
The INA Quarterly



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On the cover: Jeremy Green leads a team of international archaeologists in mapping a mock wreck during the 2002 International Workshop in Nautical Archaeology held in Bodrum, Turkey. Photo: INA.

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The Institute of Nautical Archaeology is a non-profit scientific and educational organization, founded by George F. Bass, Michael Katzev, and Jack Kelly and incorporated in 1972. Since 1976, INA has been affiliated with Texas A&M University, where INA faculty teach in the Nautical Archaeology Program of the Department of Anthropology. The opinions expressed in *Quarterly* articles are those of the authors, and do not necessarily reflect the views of the Institute.

The *INA Quarterly* was formerly the *INA Newsletter* (vols. 1-18).

Editor: Christine A. Powell

Beneath the Red River's Waters: The Oklahoma Steamboat Project, Part I

Kevin Crisman and William Lees

There is a certain cow pasture in the town of Swink, Oklahoma, that overlooks the cloudy waters of the Red River. If you should find yourself in this cow pasture, go stand on the riverbank (but not too close to the edge) and direct your gaze to the south, toward the state of Texas. If the water is low enough, you will notice an obstruction protruding from the middle of the channel. At first glance it looks like a "snag," the roots and branches of a tree that washed into the river and ran aground. Look closer, however, and you will see unusually straight lines and right-angle protrusions, patterns too regular to be a fallen tree. What you are seeing is Oklahoma's only known shipwreck, a vessel that met its end here over 160 years ago (fig. 1). At that time the newly independent Republic of Texas was to the south of the Red River and the new western territory of the Choctaw Nation to the north in what is today Oklahoma. This wreck also happens to be the earliest and perhaps the finest example yet discovered of the celebrated "western river steamboat."

The western steamboat was a marvelous amalgam of maritime technology, a product of native genius that profoundly affected the course of history. Prior to steam's arrival on the Mississippi River and its tributaries in 1811, the river was essentially a one-way route: the strong currents floated goods out of the interior, but prevented sailing ships from working their way upriver. Steamboats changed all that, and quickly evolved in the period from 1811 to 1840, acquiring ever-more-powerful engines and shallower hulls, while at the same time increasing in numbers and capacity. They speeded up the westward movement of the United States, transporting people and their goods, and transplanting their cultures, into the interior of the North American continent. Said one observer in the 1830s: "The circulation of steamboats is as necessary to the West, as that of the blood to the human system."

Western steamboats were a departure from traditional ideas of naval architecture. "I hardly know what to liken them to, or how to describe them," a baffled Charles

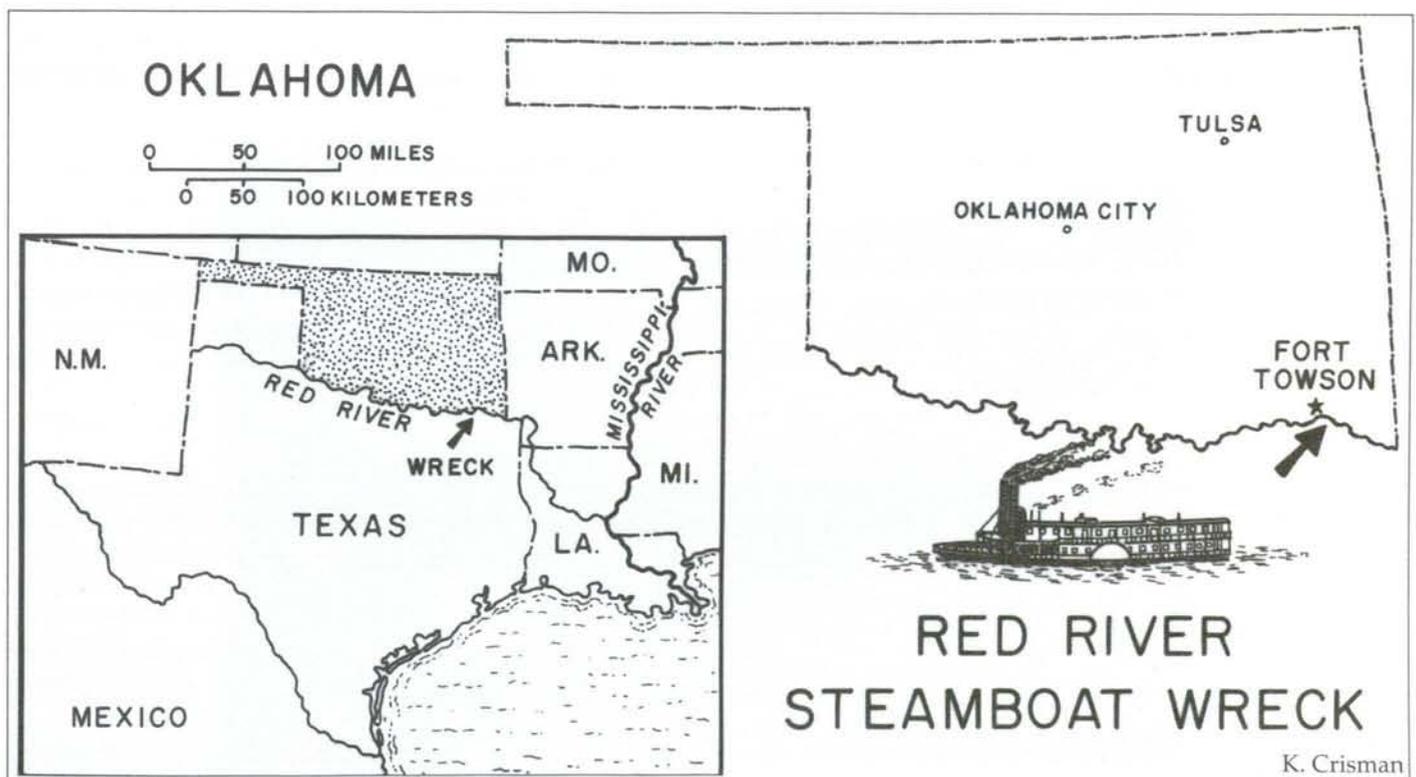


Fig. 1. Location of the Red River Steamboat Wreck.

Dickens wrote in 1842, "they have no mast, cordage, tackle, rigging, or other such boat-like gear; nor have they anything in their shape at all calculated to remind one of a boat's head, stern, sides, or keel. Except that they are in the water, and display a couple of paddle boxes, they might be intended ... to perform some unknown service, high and dry, upon a mountain top." The all-important need to maintain a shallow draft forced shipwrights to build them lightly and to build them up; these craft would become known for their wedding-cake stack of decks that rose high above the main deck. Durability was not their strong suit: even if they avoided tearing their bottoms out on a snag or exploding their high-pressure boilers, western steamers rarely lasted more than about five years.

The Red River proved to be one of the Mississippi's more intractable tributaries: its lower reaches in Louisiana were blocked by an impassable 150-mile-long logjam of snags known as the "Great Raft." Steamer traffic on the waterway was limited for two decades, until the government hired inventor Henry Shreve in 1833 to attack the raft with his patented snag-pulling boat. Within five years a channel was cleared, permitting larger steamers to travel far upriver. For many years thereafter flotillas of steamboats made the passage when the water was high enough, generally from November to June. These vessels imported manufactured goods, exported cotton and other agricultural produce, and closely tied the people and towns of the Red River Valley (in the present-day states of Louisiana, Arkansas, Oklahoma, and Texas) economically and politically to the rest of the nation. The river would continue in this way through the nineteenth century, although

by the 1870s the rapid growth of railroads cut into steamboat trade and eventually drove them out of business.

Steamboats rightfully serve as icons of nineteenth-century North American culture, technology, and western expansion, yet our knowledge of their design, construction, and propulsion machinery is surprisingly scanty. This is particularly true of the vessels produced in the early period of steam navigation, from 1811 to circa 1840. The shipwrights building them were more artisans than engineers, and in the rush to meet the demand for more boats the details were generally not recorded. Contemporary paintings and prints provide some idea of the appearance of early western river steamboats, but tell us little about what went into the successful completion and operation of these highly specialized craft. Nautical archaeology offers our best, and in some cases the only, means of discovering their secrets, but to date there have been few archaeological studies of western steamers, and those few have been later-period vessels.

The Oklahoma steamboat wreck entered the twentieth century in 1990, when a flood radically shifted the river's channel, eroded away the banks of a twenty-foot bluff on the Oklahoma side, and revealed the wreck's stern and the eroded spokes of the port sidewheel (fig. 2). The existence of the wreck was brought to the attention of the Oklahoma Historical Society (OHS) in 1999. A preliminary survey showed that the vessel had a center-mounted flywheel on the axle, a feature that passed out of use around 1840 when twin-engined boats became standard. Because navigation of the upper river by steamers was blocked until 1838 by the "raft" downstream, the likely dates for the



Photo courtesy Red River Project

Fig. 2. Looking at the site from the Oklahoma bank.

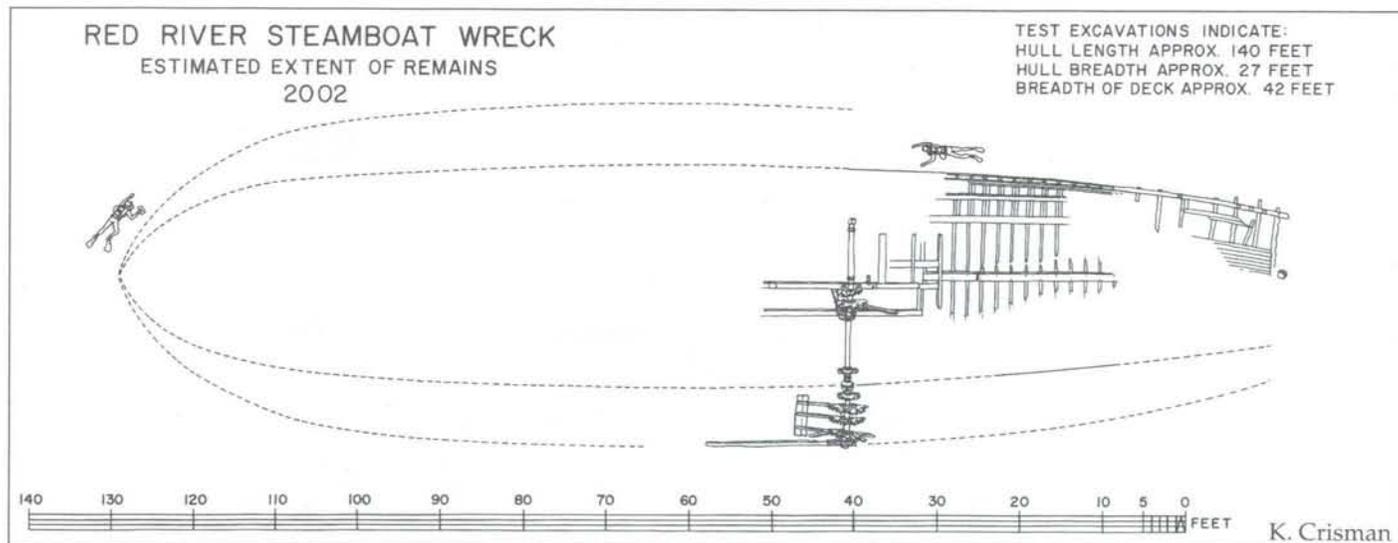


Fig. 3. The 2002 site plan showing the extent of the buried wreck.

steamer's sinking could thus be narrowed to the late 1830s or very early 1840s. A number of steamers were sunk on the river during this period, most of them the victim of snags, but information on their locations is typically vague, making it difficult to attach a name to the wreck at this time. The OHS has identified one vessel lost in the vicinity of Fort Towson in 1838 that bears many similarities, but more research is needed to confirm that it is the Red River Wreck.

