In 1976 the Underwater Archaeology Division under the direction of Alan Albright recovered a 50-foot, ketch-rigged, shallow draft, wooden sailing vessel from the Black River. The boat was found and reported to the Institute by Hampton Shuping, hobby diver extraordinaire from Conway. A number of artifacts found on the site and in context with the vessel’s structural remains led archaeologists to believe that the wreck dated to the 1700’s. For example, the collection included a Delft bowl, slipware cups, smoking pipes and onion-shaped bottles. The vessel was also carrying a cargo of bricks. The most unusual artifact recovered was a Back-staff or Davis Quadrant, a navigation instrument introduced around the mid-1500’s.

The wreck is an exciting find that could potentially provide new information about colonial shipbuilding and South Carolina’s maritime heritage. As Richard Steffy ship construction specialist from Texas A & M University claimed, “In my opinion, it is the most important single nautical discovery in the United States to date. More importantly, this was a merchant hull, built without the anxiety, bureaucracy, and inefficiency often associated with vessels of war. As such, it defines everyday technology in a competitive atmosphere. Additionally, this was a local type - important to any maritime scholar - representing a period and area in which far to little maritime information has been forthcoming”.

Since the wreck was recovered it has been treated at the Institute’s conservation facility in Columbia. For seven years the timbers have been soaking in a solution of polyethylene glycol (PEG) to preserve the wood so that it can be safely exposed and displayed on land again. Dr. Jon Leader, the Institute’s Conservator, is supervising the final stages of this conservation process. The 5,600 cubic foot treatment tank was drained last month revealing the hull structure. The next step was to install a GIANT humidifier to control conditions in the laboratory and to prevent the wood from drying out too rapidly. During the months of October and November Institute staff members and special guest archaeologist, Fred Hocker, will be documenting and reconstructing the shipwreck.

Anybody who wishes to see the boat is welcome to visit our Columbia Conservation Laboratory during the week from 9 am to 4.30 pm. An appointment will be necessary. This can be made with Jonathan at 777-8170 or 777-5096. If Jonathan is not available, ask for Lynn, Joe, or Cameron. It would also be best to stop by our SCIAA head office to get directions to the Laboratory which has no street number.
YOUR QUESTIONS ANSWERED

Crescent Moon Hatpin Ken Tassin:

Could this be a Revolutionary War South Carolina hatpin? Also I guess this could be some sort of woman's jewelry. It is made of solid silver, .030 cm thick. What is it?

Answer: You are correct! It is a South Carolina Revolutionary hatpin. As far as we can know it is the second one to be found in the state. What an interesting find! The crescent moon was the symbol of a new beginning. According to historical documents the area in the Cooper River where you found the hat pin was the location of a Revolutionary War activity. We would also like to thank you for loaning this artifact to the Institute for photographic and documentation purposes.

Our Conservator tested the silver and concluded that it contained an almost pure silver content. He also cleaned off the black deposit with a solution of baking soda and warm distilled water, allowing the hatpin to soak on a piece of aluminum foil. This generated a current between the foil and the solution completing the cleaning process. The pin was then boiled in distilled water a couple of times and checked visually. Finally, it was coated in an acraloid B48 4% solution of toluene.

Anchor Daryl Boyd: Myself and a friend found this anchor in the Savannah River on the South Carolina side. We were wondering if we could get some information as to what sort of boat might have carried this anchor and possibly a guess as to the age. The anchor will probably be located at Full Sail Scuba at Aiken.

Answer: We suspect that this anchor was manufactured in the 1800's, probably the latter part, judging on the design, dimensions and the fact that it had some evidence of remaining chain (introduced initially in 1809). The enclosed publication shows a similar anchor invented in 1851 used for yachts and other small to medium sized craft. Something else to bear in mind is that although the anchor may have been introduced in the 1800's, this does not exclude the possibility that the vessel carrying the anchor did date to a later time period in the 1900's. Anchors were not always discarded when more modern anchor types became available. The "T" stamped on the fluke is possibly the foundry mark and might relate to the Treadgar Ironworks in Virginia.

