



## INA And The University: A Symbiotic Relationship

Small wonder the public and the press sometimes assume that INA is part of Texas A&M University.

The *INA Newsletter* frequently describes the research and thesis topics of Texas A&M graduate students. Texas A&M publications, on the other hand, often illustrate INA field projects, and the University Press publishes the organization's excavation reports.

Similarly, some INA staff members hold faculty appointments in anthropology at the University, while the anthropology department trains many of its students through Institute research and field projects.

The two institutes remain separate corporate entities, however, with independent officers, directors and sources of funding. Their relationship is complex but highly successful.

Announced in the Summer 1976 issue of the *INA Newsletter*, the affiliation has proved to be mutually beneficial to both research and academic instruction, with INA primarily serving as the research arm and Texas A&M as the educational arm in sometimes overlapping roles.

The University attracts graduate students of nautical archaeology not only from across the United States, but also from Belgium, Greece, Jamaica, South Africa, Turkey and the United Kingdom. INA provides these students with unparalleled research opportunities. That is not, however, a selfless gesture on the Institute's part. Perhaps in no other area does INA benefit so greatly from the association as in having uniquely trained graduate students to assist and sometimes to direct its research, from excavation through conservation to publication.

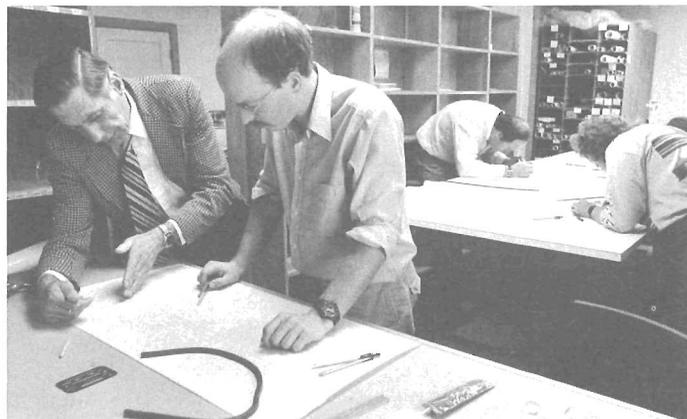
Dozens of Texas A&M graduate students have gained field and laboratory experience on INA projects in Maine, Italy, Jamaica, Virginia, Turkey and Kenya. One INA excavation alone—that of the 11th-century "Glass Wreck" in Turkey—has supplied material for a half-dozen master's theses, with many potential topics remaining; some of the students will edit their theses into chapters for the final excavation report.

Most current students are working toward an M.A. degree in anthropology with a nautical archaeology specialization, but a few are pursuing doctorates in history or geography while continuing their archaeological research. A proposed Ph.D. in archaeology within the anthropology department, now under consideration by the state academic coordinating board, would provide still greater educational opportunities for students, who already bear heavier responsibilities than those normally offered to graduate students. For example:

Donald Keith directs INA's Molasses Reef shipwreck excavation in the Turks and Caicos Islands, BWI, while Roger C.

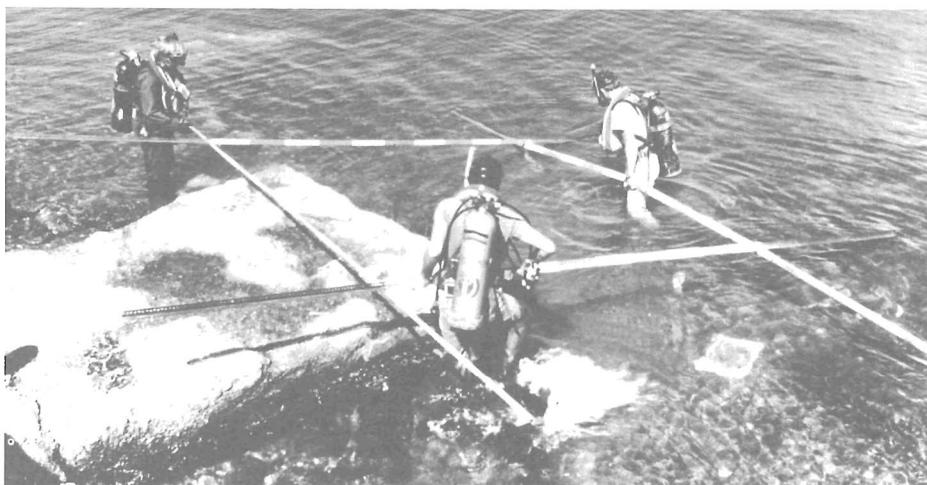
Smith directs INA's search for two of Columbus's ships at St. Ann's Bay, Jamaica: both previously have directed large-scale INA projects in the Mediterranean and the Caribbean. In Turkey, Cemal Pulak has led the Institute's survey of the Bronze Age shipwreck at Kaş, as well as the excavation of a 16th-century wreck at Yassi Ada.

*Continued on Page 2*



*INA staff members holding faculty positions share their skills with students in the classroom: J. Richard Steffy (above left) teaches methods of ship reconstruction, and Dr. Donny Hamilton (below left) teaches conservation techniques. Former students of Steffy have worked on ship reconstructions worldwide; Hamilton's advanced class is receiving practical experience by working with artifacts from INA's Molasses Reef Wreck Excavation. (Photo: KC Smith)*





*Nautical archaeology students learn field techniques by participating in Institute projects such as the field school at Port Royal, sponsored jointly by INA, Texas A&M, and the Government of Jamaica. Above, crew members prepare to descend with a grid section that will facilitate excavation of the sunken city. (Photo: INA staff)*

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In return for INA's allowing Texas A&M graduate students free use of its field facilities and equipment, including a research ship, conservation laboratories, and housing on several continents, Texas A&M provides free office facilities to the Institute in Texas. An additional beauty of this relationship is based on INA's ability to use its privately endowed funds to support overseas projects which provide a unique training ground for future nautical archaeologists that would be difficult to sponsor with state funds.

