

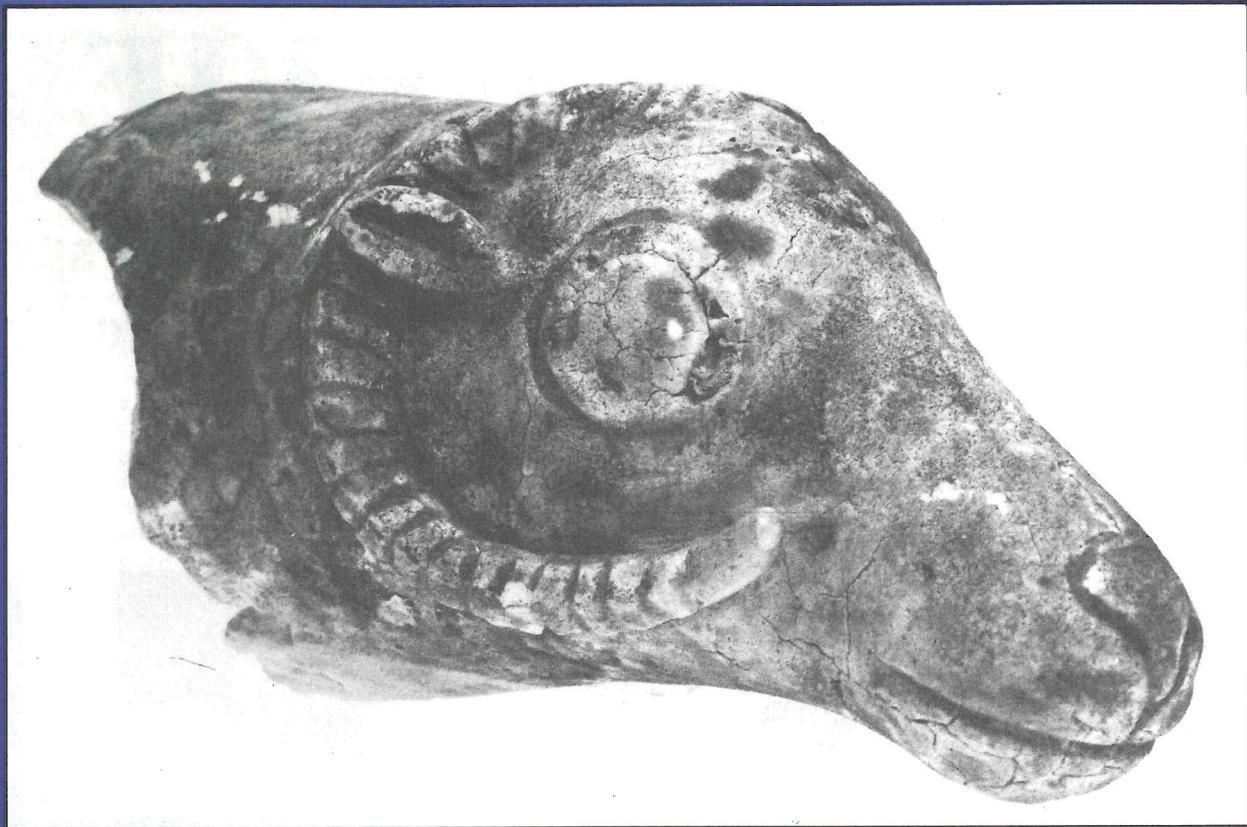
# INA NEWSLETTER

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## Bronze Age Legacy



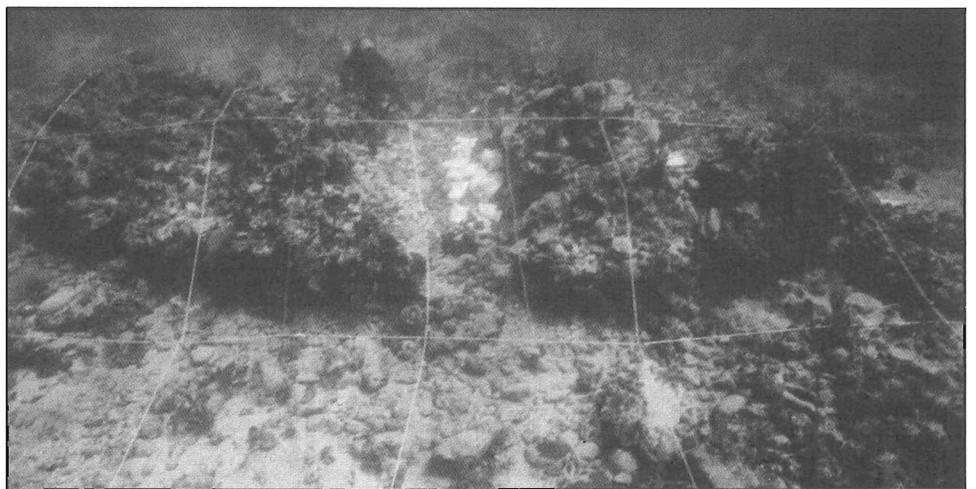
An ancient drinking cup  
from the shipwreck at Ulu Burun



# '86 IN REVIEW

Research by staff and students spans  
31 millennia of maritime enterprise

By KC Smith



**The oldest shipwrecks** of the Old and New Worlds are curiously dissimilar in configuration. The 14th-century B.C. site at Ulu Burun (top) is deep, distributed over a wide area, and laden with artifacts. The site at Highborn Cay (bottom), one of two preeminent wrecks which INA has excavated in the Western Hemisphere, is small, compact, and relatively devoid of artifacts because of previous salvage operations. (Photos: Robin Piercy, KC Smith; cover, Ulu Burun, Kaş Project; cover design, after *Archaeology Magazine*)

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During 1986, INA researchers reached backward in time to the oldest known shipwrecks of the Old and New Worlds, uncovering additional evidence about Bronze Age seafaring in the 14th century B.C., and unearthing new details about early Iberian forays in the Western Hemisphere during the Age of Exploration. No less significant during the year were other projects by INA staff and Texas A&M nautical archaeology students, whose investigations spanned maritime enterprise from the 4th century B.C. to the 17th century A.D.