Fossil Dredging Permit Numerous Beaufort Hobby Divers: Has the salvage permit to dredge for fossils in the Chehaw River been granted?

Answer: No, the Institute and the South Carolina State Museum have decided against granting this permit.

SC New Underwater Legislation, Bob Franz, Divemasters Club, Beaufort: When will the new state underwater laws be enacted and will sport divers be allowed to provide input?

Answer by Christopher Amer: The new laws will be enacted by May 1991 and divers will be given a chance to provide input later this year. Currently, we have written a draft which is being reviewed by various senators to determine whether or not they will support it. If accepted it will be put into legalize. The next step is to give it to the Attorney General to have it checked for unconstitutionality or anything else that might be illegal. Once this document is approved, we will hold a public meeting (all dive stores, clubs and hobby divers will be notified of the location and date by us) during which interested persons may present their views. After considering this input, we will re-draft the text. A second hearing can also be held if requested by more than 25 people. After the hearing/s, the law finally goes to the General Assembly.
The Dugout

The dugout is doubtless the first watercraft, other than rafts perhaps, that were introduced into this region prior to colonization by Europeans. These craft are common to temperate zones around the world and they share many common construction characteristics.

The earliest prehistoric dugouts in South Carolina were crudely hollowed logs. These were manufactured by the 'burn and scrape' method. Embers were placed on the log and fanned until they burned the wood - they were then removed and the carbonized material scraped away with a tool - most likely made of stone. This process continued until the interior of the log was hollowed. The method allowed a fair amount of control. Crudity of manufacture seems to be the only characteristic of these prehistoric dugouts. Interiors appear to be smooth except where knots and resinous grain structure occur. These areas did not burn as well as softer wood surfaces. Exterior hull shaping appears to minimal. The sides of the dugout were often untouched except for minimal trimming. Ends were typically wedge shaped, but crudely carved (see page 6 of the SCIAA Dive Manual by Lynn Harris for an idealised impression of this process). Not all pre-historic dugouts were 'floating logs' - one diver has reported discovery "near the Cooper River" of a cypress log dugout with a shaped hull and neatly hollowed interior - the dugout is reported as five feet wide with 30 feet of length protruding from a riverbank. The diver supposedly recovered samples for carbon dating which revealed that the tree had been cut down 4,500 years ago!

The early Colonists needed to make use of the Colony's river system and adoption of the dugout, followed by adaptation of the craft to other uses, quickly followed their arrival. Historic dugouts have readily identifiable features which differentiate them from Indian built craft. Insufficient research has been done to enable a chronology for many of these features to be developed, but here are some of the things to look for: Hull shape - Historic hulls crafted by Europeans generally show some ship hull characteristics such as shaped bows and sterns. Some hulls exhibit 'chine shaping' the addition of edges at the curve of the hull to give it greater roll stability in the water. The hulls also show greater control over the hollowing process with much thinner sides of uniform thickness. Toolmarks are another fairly reliable indicator of age in historic period dugouts. Most of the inner hull shaping was done with an adze and these marks are often evident. Some smoothing was doubtless done with a cooper's draw knife, bow shaped instead of flat and sometime called a Scorp. Outer hull shaping was also done with and adze or an offset axe. Adze marks are usually short, four to five inches long and slightly curved, ax marks are often seven to ten inches long and flat.

As time passed, advances in tools allowed greater sophistication in the manufacturing process. This is exhibited both in hull shaping and the addition of new construction elements to the basic hull shape. Thinner, longer augurs and later the use of mechanized drills allowed the use of pegs or treenails for thickness gauging. Typically, small diameter pegs were inserted to the bottom of the outer hull. This allowed interior shaping to proceed quickly with care being needed only when the inner ends of the pegs were reached. The pegs then served as a guide for creating a uniform bottom thickness for the hull. Later hulls also exhibit the sophisticated use of pegging to repair cracks in the hull. Since cypress was the most popular wood of choice for dugouts, cracking was a common problem during manufacture. For this reason it is most likely that these 'repairs' were actually part of the original construction process. In early historic years the common treatment to prevent cracking was to rub the hull down with bear grease during the shaping process. Perhaps this is why we see a lot of cracking repairs - after all, just how easy was it to separate a bear from his grease?