Test excavations of the wreck by the OHS in 2001 revealed that the stern structure of the wreck was complete, although cracked alongside the keel, and contained artifacts. A number of machinery-related pieces were recovered and sent for treatment at Texas A&M University's Conservation Research Lab (CRL). The most memorable artifact, at least from an olfactory viewpoint, was an intact barrel of salt pork (several others were discovered but left on the wreck). Disassembled at the CRL, the barrel was found to contain a congealed (or, more correctly, "saponified") fragrant white mass of decayed pork flesh with bones. There were two complete pig skulls embedded in the shipment, high-bulk, low-meat parts that suggest this may have been cheap, low-grade pork, or that the contractor cheated on an order of prime mess pork. While not a particularly glamorous find, the pork barrel is a rare example of a basic food group for nineteenth-century North Americans, a staple commodity often mentioned in contemporary accounts of frontier life (and vilified—probably with justification—by visiting European tourists).

In 2002 the Institute of Nautical Archaeology (INA) enthusiastically joined in a cooperative effort with the OHS to carry out a multi-year study of the Red River Steamboat Wreck. The goals of this research are to systematically un-

cover the wreck and its contents, to recover artifacts and hull elements (such as the machinery and rudder) for study and eventual display, and to reconstruct the form and construction of the steamer's hull. In short, we intend to learn everything possible about the steamer, its contents, its final voyage, its role in the American West of the 1830s, and its place in the evolution of American steam transportation. The project will be co-directed by Dr. Kevin Crisman, INA faculty member, and Dr. William Lees, Director of the OHS Historic Sites Division, with support provided from the state of Oklahoma, INA, and Texas A&M University (TAMU). Nautical Program alumnus Peter Hitchcock, now a Ph.D. candidate in the TAMU Oceanography Department, will serve as assistant director.

One of the first orders of business in the 2002 field season was to determine the full extent of the buried wreck (fig. 3). The steamer sank with its bow pointing upriver and settled in a bow-down attitude, listing slightly to port. Approximately fifty feet (15.24 m) of the vessel's after end is semi-exposed, but we wanted to know how much more lay forward, under the sand, and whether the hull was intact or broken up. We also hoped to see if there were detached pieces of wreckage or steam machinery scattered around the site. In September of 2002 a side-scan sonar survey was carried out by INA Research Associates Brett Phaneuf and Ayşe Atauz, utilizing a Marine Sonic Technology 300khz unit donated to INA by Marty Wilcox. The sonar produced superb images, in this case showing the overall layout of the exposed hull elements and the extreme, current-sculpted topography of the wreck and surrounding river bottom.

The second phase of the 2002 reconnaissance, carried out in October, involved recording construction details and a frame section abaft of the sidewheel axle, to get

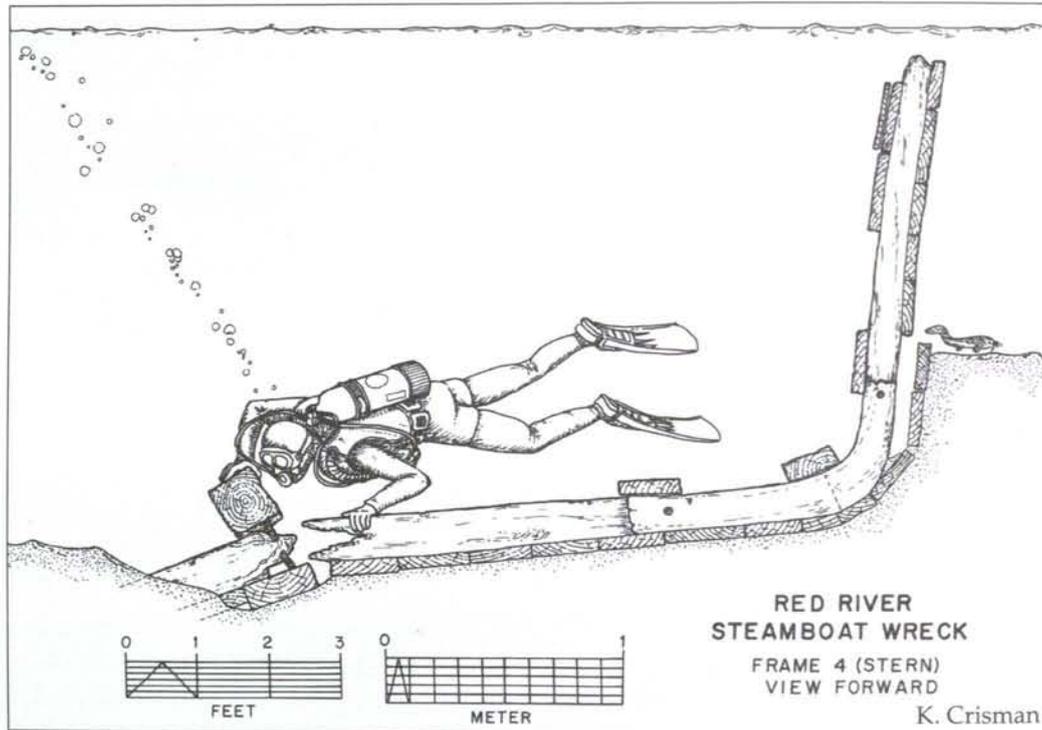


Fig. 4. Rendering of a section recorded during the October 2002 reconnaissance.

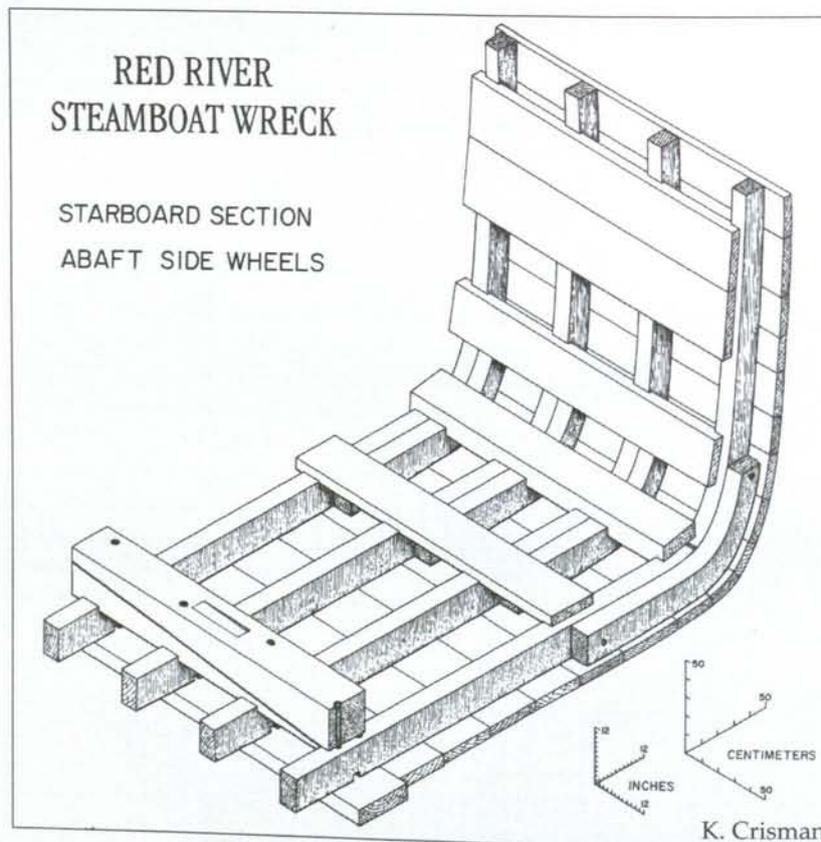


Fig. 5. Reconstruction of the starboard section abaft the side wheels.

a better idea of the hull's form and assembly (fig. 4 and 5). We also devoted a considerable effort to digging test pits forward of the sidewheel axle to trace an outline of the buried hull. The sand that composes the bottom of the Red River is relatively fine-grained but unconsolidated, which means that when you dig a hole, the surrounding sand promptly flows in. This made test-pitting a challenge, but project personnel Toby Jones and John Davis kept at it doggedly, briefly exposing, then buoying deck beams, planking, and frame tops as they worked their way forward into ever-greater depths of sand (fig. 6). Finally, approximately 140 feet (42.67 m) forward of the sternpost, they ran out of wreck; all evidence indicates that the forward (buried) two-thirds of the wreck is complete up to the top of the hull, and includes significant remnants of the main deck's beams and planking. Clearly, this wreck has much to tell us about the early years of steamboating on the western rivers.

Every shipwreck has its own unique environment, a plus-and-minus ratio of conditions that assist or hinder archaeological work. The Red River is not your typical shipwreck site. Like most western rivers, it is a dynamic body of water, with daily changes in water depth and current velocity (on some days it is necessary to hang on to something solid to avoid being swept away). The channel is constantly shifting as the river erodes one bank and deposits sand on the other (the wreck, eroded from the Oklahoma bank in 1990, is now in mid-channel as the river has con-

tinued to work its way northward at this location). The swift-flowing waters are clean, but carry a vast amount of suspended sediment, reducing visibility on the wreck to a few inches. The river-bottom material, as we've noted, is a fine sand that has a tendency to fill in excavated areas. Branches and whole trees washing downriver collect on the wreck, creating submerged snags that can obstruct divers. On the plus side, the water temperature is moderate in the summer and fall, and the maximum water depth on the wreck is no more than fifteen to twenty feet (4.5 to 6 m), allowing extended dives of two to three hours. The river is a relatively protected location (high waves are not a problem here), and in logistical terms the steamboat project will be a breeze: we can park our cars on the bluff top directly overlooking the wreck. In 2002 we established a simple cable ferry between the shore and the work raft to carry people and equipment back and forth.