## INA Research in the Old World

### The Bronze Age Wreck

More than 500 hours of dive time, at depths ranging from 140 to 180 feet, were logged during a three-month field campaign on the Late Bronze Age shipwreck at Ulu Burun near Kaş, Turkey. Led by Project Director George F. Bass and Assistant Director Cemal Pulak, a team of nearly twenty individuals participated in the third season of research on the oldest shipwreck ever excavated, dating to the end of the 14th century B.C. Working from a camp perched amid rocky cliffs at water's edge, and from the Institute's research vessel, *Virazon*, anchored over the wreck, researchers had hoped to complete excavation of shallower areas of the site during the summer. However, this goal was not realized because of the amazingly rich deposits of artifacts encountered as they progressed, which required time-consuming recovery.

Among the more exceptional finds of the season was a gold scarab of Queen Nefertiti. Hypothesizing about its presence on the site, one scholar has suggested, among other explanations, that possibly the scarab was in the possession of an Egyptian official on a royal mission when the vessel sank. Other unique artifacts included two Near Eastern cylinder seals, one of which may have been recarved, dating originally to several centuries earlier; a nearly intact, faience rhyton—an ancient cup usually made in the form of an animal's head—this one, shaped like a ram; and an ivory-hinged, wooden diptych, an ancient writing tablet, the inner surfaces of which once had been coated with wax to record inscriptions.

In addition, gold jewelry and scrap gold, quartz and faience beads, lead fishing net weights, bronze tools and weapons, copper and tin ingots, stone balance-pan weights, stone anchors, hippopotamus teeth, ostrich eggs, ebony logs, and ceramic vessels were unearthed. These items augmented an artifact assemblage that already was the most spectacular complement of Bronze Age trade items ever found.

### The Turkish Survey

After fieldwork at Ulu Burun had ended, INA's yearly survey for shipwrecks along the Turkish coast was conducted by six staff members working aboard the *Virazon*. Based primarily on sponge divers' reports of cultural debris on the seabed, the annual search each fall has yielded a large inventory of submerged cultural resources for the Turkish government, and also has located several sites that the Institute has excavated, including the wreck at Ulu Burun.

Searching in coastal waters near Kaş, the 1986 survey team located a Late Medieval shipwreck that is both significant and enigmatic. The type of amphoras on the site is unique and undescribed, yet the jars are similar to examples found during an earlier INA survey on another, small-sized wreck nearby that dates from the same period. Because of their proximity and the uniqueness of their cargos, the two ships may represent local coastal traders that carried domestically made wares.

A second shipwreck, dating to the late 4th or early 3rd century B.C., was found off the southwest tip of Turkey near the ancient city of Knidos. Its presence had been suspected because of scattered debris located during a previous survey

along the dangerous point at Iskandil Burnu, a known ship-trap of antiquity. The actual wrecksite that eluded the earlier search was found last fall, bearing a large cargo of roof tiles. Only a few amphoras were present, but it was their discovery that excited the research team. The only other known, complete example of this amphora type had been discovered by INA during a 1984 survey in the Sea of Marmara. Archaeologists suspected then, but could not prove, that it had come from Knidos because of stamped marks on the handles. The small cache found in 1986 strengthens the association of this amphora style with the ancient city.

### The Bodrum Museum

Concurrent with the field operations, at the Museum of Underwater Archaeology in Bodrum ongoing studies on several other shipwreck collections continued under the direction of Dr. Fred van Doorninck. Housed with the Museum in a castle dating to the 15th century, INA maintains research facilities for shipwreck materials excavated in Turkish waters, including a conservation laboratory, wet storage for artifacts awaiting treatment, dry storage for conserved objects, and work areas where artifacts are cleaned, sorted and reassembled. Institute personnel based permanently at the Bodrum headquarters are joined each summer by staff and students, who conduct or assist various studies.

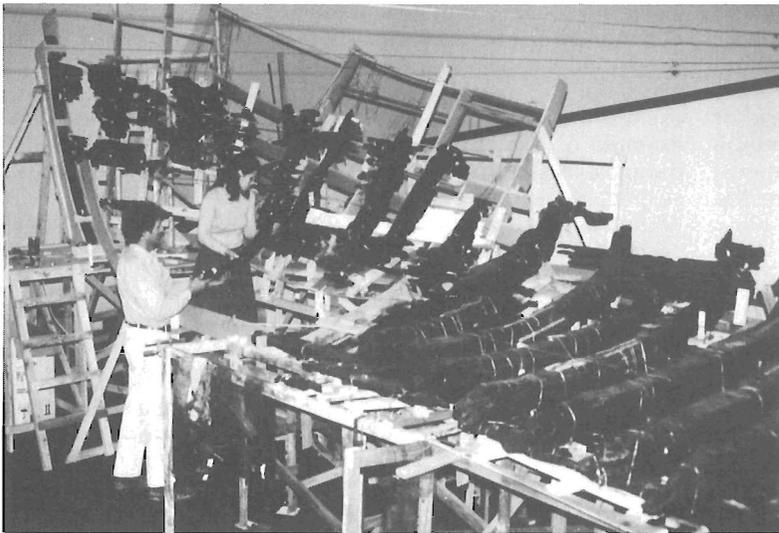
Among the ongoing projects that received attention in 1986 was the study and reassembly of Islamic glass remains from the 11th-century shipwreck at Sercç Liman, excavated by INA in 1977-79. More than one million shards were recovered from the "Glass Wreck," and from these, more than five hundred vessels, representing two hundred different shapes, have been reconstructed sufficiently for their profiles to be discerned. Much of this work has been accomplished by a crew of Turkish volunteers, supervised by Cemal Pulak.

Van Doorninck also resumed work on an ongoing project when he returned to Bodrum last spring. For four seasons he has been studying an assemblage of more than seven hundred amphoras recovered from two sites, the Glass Wreck and the 7th-century A.D. Yassi Ada Wreck. The ancient storage and transport jars are being examined for characteristics of style, form and graffiti that can aid the identification of their origin and date of manufacture. The older vessels from Yassi Ada, originally excavated nearly two decades ago, are being reevaluated in light of more recent evidence. Although representing different stylistic traditions, the two amphora sets are being researched simultaneously because many important reference materials are applicable to the investigation of both.