The combined INA/Texas A&M nautical archaeology plant originally occupied a single building at the University's Research Annex, a former Air Force base located eleven miles from the main campus. It soon acquired a second building which Donny L. Hamilton, tempted away from the University of Texas at Austin, outfitted as a laboratory for teaching archaeological conservation. J. Richard Steffy moved into a third building; designated specifically for ship research, the space quickly was embellished by students working on original publications—drawing plans, building research models, and drafting lines of ships and boats ranging from Middle Kingdom Egyptian to 19th-century American. A fourth building now houses INA administrative offices, and a fifth—an old fire station—serves as the center for research on and conservation of ten tons of artifacts from the Molasses Reef shipwreck in the Turks and Caicos Islands.

The University's archaeological library should grow as quickly as the nautical archaeology physical plant has grown, with a generous commitment of financial

support that recently has been aided by a large, anonymous grant. Without such a library in the past, INA and Texas A&M nautical archaeologists have had to travel to other cities to conduct research.

A kind of sharing of personnel by the Institute and the University also benefits both organizations. A faculty member may teach during the spring semester, fully salaried by the University, whereas in the fall he may be salaried by INA, thus freed from campus duties to conduct research abroad. Richard Steffy, for example, has spent fall months in Israel, Greece, Italy and Turkey during recent years; during summer months, he usually supervises students in the field, as do all those who hold joint appointments.

Personnel arrangements are not always the same; faculty sometimes remain abroad on INA projects for a year at a time. In the process, they continue to establish INA's and the University's record in field research and publication, and provide myriad opportunities for students to gain original topics for their own research.

The affiliation also has brought shared acclaim to both institutes. In one year alone, INA projects put Texas A&M on ABC, NBC, PBS, BBC, and nationally syndicated television; during one particular summer, three national airline magazines featured the work of Texas A&M nautical archaeology students.

Through their mutual association and sharing of resources and personnel, the Institute and Texas A&M University contribute gladly to a common goal: to remain world-respected and world-renowned educational and research organizations.

George F. Bass

## Texas A&M Expands Support, Resources For Nautical Study

To assist the support of INA research that regularly involves University graduate students, Texas A&M recently has allocated funding for a number of specified purposes during the forthcoming year. Presently, such research is funded primarily by the organization's membership, and privately donated, and foundation resources.

The additional support will be used principally to sponsor graduate-level field work that is closely related to thesis research; to establish several full- and part-time fellowships for advanced students specializing in nautical archaeology; and to purchase equipment and supplies for research conducted on the Texas A&M campus, primarily in the nautical archaeology conservation laboratory.

In addition, the Sterling C. Evans Library on the main campus currently is augmenting its holdings in anthropology and archaeology and in other fields relevant to the nautical specialization. This expansion in part is related to the prospect of a Ph.D. program in archaeology being added to the University's academic scheme.

Funding for the acquisitions has been made possible by an allocation from the library's state formula funds as well as by a generous grant from an anonymous foundation.

## Former Students' Assn. Honors Bass For Research

Dr. George F. Bass was one of 18 faculty and staff members to be recognized this month with a Distinguished Achievement Award, presented by the Texas A&M Association of Former Students.

Bass, a Distinguished Professor of Anthropology, was cited with five other faculty members for outstanding research endeavors. In particular, his pioneering efforts in underwater archaeology and his continued efforts to foster a scholarly, dynamic discipline through the Institute and the University were recognized.

Selection for receipt of the prestigious award was based on recommendations from colleagues, students and former students. In addition to research, acknowledgments were made for outstanding work in four other areas of University activity.

# Profile: Dr. Frank E. Vandiver

## Texas A&M President Discusses University-INA Alliance

As president of Texas A&M University, Dr. Frank E. Vandiver automatically is a member of the INA Board of Directors. His interest in Institute activities, however, is more than honorific. Not only is he personally intrigued by ships and the sea, but he also believes strongly in the mutual benefit of the INA-Texas A&M association.

A historian specializing in the Civil War and World War I, Vandiver came to College Station in September 1981 from North Texas State University, where he had served for two years as president and chancellor. Previously, he had enjoyed a twenty-four-year association with Rice University, which included professional and administrative assignments.

The author of more than twenty books and one hundred scholarly articles and reviews, Vandiver received his doctorate from Tulane University and two master's degrees, from the University of Texas at Austin and from Oxford University, where he was the Harmsworth Professor of American History in 1963.

Because of this Newsletter's focus on the relationship between Texas A&M and INA, Vandiver recently shared in an interview some of his impressions about the alliance:

When I became a member of the INA Board, I didn't realize what a delightful experience it was going to be. In fact, I didn't know much at all about the Institute, although I was immediately intrigued after a briefing from Dr. Bass and after seeing several published articles about the organization. Since then, my fascination with the group has continued to grow.

I actually had had an interesting, earlier association with Dr. Bass over the disposition of the USS *Hatteras* [a Civil War-era shipwreck off the Texas coast]. Some colleagues and I wanted to have the vessel salvaged since it was a Civil War relic. We didn't want the remains to go to treasure hunters, but we didn't particularly want them to go to the State Antiquities Commission, either. Dr. Bass was in support of the State's priority in the issue, and he and I interacted as a result of our respective views. You might say that we got to know each other looking down opposite ends of the cannon barrel.

Now that you're both aiming in the same direction—that is, both striving to make your organizations world-class institutions—what is the relationship between INA and Texas A&M that enables mutual assistance?

It is a contractual relationship which permits the University to shelter the Institute, largely through the Department of Anthropology, and it is a relationship in which I think Texas A&M is greatly the beneficiary. We provide some funds, not only through direct support to INA but also through salary support for your staff members holding faculty positions. We also are providing some graduate research funding, although a small portion compared to what the Institute sponsors.