In later dugouts we also see additions to the hull. These took the form of small splashboards along the gunnels, forward sheer pieces to build up the bow and 'thwarts' or cross pieces which strengthened the hull and also provided seating. One dugout examined last year had carrying handles neatly carved into the gunnels! Clues to age often take the form of fastening methods for these additions. Earlier dugouts used treenails or square headed wrought iron nails. Later craft exhibit round headed wire nails, bolts and pegs. By pegs I mean sections of machine rounded dowel rod on later craft. Treenails refers to earlier wooden fasteners made by hand. These were usually angular, octagonal and sharpened on the inner end to a point. Occasionally you will see them wedged - split on the outer end with a hardwood sliver driven into the split to provide greater holding strength. It was also common to drive a nail into the end of the peg for the same effect.

Extreme changes in hull shape occur much later in the nineteenth century and the early twentieth. Most commonly, a transom stern was carved to allow use of a stern sweep as well as paddles, and - in the twentieth century - the use of an outboard motor.

Next column we'll take a look at the descendants of the dugout - the built-up dugout and the peragua. In the meantime, remember that very little research has been done in South Carolina on dugouts. If you find one - call us! The wood is usually very soft and fragile, so don't attempt to excavate or move a dugout.

SCIAA field sketch, profile and inboard view of dugout canoe
ARTIFACTS RETURNED TO SHIPWRECK by Lynn Harris

The South Carolina Underwater Archaeology Division staff and a local hobby diver recently returned confiscated artifacts to the site of the shipwreck SS William Lawrence. These artifacts were recovered illegally by divers without hobby licences using mechanical equipment who attempted to prevent other local divers and fishermen from utilizing the site. Many of these items have now been returned to the shipwreck for the rest of the diving community to enjoy. A small portion of this collection was also retained by the Institute for exhibit purposes and show and tell sessions for school groups, and selected pieces will be added to our comparative type collection for future research.

The SS William Lawrence, wrecked in 1899 off Hilton Head Island, was a single screw, iron hull passenger and cargo ship. The vessel displaced 1,049 tons, was 226 feet in length and had a 35 foot beam. James Cooler, a local diver who has been diving on the site for many years, drew us a sketch plan of the layout of the shipwreck before we started the diving operation. At low tide the boiler of the wreck is visible on the surface; at high tide boat handlers should be careful not to run aground upon it. The upright hull is embedded in the sand creating a scouring effect and causing a buildup of large, white sandy banks around the perimeter. The bow looms up approximately 10 feet high. Supporting deck beams provide integrity for the hull and protect the cargo stowed within the ship's hold. James also pointed out that some of these beams and an aft section of the port side had been torn open by past irresponsible divers exposing the interior to the ravaging tidal environment. Around the outside lay hull plates, piping and various other pieces of scattered wreckage.

Our task that day was to swim around the site, examine the wreck and then to replace the artifacts. As archaeologists, who usually recover artifacts, this was a rather unique experience! We returned a variety of cargo items such as South Carolina dispensary, perfume, relish and ketchup bottles, ceramic and glassware sherds, bottle necks, and shoe soles. In addition to these artifacts we know that the Lawrence's cargo included toys, clocks, mirrors, ordnance, and crates containing various sundries such as stationery, fabric, and clothing. The latter included women's stockings, men's trousers, and socks! This unusually well-preserved cargo represents a way of life at the turn of the century. Hobby divers are therefore strongly urged to report all past and new finds on this site. Bear in mind that sundries are fragile and difficult to conserve and would be best left alone unless entirely exposed on the surface. We would also like to stress that the ship's hull structure and packaging crates for the cargo are also important artifacts and should not be mutilated.

