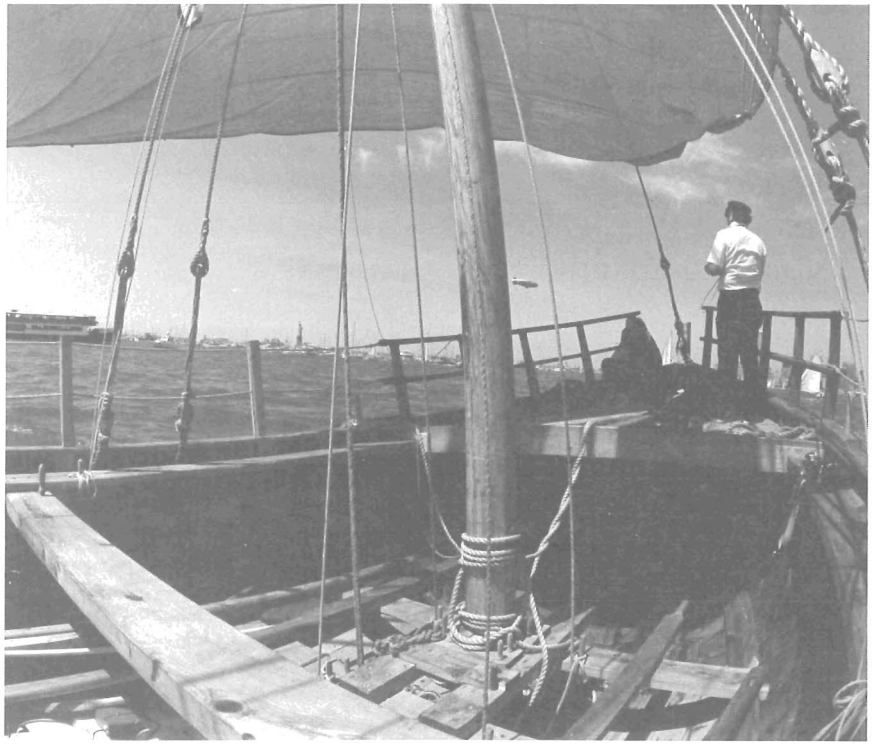
Kyrenia II was hauled out, and during those next frantic weeks, building proceeded at breakneck pace. As many as ten men were working on the replica at once, some on the weekends. Her 13.76-meter length was only 10 centimeters less than what Steffy had calculated, and her beam was dead on at 4.2 meters! We believe that a ship of her size could have been constructed in antiquity by four men working over one building season.

The end of the stempost and the finial of the sternpost were finished in a simple, graceful way. It now remained to furnish the 25-ton-capacity hull with decks, mast and rigging as best as we could conjecture them. It was clear that the Kyrenia Ship had been an open vessel that sank still holding a belly full of cargo. In the stern where the line of cargo had ended abruptly, there had been a bulkhead, tenoned in place, supporting the afterdeck. From this deck the helmsman-captain had steered and the crewmen had maneuvered the brail lines to the sail. We installed a covered hatch to the locker space underneath. During the original ship's excavation, her "sail locker" had yielded nearly all of the 176 lead brail rings we found. These rings, sewn to the leeward side of a square sail in vertical rows, guided the brail lines that raised the lower skirt of the sail in the fashion of a modern Venetian blind. The locker also had contained spare parts for the rigging; bundles of iron ingots; remnants of foods such as almonds, olives, pistachios, hazelnuts, lentils, garlic, sprigs of dried herbs, grapes and figs; and even a large marble pedestal with basin for performing sacrifices meant to bring good luck to the ship and her crew.

The excavation had not revealed any substantial evidence for a bulkhead forward of the hold; perhaps there never was one. However, we all agreed that *Kyrenia II* needed a small deck at the bow from which to lower anchors and to handle the sail. We built no bulkhead at its aft end, leaving open access to the space below, and this now is the natural place for crew or passengers to take shelter in foul weather. Stanchions and railings consistent with those shown in ancient vase paintings were built around the bow and stern decks for safety, and catwalks port and starboard were added to help the crew move about.