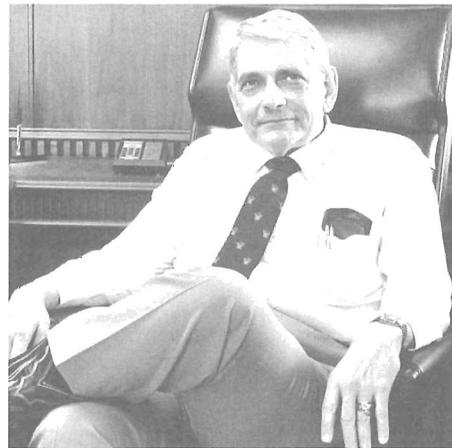
Our benefit in the association comes from the calibre of graduate students that the nautical specialization and the Institute produce, as well as the spectacular work that you do. This promotes the name of Texas A&M worldwide in the finest possible way. The quality of your work sets a tone which any aspiring world university must seek. The marvelous thing is that we don't have to demand that of you; you already demand it of yourselves.

The Institute provides another important benefit that you may not realize: INA helps the University to recruit students and staff. I've talked to several people in fields other than archaeology who have said that they had heard of INA and had been intrigued by it, and as a consequence became interested in the University at large.

How would you, as an INA director, like to help with the Institute's parentage?

There are two specific areas I believe I can aid. I would like to help others outside of INA to know more about the work that you do. I'm surprised by the number of people, particularly in our own academic community, who have heard the organization's name yet have no idea about what you accomplish.

I also would like to help the Institute to receive greater external support because I believe there are many more federal agencies and foundations to which you might be appealing. I think



Dr. Frank E. Vandiver, president of Texas A&M University and member of INA Board of Directors. (Photo: KC Smith)

this is important since there is a limit to the extent that the University can assist directly. However, at this point, I would like to note that I admire how the Institute is able to get so much for its money. For an almost paltry investment, you achieve incredible results. It's truly exemplary.

Regarding the future relationship between INA and Texas A&M, one thing worries me, and I'm quite sincere about this. I fear that INA will find a more generous sponsor elsewhere. I would understand if that happened; your organization is of the type that any self-respecting institution in the world would want to have in its fold. However, I would see any divorcement of INA from Texas A&M as a terrible blow, and I hope that never happens.

I believe Texas A&M was more fortunate than it knew when it lured the Institute to come here, and perhaps in the early stages, INA may have benefitted from a sort of benign neglect. The University didn't know what to do with INA and just left it alone.

I hope we still do that to some extent—that is, give you the space to grow and to develop your own identity. The worst thing we could do would be to stifle your ability to continue the fine level of teaching and research that you already have established for yourselves. To do so ultimately would be to our own detriment.

KC Smith

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Last year, the Institute celebrated its ten-year anniversary, and this edition of the INA Newsletter represents an anniversary as well. As the first issue in the eleventh volume, it is the mile-mark of a decade of publication of scholarly articles, news briefs and profiles about the Institute, its projects and its participants. President Don Frey takes the opportunity to reflect on INA's proud past and hopeful future.

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# Milestone For INA: The Second Decade

## Don Frey Reflects on the Past and the Future

"The Institute of Nautical Archaeology is a nonprofit, scientific and educational organization whose purpose is to gather knowledge of man's past as left in the physical remains of his maritime activities and to disseminate this knowledge through scientific and popular publications, seminars, and lectures."

When INA was formed a decade ago, George Bass used these words to describe the Institute's purpose and proposed activities. In the broad sense, INA has followed these goals closely and certainly will continue to do so in the next ten years. However, it is fair to say that in the early years, as a small organization with limited resources, INA was greatly affected by whatever the winds of fortune brought its way.

The Institute's first field work was conducted primarily in Turkey where Dr. Bass already had worked for fifteen years; his archaeological crews were the only groups of foreigners permitted to dive in Turkish waters or to excavate shipwreck sites. This fortunate position and the scholarly wealth of the underwater sites along the Turkish coast is the reason that INA's main thrust always has been in this area.

In the ensuing years, however, the direction of INA activities has been dictated by opportunities and related funding. We collaborated with Subsea Oil Services on the Capistello Hellenistic shipwreck excavation when they offered us the use of their saturation diving vessel. We were able to accept the Jamaican government's offer to work on several projects because they were able to support much of the operational expense and because the Port Royal Project also has received Texas A&M support as a cooperative field school.

The Molasses Reef excavation was pursued because it was among the earliest known New World sites, although the costs of working at a remote Caribbean site, exposed to treacherous weather and diving conditions, are great. In addition, INA Project Director Don Keith brought back to College Station over a

thousand concreted artifacts from his site. The long process of cleaning, studying and interpreting these artifacts is absolutely necessary to understand this shipwreck—but it also is costing INA as much as the excavation itself. A similar situation exists in Turkey, where the excavation of the Glass Wreck brought forth an unparalleled collection of Islamic glass. A full five years after the underwater work was completed, INA researchers still are slowly piecing together a million fragments of glass into recognizable shapes, while another team is about to remove the hull fragments from their two-year preservative bath in polyethylene glycol. Reconstruction of the hull, which will take at least two years, will begin this summer.

These two long-term conservation commitments require a major allocation of INA personnel and financial resources; they represent the powerful lesson that excavation is only the tip of the iceberg. In the future, the Institute must anticipate these extended commitments and give great consideration to the merit of any potential project before accepting all of the responsibilities which that acceptance entails.

During the next three or four years, the Institute is committed primarily to its ongoing projects. Major conservation and research are required for the Glass Wreck and the Molasses Reef Wreck materials. The study of the submerged, 17th-century town of Port Royal will continue, and in Turkey, INA staff will spend several seasons excavating and studying materials from its newest project, the Bronze Age shipwreck at Kaş.