Our strategy for excavation calls for a minimum of three years of excavation and recording, starting with the aftermost one-third of the wreck in 2003, followed by study of the midships area and finally the bow. The timetable will be affected by a number of variables, including the complexity of the structure we expose and the number of artifacts that we encounter. Two later-period western river steamers that have been fully excavated, the *Arabia* (lost in 1856) and the *Bertrand* (sunk in 1865), both yielded vast collections of artifacts, including foodstuffs, clothing, tools,



Photo courtesy Red River Project

Fig. 6. Toby Jones and John Davis (background) use a dredge pump to investigate the extent of the bow. In the foreground, Dr. William Lees records the upper starboard side of the hull abaft the side wheels.

medicines, building supplies, farming and mining equipment, and personal possessions. We do not know if the Red River wreck sank before or after off-loading its cargo, or if any of the contents were salvaged after it went down, but it is certain that some artifacts will be found. The steamer was probably delivering supplies for the U.S. Army garrison at nearby Fort Towson and was possibly carrying foodstuffs and other materials to Native American groups such as the Choctaw and Chickasaw who in the 1830s were dispossessed from their eastern homelands and re-settled along the Red River.

The stern excavations in 2003 will concentrate on the removal of sand from buried areas, and the documentation of the hull assembly. There is much to look at here, including the frames, the well-preserved transom and sternpost, and the surviving elements of the main deck. During a reconnaissance dive in May of 2003 we discovered a small companionway hatch in the after deck, just forward of the sternpost, covered by a large iron hasp that secured its hatch cover. Who knows what may lie beneath it? Finally, it is clear that most if not all of the rudder has survived, and we intend to recover and conserve this vital piece of ship's equipment for study and display. The 2003 project will run in two stages, a five-week Texas A&M University field school in July and early August, utilizing a team of fifteen personnel, and a two- to three-week follow-up session in October with a smaller crew that will wrap up uncompleted excavating and recording, and recover the rudder. The October project will be assisted by the expertise of archaeologists Arthur Cohn and Adam Kane of the Lake Champlain Maritime Museum.

The stern is already partially exposed above the river bottom, so the 2003 excavations will be manageable despite the current, visibility, and loose sediments. The more deeply-buried forward two-thirds of the wreck is another story altogether, and it is obvious that some type of cofferdam will be necessary to effectively dig and record in this area. An engineering firm has been consulted on the problem, and has prepared plans for the construction of a sheet-steel "wet" cofferdam that will surround the wreck. The site will remain under water, but such an enclosure would effectively block the river flow and limit the movement of sand into the wreck, while the lack of current inside the cofferdam should allow sediments to settle and thereby improve visibility. We hope to have some form of cofferdam installed by the 2004 season.

In its quarter-century of existence the Institute of Nautical Archaeology has dedicated itself to expanding our knowledge of seafaring and ships throughout time and around the world. The Red River Steamboat Wreck will be a worthy addition to INA's record, for it will provide both scholars and the public with a look at a pivotal era in North American history when a revolutionary new form of ship propulsion overcame a seemingly-insurmountable natural barrier—the powerful flow of the Mississippi and its tributaries—and opened up the interior of a vast continent. Study of the wreck will allow us to see firsthand how this technology worked, and provide us with a new appreciation of the genius and perseverance of the inventors, shipwrights, and entrepreneurs who developed the western river steamboat.

Acknowledgments: The 2002 surveys of the Red River Wreck were greatly assisted by John Davis, Keith Tolman, and Howard McKinnis of the Oklahoma Historical Society, by graduate students Ayşe Atauz, Toby Jones, and Erika Laanela of the Texas A&M University Anthropology Department's Nautical Archaeology Graduate Program, and by graduate students Brett Phaneuf and Peter Hitchcock of the Texas A&M Oceanography Department. INA supporter Marty Wilcox is thanked for his more-than-generous donation of the side-scan sonar unit used to survey the wreck in 2002. The Texas A&M University Office of the Vice President for Research has provided a "Creative and Scholarly Activities" grant supporting computer mapping of the wreck in 2003. The project is supported by a generous grant from the Oklahoma Department of Transportation. ☞

News & Notes

Bass Honored

INA Founder George F. Bass was recently elected as an Honorary Director of the Explorers Club, joining Richard Leakey, Robert Ballard, John Glenn, Edmund Hillary, Donald Johanson, Don Walsh, and other noted explorers.

Shipwreck Weekend 2003

INA and Texas A&M University hosted another in their series of Shipwreck Weekends on Saturday, April 5. The program has been a success in bringing nautical archaeology to the public. Following a three-hour course of illustrated public

lectures by Taras Pevny, Glenn Grieco, Peter Fix, Carrie Sowden, and Kevin Crisman, the weekend participants spent the afternoon touring the INA facilities and Nautical Archaeology Program Teaching Laboratories. ☞

International Workshop in Nautical Archaeology,

Bodrum, 2002

George F. Bass

When Turkish Minister of Culture İstemihan Talay visited the INA excavation at Tektaş Burnu in 2001, he asked if I would organize an international conference on archaeology to be held in Bodrum in 2002. As a number of conferences were already planned for that year, notably the Tropis conference held every four years in Greece, I suggested that we hold instead a small workshop for not more than forty invited participants. Rather than simply presenting and listening to papers, we would discuss, often with hands-on experience, the latest techniques of searching for, excavating, mapping, conserving, and displaying shipwrecks.

The invitation list included a mix of older, prominent archaeologists and younger, lesser known archaeologists who can use the experience of the workshop as they become leaders of the next generation. There are many equally deserving people who will hopefully attend future workshops. All invitees accepted, although at the last moment neither Jean-Yves Empereur of France nor Jonathan Adams of the United Kingdom could attend.

With tickets provided by Turkish Airlines (THY), and accommodations provided by the Turkish Ministry of Culture, participants arrived on June 1-2 at Bodrum's Mavi Hotel. The workshop officially opened the next morning at a ceremony at the Bodrum Museum of Underwater Archaeology where visitors were welcomed by Minister Talay; Dr. Alpay Pasinli, Director of the Department of Museums and Antiquities; Oğuz Alpözen, Director of the Museum; and Ayhan Sicimoğlu, President of INA's sister organization TINA (Turkish Institute of Nautical Archaeology).

The small number of participants allowed everyone the chance to work at a computer, dive on the Pabuç Burnu wreck, descend in INA's submersible *Carolyn*, and spend time in the Bodrum Museum and its conservation laboratory, which we toured during the first two mornings. During those afternoons, in order to introduce themselves and their work, and to allow the general public to learn about nautical archaeology outside Turkey, some participants gave brief, illustrated lectures:

Gordana Karovic, Institute for Protection of Cultural Monuments, Serbia, "Underwater Archaeology in Serbia and Montenegro;" Nergis Günsenin, Istanbul University, "The Çamaltı Burnu Wreck in the Sea of Marmara, Turkey;" Kroum Batchvarov, of Bulgaria and Texas A&M University, "The Ottoman Wreck at Kiten, Bulgaria;" Johan Ronnby, University College of

Stockholm, Sweden, "Shipwrecks in the Baltic Sea;" John Broadwater, *Monitor* National Marine Sanctuary, United States, "The Wrecks of the *Monitor* and the *Betsy*;" George Bass, INA, "The Tektaş Burnu Excavation and the Submersible *Carolyn* in Turkey;" Sila Tripathi, National Institute of Oceanography, India, "Underwater Archaeology in India;" Robin Piercy, of the United Kingdom and INA, "The *Santo Antonio de Tanna* in Mombasa, Kenya;" Levent Zorolu, Selçuk University, and Volkan Evrin, Middle East Technical University Subaqua Society, "The Kilikya Survey and the Kelenderis Project in Turkey;" Carlo Beltrame, Università Ca' Foscari-Venezia, "Nautical Archaeology in Italy;" Robert Grenier, Parks Canada, "Underwater Archaeology in Canada, Especially Red Bay;" Wendy van Duivenvoorde, of the Netherlands and Texas A&M University, "Underwater Archaeology in Sri Lanka;" Fred Hocker, National Museum of Denmark, "Shipwreck Archaeology in Denmark;" Katerina Delaporte, Ephor of Underwater Antiquities in Greece, "Underwater Archaeology in Greece;" Filipe Castro, of Portugal and Texas A&M University, "The *Nossa Senhora dos Martires* in Portugal;" Hayat Erkanal and Vasif Saholu, Ankara University, "Underwater Research at Liman Tepe, Turkey;" Francisco Alves, Centro Nacional de Arqueologia Nautica & Subaquatica, Portugal, "Nautical Archaeology in Portugal;" Jeremy Green, Western Australian Museum, "Nautical Archaeology in Australia and the Far East;" Robert Neyland, the *Hunley* Project, "The Confederate Submarine *Hunley* in Charleston, South Carolina;" and Ivan Negueruela,



Gordana Karovic from the Institute for Protection of Cultural Monuments, Serbia, prepares for her dive to the Pabuç Burnu wrecksite in *Carolyn*.

Museo Nacional de Arqueología Marítima, Spain, "Phoenician Wrecks in Spain."

Other participants, including INA staff who helped in the seminars, were Serdar Akerdem of the Marmara Island Shipwreck Excavation, Turkey; Ayşe Atauz of INA, representing Bilkent University, Turkey; Marc André Bernier of Parks Canada; Anita Dotzeva of the Bulgarian Black Sea Project; Begumsen Ergenekon of Middle East Technical University, Turkey; Yaşar Ersoy of Bilkent University, Turkey; Dionisios Evangelistis of the Department of Maritime Antiquities, Greece; Donald Frey, USA and INA; Pedro Goncalvez of the Centro Nacional de Arqueologia Nautica, Portugal; Faith Hentschel, Central Connecticut State University, USA, and INA; Dimitris Kourkoumelis of Greece; Berta Lledó of Spain and INA; Sheila Matthews, USA and INA; Jonathan Moore, Parks Canada; Asaf Oron, Israel and INA; Bekir Ozer, Ege University, Turkey; Cemal Pulak, INA and Texas A&M University; Corioli Souter, Western Australian Museum; Tufan Turanlı, INA, Turkey; and Mehmet Yildiz, Turkey.