If you are interested in diving on the Lawrence, Hilton Head Dive and Travel at 18 Port Royal Plaza run dive charters to the wreck. You can contact Anne Lewis at 681-6275. James Cooler can also give you useful information about conditions on the site and advises that it is not a suitable dive for inexperienced divers due to the strong tidal conditions and rapid changes in weather. Our Lawrence artifact exhibit will be on display at the Institute in November, so please stop by and visit when you are in Columbia. It will also be on loan to any interested dive stores next year.
THE S.S WILLIAM LAWRENCE: SOUTH CAROLINA'S: 
FIRST ARCHAEOLOGICAL PRESERVE? 
BY DAVID BEARD

After a recent reconnaissance trip to the wreck of the S.S. William Lawrence by SCIAA staff several things are clear which should affect future management policies concerning that and other shipwrecks in South Carolina waters. The following assessment reflects the personal and professional concerns of the author relating to the management of submerged cultural resources and is intended to offer an alternative to current management policies.

It is obvious that the site has suffered greatly at the hands of both the most irresponsible and the best intentioned collectors. Both of these groups seem to view the vessel as a "container" and not as an artifact itself. Evidence of structural members being damaged or destroyed to gain access to cargo is very apparent on the site. These activities have accelerated the natural destructive processes which affect the site, failing to allow the wreck to reach an equilibrium within its environment.

The artifact collection that was confiscated after the recent litigation included a variety of initially well preserved organic material. On-site observations and discussions with divers who frequent the site verify that there is a considerable amount of well preserved organic cargo (including boxes of clothing, footwear, books, and artwork) in-situ on the wreck which is now being exposed. The interior of the wreck is littered with the remains of packing crates which have been uncovered by divers and torn apart to get at the materials within them. The boxes, like the vessel, are considered by some divers to be disposable containers and not themselves artifacts.

The decline in the number of intact South Carolina Dispensary bottles being recovered from the site may be indicative of the almost total removal from the site of a top layer of fragile cargo. This process was hastened by the illegal salvage operations which employed mechanical means to remove sediment from within the vessel. Collectors have now reached a layer of more intact cargo which includes the above mentioned organic materials. In the rush to get at other more desirable artifacts, I am afraid that some divers will displace and destroy much of this material.

While the Lawrence may be typical of the bulk carriers of her time, and not at this point considered as being of the greatest historical or archaeological significance, the time will come when researchers will want to know more about such vessels, their cargoes and methods of loading and arranging those cargoes. If the uncontrolled reduction of the wreck continues, then much of this valuable information will be lost forever. I firmly believe that the site, with an intact cargo of sundries, meets all of the necessary criteria for inclusion on the National Register of Historic Places and as such deserves better treatment.

There are a number of options which can be pursued in this situation, but the best, and I believe the most equitable for all parties involved, is to seek to make the Lawrence South Carolina's first underwater archaeological preserve. By doing this, the site could be made off-limits for collecting and spear-fishing while remaining accessible to the sport diving community in general. SCIAA, along with Wildlife and Marine Resources personnel, could then make a full assessment of the site, recording its full range of visible cultural and natural resources. A site map pointing out these features could be made available to divers. This map could also include the locations of plaques containing information about various features of the site. Mooring buoys could be installed to protect the wrecksite from damage caused by boat anchors. Reference lines leading from the buoys could take divers on guided tours of the site.

Several other states have been very successful with such programs. Florida, for example, has established two underwater archaeological preserves on wrecks from the 1715 and 1733 Spanish fleet disasters. Tragically, there is very little left of these sites due to decades of depredation by commercial salvors seeking treasure. I feel that any new legislation in the state should include provisions for the development of such underwater archaeological preserves. This is even mandated, to a certain extent, under the federal Abandoned Shipwreck Act. The Lawrence would seem to be the perfect candidate for beginning such a program in South Carolina.