Despite their different origins, the amphora collections have manifested one feature in common: jars from each shipwreck had been recycled. This finding is of interest because conventional knowledge suggests that amphoras were not reused as transport jars in ancient times. According to van Doorninck, who will present a paper in Athens in April about this revelation, a measurable proportion of vessels from both sites bears evidence of continued use over a long period of time; and in some instances from the Sercç Liman Wreck, vessels literally had been "used to exhaustion."

### Ship Reconstruction

Characteristically, INA Ship Reconstructor J. Richard Steffy had a busy schedule last year that interspersed work on a text about his unique craft with numerous trips throughout the Mediterranean to further research on several projects. One long-term involvement came to fruition in the first half of the year, when *Kyrenia II*, a full-scale replica of the Classical Greek merchantman that Steffy reconstructed during the early 1970s and continued to study thereafter, was fitted out and made ready to participate in OPSAIL '86 on the Fourth of July. INA



*Sheila Matthews receives help from Robin Piercy with the reassembly of the Glass Wreck hull. Port Royal divers work from a barge anchored over the site, offshore of the project headquarters in the Old Naval Hospital. (Project staff photos)*

Vice President Michael Katzev directed the modern replication project, as he did the original shipwreck excavation.

By mid-summer Steffy was engaged in another study on a small, 2,000-year-old vessel called the Kinneret Boat. Saved last March from the rising tides of the Sea of Galilee (known locally as the Kinneret), the 8-m-long craft was raised under the direction of Shelley Wachsmann of the Israeli Department of Antiquities and Museums, who requested Steffy's assistance to interpret constructional details. The wooden hull now is being conserved, and a publication is in progress.

Steffy also travelled to the Bodrum Museum to check progress on the reconstruction of the Glass Wreck hull remains, which are being reassembled with his guidance by staff members Sheila Matthews and Jay Rosloff. According to Steffy, the work will be nearly complete in 1987. Ultimately, the reconstruction will be displayed in a special museum gallery with shipwreck artifacts, photographs, and a full-scale section model being prepared by Texas A&M nautical archaeology student Fred Hocker [see article, p.6].

## INA Research in the New World

### The Port Royal Project

The sunken city of Port Royal, Jamaica, continued to reveal its 17th-century configuration and components during the sixth season of excavation on the town that slid into the sea during an earthquake in 1692. Since the Port Royal Project began in 1981, more than one hundred students have been trained in underwater archaeological techniques during two-month summer field schools directed by Dr. D.L. Hamilton and sponsored jointly by Texas A&M University, INA, and the Jamaica National Heritage Trust.

The 1986 season, involving twenty-two students led by Hamilton and Assistant Jim Jobling, was characterized by continued digging on specific structures, and exploration of new areas that may be worked in the future. Excavation was completed of the feature called Building 3—a frame house of unknown function. Several units in Building 2 also were unearthed, and adjacent to this structure, a brick pavement or sidewalk was discovered, which may be the remains of a parade ground known to have existed in the vicinity. Another large expanse of brick paving was found near the old King's Warehouse, once situated at water's edge. Across historic Lime Street from Building 1, excavation of which was completed in

1984, a new feature was revealed, consisting of wooden beams and a pillar foundation, identified as part of frame house.

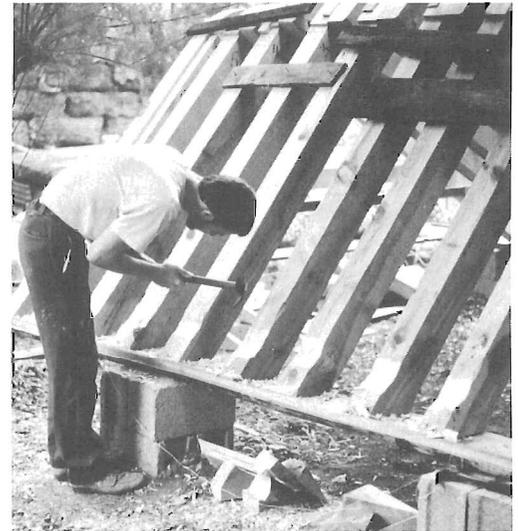
In addition to the fourteen 10x10-ft grid squares uncovered at the townsite, slightly farther offshore the submerged remains of Fort James, one of several bastions guarding the historic city's seaward exposures, were mapped and recorded, and a plan of the fort was begun. A magnetometer survey throughout the area revealed several anomalies, which will be investigated visually in 1987.

Amid the ubiquitous fragments of clay smoking pipes, onion bottles, and ceramic vessels recovered during the season, two unique artifacts were found. One was a brass apothecary's bowl, probably used for crushing and mixing medicinal compounds. The other was a Spanish gold coin stamp from Peru which, dating to ca. 1747, was deposited after the earthquake and is unrelated to the sunken city remains. However, the artifact is of interest because it may have been used to strike counterfeit coins.

### The Ships of Discovery Project

Striving to understand late 15th- and early 16th-century vessels of exploration, INA's Ships of Discovery Project focused its field efforts on three of the seven locations believed to harbor the oldest known shipwrecks in the Western Hemisphere. With a plan to study as many examples of early New World ships as possible by the Quincentennial in 1992, a core team of INA researchers spent three months last fall unearthing the remains of two such vessels and negotiating arrangements for the future investigation of a third. Directed by Research Associate Donald H. Keith, the fieldwork was aided by eight archaeologists and volunteers from outside the Institute.

Aboard the *Coral Reef II*, research ship of the Shedd Aquarium, the crew first visited Highborn Cay in the Bahamas to do limited excavation on a wreck worked by salvors in the late 1960s. Based on types and distribution of ordnance and hardware originally found at the site, the vessel was judged to be contemporaneous with INA's Molasses Reef Wreck (MRW), dating to the first quarter of the 16th century. Evidence that substantial hull remains, lacking on the MRW, lay buried beneath the ballast prompted the reexamination of the Highborn Cay Wreck by INA. Excavation of remaining bow and stern components and of a transverse trench across the mound revealed a stunningly complete example of early 16th-century shipwrightery, including key architectural features such as the



Equipment that aided field research included the *Virazon* during the Turkish Survey, and a metal detector employed by Stanford Handfield on the Molasses Reef Wreck. Fred Hocker uses an adze for fairing frames on the Glass Wreck section replica. (Photos: Project Staff, KC Smith, Robert Payton)

most step, the master couple, and the pump well. Data gathered will enable the first accurate projections of hull form and construction in a vessel of the period.