The first day ended with a medieval banquet in the Castle of St. Peter, which houses the Bodrum Museum, and the second evening with dinner in the INA garden.

On the third morning the group was transferred by bus to the Sea Garden resort hotel. It lies outside Bodrum but is within a short distance of the sixth-century BCE Pabuç Burnu shipwreck, on which over the next three days everyone dived in *Carolyn*, and, if they chose, also with SCUBA



Feyyaz Subay pilots Carolyn on tours of the Pabuç Burnu wrecksite for workshop participants.

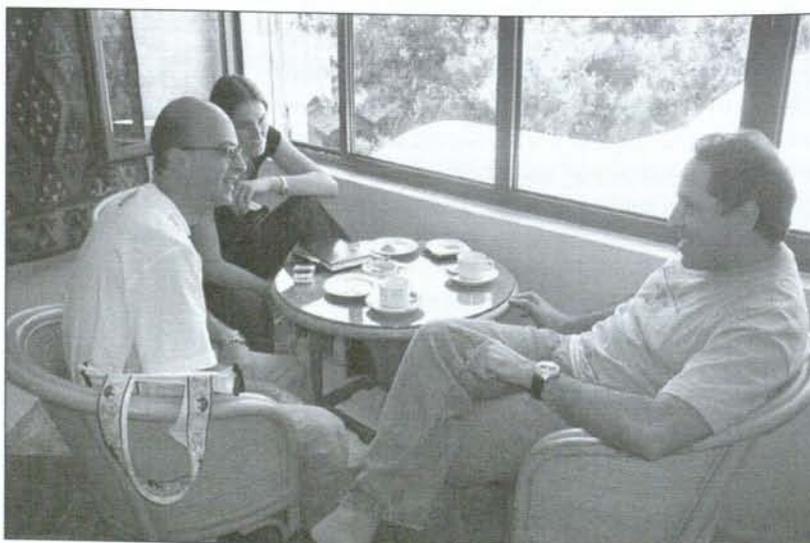
equipment provided by our former colleague Aşkın Cambazoğlu, who now runs a dive school at Sea Garden; it was he who reported the wreck to INA in 2001.

The remainder of the workshop schedule allowed everyone to map with digital cameras a mock wreck that Sheila Matthews and others had established on the hotel grounds with replicated amphoras, plate, pitcher, and lamp. Then, guided by Sheila and by Jeremy Green, the participants worked with Site Surveyor, Photodeler, and Rhino computer programs to develop maps of this "wreck."



Left. Marc André Bernier (Parks Canada) and Ayşe Atauz (INA) have a chat.

Below. Kroum Batchvarov (INA), Anita Dotzeva, and Filipe Castro (INA) at a break.



Inside the hotel, Berta Lledó gave a PowerPoint® presentation of the computer programs she designed for record-keeping on INA excavations and surveys; Fred Hocker demonstrated how the program Rhino was used on the wreck of the *Sepia* in Australia, and later led a discussion of the use of Autonomous Underwater Vehicles (AUVs); Corioli Souter gave a presentation of HPASS (High-Precision Acoustic Survey System) developed by the Centre for Marine Science and Technology at Curtin University and the Western Australian Maritime Museum; and Asaf Oron and Pedro Gon-

calvez talked about the latest methods of on-site and laboratory conservation. George Bass and Tufan Turanlı led a discussion of fund raising for nautical archaeology.

Sharing breakfast, lunch, and dinner, as well as various coffee and tea breaks, allowed numerous lively discussions.

The workshop ended with a dinner hosted by TINA at Havana, a seaside restaurant not far from Bodrum. Everyone declared the workshop a great success, with most agreeing that it should become an annual event. ☞



A gathering of workshop participants.

All photographs by Robin Piercy

Maritime Source Material in the United Kingdom and Ireland

Lois A. Swanick

The extensive collections and archives of the United Kingdom of Great Britain and Northern Ireland (U.K.) and the Republic of Ireland (Eire) offer a rewarding place to research maritime topics. Public record offices, maritime insurance carriers, libraries, museums, institutes, universities, and archives overflow with material. The best way to get your hands on these resources is in person, but if a ticket to London is outside your budget, here is a review of some of the sources available through the Internet. Most institutions have indexes or catalogs available on line. If you find a document you need, photocopies or microfilms are available in many cases, often for a fee, by mail. Many institutions also provide librarians or researchers who, again for a fee, will review the archive and send you relevant documents or a bibliography of related sources in their collections.

Most archives organize their index by vessel name, vessel use (merchant, naval, etc.), departure date, port of departure or port of arrival. In most cases, the vessel must be registered, use a port, or be damaged or wrecked within the waters of the U.K. or Eire at least once to be in the index. If the port of registry is known, information such as the tonnage, shipmaster, and number of crew can also be found. Be aware that Port Records often record vessels "the [Name of Vessel] of Bristol" (for example). However, this may only refer to the fact that Bristol was the vessel's main port of call in England, rather than its port of registry. Only further investigation could reveal if Bristol was actually the vessel's port of registration.

The actual name of the vessel and any alternative names that might be used are also vital. For example, the records might indicate a vessel called *Own's Endeavor*. This name can be also be rendered in the index as *Owner's Endeavor*, as *Owens Endeavor* or *Owners Endeavor* (with no apostrophe), or as simply *Endeavor*. "Endeavor" can also be spelled "Endeavour," thus creating ten possible names for the same vessel in the records! The only way to be certain the record refers to the vessel of interest is to compare the names of the ships' masters, if available, or the regular ports of call.

Information sources are divided into two categories: general sources and specific sources. General sources include collections such as Lloyd's of London, National Maritime Museum, Public Record Office, and others. Specific sources include those focusing particularly on naval vessels or shipbuilders, for example.

General Information Sources

Lloyd's Marine Collection. Located at Guildhall Library in London, Lloyd's Marine Collection contains the records compiled and kept by Lloyd's of London, marine insurance underwriters since 1760. The records focus on vessels registered or trading in London, with some information on vessels in other English ports and inconsistent

information from abroad. For a complete list of the collections kept at Guildhall Library see D. A. Barriskill, *A Guide to the Lloyd's Marine Collection and Related Marine Sources at Guildhall Library*.

The two most comprehensive and valuable resources in the collection are the *Register of Ships* and *Lloyd's List*. In the 1700s, the *Register of Ships* included the name of the vessel, previous vessel names (if any), a description of the rigging, tonnage, load-draught, date of building, place of building, name of owner, name of master, number of crew, port of survey, class, and destined voyage. The *Register* later expanded to include additional information. Copies of the *Register* are available, in whole or in part, worldwide. Contact your local library for details.

Lloyd's List can be used to reconstruct the overall history of historic vessels. Published since April 1734, the oldest surviving issue dates to January 2, 1740. *Lloyd's List* contains information on shipping arrivals and departures. Movements are listed geographically, by port, beginning with Gravesend (London), continuing clockwise around the British Isles and clockwise around the world. The *List* also contains casualty reports, vessel sightings, and inter-ship visits, as well as reports of damaged, missing, or foundered vessels. From the mid-eighteenth century, *Lloyd's List* was expanded to include Board of Trade inquiries, information on events such as trade disputes, wars affecting commerce, and general commercial news.

Other resources in the collection include *Lloyd's Register of Casualty Returns*, a report of vessels over 100 tons totally lost, condemned, etc. from 1890–1980, and the *Mercantile Navy List* (1857–1940 and 1947–1977), a compilation of the British-registered merchant vessels published for the Registrar General of Shipping and Seamen. If a vessel of interest was broken up between 1890 and 1946—rather than wrecked, sold, or renamed—the *Registrar General's Monthly Returns* provides statistics for each month, as well as lists of vessels added to or removed from *Lloyd's Register of Ships* with explanations. The collection also has an impressive number of resources that focus on World Wars I and II. The Lloyd's Marine Collection also contains a number of archives not listed here.

National Maritime Museum. The National Maritime Museum (NMM) in Greenwich, England is a national repository for maritime history (www.port.nmm.ac.uk). The library holds some 100,000 volumes and 20,000 bound periodicals, as well as historic photographs, models, paintings, prints, drawings, weapons, atlases, historical journals, and the like. Ship plans are available by mail. However, the researcher must contact NMM for details. The NMM does not hold passenger lists.

The NMM keeps records on naval, merchant, fishing, and other vessel types from ancient times to the

present. The manuscript collection has crew lists and official logs for the years 1861–1862, 1865–1925 (published every ten years), and 1955, as well as application forms and certificates of competency for masters and officers between 1850 and 1926. The archives also include records of various ship owners and builders, including P&O and Denny of Dumbarton. The NMM website, *Collections Online*, provides a database of its available collections. The NMM electronic publication, *Journal of Maritime Research* (www.jmr.nmm.ac.uk), is also highly recommended. This site provides extensive links and researchers are encouraged to review the site personally.

Public Record Office. The Public Record Office (PRO, www.pro.gov.uk) is the national archive for the government papers of England and Wales. In general, the shipping records for the southern U.K. have been consolidated in the PRO in London. These records span a period from the eleventh century to the present day. The PRO does not contain public records for Scotland, Ireland, or Northern Ireland. For Scotland, contact the General Register Office (www.gro-scotland.gov.uk) or the National Archives of Scotland (www.nas.gov.uk); for Eire, contact the National Archives of Ireland (www.nationalarchives.ie); and for Northern Ireland, contact the Public Records Office of Northern Ireland (proni.nics.gov.uk).

The PRO publishes leaflets to inform researchers on the background, condition, and availability of resources (www.pro.gov.uk/catalogues/leaflets.htm). A selection of leaflets that might be helpful to researching vessel history include: *Admiralty Charts*; *Births, Deaths and Marriages at Sea*; *Royal Marines*; *Merchant Seamen*; *Royal Navy*; *Navy: Log Books and Reports of Proceedings*; *Ships Passenger Lists*; *Ships Wrecked or Sunk*; and *Titanic*. The PRO has an online catalog, called PROCAT (catalogue.pro.gov.uk). The eight million documents cataloged at this site are organized by creating department, such as the Board of Trade, the Ministry of Defense, etc. Documents can be ordered on-line, for a fee, and the site does include documents archived outside the PRO office in London. The U.K. government portal (www.ukonline.gov.uk) provides links to locate information for England, Scotland, Northern Ireland, and Wales. The site is an excellent resource for those trying to find official documents from less well-known departments.