There are a number of benefits for the diving community in establishing underwater archaeological preserves. The first is obviously the preservation of important submerged cultural resources for future generations of divers to enjoy. Once gone, a shipwreck cannot be replaced. There will be no more 17th, 18th or 19th century shipwrecks occurring. A second benefit is improved access for a greater number of divers. Local dive stores, clubs and individual divers could assist in the development of such preserves, enhancing the recreational, as well as financial benefits for the diving community. The presence of such a preserve would attract divers to the area who would otherwise go elsewhere, thus benefitting the diving charter business as well as other segments of the local economy. In Florida diving groups have become stewards of the preserves by helping to maintain and protect the sites.

By rewriting its Underwater Antiquities Act South Carolina has the opportunity to bring that law more into line with the growing recognition of shipwrecks and other submerged archaeological sites as valuable, non-renewable cultural resources, and not merely as a source for mantepiece decorations and lawn ornaments. I believe that the majority of sport divers can be convinced of the need for a policy aimed at the preservation of important submerged archaeological sites, much the same as they accept preservation over exploitation of coral reefs and certain species of marine life.

We in the Underwater Archaeology Division of SCIAA would like to have Cont. page 6
THE BOOK CORNER
by Carl Naylor

Huggins, Phillip Kenneth


This book should be subtitled "Everything You Could Ever Possibly Want To Know About South Carolina Dispensary Bottles." South Carolina Dispensary bottles are the visible remains of a singular period in our state's history and are one of the most desirable forms of artifacts to collect. From 1893 until 1907 South Carolina bottled and sold all liquor in the state (at least all the legal liquor). The program was the brainchild of Governor Ben Tillman, one of our most illustrious and controversial governors.

Huggins's book is divided into two sections. The first is an identification manual for dispensary bottles. Each type of dispensary bottle, flask, and jug ever made is specified, classified, and identified down to its minutest palmetto frond. While there were dozens of different types of bottles made, many with only subtle differences between them, this section makes it easy to identify any particular bottle. It also notes the relative scarcity of each bottle type.

The second part of the book is a history of the dispensary system in the state, how it came about, how it operated, how it all came to an end, and includes the fascinating story of the Whiskey Rebellion of 1894.

Not only a handy and invaluable reference guide, but an interesting account of a significant period in our state's past.

Noel-Hume, Ivor


Every historical archaeologist on the East Coast has this book on their bookshelf or wishes they did. Ivor Noel Hume, for years the Director of Archaeology at Colonial Williamsburg, certainly knows about what he is talking. His book, one of the several he has written, is an indispensable guide for the identification of artifacts of all sorts.

Sections include: Armor; Bayonets; Beads; Bellarmines; Bells; Bottles, glass liquor; Bottles, glass pharmaceutical; Bottles, pottery; Bricks and Brickwork; Buckles, Buttons and Sleeve Buttons; Candlesticks and Lighting Accessories; Ceramics, American; Ceramics, British; Ceramics, European; Chamber Pots, Bedpans, and Closestool Pans; Clocks and Clockcases; Coins, Tokens, and Jettons; Combs; Cooking Vessels of Iron and Copper Alloys; Cutlery and Spoons; Drinking Glasses and Decanters; Drug Pots, Jars, and Pill Tiles; Firearms and Gunflints; Flowerpots and Bell Glasses; Furniture Hardware; Glass, window; Hinges, Horseshoes and Horse Furniture; Locks and Padlocks; Nails; Pins, Needles, and Thimbles; Porcelain, Chinese; Rings, finger; Scissors; Seals, lead; Silver, marks on English and American; Spades and Hoes; Stoneware, Rhenish; Tiles, Delft and other wares; Tiles, roofing; Tobacco Pipes and Smoking Equipment; Toys, and Wig Curlers.

One gets the impression that if it isn't in this book it didn't exist, and that may be true. Written in an easily understood style, the information presented is nonetheless thorough and enlightening. You'll wonder how you ever managed without this guide.

A hard to find book, but if you should run across it in a book store — or anywhere — buy it immediately.