A brief reconnaissance then was conducted in the environs of Cap Haitien, Haiti, where the first recorded shipwreck in New World history—that of Columbus’s flagship, *Santa Maria*—is believed to have occurred. The group sought with their visit contacts with government officials and a determination of logistical needs in the event of a future survey for the site.

The final eight weeks of the project were devoted to the Molasses Reef Wreck in the Turks and Caicos Islands. From aboard a different ship, the *Caicos Star*, excavation of the site begun in 1982 was completed. The team also determined that a second, intrusive shipwreck in the area had been the source of anomalous artifacts found during conservation of materials recovered in previous years. Three seasons of fieldwork yielded ten tons of encrusted artifacts, which are being conserved and analyzed at the MRW laboratory at Texas A&M University before they are returned to the islands. As the most thoroughly studied assemblage from a discovery-era vessel, the artifacts have released abundant information about artillery, hardware and tools used aboard New World ships of exploration.

During the year, individual members of the research team conducted studies or joined programs related to the Ships of Discovery Project. Denise Lakey spent two months in Seville, Spain, at the *Archivo General de Indias*, logging and examining documents relevant to vessels of discovery for an annotated inventory of shipwrecks from the period. Joe Simmons, a scholar of 15th- and 16th-century artillery, was invited to speak at the Guns from the Sea Conference at the Tower of London, taking when he went several examples of halved ordnance opened by MRW archaeologists to study constructional details.

Simmons also assisted a shipwreck reconnaissance in Quintana Roo, sponsored by Mexico’s National Institute of Anthropology and History, on a unique site found to post-date the discovery period. Mark Myers was invited to Guatemala to investigate another shipwreck report, which proved to be imprecise. Roger C. Smith attended the First Conference on Columbus on San Salvador Island, Bahamas, where international scholars discussed issues and new information relating to the Admiral and his landfall. He also was an invited speaker at the Second Annual Columbus Convocation in the Dominican Republic, sponsored by the Phileas Society, where he spoke about INA’s Ships of Discovery Project.

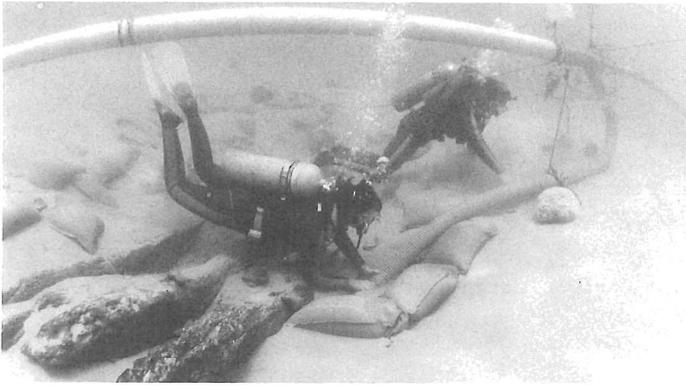
### Student Research

Many students in the Texas A&M nautical archaeology program spend summer months on the crew of an INA project, and some join archaeological endeavors sponsored by other institutions. In either case, the objective is to gain practical experience in field techniques to balance scholarly pursuits of the classroom. In addition, after course work has been completed, many students arrange their own research sojourns to gather data for their master’s theses. Several examples of student projects last summer and fall will convey the dedication and enthusiasm that mark the young scholars’ efforts to prepare themselves for the future.

Winding up his third summer field season on the Port Royal Project, Jim Jobling travelled to England in the fall to spend three months investigating the history of the Admiralty Pattern anchor, his intended thesis topic. He is studying the evolution and design, variation in size and weight, number carried aboard, and general usage of this anchor type employed by the Royal Navy between 1550 and 1865. Tracking details for his research, Jobling combed the National Maritime Museum, the Public Records Office, the British Library, and other archives and repositories. His project received support from INA.

On the Continent, Larry Mott worked in Spain, primarily in Catalonia and the Balearic Islands, researching and recording ship representations from the 12th to the mid-16th centuries. Initially interested in studying votive models, their scant numbers prompted him to broaden the field to include religious iconography, reliquaries, paintings and graffiti depicting Medieval ships of the Mediterranean. Mott plans to extract a thesis topic from some aspect of his findings, and already has prepared an article for publication about square-rigged great galleys of the late 15th century.

After working in unique circumstances in Bodrum during the summer, Fred Hocker travelled during the fall to Lelystad, the Netherlands, to record the hull of an early 17th-century *beurtschip*, a type of ferry boat, that had been carrying eggs, textiles and guitars when it sank. The 18-m-long craft is one of more than 350 vessels that have been found by Dutch scientists since 1942 in land reclaimed after the closing and draining of the Zuyder Zee. Hocker is the second Texas A&M student to lend aid to the monumental task of analyzing these ships; Aleydis van de Moortel has been studying the remains of two Medieval cogs recovered from the new land. Both students



Michael Fitzgerald (right) and an assistant work at Caesarea Maritima. (Photo: Mark Little)

received financial support for their research from INA and the University.

On the eastern shores of the Mediterranean, Michael Fitzgerald served as field supervisor on the excavation of a Roman merchant vessel near the harbor of Caesarea Maritima, Israel. Dating to the Late Republican-Early Imperial Periods (ca. 100 B.C.- A.D. 100), the 40-m-long, heavily constructed ship was discovered in 3 m of water by archaeologists conducting a survey in 1974. She may have been carrying a cargo of *dolia*, or large jars, when she sank. The project's second season of excavation, the 1986 fieldwork represented Fitzgerald's first involvement with this wreck, although he has worked for several years on other sites in Israel.