The British Library. As the national library of the U.K., the British Library holds some 150 million items, including one of the world's finest collections of printed and manuscript maps, Western and Oriental manuscripts, patent specifications, and conference proceedings. The British Library online catalog is at www.bl.uk/catalogues/blpc.html. Researchers are encouraged to review the information at www.bl.uk/resorschol.html for further details on accessing materials. While there is some historical and supporting information available at the British Library, most of the nautical and maritime collections have been relocated to the National Maritime Museum or the Public Records Office. For example, the Oriental and India Office Collections at the British Library still contain a series on maritime

officers, as well as nine thousand logs and account books (with crew lists) of Asian voyages between 1601 and 1833. Also the Bombay Marine and Indian Navy personnel and history from 1750–1947 remains at the Library, so researchers are encouraged to review the collection most pertinent to their research.

University Libraries. The Cambridge University Library (www.lib.cam.ac.uk) and the Bodleian Library, located at Oxford University (www.bodleian.ox.ac.uk), as well as other academic libraries in the U.K., contain excellent resource material. For example, the Cambridge Library has the Templewood Papers, containing the minutes of Adolf Hitler's Führer conferences on naval affairs (1939–1945), a sixteenth-century map of Zeeland, and two of the sketchbooks from *HMS Beagle*. They also provide CD ROMs like "Shipfinder," an electronic index to the Register of Ships. Many of these resources were not forwarded to the National Maritime Museum, as they are private collections on perpetual loan or specifically willed to the University, so they cannot be transferred. Collections such as these should not be overlooked as a valuable maritime resource.

Ministry of Defense (Navy) Hydrographic Office—Wreck Section. The Hydrographic Office of the Ministry of Defense (UKHO) keeps a register of wrecks in the U.K., and many overseas, coastal waters. While the register dates mainly to post-1913, it does contain earlier known wreck sites. If the vessel being researched has a known wreck location, the best source for information is the nearest county or shire archives and publications regarding the wreck. The Hydrographic Office maintains a computer index of wrecks. For more details, go to www.hydro.gov.uk/wrecks.html. Researchers are also encouraged to look into the UKHO Archives (www.hydro.gov.uk/archive.html). The archives contain navigational surveys and charts (dating from the seventeenth century), printed books and atlases (dating from 1528), as well as the surveys of James Cook, Philip Parker King, Greenville Collins, William Bligh, Murdoch MacKenzie, Matthew Flinders, and Francis Beaufort. The office also has atlases, maps and charts by Speed, Smyth, Jefferies, Des Barres, Seller, Ortelius, and Waghenaer. The UKHO assesses charges for research and reproduction.

Society for Nautical Research. The Society for Nautical Research publishes *The Mariner's Mirror* and a quarterly newsletter. The Society also supports a Maritime History Virtual Website (pc-78-120.udac.se:8001/WWW/Nautica/Nautica.html). This "virtual archive" provides links to sites containing maritime bibliographies, ship building and naval architecture, seamanship, duties and health of officers and men, as well as maritime and naval history, among others. A researcher hoping to locate historical information for background is encouraged to review this archive.

Historical Manuscripts Commission. The Historical Manuscripts Commission (www.hmc.gov.uk) provides information on the existence, location, and nature of records to study British history. This Commission maintains the National Register of Archives and the Manorial

Documents Register. Both of these registers can be accessed via ARCHON, an on-line electronic directory. This catalog provides information on all repositories in the U.K., as well as all repositories throughout the world containing manuscripts noted in U.K. indices. The Commission also develops and publishes guides for researchers investigating archival material.

Maritime Museums and Museum Ships. In addition to the National Maritime Museum, the U.K. has over 270 maritime museums and museum ships. An alphabetical listing of these, by region, can be found at www.cus.cam.ac.uk/~mhe1000/marmus.htm. Choose the region you are interested in, then locate the county or shire (where appropriate) to find the local museum and/or museum ship. The National Register of Historic Vessels (www.nhsc.org.uk/nrhv) keeps three lists of vessels: those in the "Core Collection," those on the "Designated List," and those that are considered "historic." Core Collection vessels are over 13.7 m and were built in Britain before the end of 1945. The Designated List contains another 150 vessels considered historically important. The National Register now includes 919 vessels, with biographies and some photos.

Science and Technology Museums. The U.K. has an extensive collection of science museums dedicated to helping the public understand "the history and contemporary practice of science, medicine, technology and industry." The National Museum of Science and Technology (www.sciencemuseum.org.uk/collections/index.asp) provides, among other resources, information on marine engineering, marine and industrial equipment, as well as scientific and technical records. Details on borrowing materials from the Science Museum Library and/or the Science & Society Picture Library are contained on the website.

Specific Information Sources

The sources reviewed in this section provide detailed information on certain classes or types of historical vessels (especially in the nineteenth and twentieth centuries) that can only be retrieved from specific locations. Librarians, archivists, and professional historians are knowledgeable, helpful, and proud of their collections. They should not be overlooked as a valuable resource in recovering specific historical vessel information.

Naval Vessels. If the vessel under investigation belonged to the Royal Navy, the Royal Naval Museum Manuscript Collection (including the Admiralty Library) and the Imperial War Museum are recommended. Unfortunately, these collections are only available for research in person and an appointment must be made with the curator before access is granted. The Royal Naval Museum Manuscript Collection focuses on the social and operational history of the Navy from 1780–2000. More information is available at www.royalnavalmuseum.org/

permanent_collections/manuscript_collection/manuscripts.htm. A guide to the materials is available by mail. The Admiralty Library focused on exploration and hydrography from 1809 to the present, including some manuscripts recently transferred from the UKHO. The collection is being relocated to the Royal Naval Museum in Portsmouth, and a catalog of materials will soon be available at the website listed above.

The collections in the Imperial War Museum focus on the naval history of the two world wars in the twentieth century. The new online "At Sea" collections may be particularly useful (www.iwmcollections.org.uk/atsea). The Collecting Group, located at www.iwmcollections.org.uk provides a wide variety of materials. Directions for accessing the various collections are included on the website and vary based on the curators' preferences. See the website for further details.

On-line books, such as *Ships of the Old Navy*, by Michael Phillips, (www.cronab.demon.co.uk/INTRO.HTM) provide a detailed resource for naval vessels. This book gives an anecdotal history of some naval vessels' voyages, actions, and people (1780 to 1840). The source also includes some commercial vessels hired for service as warships.

Local naval research societies, such as the Liverpool Nautical Research Society (www.cronab.demon.co.uk/lhrs.htm) regularly publish naval documents. This society also publishes a quarterly bulletin, as well as a variety of manuscripts. They are also available by e-mail (mersey_maritime@hotmail.com) to answer questions regarding all aspects of maritime history, especially naval history.

Arctic Exploration Vessels. The Scott Polar Research Institute (www.spri.cam.ac.uk), located at the University of Cambridge, houses "the world's most comprehensive polar library and archives." The archives include documents from the Franklin expeditions and Captain Scott's Antarctic expeditions. The Thomas H. Manning Polar Archives contain items of Antarctic interest, including all parts of the continent and islands, as well as Arctic regions, specifically the exploration of northern Canada, Greenland, and Svalbard. The Institute also holds a collection of artifacts, paintings, drawings, photographs, and other material. These collections are available for research in person or at www.spri.cam.ac.uk/resources. The archive provides a "timesaver" service. If you are planning to visit and have limited time, you can request this service for seventy-five U.S. dollars per day. The library will provide you with a reserved desk, a bibliography of up to one hundred records, publications brought to your desk, and free photocopying by staff (up to fifty A4/letter size pages per day). Additional services can be arranged. If you are interested in unpublished information, you can contact the SPRI Archivist (archives@spri.cam.ac.uk) for an appointment to view documents.

Immigration and Slave Vessels. The National Archives of Ireland Transportation Records Database (www.nationalarchives.ie/search01.html) provides information on convicts transported from Ireland to Australia between 1788 and 1868. Their collections also include records of convicts' families transported as free settlers. An index is available on-line. Of particular interest to the maritime researcher would be the transportation registers, giving some information on the vessels used to carry convicts to Australia.

The Merseyside Maritime Museum provides information on merchant vessels carrying slaves (www.liverpoolmuseums.org.uk/maritime/index.asp). Liverpool served as homeport for many slave ships and several of its prominent families were heavily involved in the slave trade. Today, in addition to an impressive library, the Merseyside Maritime Museum houses the Transatlantic Slavery Gallery and hosts a website providing a tour of sites related to slavery in Liverpool.

Ship Building History. Local museums and archives provide plans and reports from the ship building yards. For example, the Merseyside Maritime Museum provides information on local merchant shipping, in-shore fishing, wrecks/archaeological sites, naval actions, shipping companies, ship building, etc. in their area. Details and ordering instructions can be found at www.liverpoolmuseums.org.uk/maritime/archives.asp. If the vessel was built in the Newcastle region, the Tyne and Wear Archives Department (www.thenortheast.com/archives) in Newcastle-upon-Tyne may have additional information. These archives contain records as diverse as the North East Coast Institution of Engineers and Shipbuilders, the North of England Shipowners Association, South Shields Marine College, and Sunderland Pilotage Authority. The Tyne and Wear Archive also holds records from local ship builders and owners, such as R & W Hawthorn, Leslie & Company Ltd., Swan, Hunter Shipbuilders Ltd., Stag Line Ltd., and Hall Brothers.

Local dockyard societies provide another resource. The Chatham Dockyard Society possesses the transactions of the Royal Institute of Naval Architects. For a more complete listing of U.K. maritime museums and dockyard societies, see pc-78-120.udac.se:8001/WWW/Nautica/Museums/mmeugb.html. A list of building yards for naval vessels is located at www.cronab.demon.co.uk/info.htm#build. This site, containing changing place names in the Adriatic, Greece, and Turkey over the last 150 years, might also be helpful in local research (www.cronab.demon.co.uk/info.htm#place).

Shipping Company History. Information on shipping companies in the U.K. tends to be held in local archive repositories, rather than the Public Record Office. In researching a historic vessel, often locating the name of the shipping companies that built or operated the vessel can provide excellent background information. The National Register of

Archives directs researchers to the appropriate local archive for the shipping company of interest.