Concurrent with these projects, the Institute will continue its program of surveys in the Mediterranean and the Caribbean. Each year after site excavations have been completed, INA's research vessel, *Virazon*, spends about a month along the Turkish coast, investigating the chance finds of Turkish sponge divers, who are responsible for the discovery of all of the wrecks that INA has excavated in Turkey. In the Caribbean, INA's surveys are focused on the early 16th-century ships that enabled the first explorers to find their way to the Americas. The Columbus Caravels Project continues its search for two of Columbus's ships at St. Ann's Bay, Jamaica, and with the 500th anniversary of explorer's dis-

*Continued on Page 11*



Dr. Donald A. Frey, president of the Institute, and Dr. George F. Bass, founder and former president. (Photo: KC Smith)



**CAPISTELLO WRECK**

*3rd-century B.C. Hellenistic shipwreck off the Secca di Capistello at Lipari, Italy; excavation during 1976-77 with Subsea Oil Services involved the first use of saturation diving in nautical archaeology.*



**OTTOMAN WRECK** *16th-century vessel at Yassi Ada, Turkey, discovered in 1967 and excavated during two seasons beginning in 1982.*

# A Decade of Research

## Photographs From Past Newsletters Reveal The Wealth Of Projects During INA's First Ten Years of Research

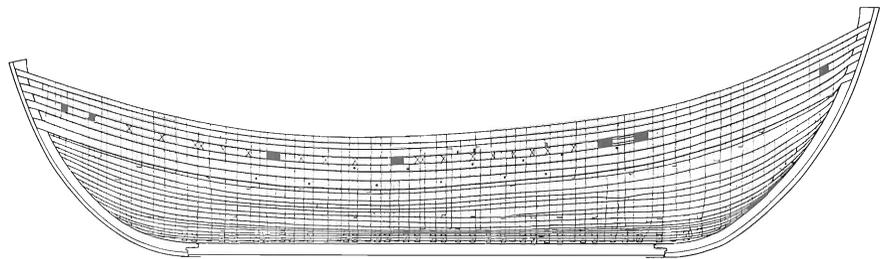
To initiate the Institute's second decade of archaeological investigation and *Newsletter* publication, we present a brief photographic review of some of INA's past endeavors. With nearly twenty projects to select from, our sample naturally is small, but it highlights the range of activities undertaken around the world.

*Photo credits (clockwise from top left): Capistello Wreck diving bell, Don Frey; Ottoman Wreck, Robin Piercy; 7th-century Byzantine ship lines, J. Richard Steffy; reconstruction of 4th-century B.C. ship from Kyrenia, Michael Katzev; carved figure recovery, Mombasa Wreck staff; Molasses Reef Wreck hull remains, Dennis Denton.*



**MOLASSES REEF WRECK**

*Early 16th-century shipwreck site in the Turks and Caicos Islands, excavated during two seasons beginning in 1982.*



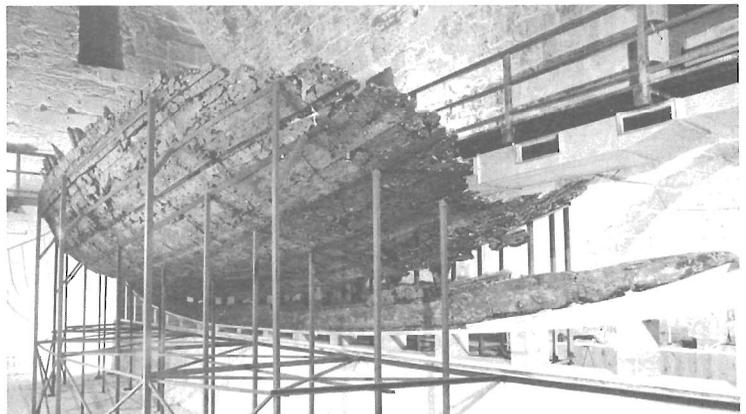
**MOMBASA WRECK**

*The wreck of the Portuguese frigate Santo Antonio de Tanna, sunk in the harbor of Mombasa, Kenya in 1697; excavated between 1976-80.*



**7TH-CENTURY BYZANTINE WRECK**

*One of several shipwreck sites at Yassi Ada that has involved INA personnel in post-excavation study of the ship's construction features and cargo of amphoras.*



**KYRENIA WRECK**

*4th-century B.C. merchant vessel excavated at Kyrenia, Cyprus, represented INA's first full reconstruction of hull remains.*

# INA ACTIVITIES ARE

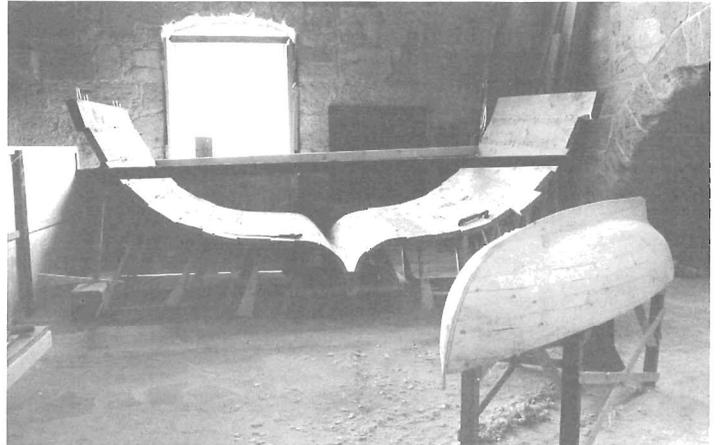


**VIRAZON** 65-ft. converted military T-boat provides research support at sea; completely outfitted and self-sufficient, with recompression chamber on board.