Maria Jacobsen also was in Israel, working on a Late Bronze Age coastal site at Tel-Nami, south of Athlit. A terrestrial survey which she assisted in 1985 had suggested that archaeological remains on a small peninsula jutting into the sea consisted of a humble village. However, excavation begun last summer revealed that substantially more development may have existed in antiquity. Among the finds unearthed were major wall structures, burials, and goods from Cyprus, the latter connecting the site to a maritime trade network.

### The Sponsors

The work of the Institute would not be possible without support received from the INA Board of Directors, the INA membership, Texas A&M University, and many other agencies, businesses and individuals. In addition to Institute and University sources, those who provided financial or in-kind assistance to research in 1986 included:

**Projects in Turkey:** Dick Hennesey, Diesel Supply Company, Institute of Aegean Prehistory, Linda Noe Laine, National Endowment for the Humanities, National Geographic Society, National Science Foundation, Pelican Products, Shell Oil of Turkey, J. Richard Steffy.

**Projects in the Caribbean:** Alcan of Jamaica, Charles Beeker, Brown Foundation, Caicos Petroleum, Peter Haven, Jamaica National Heritage Trust, Kaiser of Jamaica, Meadows Foundation, Miller Blueprint, Larry Mott, National Endowment for the Humanities, National Geographic Society, Paramount Movers, Pepsi-Cola Bottling Company, Mendel Peterson, John Sands, Grete Seim, Shedd Aquarium, Sony Corporation, Texas A&M Department of Oceanography, Underwater Research Products International, U.S. Divers, Robert Wilke.

## Learning By The Hands-On Method

By Fred Hocker

Long after the last handful of sand was fanned away and the excavation camp torn down, the Sercę Liman Glass Wreck continues to occupy the staff of INA. Central to the activities is the reassembly of the hull remains in a new exhibition hall built by the Turkish Museum of Underwater Archaeology in Bodrum.

But the hull reconstruction is being pursued a step further on a patch of gravel in front of INA's conservation lab in Bodrum. INA staff and students are constructing a full-size replica of a 3.5-meter-long section of the ship. This replica of the starboard side will be placed in the exhibition hall with the fragments of the original vessel and loaded with the original cargo. Along with a 1:10 scale model of the vessel as built, the replica will give visitors a better idea of the size and shape of the ship than will the minimal remains of the hull.

The wood for the replica, red pine, was purchased from the Turkish Forestry Service, which regulates all commerce in raw timber by the Turkish Museum of Underwater Archaeology. Purchased as logs, the wood was sawn at a mill on the edge of Bodrum. The sawyer, Hasan Huseyn Capkin, offered me an unusual deal: he would cut our wood when and how we wanted it if I would help in the mill.

For three weeks I worked as an unskilled laborer in Hasan Huseyn's establishment. The saw itself is electrically powered and adjusted, and is more sophisticated than the

saw at the Connecticut shipyard where I used to work; however, until the log gets onto the saw carriage, it must be moved by the raw muscle power of three or four men. With peaveys, levers and hooks we rolled and cajoled logs up to a meter in diameter and four meters long from woodpile to saw. Then the sawyer would ask, "Kac tane istiyorsun?" "How many pieces do you want?" In my pidgin Turkish, which consisted of numbers, the adjectives "large" and "small," and hand gestures, I would describe how each log was to be divided.

The sawn wood was stacked in front of the conservation lab and a building frame erected. With the assistance of Cathy Hastedt, another graduate student at Texas A&M, and most of the rest of the Bodrum staff at one time or another, the large frames were got out and laid up. I then spent the early fall fairing the timbers, that is, smoothing the surfaces of the frames and aligning them so that the planks will go on easily, without humps and hollows.

Then, as is the tradition in Turkey, the "vessel" was left "in frame" for the winter. This seasoning period allows the wood to cure and warp. In the summer of 1987, after the frames have finished warping and twisting, I will return to Bodrum to finish fairing the hull and hang the planks. Internal timbers will be added and a preservative applied. The replica, which is built with screws instead of nails to allow assembly in the ship hall without jarring the original timbers, will be disassembled and taken up to the ship hall, where it will be reassembled and cosmetic touches added in time for the opening of the hall to visitors.

# RESEARCH NEWS

## Bass's Achievements Recognized By Three Groups

By Beth Braznell

Nautical archaeology has come a long way in the last twenty-five years, and much of the credit goes to Dr. George F. Bass, founder and present archaeological director of INA. While Bass has accumulated many honors and awards throughout his professional career, 1986 surely was a banner year.

Already a Distinguished Professor in Anthropology at Texas A&M University, Bass was awarded the George T. and Gladys H. Abell Chair in Nautical Archaeology, an endowed professorship established at Texas A&M University by the Abell-Hanger Foundation of Midland, Texas. According to Dr. Daniel Fallon, dean of the College of Liberal Arts, the award presented last May was based on Bass's "distinguished record of scholarly achievement and leadership contributions to the College and the University." The monetary supplement to operating funds and salary was made possible by a donation of \$500,000 by the Foundation, with a matching sum by the University providing additionally three endowed professorships in the Abells' names. As it is the first endowed chair in the College of Liberal Arts, Bass's award represents a singular honor.

In November, Bass received the Lowell Thomas Award for Underwater Exploration from the Explorer's Club in New York. Shared with such other adventurers as *Titanic* project leader Robert Ballard; veteran National Geographic Society photographer Emory Kristoff; deep-diving scientist Donald Walsh; author and explorer Clive Cussler; and seven others, the honor recognizes outstanding work in marine exploration.

But perhaps the greatest recognition came when the Archaeological Institute of America (AIA) awarded its twenty-second Gold Medal for Distinguished Archaeological Achievement, its highest honor, to Bass at the annual AIA meeting in December. At 54, he is the youngest person to receive the medal.

"Of all of the honors and awards I've received, this one is especially meaningful," Bass states. "These people are my peers; they are scholars of the highest caliber. The fact that they have presented me with this award is a great honor."

Ann Singletary Bass concurs with her husband. "This particular award means

a lot to George. I'm very pleased by his honors, but, then, I've always been proud of him. He has tremendous abilities and remarkable perseverance. So many people would have given up long ago faced with the challenges George has encountered."