Registry of Shipping and Seamen. Located in Cardiff, Wales, this office can be reached by phone (029) 2074-7333. The collection contains records of ordinary seamen (1870 onwards), as well as records of officers (1913 onwards), births and deaths at sea (1891 onwards), crew lists (1979-1990) and an index to ships' official numbers. Unfortunately, this resource is not yet available on-line. See www.rootsweb.com/~willbig/RevFiles/v5n5r5.htm for details on ordering the published resources. If you are interested in passenger and/or crew lists, it is advisable to review the following website, organized by time period (www.cityoflondon.gov.uk/leisure_heritage/libraries_archives_museums_galleries/assets/pdf/pb_passenger_crew.pdf). The site includes information on crew lists (1747-present), merchant seamen lists (1835-present), births, marriages, and deaths at sea (1854-1964, with some gaps), and passenger lists (1890-1960).

Online Guides to Maritime Research. Some websites provide helpful advice to researching maritime history online. For example, Peter McCracken, a Reference and Instructional Librarian with the University of Washington Libraries, hosts a site specifically tailored to maritime research (ils.unc.edu/maritime/shipsrch.shtml). Public entities such as the Public Record Office and the National Maritime Museum both give helpful advice in their leaflets sections.

Merchant Marine, Navies, and Mariners. This fascinating website (www.mariners-l.co.uk) provides resources and information on the Merchant Marine and Navy of the U.K., the United States, Canada, Norway, Denmark, Australia, New Zealand, the West Indies, Germany, and Finland. This eclectic resource includes alphabetical listings of Liberty Ships, as well as merchant vessels in the service of the East India Company (1601-1832). There are links to Australian mariner lists and an international list of World War I shipbuilders. While the site is a gold mine of information, the organization is difficult to master.

In conclusion, the resources available in the U.K. provide a rich collection of maritime information. This report merely begins to orient the researcher to the extensive collections and information available. Given the present trend to make these resources available on the Internet, it is likely that future generations will have even more information available.

Acknowledgments: Thanks to Jim Kemp, Richard Sadler, Emma Taafe, and Barbara Jones, with Lloyd's of London, as well as Abi Husainy of the Public Record Office, for their assistance, as well as Daren Swanick, who assisted in the research. Finally, I would like to gratefully acknowledge the assistance of countless librarians, historians, researchers, and archivists who generously gave of their time and expertise. Their work made this paper possible. ∞

The Ninth International Conference on Graeco-Oriental and African Studies

The city of Neapolis, Laconia, in southern Greece hosted the Ninth International Conference on Graeco-Oriental and African Studies, June 26–30, 2002. It was organized by the Greek Institute for Graeco-Oriental and African Studies in collaboration with the Rand Afrikaans University of South Africa, under the auspices of the Greek Ministry of Culture.

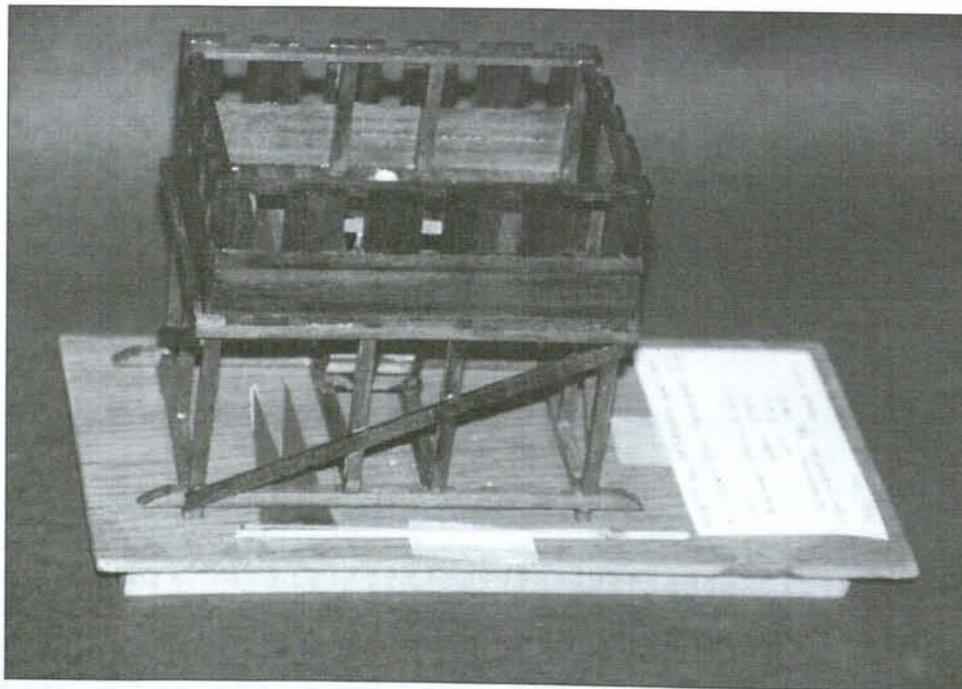
Twenty-five papers were presented on the general topic "Navigation and Seaports in the Eastern Mediterranean (Seventh to Seventeenth Centuries A.D.)." Presenters included scholars from ten countries in Europe, the Near East, Africa, and North America. These included representatives from Princeton University, the Vienna Academy of Sciences, and the Universities of Sorbonne, St. Petersburg, Cairo, and Rand Afrikaans.

A number of papers dealt with naval warfare. V. Christides discussed "The Raids of the Arabs in Cyprus according to the Fourteenth-Century Egyptian Chronicler Ibn Manqali." The early raids ended with a treaty of neutralization that made Cyprus a demilitarized zone from the middle of the sixth century to 965 CE. C. Makrypoulas treated "The Protection of Sea Lanes of Communication in the Aegean (Ninth to Tenth Centuries)."

Other papers thoroughly discussed ancient geography, maritime trade, and particularly the function of ports. C. E. Bosworth spoke on "Wasit: The Rise and Disappearance of a Great Islamic City," while J. Desanges explained "Traces of Hannon's *Periplus* in Ptolemy's *Geography*." Reproduced sheets from an as yet unpublished cosmographic manuscript by Abu al-Fida were presented at the end of a lecture by O. Frolova on the passages concerning the Caspian Sea from that work. R. Gertwagen addressed the question, "Does Naval Activity, Military and Commercial, Need Ports?" while R. Margariti spoke on the medieval port of Aden and its role as a center of maritime shipping in the Indian trade. A. Matveev discussed the Italian trading cities' struggle for hegemony in Mediterranean international sea trade.

Ships themselves were not ignored. D. Dimitoukas presented on "The Types of Merchant Ships According to Documents from the Monastery of Patmos in Greece," and the Congress was followed by an exhibition of medieval Byzantine and Arab ship models. A team of experts headed by C. Kaniadakis and C. Simonides constructed a replica of the ninth-century Byzantine warship known as the *dromon*. This was based on a special study prepared by V. Christides and A. Tantoulos, which collected iconographic and literary evidence from Byzantine and Arab manuscripts. This demonstrated that the *dromon* corresponded to the Arab warship *shini*. Since the scarcity of representations of the *dromon* is well-known, it is of particular interest that pictures, including the replica, will appear in the July 2003 issue of the Greek edition of *National Geographic Magazine*. The acts of the Congress will be published in Volumes 9 and 10 of *Graeco-Arabica*. ❧

George K. Livadas



Reconstruction of the wooden castle (*xylocostron*) of the *dromon-shini*.

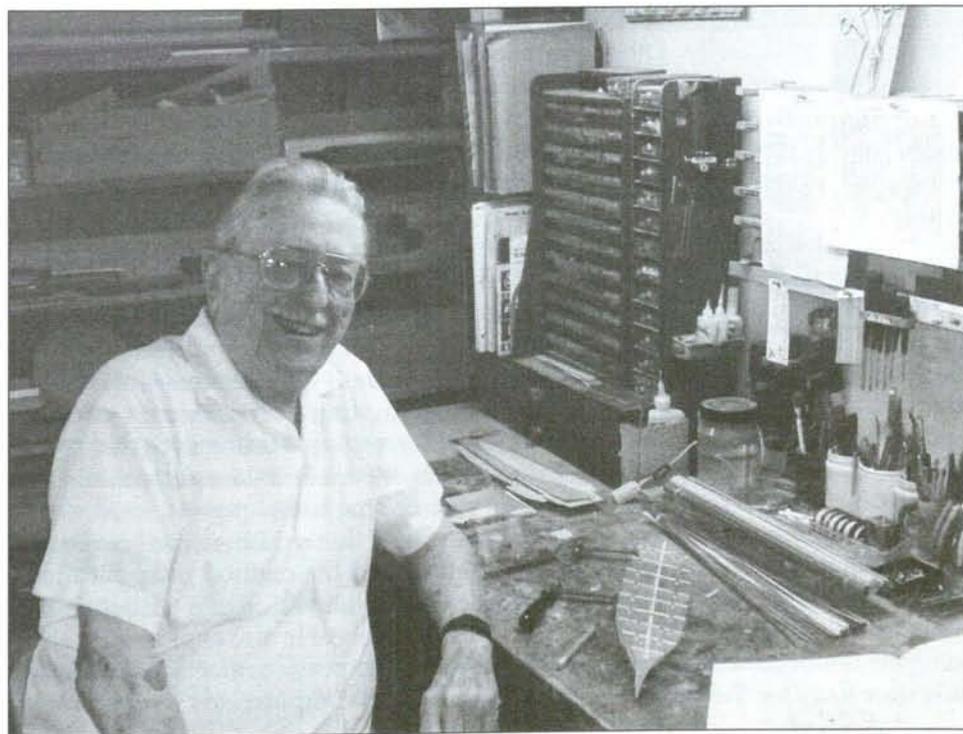
The Horse Ferry Model

A Donation to the Institute of Nautical Archaeology

In March of 1991, when INA's study of the Lake Champlain horse-powered sidewheel ferry wreck was still in its early stages, I received a letter from Mr. Harold H. Patton, a ship model maker from San Rafael, California. "I was excited about the modeling possibilities of the fascinating Burlington Horse Ferry," Mr. Patton wrote after seeing an article about the project in *Seaways* magazine. This proved to be the start of a lengthy correspondence and exchange of research notes between us. Because the archaeological reconstruction of the ferry was in its early stages, Patton worked largely from the field measurements and drawings. His model-making provided an important reality check to my work, in effect testing out various assembly hypotheses to see if they were practical. His frequent letters commenting upon the model's progress forced me to re-think several key features and greatly assisted the archaeological analysis.

Twelve years after the start of our collaboration, Mr. Patton has very generously donated the completed model, with its attractive display stand, to INA and Texas A&M University. The horse ferry is now exhibited in the New World Seafaring Research Lab on the first floor of the Anthropology Building, where it forms the centerpiece of a display on the history and archaeology of these unusual boats. Visitors to INA's College Station headquarters are encouraged to visit the laboratory and see Mr. Patton's fine model. ✨

Kevin Crisman



Mr. Harold H. Patton, the ship model maker, at work in San Rafael, California. His beautiful and meticulous model of the Horse Ferry is on display at INA's College Station headquarters.