The pine mast step of the Kyrenia Ship had been well preserved, and it was replicated exactly in *Kyrenia II*. We are hopeful that the enigmatic cuttings around the original mast box will be explained when the replica seriously takes to sea. Unfortunately, no fragments of mast or yard were found, so using the ancient Theophrastus's advice, we made them of silver fir. Subsequently, a new yard was fashioned, made in three pieces lashed together, which is more flexible than the replica's first one. A blade from one of the ship's two steering oars which had survived aided Steffy's restoration of the steering assembly.

Lacking direct evidence from the original vessel, we based most other primary features of *Kyrenia II* on interpretations of ships depicted in Grecian art, on literary testimonia, and on the experience of our shipwrights and her new captain, Vassilis Vassiliades, who twice has crossed the Atlantic single-handedly. Her standing rigging consists of a forestay, backstay, and two shrouds to both port and starboard. In addition to the brailing lines, her running rigging consists of a halyard, two topping lifts, braces and sheets. Manila line comparable to rope fragments found in the excavation has been used, and oak pulley blocks and heart thimbles copied from the few excavated



The proud ship honors another noble symbol

Kyrenia Project Director Michael L. Katzev stands on the foredeck of Kyrenia II *as the amazing replica—the full circle of a twenty-year shipwreck study—sails slowly toward the Statue of Liberty (Photo: Susan Womer Katzev).*

examples appear in the rigging wherever possible. She is on her second sail now, made of linen as in antiquity. It measures 11 by 6 m and is much larger than the cotton trial piece.

Naturally, we are hoping to learn through sail experience what some of the "mystery objects" from the excavation might represent. For example, numerous curious solid oak toggles, each about 8.5 cm long, were recovered. Eight with a squared profile lay around the mast step, and one with a rounded form was in the sail locker. Moreover, similar artifacts have turned up in wreck excavations and surveys elsewhere. Several of us speculate that they may have been used as quick-release, anti-luffing devices along the leech edge of the sail. Other guesses have ranged from roller bearings to pestles (since a pottery mortar was found) to fishing reels or the earliest known yo-yos!

At sea at last

After our hectic final preparations, launch day was a colorful affair—as such occasions can only be in Greece—with Melina Mercouri and Susan Womer Katzev officiating and christening *Kyrenia II* with a champagne bottle across her stempost. Our vessel was something to behold. Master builder Oikonomou had adzed the ship's handsome golden hull and decks to the same smooth finish his predecessor had given her namesake nearly 2,300 years ago. Her lower hull from the keel to the top edge of the main wale had been coated with a mixture of soot, pine pitch and pig fat, giving the dramatic effect of Homer's "black-hulled" ships. The practical reason was to reduce weed growth, and it did.

One concession to decoration was made on the vessel when "apotropaic" eyes—designed to avert or to stare down evil—were painted on both sides of the bow in a style seen on ships in Grecian vase paintings. Much discussion went into positioning the eyes to avoid a cross-eyed appearance. We like to think that *Kyrenia II* looks out directly with delightful curiosity at the seas and voyages ahead.

To enable her participation in America's Fourth of July celebration, *Kyrenia II* was shipped to the States, and we had anxious moments about her arrival in a safe and sailable condition. But our worries were for naught, and our tiny, incongruous "Tall Ship" sailed grandly up the Hudson River to honor the Statue of Liberty. We could not help but to compare our feelings of pride at being there and reverence for the sight of Lady Liberty's raised torch, with feelings which the crewmen of the Kyrenia Ship must have experienced when nearing ancient Athens. A bronze statue of Athena "Promachos" stood atop the Acropolis. It is said that the sun reflecting off her polished spear was the first beacon that ancient sailors saw, welcoming them to what was then the center of the civilized world.

Epilogue

After completing her historic sail up the Hudson River, *Kyrenia II* was shipped home to the Mediterranean and prepared for a second monumental voyage. On September 6, she departed Athens under sail, bound for Cyprus. Amid great celebration, she was greeted in Pathos by more than 12,000 well-wishers on October 2. Since that time she has visited all major ports on the southern coast of Cyprus. At Limassol, she was hauled out of the water and placed on display, where she will remain throughout the winter.

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