The honors carry their prices as well. The publicity generated by the awards brings in countless invitations to lecture, to serve on editorial boards and committees, and to write articles. However, Bass believes that his responsibilities to his students and colleagues, and to other archaeologists who will follow him, are his most important commitments.

"Daily I turn down invitations to speak at very prestigious conferences and institutions," Bass notes. "As much as I would love to accept, I would never be able to do my research and to publish my work. Sometimes it is very hard to say no, but I've just had to call a moratorium on accepting most of the invitations."

To those of us who work with George Bass on a daily basis, none of these awards comes as a surprise. It is exciting and stimulating to work with him, and it certainly is never dull. The high standards he sets for himself are reflected in the quality work of his students and in the high regard in which he is held by colleagues, staff and students. His hard work has opened a fascinating new world of archaeology beneath the sea—a rich legacy that is, in itself, a singular honor.

## INA Assists Students With Scholarship Fund

To recognize academic excellence among Texas A&M nautical archaeology students, INA has made available several \$200 scholarships to assist outstanding students with tuition costs. Recipients of the first grants presented last September for the 1986-87 school year were Kenan Heidtke, Nicolle Hirschfeld, Jerry Lyon and Ralph Pedersen.

Applications for 1987-88 awards, for which all nautical archaeology students may apply, will be accepted through April 30. Information and forms are available from Staff Assistant Beth Braznell.



Dr. George F. Bass, archaeological director of INA. (Photo: National Geographic Society)

## Ph.D. Program Includes Nautical Archaeology

Graduate students reviewing options for advanced degrees in nautical archaeology now may consider Texas A&M University. Effective September 1986, the Department of Anthropology received approval to offer a Ph.D. program in anthropology with an archaeology specialization, including among possible areas of major research, topics relating to Old and New World nautical archaeology.

Completion of the Ph.D. program requires 64 credit hours of course work, all but six hours of which are taken within the department, and including several courses specified by the anthropology faculty; a previously acquired master's degree or equivalent training; competence in two foreign languages; successful completion of written and oral examinations; and a written dissertation.

Texas A&M presently is one of six universities in the world where graduate programs in nautical archaeology or maritime history are available. Other institutions include East Carolina University, Greenville, NC; the University of Haifa, Israel; St. Andrew's College, Fife, Scotland; the University College of North Wales at Bangor; and the University of Western Australia at Fremantle. However, most of these institutions offer only master of arts degrees.

Additional information may be obtained by contacting the Nautical Archaeology Program, Department of Anthropology, Texas A&M University, College Station, TX 77843; 409/845-6398.

## Hirschfeld Accepted Into Classics Program

Texas A&M nautical archaeology student Nicolle Hirschfeld was one of seventeen individuals from the U.S. invited to study during 1986-87 at the American School of Classical Studies in Athens, Greece. Formerly an undergraduate in Classical and Near Eastern archaeology at Bryn Mawr, Hirschfeld was selected because of her performance on a rigorous, two-day examination. After participating in INA activities in Turkey during the summer, she began the year-long course last September.

For more than a century, the School has provided an academic center for American and Canadian students of Classical Greek studies, and it is through its auspices that all American archaeological excavations in Greece are conducted. Among its former students are three people well known to INA and Texas A&M: George F. Bass, Fred van Doorninck and Michael L. Katzev.



Nautical archaeology student Nicolle Hirschfeld. (Photo: KC Smith)

## Perplexing Correspondence To INA Members Explained In Light Of Relationship To SHA/CUA

Some INA members were perplexed by correspondence they received last November that urged "support of underwater archaeology through membership in the Society for Historical Archaeology [SHA]...[because] there is not a separate membership organization for underwater archaeologists." Signed by the chairman of the Advisory Council on Underwater Archaeology (ACUA) and the president of the SHA, the letter also informed readers about the then-forthcoming SHA Conference on Historical and Underwater Archaeology in Savannah in January.

The Institute's membership received the mailing because of INA's support of the annual meetings—the joint SHA/CUA conference each January—at which underwater archaeologists from around the world share the results of their research. Since no single professional organization exists for all scholars of nautical, maritime and underwater culture history, this conference represents an important conduit for the exchange of current information. Surmising that INA members might wish to know about the Savannah conclave, the ACUA asked whether it could include the Institute's membership list in a pre-meeting mailing.

The relationship between the SHA and the ACUA is relatively informal because the ACUA is not an elected representa-

tive body of a consolidated professional group. Established twelve years ago to organize annual meetings for underwater archaeologists, at a time when the number of such scientists was fairly small, the ACUA was comprised initially of the "old hands" of the discipline, whose respective institutions generally assisted with the preparation of meetings and subsequent published proceedings. However, as the number of underwater archaeologists grew during the last decade, and such informal arrangements became inadequate, it was decided to "piggy-back" annual gatherings with those of the SHA to reduce costs and to extend participation.

While the need for a professional society for maritime scholars is under discussion, at present underwater archaeologists primarily are represented by two extant organizations: for Old World researchers, it is the Archaeological Institute of America, and for New World scientists, the SHA. By no means are the groups mutually exclusive, but one must be a member of either organization to present a paper at its annual meeting. And while underwater archaeologists with interests in all periods of history also may belong to INA, the Institute is an educational and scientific organization rather than a professional society, sponsoring research rather than conferences.

## "Nova" Purchases Film On Bronze Age Wreck

INA's hour-long film entitled "Voyage From Antiquity," which focuses on the Bronze Age shipwreck at Ulu Burun, has been purchased by the independent network series "Nova," which plans to air the film next fall through the Public Broadcasting Service (PBS). More than two years in the making, the documentary describes archaeological investigations on the ancient, deep-water site near Kaş, which INA has been excavating since 1984. Filmed by professional cinematographers and directed by Robert Dalva, the production was made possible through funding from PBS station KUHT in Houston and INA Films, Inc.

## INA Increases Fees

A modest increase in INA's annual membership fee for Regular Members is planned for 1987, and a new category of membership for students will be added. Effective March 1, the following tax-deductible dues and donation rates will apply: Student Member, \$15; Regular Member, \$25; Supporting Member, \$100; and Benefactor, \$1000. The ten-dollar increase in regular membership fees is the first since INA's inception in 1973.