## In The Old World

Excavation of artifacts and hull remains is only one aspect of a shipwreck project; the process of cleaning, recording and reassembling the retrieved materials may take years to complete, before a final publication is prepared. So diverse and extensive have the Institute's Old World activities been that a complete photographic compendium would fill a book, but some important components are illustrated here.

*Photo credits (clockwise from top left): Virazon, Don Frey; Kyrenia models, Michael Katzev; Kaş Wreck site (previously unpublished), Robin Piercy; Turkish sponge divers meeting with INA staff, Don Frey; Jay Rosloff cleaning Glass Wreck concretion, Don Frey; Netia Piercy drawing Glass Wreck ceramics, Don Frey.*



### SERÇE LIMAN VESSEL

11th-century shipwreck on the southwest coast of Turkey, excavated between 1977-79, yielded a fabulous collection of Islamic glass; reconstruction of the "Glass Wreck" hull remains begins this summer.

### KYRENIA WRECK

A scale model and a full-size section replica aided reconstruction of the Kyrenia Wreck hull remains; a fiberglass version of the small model was constructed and launched to learn about the ship's sailing properties.

### SPONGE DIVERS

Information from Turkish sponge divers has led to many of the sites INA has excavated or recorded.



### KAŞ WRECK

Bronze Age shipwreck at Kaş, Turkey initially surveyed by INA in 1982; excavation begins this summer.



# OUND THE WORLD

## In The New World

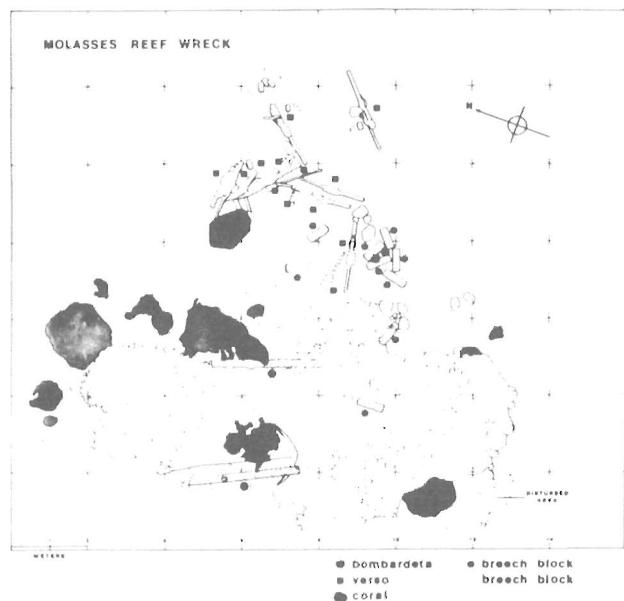
From shipwreck excavations in the United States in the mid-1970s, to the Institute's first effort in the Caribbean, the Cayman Islands Survey, to its first full-scale excavation in the same region, the Molasses Reef Wreck—the inventory of INA projects in the New World has continued to expand. The current primary emphasis is on the study of early 16th-century vessels of exploration. The sample of projects represented here have received generous support from foreign governments and private organizations.

*Photo credits (clockwise from top right): Steve Hoyt dislodging concreted ballast with pneumatic chisel, Don Frey; basket excavation at Port Royal, Dennis Denton; recording lines of Cayman Islands catboat, KC Smith; excavation inside caisson at St. Ann's Bay, KC Smith; Molasses Reef Wreck site plan, Don Keith.*



### PEDRO BANK SURVEY

*A search for the 18th-century vessel, La Nuestra Senora del Carman, called the Genovesa, and other shipwrecks, off the coast of Jamaica.*



**MOLASSES REEF WRECK** *One of the earliest known shipwreck sites in the Western Hemisphere.*



**PORT ROYAL PROJECT** *A seasonal field school project begun in 1981 to excavate the sunken city of Port Royal, Jamaica, lost in an earthquake in 1692.*



**COLUMBUS CARAVELS PROJECT** *An ongoing search at St. Ann's Bay, Jamaica for Columbus's last two ships, abandoned in 1504.*

**CAYMAN ISLANDS PROJECT** *A two-year survey for shipwrecks that yielded nearly 80 sites and considerable ethnographic data about the Islands' maritime heritage.*



## From Excavation To Education, Plans Are Diverse, Worldwide

### Turkey

Bodrum will be the locus of a diverse archaeological program this summer that will include excavation of the Bronze Age shipwreck at Kaş, the Institute's annual survey for shipwrecks off the Turkish coast, the start of reconstruction of the 11th-century Serçe Liman vessel, and the continued study of artifacts from that site.

In addition, several other activities will prompt an influx of temporary or long-term visitors: INA Directors will spend eight days in Turkey, travelling from the Institute's headquarters in Bodrum to the Bronze Age wrecksite; a cinematography crew will be present to film the Kaş excavation and related activities; and a small field school involving Texas A&M students and other experienced archaeologists will extend throughout the summer and provide part of the INA work force.

Without doubt, the Kaş excavation will be a primary focus of activity because of its archaeological importance and its critical diving conditions. At a depth of 150 to 170 feet, the shipwreck is the deepest site INA has addressed using its own divers. An experienced team will work directly from the Institute's research vessel, *Virazon*, unearthing the archaeological wealth that was identified during a survey of the area in 1982. Plans presently include the use of a revolutionary sonic triangulation system as a method of *in situ* artifact and hull recording. The system will enable data to

be interpreted by a microprocessor aboard the *Virazon*.

Aiding the Institute's coastal shipwreck survey will be a super-high-resolution side-scan sonar unit, being constructed by INA Director Marty Wilcox. The unit will greatly facilitate the location of hidden anomalies, which then will be investigated by the survey team.