Just Released

by Christine Powell

Archaeological Conservation Using Polymers
by C. Wayne Smith

College Station: Texas A&M Press, 2003
ISBN 1-58544-217-8, 192 pp, 85 b&w photos, 49 tables, bibliography, index. Price: \$39.95 cloth, \$19.95 paper.

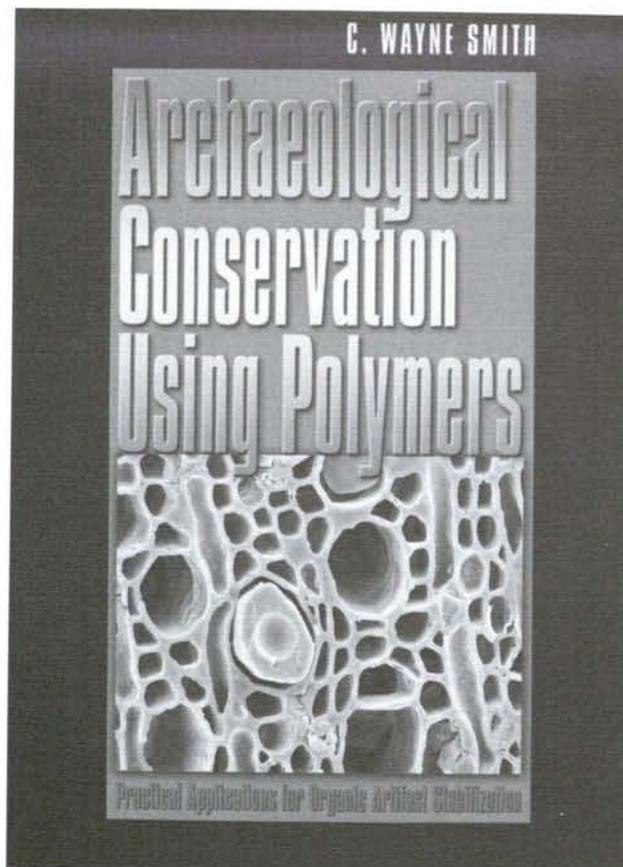
Dr. Wayne Smith is an INA Fellow, Associate Professor of Nautical Archaeology, and Director of the Archaeological Preservation Research Laboratory at Texas A&M University. His work toward the development of improved methods of archaeological conservation have led to the first three patents ever awarded in the Department of Anthropology. In this book, he describes these revolutionary contributions to the science of conservation. Perhaps more importantly, he offers insights on the *art* of conservation—the skills that determine how best to apply the science to a particular artifact.

Conservation is sometimes considered the stepchild of archaeology. It is considerably less glamorous and publicized than exploration, excavation, or even museum display. However, a moment's reflection shows that there is no point in archaeological excavation unless the artifacts that are recovered can be preserved for exhaustive study. Otherwise, excavation is no more than an act of vandalism that irrevocably destroys a site with all the information it contains. Even treasure hunters do better than that. The disruption of a site that has been keeping its contents together for centuries or millennia can be justified only if the key items and the information they embody can be preserved for study. That requires conservation techniques that preserve the maximum amount of the original information for the maximum time possible. The methods described in this book are a significant step forward.

The almost unprecedented number of organic artifacts from La Salle's flagship, *La Belle*, posed a challenge to traditional conservation methods. They demanded a cost effective means of safely preventing the deterioration or loss of these irreplaceable items. Dr. Smith had been disappointed with the long-term reliability of the traditional methods, such as polyethylene glycol (PEG). With the cooperation of Dow Corning Corporation and the Conservation Research Laboratory at A&M, he developed new, reliable means employing reactive silane cross-linkers and carbonol or silanol polymers to penetrate the cell walls, followed by the introduction of a catalyst. After a curing period, the organic material is held together and supported by what amounts to a silicone plastic framework that passivates the artifact by preventing water from further attacking the material. The results are likely to be substantially more "natural" in appearance and feel than artifacts conserved with PEG or other traditional techniques.

The bulk of the book is a collection of case studies showing how this technique can best be used in archaeological conservation. Variables such as the choice of treatment materials and the method of application are explored in an effort to communicate how a conservator might best approach the preservation of a particular artifact. Dr. Smith devotes chapters to wood, leather, cordage and textiles, and ivory and bone. He also explores the applications of passivation polymer technology to nonorganic materials such as glass and composite artifacts that include metal parts. A final chapter explores other new tools for the conservation tool kit, such as computerized tomography and the stereolithographic process.

Throughout the book, Dr. Smith offers a first-hand description of how to apply the passivation polymer technique to real-world artifacts. The writing is clear but practical, more like a cookbook than a novel, which is an appropriate approach to the subject. The text is elaborately illustrated with pictures and tables. This is a "must have" book for anyone involved in archaeological conservation. It is not an exaggeration to claim that silicone treatment has the potential to completely alter the entire practice of the discipline. ❧



Just Released

by Christine Powell

The Plenum Series in Underwater Archaeology

J. Barto Arnold III, INA's area Director of Texas Operations, is the General Editor of a series of nautical archaeology texts from Kluwer Academic/Plenum Publishers of New York. The series is intended to meet the increased interest of the public in our discipline. It seeks to provide materials for three distinct audiences: the academic student of archaeology, the professional archaeologist, and the avocational diver who wishes to participate in professional surveys or excavations. Three 2003 publications in the series cover wide-ranging aspects of nautical archaeology.

The Life and Times of a Merchant Sailor by Jason M. Burns

On August 7, 1894, the Norwegian full-rigged ship *Catherine* ran aground on Santa Rosa Island near Pensacola in the Florida Panhandle. The history of the ship parallels the changes in its industry during the late nineteenth century. It was built in 1870, at almost the end of the golden age of Canadian shipbuilding when the development of iron and steel hulls had decimated the demand for wooden ships. Soon thereafter, it was sold in Liverpool and served in the British Merchant Marine for twenty years. It was a "tramp," travelling around the world with cargoes of opportunity, rather than following a prescribed route. Steamers increasingly took over the more valuable trade routes during these two decades, but it was still profitable to use sail for bulk cargo such as coal, grain, and fertilizer.

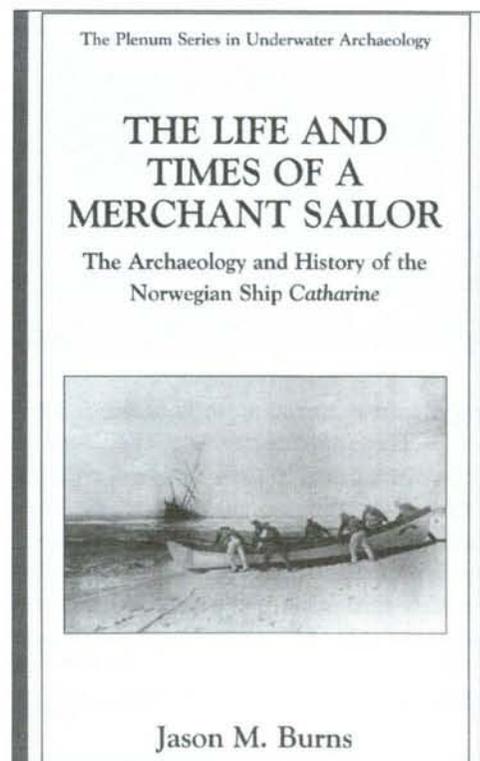
Norway built the third largest merchant fleet in the world, chiefly by using its experienced seamen to wring the last available profit out of tramp sailing ships that the rest of the world considered obsolete. It was not surprising, then, that *Catherine* ended her days under Norwegian ownership from 1890-94. Norway specialized in the timber trade and dominated shipping from the lumber mills of Pensacola, where the ship was heading on its last voyage.

Although the shipwreck is close inshore near a major city, it is generally covered in part or entirely by the shifting beach sands. Substantial remains still exist on the site. A complete 1998 survey thus provided valuable information about the construction, repairs, and condition of an elderly tramp sailor in the 1890s. Artifacts were collected in that season and in the following year that also illuminated the twilight years of the Age of Sail. This book combines the conclusions of a historical study of *Catherine* and its context with the archaeological analysis of the hull and artifact finds. While there are no startling conclusions, this is a solid professional study that will provide valuable data for anyone who is interested in this period.

2003 ISBN: 0-306-47389-5, 113+xiv pp, 21 b&w illustrations, 3 appendices, references, bibliography, glossary, index. Price: \$75.00 cloth.

Material Culture and Consumer Society by Mark Staniforth

This book focuses on the interpretation of meaning in the analysis of the material culture of early colonial Australia. It argues that the study of material culture remains found at shipwreck sites needs to be placed within a con-



The Plenum Series in Underwater Archaeology

MATERIAL CULTURE AND CONSUMER SOCIETY

Dependent Colonies in
Colonial Australia



Mark Staniforth

sciously self-reflective context of sound theory and reliable historical research. The author feels that archaeology, including maritime archaeology, needs to move beyond merely describing artifacts and determining their function. It must continue by investigating their meaning for the culture that used them. Instead of stopping with the answer to, "What was it?" archaeologists need to be asking "Why did people need them?"

Dr. Staniforth investigates the findings from several colonial shipwrecks between 1797 and 1853 near Port Jackson (Sydney), Port Phillip (Melbourne), and the Swan River Colony (Fremantle and Perth). These reveal that a high priority for the colonists was to maintain continuity with the life they had left behind. The colonies could produce most of the basics for everyday life, but not the additional items to make life worthwhile. Many of the wrecks contained building materials for English-style homes, domestic ceramics for breakfast, tea, and dinner, alcoholic beverages, tobacco, toiletries, and even copper plates for printing calling cards. These items were not necessary for physical survival in the new land, but may have been essential in providing meaning to sustain the psychological survival of the colonists. The merchants who selected goods for shipment knew what sorts were "suitable" for people like themselves.

These material findings reflect the reality that Australia, like British North America (Canada), did not regard itself as an independent society during the colonial period. Even after Australia achieved responsible self-government in 1901, it remained culturally dependent on the Mother Country for decades. Indeed, it is still dependent on world trade for many

important material aspects of the Australian way of life.