## Ten From INA, TAMU Give Presentations At SHA/CUA Meetings

The 1987 SHA Conference on Historical and Underwater Archaeology included presentations by ten current or former INA associates or students of the Texas A&M nautical archaeology program:

William Bayreuther, "Research Potential of the U.S.S. *Constitution* Museum Collections"; Margaret Cowen, "Hellenistic to Byzantine Artifacts Found off the Southwestern Turkish Coast"; Kevin Crisman, "Colonial Batteaux: Their Use and Construction"; Faith Hentschel, "The Bronze Age Shipwreck at Ulu Burun, Turkey"; Stephan James, "The Barques *La Grange* and *Ninus*: Two Recent Additions to the Growing Number of Gold Rush Era Shipwreck Sites"; David Muncher, "Preliminary Analysis and Conservation of the *Widgeon*: 1864-1867"; Carol Olsen, "New Potential for Nautical Archaeology Through Public Relations"; James Parrent, "Re-Evaluation of Cultural Resource Management, Zone 1 in the Gulf of Mexico"; KC Smith, "Photography: An Essential Tool in Documenting and Communicating Archaeology"; Sheli Smith, "Illustration: Visual Communicating of Archaeology with the Pen."



Former nautical archaeology student Jay Rosloff with his model of the Ronson Ship, currently on display at the Mariners' Museum. (Photo Warren Riess)

## Rosloff Model Displayed At Mariners' Museum

A 1:5 scale model of the bow section of a colonial merchantman dating to ca. 1730, constructed by former Texas A&M nautical archaeology student Jay Rosloff, has been placed in an exhibit at The Mariners' Museum in Newport News, Virginia. As the centerpiece of a temporary display that also includes photographs and artifacts from the excavation of the Water Street Vessel, also called the Ronson Ship, the research model was built by Rosloff to help to determine how the ship's original bow section should be reassembled.

Encountered in 1982 during construction of a high-rise building at 175 Water Street in New York, the merchantman was determined to have been part of the landfill that enabled coastal development along Manhattan Island some two centuries ago. Nicknamed after Howard Ronson, the developer who ordered his work crews to stand idle while archaeologists hurriedly excavated the buried wreck remains, the ship could not be recovered entirely due to time and financial constraints. However, under the direction of Texas A&M nautical archaeology grad-

uates Warren Riess and Sheli Smith, the bow portion of the vessel was removed. Its wooden members have undergone more than four years of cleaning and conservation in polyethylene glycol (PEG) in preparation of their reconstruction and final display at The Mariners' Museum.

Rosloff's model was necessary not only to aid in the reconstruction, but also to suggest how the PEG-laden timbers, which are subject to bowing, should be supported. In anticipation of this problem, Rosloff developed a unique system of overhead suspension support for certain members of the model—those likely to be the heaviest in the actual bow section.

Research on the bow of the Ronson Ship formed the basis of Rosloff's master's thesis, completed in May 1986 before he departed for Turkey to assist INA's reconstruction of the 11th-century Serçe Liman shipwreck. The Water Street Ship also will be the subject of Riess's Ph.D. dissertation, currently in progress through the University of New Hampshire.

## Simmons Asked To Advise Belizan Archaeologists

INA Staff Member Joe Simmons traveled to Belize in January to advise in matters relating to the preservation of submerged cultural resources. The Government of Belize had received at least one request by treasure salvors to search for shipwreck sites. Simmons was asked to represent the scientific community during a meeting which ultimately resulted in an agreement acceptable to all parties.

## Seven Students Earn Master's Degrees In '86

The Texas A&M Department of Anthropology awarded master of arts degrees to seven students of the nautical archaeology program during the spring, summer and fall semesters of 1986. The awards brought to thirty-five the number of nautical archaeology graduates, including four students who received degrees from related departments, since the program began a decade ago. Last year's conferees included:

*May 1986:* Michael Goelet, "The Careening and Bottom Maintenance of Wooden Sailing Vessels"; Steven Hoyt, "An Empirical System for the Identification of Smooth Bore, Cast Iron Cannon"; and Jay Rosloff, "The Water Street Ship: Preliminary Analysis of an Eighteenth-Century Merchant Ship's Bow."

*August 1986:* Margaret Cowin, "Artifacts Recovered off the Southwestern Turkish Coast by Institute of Nautical Archaeology Shipwreck Surveys in 1973 and 1980"; and Sheli Lang, "The *Mittie Stephens*: A Sidewheel Steamboat on the Island Rivers, 1863-1869."

*December 1986:* Christopher Amer, "The Construction of the Brown's Bay Vessel"; and Alison Darroch, "The Visionary Shadow: A Description and Analysis of the Armaments aboard the *Santo Antonio de Tanna*."

## Smith Participates In Newberry Seminar

INA Research Associate Roger C. Smith participated in June in the Newberry Library Transatlantic Encounters Institute, sponsored by the Herman Dunlap Smith Center for the History of Cartography. Assembling thirty-five scholars of the humanities and social sciences for a month of study, the program featured guest lecturers, readings, research, and day-long meetings focused on four topics relating to Contact Period interactions between Iberians and Amerindians.

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# Assistants Assure Continuity In Program Organization

By KC Smith

"When I accepted this position with INA, I expected to be exposed to many new subjects. Little did I know just how varied those subjects would be." Becky Holloway

"The people with whom I work are my friends; their discoveries elate me, their setbacks deject me. They've opened up a new world to me, and I am indebted to them." Beth Braznell

Few organizations could prosper if their chief administrators were absent from headquarters for several months each year. Yet this circumstance is a reality for both the Institute of Nautical Archaeology and the Texas A&M University nautical archaeology program. Research projects necessitate that Dr. Donald A. Frey, president of INA, and Dr. George F. Bass, head of the academic program, spend at least the summer months in Turkey, leaving the operation of both organizations in the hands of trusted aides.

The reins of responsibility presently are passed to two very competent women: INA Administrative Assistant Becky Holloway and Texas A&M Staff Assistant Beth Braznell. In their care, the complex of nautical archaeology research and education based at the University follows a steady course throughout the year. Indeed, having duties that are wide-ranging and fundamental to program continuity, both women jest that the presence or absence of their bosses makes no difference in their daily regimes; the office just becomes a little quieter.