The several-year reconstruction of remains of the 11th-century Serçe Liman hull at the Bodrum Castle Museum will begin in a newly built, climate-controlled gallery funded by the Turkish government. J. Richard Steffy will oversee the Institute's second full-scale reconstruction of an excavated shipwreck; the wooden members of the Serçe Liman ship have been patiently awaiting their reassembly in polyethylene glycol since 1981.

Ongoing activities related to the ship's artifacts will include replication of seven y-shaped anchors by epoxy casting from the concretion molds; the set ultimately will be displayed in the ship gallery. Joining of glass fragments recovered from the site will continue; to date, about 200 vessels of several shapes have been built up from the thousands of retrieved shards.

### Jamaica

The Institute's two ongoing, cooperatively sponsored field projects in Jamaica will resume this summer at the sunken city of Port Royal on the south coast and

at St. Ann's Bay on the north coast.

Dr. Donny Hamilton will commence his underwater archaeological field school at Port Royal on June 1; an eleven-week work period is scheduled that includes one week set aside for travel around the island. The comprehensive training session will teach participants techniques of underwater mapping, documentation and excavation; laboratory processing and conservation; and analysis of archaeological materials.

The Columbus Caravels Project will resume its search during the first week of July for two ships abandoned by Columbus in 1504 at St. Ann's Bay. Directed by INA Research Associate Roger C. Smith, a six-week field season is planned, involving a six-person crew; operations will include intensive, localized magnetometry and sonar searches, and archaeological testing of target areas by geologic coring and test excavations.

### Texas

Under the direction of INA Research Associate Donald H. Keith, conservation, analysis and documentation of artifacts recovered from the Molasses Reef Wreck will continue at the conservation laboratory of the nautical archaeology complex. Tom Oertling, a participant on the first MRW excavation team who specializes in ship reconstruction, has been hired to assist Keith and to continue his analysis of the ship's scant remaining hull structure.

## INA Recognizes Continuous Support

What can people have in common when they come from places as diverse as Alabama and Washington, or Australia and West Germany? What do *you* have in common with a person from Japan, or India, or Indiana? You have it in your hands. Four times a year, the Institute mails out more than 600 copies of the *INA Newsletter* to members in forty-two states and the District of Columbia and in thirty-four countries.

The *INA Newsletter* is now entering its second decade of publication. Its creator and first editor was AINA's Executive Di-

rector, Cynthia J. Eiseman, in the days before our increasing international emphasis prompted the deletion of "American" from the Institute's title. At that time, AINA President George F. Bass and the Board of Directors believed that a newsletter would be the best format to disseminate information about our work to members and the general public.

The INA membership has been a remarkably loyal group of supporters. Eight of the original nine Supporting Institutions continue to assist us, as do more than half of the original members

of the Board of Directors. Their support has been acknowledged continuously on the back cover of thirty-seven *Newsletter* issues. However, among the general membership, there is a relatively unacknowledged group of supporters: the more than seventy individuals who are beginning their second decade of support as well. We have listed the names of these individuals on page 12; to them, we offer special thanks for their continued interest.

Jay P. Rosloff

# Nautical Research Library Grows By Leaps and Bound Volumes

Over the past few years, the nautical archaeology library has grown from a modest collection of publications tucked in the seminar room to more than 4,000 books, offprints, journals and microfilms that now fill one-third of the main building.

The collection of approximately 1,300 books is complemented by some 3,000 journal offprints, reports and unpublished papers, 36 journal subscriptions, and 13 microfilms. A solid selection of basic reference texts such as new, old and foreign dictionaries is available, and some of the best reading resources are among the twelve foreign languages represented. Two graduate assistants are responsible for selecting, purchasing and cataloging materials, which are used for research by students and INA staff. This research collection is, of course, greatly augmented by the holdings available at the Sterling Evans Library on the main campus.

The nautical library specializes in books dealing with maritime history, naval architecture, conservation of archaeological resources, and nautical archaeology. Most acquisitions reflect topics covered in the seminars of the nautical archaeology specialization. We also are fortunate to have a special collection of books and offprints concerning Greek and Roman civilization donated by Dr. G. Roger Edwards, recently retired professor of classical archaeology at the University of Pennsylvania.

The following are a few examples of the fine books available, although for each title described, several others of equal merit could be mentioned.

A student interested in Egyptian seafaring will find Charles M. Boreux's *Études de nautique égyptienne* extremely helpful, as well as translations of ancient Egyptian ships' logs and dockyard accounts from the period of Ramses II. The Boreux volume is an especially valuable text in the collection because of its content and rarity.

The classical historian will learn much from Morrison's *Greek Oared Ships* and Casson's *Ships and Seamanship in the Ancient World*. The information from ancient texts and ship illustrations discussed in these works is enhanced by site reports of shipwrecks of this period excavated by such archaeologists as Tchernia, Eiseman, Frost and Joncheray.

Researchers of medieval maritime history will find many books about period



Librarian Cathy Hoyt has guided the research collection's growth for the past year. With her departure from Texas in May, her duties will be passed to another graduate student, Vicki Reid. (Photo: KC Smith)

ships and the economic situations in which these ships played such a large part. Consulting Jal's *Archaeologie navale* will provide a picture of the specifications to which medieval ships in the Mediterranean were built, while the six-volume work of maritime law, *Collection des Lois maritimes*, compiled by Pardessus, will enable the researcher to envision the world in which such ships had to operate.

The collection of books concerning the post-medieval period, or the Age of Exploration, was greatly enhanced by the many fine books and microfilms brought back from Spain by Denise Lakey following her archival research in that country. Jorge Vigon's four-volume work, *Historia de la artilleria española*, is essential for the study of early artillery, as is Duro's *Armada española* for an understanding of Spanish seafaring.

The study of naval architecture concerns not only ship construction but also the tools and materials employed. The impact of naval construction on the environment is studied at length in R. Meigg's recent publication, *Trees and Timber in the Ancient Mediterranean World*. Tools used for shipbuilding are covered in W. Abell's *The Shipwright's Trade* and in facsimile editions of dictionaries such as Falconer's *Marine Dictionary*, first published in 1780.