CONFERENCE FOR SPORT DIVERS
On November 3 and 4 the 1990 Coastal Carolina Conference on Underwater Recovery will be held in Conway, South Carolina, at the Georgetown Technical College Campus. The Conference is being organized by the Horry County Museum and will concentrate on the underwater heritage of the Pee-Dee area, South Carolina shipwrecks, fossils, and pre-history, as well as the involvement of sport divers in underwater archaeology. For more information contact Stuart Pabst at (803) 248-6489.

VIDEO FOR SALE
An 45-minute instructional video about the Sport Diver Archaeology Management Program is available to hobby divers for $20.00. This video would be useful to sport diver instructors to introduce students to our program for hobby divers and give them some idea of the types of sites and artifacts they are likely to find.

CONTINUED FROM PAGE 5
the input of the sport diving community on this issue. Would you support such a program? Are there other sites which you think would make good underwater archaeological preserves? Would you like to get involved with the development and maintenance of such a preserve? Let us know what you think. After all, these sites belong to you, the citizens of South Carolina, and therefore it is important that you have a say in the preservation of your common maritime heritage.

Send your comments to:
David Beard
South Carolina Institute of Archaeology and Anthropology
40 Patriots Point Road
Mt. Pleasant, SC 29464
(803) 881-8536
Rusconi’s Ground Sloth, *Eremotherium rusconi*, once stood about 20 feet tall and weighed more than 3 tons. The males may have weighed 50 percent more than females. This animal roamed South Carolina during the Pleistocene Epoch, more commonly called the Ice Age. Eremotherium probably reached North America 1.8 million years ago from their native home in South America. They became extinct less than 10,000 years ago which means early man probably saw these gigantic animals.

The ground sloths had great claws, especially on the forepaws. The feet were turned inward so the body weight rested on the outer knuckles of the forefeet and the outer margin of the hindfeet. The tail was thick and powerful and served as a support when the sloth reared up on its hind legs. Sloths were leaf eating animals that would sit up on their hind legs and browse on tree tops. They used their claws to dig edible roots from the ground.

Most of the Eremotherium fossil material found consists of isolated teeth. Hand and foot elements and parts of long bones are also found occasionally. Skull material is rare. Sloth material has been found in Georgia, South Carolina, Florida, and Texas. The genus is also found in Central and South America.

The Charleston Museum has a large collection of Ground Sloth fossil material found on land in the Summerville area. The State Museum’s fossil collection from rivers indicates several trends. Teeth and “claw” bones are the most common material of sloths found in the rivers. Sloth limb and skull bone material is rare in rivers. This is probably due to the fragile porosity of the bone. These bones do not fossilize well and are often broken up in the river by the water current.

When teeth and “claw” core bones are found in the rivers they are usually very stable. Little conservation is needed. Care should be taken as the items dry out. Cracking can occur during drying. When displayed, all fossils should be kept out of the direct sunlight and in a stable temperature and humidity. Extreme changes in temperature will cause structural failure in the fossil which will someday cause it to break.

Limb bones found underwater usually require more extensive recovery methods. Fragile items must be jacketed underwater with a fiberglass tape impregnated with polyurethane resin. This jacket will hold the object together until carefully recovered on land. More stable material can be brought to the surface and hardened in dilute solutions of Butvar. Duco cement diluted with acetone can also be used. This hardening step will prevent the material from becoming dust in your display case.

The museum is always interested in your discoveries. Very few sloth collections exist in the state. Many experts across the US borrow material from our collection to study, document and publish for others to learn more about these giant animals of the past. Professionals would rather study actual material when available, but casts, photographs or sketches are also helpful. Any materials loaned to the museum for temporary study are treated with the same care and security that permanent collections receive. The information that hobby divers provide will help everyone understand South Carolina’s past a little better.

For more information contact Michael A. Ray, Curator of Natural History at the South Carolina State Museum, P.O. Box 100107, Columbia, SC 29202.

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Page 1: SCIAA Photo
Page 3: Canoe: SCIAA, Field Sketch
Page 4: Lawrence Map: Lynn Harris after James Cooler.
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