The quantity, variety, type, and quality of food, drink, and other consumer goods being imported into Australia at any one point in time can be compared with other collections to provide an overview of the continuity and development of the new consumer society. Because they constitute a sealed assemblage with an exact, determinable deposit date, shipwrecks provide more focused data than could be discovered in any other way, although historical research, terrestrial archeology, and museum collections must supplement the limited number of wrecks. All these sources can provide material for the detailed analysis of material culture and its associated meanings. This book provides a starting point for this analysis with applications far beyond the local Australian setting.

2003 ISBN: 0-306-47386-0, 185+xv pp, 19 b&w illustrations, references, bibliography, index. Price: \$75.00 cloth.

Submerged Cultural Resource Management

by James D. Spirek and Della A. Scott-Ireton

This volume is a collection of papers from a January 2000 symposium in Québec City on "Preserves, Parks, and Trails: Interpreting our Sunken Maritime Heritage." It explores some of the ways in which archaeologists, preservationists, and resource managers have coordinated their efforts to encourage public access to interpreted resources underwater or in the intertidal zone. There are several aims for this partnership. First, of course, is public education and the associated sense of "ownership" that will contribute to the preservation of these irreplaceable resources. However, the economic development of the host community through tourism is not an insignificant objective, particularly since this revenue stream helps guarantee continued protection, preservation, and research. In these times of declining state budgets, such revenues are increasingly desirable if our cultural heritage is not to be lost.

The symposium was organized by Florida's state underwater archaeologist, Dr. Roger C. Smith, a 1981 graduate of the Nautical Archaeology Program at Texas A&M University. INA Adjunct Professor Arthur B. Cohn contributed a

paper on "Lake Champlain's Underwater Historic Preserve Program: Reasonable Access to Appropriate Sites." Other contributors discuss programs in California, Michigan, Canada, Maryland, North Carolina, Scotland, Florida, Australia, and South Carolina.

One concludes from reading these papers that there is no single way to develop a successful program for managing underwater cultural resources. As Mr. Cohn's title suggests, the key is in determining which sites are appropriate for public access and what level of access is reasonable for each separate site. The answers may dictate approaches ranging from almost unrestricted sport-diver access to merely providing brochures describing completely closed sites. The only real limit is the creativity of the people who develop the program. These papers prove that there are some very creative persons in this field.

Consequently, the book should probably be required reading for the officials and agencies around the world that are charged with responsibility for managing the submerged cultural resources of their respective jurisdictions. It will provide them with a remarkable list of suggestions for making their own task easier. The book should also provide a valuable resource for the archaeologists, historians, and preservationists who find themselves in the position of lobbying their government for appropriate policies and the funds to carry them out.

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The Plenum Series in Underwater Archaeology

SUBMERGED CULTURAL RESOURCE MANAGEMENT

Preserving and Interpreting
Our Sunken Maritime Heritage



James D. Spirek and Della A. Scott-Ireton

IN MEMORIAM

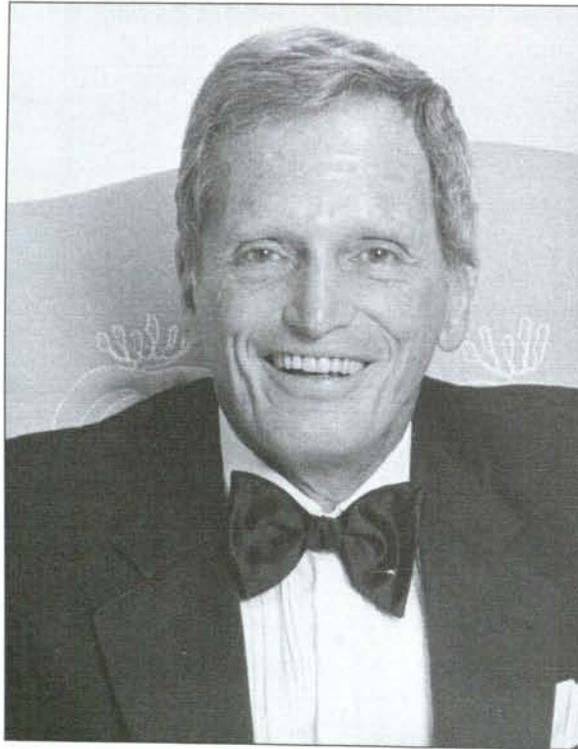
Marilyn H. Lodge 1937-2003

Marilyn H. Lodge, sixty-six, the wife of INA Associate Director George Lodge, died Feb. 15, 2003, at an Irving, Texas, hospital. She was born in Philadelphia and married Lt. George W. Lodge, U.S. Army, July 23, 1955, in Bad Nauheim, West Germany. Mrs. Lodge was a homemaker and retired travel consultant. She was a member of Woodhaven Presbyterian Church, International Association of Travel Agencies,

American Society of Travel Agents, and Cruise Lines International Association. In addition to her husband, her survivors include a daughter, Lynne Anne L. Moore of Charleston, S.C.; sons and daughters-in-law, Stephen W. Lodge Sr. and Cathy of Truckee, Calif., Tracy E. Lodge and Dana of Shady Shores, Texas; daughter and son-in-law, Sharon and Randy K. Douglas of Redondo Beach, Calif.; and seven grandchildren. ☞

IN MEMORIAM

Harry C. Kahn II
1915 – 2003



Longtime Institute of Nautical Archaeology Director Harry C. Kahn II, eighty-eight, died May 4, 2003, at his home in Gwynedd Valley, Pennsylvania. Mr. Kahn, a scuba enthusiast, was a supporter of nautical archaeology for many years. He contributed to the work of the University of Pennsylvania Museum of Archaeology and Anthropology, and was present for the first INA Board Meeting in 1973. Mr. Kahn's generosity assisted many valuable projects, recently including the INA Headquarters in Bodrum, Turkey, and the Black Sea Trade Project. His interests also included anthropology and history.

Mr. Kahn served on a regional board of directors of the Explorers Club and was named the Philadelphia chapter's 1988 Explorer of the Year. At the age of 80, he participated in an expedition to Ethiopia's remote Omo River Valley, where he helped document the early Christian churches carved into the surrounding mountains. The Explorer's Club again named him as Explorer of the Year in 2002.

A graduate of Central High School in Philadelphia, Mr. Kahn earned a bachelor's degree in business from the Wharton School of the University of Pennsylvania in 1934. After several years in the United States Navy, he joined the family business, a department store that he transformed into a furniture showroom. He was a pioneer in the 1950s with the gallery technique of displaying furniture in single-room settings. Over the years, he owned and operated a number of furniture stores and franchises. He also founded a firm that performed underwater ship repair and environmental cleanup. Mr. Kahn was elected to the Tri-State Furniture Association's Hall of Fame in 2001. His wife of thirty-two years, Joan Reidinger Kahn, said he favored design that was "cutting-edge and fresh, interesting and clean-cut."

Mr. Kahn is survived by his wife, and by sons Harry III and Jeffrey; a daughter, Deborah Kalas; and two grandchildren. Memorial donations may be made to the Institute of Nautical Archaeology. ☞

IN MEMORIAM

Samuel J. LeFrak 1918 – 2003

Samuel J. LeFrak, INA Director from 1987 to 1995 and father of current Director Francine LeFrak-Friedberg, died at age eighty-five on April 16, 2003, in New York. He was Chairman of The LeFrak Organization, one of the largest building and property management companies in the world. It is said that one out of every sixteen New Yorkers lived in one of his buildings, which focused on quality affordable housing. The company has built over 200,000 housing units in the metropolitan area. The firm was founded by his immigrant father, and Mr. LeFrak started at the bottom as a waterboy for the workers. He also founded the LeFrak Entertainment Company, which produces records, plays, musicals, television productions, and motion pictures. In that capacity, he helped to discover Barbra Streisand and was inducted into the Songwriter's Hall of Fame as a Patron of the Arts.

Mr. LeFrak shared his good fortune with the community as an extraordinary philanthropist, contributing hundreds of millions of dollars to worthy projects. He assisted many expeditions and organizations besides INA, helping to discover *Titanic* and the "Lucy" fossils in Ethiopia. He served as a trustee or director of the Guggenheim Museum, Metropolitan Opera, and many other cultural or educational organizations. He also en-

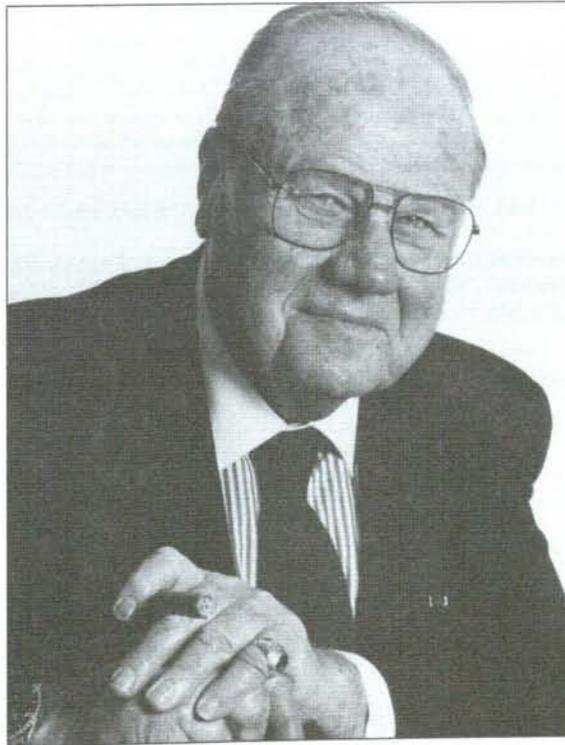
hanced many museums around the world with the loan of items from his personal art collection.

He was a graduate of the University of Maryland, and it was here that Mr. LeFrak met his wife. He had originally intended to become a dentist, but built his first

apartment building while still an undergraduate. He was eventually awarded honorary doctorates by his alma mater and by Pratt Institute, New York Law School, Colgate University, Michigan State University, Queens College, and St. John's University. He often lectured at major institutions, including Harvard, Yale, Princeton, and Oxford. He founded the Albert Einstein School of Medicine. Mr. LeFrak served six Presidents, seven Governors, and eight mayors on a wide range of local, regional, and national commissions and task forces. His fame was international, as he also held six knighthoods awarded by a variety of sovereigns. In 1994, the United Nations presented him and his wife,

Ethel Stone LeFrak, with a "Distinguished Citizens of the World" award.

Mr. LeFrak is survived by his wife, a son, Richard, three daughters, Denise LeFrak Calicchio, Jacqueline LeFrak Kosinski, and INA Director Francine LeFrak-Friedberg, five grandchildren, and two great-grandchildren. ❧



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