A major aspect in the excavation of underwater sites is the conservation of artifacts once they have been retrieved

from the water. This subject is covered in numerous books and journals such as Hamilton's *Conservation of Metal Objects From Underwater Sites: A Study in Methods* and the UNESCO publication, *The Conservation of Cultural Property*. Recent developments in the field can be followed in the journal of the American Institute for Conservation and *Studies in Conservation*.

After artifacts have been recovered and conserved, the archaeologist must begin to piece together the story they tell, and parallels from other sites are studied to determine date and origin. For this purpose, the nautical library contains art books, catalogs of glass such as Lamm's *Glass from Iran*, and books on delftware, earthenware, pewter, and clay pipes.

Readers interested in a general overview of maritime history and nautical archaeology will find many books to suit their needs. Bass's *History of Seafaring* covers man's interactions with the sea from the 4th millennium B.C. until the introduction of steam in the mid-1800s. Many personal accounts about the "nautical experience" also can be found on the shelves.

Acquisitions to the library are made possible by an annual budget allocation and by contributions from private sources.

Cathy Hoyt

# RESEARCH NEWS

## Houston PBS To Fund Kaş Excavation Film

The Public Broadcasting Service (PBS) affiliate at the University of Houston, Channel KUHT, has pledged full support to INA for the production of an hour-long documentary about the Institute's excavation and initial analysis of the Bronze Age shipwreck at Kaş, Turkey.

Scheduled to begin this summer, the two-year filming project will involve a professional cinema and scriptwriting crew working in close association with Project Director Dr. George Bass and INA President Don Frey. The selection of the California-based team was aided by INA Director Jack Kelley, who is an experienced underwater cinematographer.

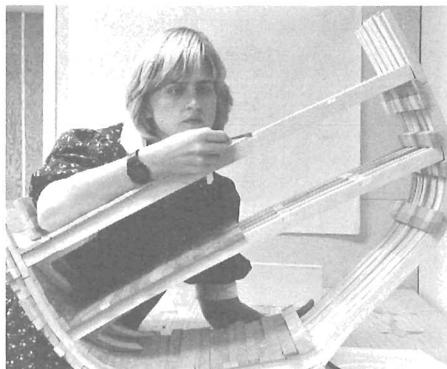
Documentation during the 1984 field season will focus on the shipwreck excavation; succeeding footage will track Bass's research in the Near East and the United States on the various cultural materials offered by the site. This will include a segment shot at Texas A&M University and at the nautical archaeology research complex.

In addition to recording the unfolding of a unique and important archaeological site, the Kaş film will incorporate an educational theme about the science and anthropology of nautical archaeology. Initial airing of the production on PBS stations nationwide is set for the early months of 1986.

## Thesis Research Leads To Lost Dashur Vessel

Ancient Egypt has provided ship scholars with the oldest examples of boat building yet found in the 4,500-year-old Cheops boat and the 4,000-year-old Dashur boats. The latter include six vessels reported in 1894 by a French archaeologist, who subsequently excavated three of them. Two of the Dashur finds currently are on display in the Egyptian Museum in Cairo, and a third is on view in the Field Museum of Natural History in Chicago. Until recently, the three other boats were presumed to have been completely deteriorated or originally unexcavated.

However, during thesis research concerning the construction of the known, 30-foot-long Dashur hulls, nautical archaeology student Cheri Ward Haldane has discovered that a fourth boat was excavated during the turn-of-the-century



*Cheri Haldane, whose thesis research identified an uncelebrated member of the ancient Egyptian Dashur boat assemblage, works on a midsection model of the Peacock that was begun by the ship's excavator, former nautical student Kevin Crisman. (Photo: KC Smith)*

project. In 1901, Andrew Carnegie purchased an ancient Egyptian boat for the Carnegie Museum of Natural History in Pittsburgh, and although the vessel was displayed there until 1975, its existence was scarcely noted in the literature.

Tracking an obscure lead, Haldane recently visited the institution to record those ship remains. Based on her previous study of the Chicago hull, with which the Pittsburgh treasure shares many distinctive characteristics, Haldane is certain the CMNH artifact is indeed part of the Dashur assemblage.

Haldane's analysis and discussion of both hulls were presented in her thesis in April. She and husband Douglas, who also completed a nautical archaeology thesis this spring, will depart in May for Bodrum, Turkey to work for INA for a year. The two met and married as Texas A&M students; they are expecting their first child in December.

## Three Theses Completed

The spring semester closed with another contingent of successful graduates of the nautical archaeology specialization at Texas A&M. Among those currently gasping a breath of relief, having submitted the following theses, are: Carol Olsen, "Nineteenth- and Twentieth-Century Figureheads from the Mystic Museum Collection"; Douglas Haldane, "The Wooden Anchor"; and Thomas J. Oertling, "The History and Development of the Ship's Bilge Pump."

Several other students are planning to submit theses by the end of May, for August graduation.

## NEH Quincentennial Plans Receive Input From Smith, Gerard

In March, the National Endowment for the Humanities (NEH) sponsored the third of five academic conferences to discuss research needs and opportunities related to the forthcoming 500-year anniversary observances of Columbus's voyage of discovery in 1492. As director of the Columbus Caravels Project at St. Ann's Bay, Jamaica, I was asked to represent INA at the meeting, held at the University of Florida and at historic St. Augustine. INA Director Sumner Gerard also was invited to attend. Other participants included a multidisciplinary selection of scholars, educators, public information specialists, and NEH program directors.

The Endowment's purpose in convening the conferences is to identify issues and ideas, institutions and individuals of funding merit relative to national participation in global celebrations of the Quincentennial in 1992. Invited scholars were asked to provide brief presentations on the ways in which their disciplines and institutions are likely to respond to the Columbian event.