A soft-spoken and businesslike woman, Holloway joined the Institute staff in March 1986 at a chaotic time in INA operations. A major, new accounting system was being implemented; a Board of Directors' meeting was imminent; projects were gearing up for annual fieldwork; ties with the academic component were flagging; and the post she assumed had been filled for months by interim assistants. While others might have despaired at the situation, Holloway's managerial experience and skills as an accountant were precisely what was needed. Quickly and efficiently, she introduced order to procedures and files; began to incorporate computerized accounting for present and past financial records; learned the workings and needs of more than twenty project accounts; and meanwhile infused a natural charm into the INA "people network."

A native Texan, born and raised in Karnes City, Holloway attended Texas A&M University, from which she received a

B.B.A. degree in accounting in 1976. While attending school, she worked as an accountant and auditor for a Bryan-based CPA firm, having twenty clients and several staff bookkeepers in her charge. In 1977, she began an eight-year association with a major restaurant chain, working two years as an accountant, and then leasing and managing the company's franchise in Bryan, Texas.

In her present position, Holloway liaises a well-managed organization with a far-flung, extended family—from staff to strangers—in a role that requires her to be a diplomat, a decision-maker, an advisor, an accountant, and a secretary. She remains notably aloof from the subject matter of her work—the findings of nautical archaeology—and seems to concentrate on providing a means through which such study can be accomplished. Of her present responsibilities, she says, albeit with much coaxing,

"My job changes from day to day; every day is different. But my primary role is to keep INA running smoothly, especially when Don [Frey] is gone.

"Among the particular tasks, I enjoy the accounting procedures most. We've worked hard to adapt the new bookkeeping program to past and present records. We're at a point now where we can try other new systems that will benefit the Institute's management and accounting."

No less sanguine than Holloway about her job or the program she oversees, Braznell carries out her duties in a more flamboyant style, seemingly energized by the constant parade of nautical archaeology students in or around her office. Assisting and monitoring their progress through graduate school is one of her primary roles. Equally involved with matters of finance, she administers funds from the University and granting agencies that enable academic and research activities, and she often is responsible for the personnel involved in these projects. But she also notes that her daily routine rarely is the same: sometimes she is responding to a prospective student's query, and other times, she is talking to a reporter about the purpose of the program.

Braznell's roots are in Missouri, where she was born, raised, and later educated at the University of Missouri at Columbia. She majored in agricultural economics, earning a bachelor of science degree in 1979, and continuing graduate studies until 1981, when she moved to Texas. Her employment career in both states largely has been characterized by administrative positions; she worked as a research associate, a fiscal assistant, and a director of marketing for various firms before stepping into her present post in 1984.

To the regret of her associates, Braznell's efficient supervision of the nautical archaeology program will end in the spring. In what she calls "the major move of my life," she will travel to Turkey during the summer to work with Jay Rosloff, who is involved with the Serçe Liman vessel reconstruction in Bodrum. At the end of this project, the two plan to work in Israel.



Texas A&M Staff Assistant Beth Braznell and INA Administrative Assistant Becky Holloway. (Photo: KC Smith)

About these future plans, Braznell says with a mixture of sadness and excitement in her voice, "It will be very hard to leave this job. I dearly love dealing with the students, and I've particularly enjoyed the public relations part of the work—talking to reporters, working on the INA [Kaş Wreck] film, and generally promoting this unique program.

"And it's rather scary to think about leaving a lifestyle that is comfortable and secure to enter an unknown situation. But it's also a great adventure, and I'm pleased to be able to make such major changes."

Holloway is one who expresses regret about her colleague's impending departure. During the past year, the women have established a working rapport which not only has expedited their own responsibilities, but which also has benefitted interaction between the Institute and the academic program. Acknowledging an initial parlay for authority in matters pertaining to both groups, the two say their relationship now is based on mutual friendship, respect, cooperation, and the recognition of their common goals.

"There is a delicate link between our respective organizations, in part because of the many strong personalities involved," Holloway observes. "Yet there are so many areas in which our personnel, our activities, our funding, and our purposes overlap. It was natural that Beth and I should strive to work together harmoniously."

Braznell adds, "It's true that communication between our groups hasn't always been the greatest. Becky and I have tried to bridge the gaps by working on projects together, by seeking each other's advice, and by promoting a spirit of interaction. I think our efforts have been effective."

Both women are equally candid in talking about their bosses. Holloway says of the Institute's president,

"Don Frey is a very people-oriented person. He's interested in others' opinions, and he listens when they talk to him; he really wants to be of help. He's devoted to making INA a strong, productive organization, and is willing to consider *all* of the options, even at times when I'm ready to take action."

When asked what it is like to work for George Bass, Braznell

laughingly replies, "It depends on what day you ask me"; then adds,

"I get along well with George because I like and respect him. That forms the basis of our working relationship. We know how far to push each other. And there's no doubt that he's the most interesting person I've ever worked for."

Both Holloway and Braznell note that there are drawbacks to their jobs. For the INA coordinator, it is the remoteness of the Institute's headquarters, located amid farmlands twelve miles out of town; lunch is a brown-bag affair, and noontime errands are out of the question. For the University assistant, it is the mundane tasks of her work, such as paying bills and posting accounts. Yet both women agree that their present positions are worth these minor points.

"I'm quite satisfied, now that we've got a handle on the accounting and there's a little more order to things, especially since I had a part in improving both," says Holloway. "I like the people I work with; I respect the work that they're doing; and I think, overall, this has been a very positive experience."

Characteristically more effusive than her cohort, Braznell sums up her job by declaring, "There is always something going on; it is *never* dull. The people I work with are wonderful. In fact, I'd have to say that I have the best job in College Station."

**The INA Newsletter is published quarterly for members of the Institute of Nautical Archaeology. KC Smith, editor. We invite correspondence and contributions for publication.**

**For information about joining INA, please contact the Membership Coordinator, INA, PO Drawer AU, College Station, TX 77840; 409/845-6694.**



# INSTITUTE OF NAUTICAL ARCHAEOLOGY

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