INA's current archaeological activities on early 16th-century shipwreck sites were outlined in a short slide lecture that emphasized the need to study the maritime technology of the Age of Discovery. Historical and archival research, coupled with excavations at Molasses Reef and Cayo Nuevo, are providing clues to nautical mysteries of colonial explorers. Study of early, partially salvaged wrecks in the Bahamas and Mexico are revealing additional data. Hopefully, the discovery of two Columbus caravels buried at St. Ann's Bay, or others lost in a hurricane at Isabela, Dominican Republic, will uncover preserved hull remains that explain the ships which made possible a turning-point in history. Although replicas of Columbus's first ships sailed the Atlantic for the 400th anniversary, their designs were based on hypotheses since no plans of these early vessels exist. It is hoped that modern archaeology will benefit a new set of planned reconstructions with scientifically affirmed evidence.

Roger C. Smith



*Nautical student Carol Olsen, an expert on ships' figureheads and carvings, has been honored with a Distinguished Graduate Student Award for spring 1984, presented by the Texas A&M Association of Former Students. The recognition, which included a plaque and a monetary award, was based on Olsen's outstanding academic record as well as her burgeoning list of publications and presentations, and her expertise as a consultant on ships' decorations. (Photo: KC Smith)*

## Adams Joins Crew Of Virginia Project

Bob Adams has accepted the position of underwater archaeologist with the Virginia Historic Landmarks Commission to participate in the ongoing excavation and analysis of Site Y088, one of the Cornwallis fleet vessels sunk in the York River in 1781. As site supervisor and assistant to Project Director John Broadwater, Adams will be involved in excavation planning and operations, hull and artifact analysis, and preparation of site reports.

A former student in the nautical specialization, Adams currently is completing his thesis on "The Construction and Qualitative Analysis of a Sewn Boat of the Western Indian Ocean."

## Hoyts Accept Positions With Bermuda Museum

Nautical students Cathy and Steve Hoyt will depart INA and Texas A&M this month to accept positions at the Bermuda Maritime Museum. The Hoyts have been asked by Museum Director Dr. Edward Harris to establish a marine conservation laboratory and to assist with other activities. In particular, they have been asked to bring existing but currently non-functioning facilities up to operational capability and to begin conservation and research on artifacts already in the Museum's possession.

During his five-year study sojourn in Texas, Steve has participated in six INA field projects and has served as director of the Pedro Bank Survey, a search for

shipwrecks off the Jamaican coast. For the past year, he has worked as an INA staff member on the conservation of artifacts from the Molasses Reef Wreck.

Cathy's three-year participation in the nautical program has been highlighted by two field seasons in Jamaica and an extended involvement with the nautical research library. Since May 1983, she has been performing conservation on artifacts from the wreck of the *Sea Venture*, which sank in Bermuda in 1609.

The Hoyts, who met and married while at Texas A&M, are expecting their first child in July.

## Colonial Pewter Study Receives INA Support

Shirley R. Gotelipe has received a grant from INA to conduct research in England this summer on 17th-century pewter craftsmanship and trade, in conjunction with her thesis study of the pewter artifacts recovered at Port Royal, Jamaica.

Gotelipe became interested in the subject during her two-year involvement with the INA-Texas A&M field school excavations at the sunken city. Many of the numerous pewter objects retrieved from the site bear maker's and/or owner's marks which, when analyzed, may aid the interpretation of project archaeological data as well as the understanding of small-scale artisan trade between England and her colonies.

## INA And The Second Decade

*Continued from Page 4*

covery of the New World only eight years away, it is hoped that we will find another 16th-century site worthy of excavation, that we might learn what dramatic changes in ship construction gave humankind the courage to make its first voyages to the Americas.

It is hoped that through these and other surveys, the Institute will accumulate a large inventory of wreck sites whose excavation can answer specific questions. Through the academic specialization at Texas A&M, we gradually are developing a cadre of nautical archaeologists available for our ever-increasing field work program. At the same time, with its growing reputation and expanding board of directors, the Institute is coming into a position of establishing the stronger financial base needed not only for excavation of shipwrecks, which usually attracts funding, but also for conservation, research, and

## Parrent Researches Sucrose Treatment For Wet-Site Finds

A major problem facing archaeologists is the conservation of artifacts found under water, in swamps and bogs, and in other, similar environments. Presently, the chemicals used for the conservation of waterlogged wood are expensive—especially in countries which must import them; hence, the development of less costly alternatives is a welcome contribution to conservation techniques.

As the basis of his master's thesis submitted in fall 1983, James Parrent has conducted experiments using wood samples from the 17th-century sunken city of Port Royal, Jamaica, as well as modern, chemically-decomposed white birch samples, to evaluate the use of sucrose to stabilize waterlogged wood. An 87 percent anti-shrink efficiency was achieved with this technique, which, like other current methods, strives ultimately to alter a treated artifact as little as possible. Equally important, the new method renders conserved artifacts in an aesthetically pleasing manner.

The results of this investigation indicate that the sucrose treatment, when properly applied, is a safe, reliable method for conserving waterlogged wooden artifacts and is the least expensive of all currently employed alternatives.

publication—all of which often have been less well funded in the past.

Certainly a part of the Institute's future cannot be tracked or predicted. The chance discovery of an important shipwreck off the coast of North Africa, for example, and the concurrent availability of special funding might easily attract INA involvement if the right individual were available to direct the project. Each year the Institute receives a variety of such requests from governments around the world seeking help or participation in underwater projects.

Our ability to respond to such requests in the future will be a function of numerous factors: careful and creative planning on our part, the availability of enthusiastic and dedicated scholars and technicians, and the continued support of foundations, institutions and private individuals who believe as we do in the purpose and proper direction of our discipline.



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