




Tributaries

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History Council

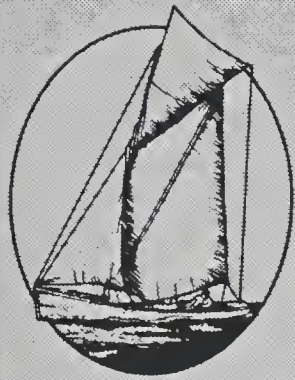
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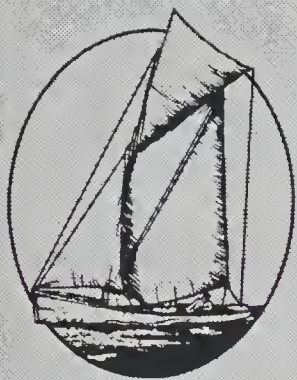
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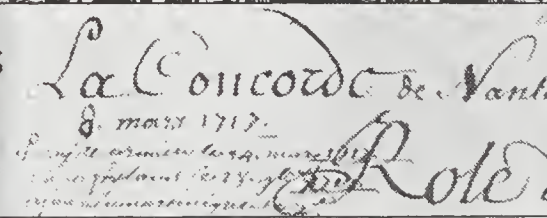
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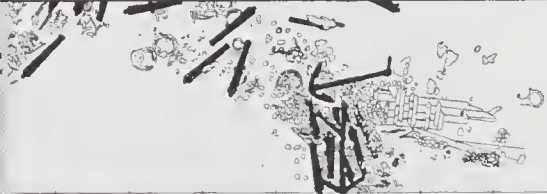
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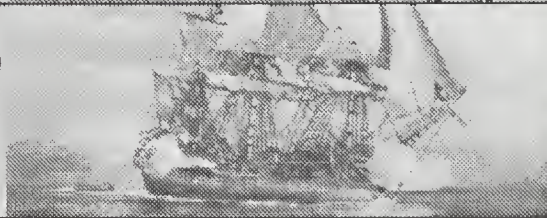
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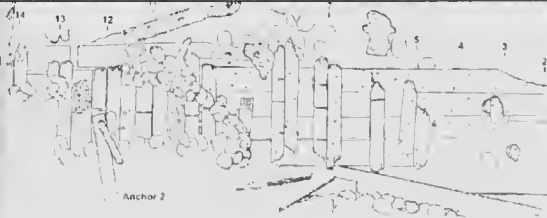
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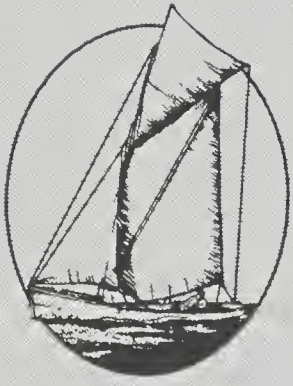


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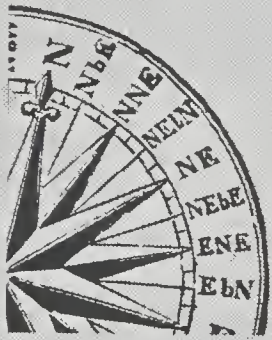
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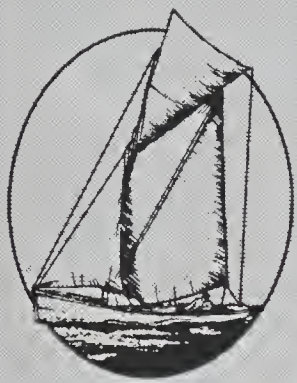
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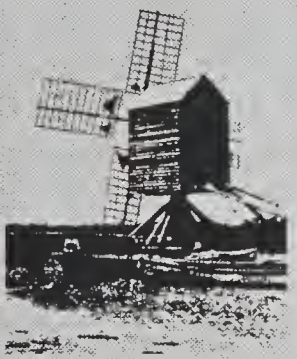
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About

the Maritime History Council

The North Carolina Maritime History Council came together in 1988 when a group of individuals professionally involved in maritime history programs began meeting informally to share information and to discuss issues of mutual concern.

Aware that the sheer size of the state's coastal area, increasingly rapid development, and the variety of coastal waters have tended to fragment efforts to preserve the state's maritime history, the group began to explore ways to pool the resources of disparate state and federal agencies.

The North Carolina Maritime History Council was incorporated in 1990 with the mission to identify and encourage historical and educational projects that have as their purpose the enhancement and preservation of the state's maritime history and culture, and that create public awareness of that heritage.

The council views this heritage in broad perspective, noting that its influence extends to the heads of navigation of the state's rivers.

An example of its accomplishments is the purchase of the Edwin Champney drawings, a collection of fifty-nine sketches of coastal scenes from the Civil War period that were obtained by the council in 1990 using funds donated by the Frank Stick Trust and other nonprofit groups. They are now part of the permanent collections

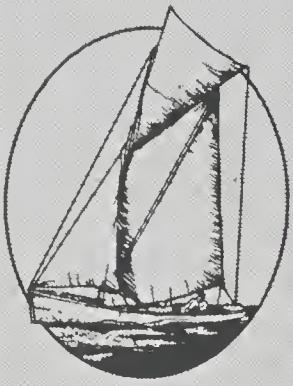
of the North Carolina Division of Archives and History and are administered by the Outer Banks History Center.

The council advises the North Carolina Maritime Museum on the newly instituted N.C. Historic Vessel Register. This journal has been published every October by the group since 1991.

Council membership is offered to nonprofit organizations and institutions involved in the study and teaching of the state's maritime culture and to individuals interested in maritime history.

This issue of *Tributaries* is unusual in that it is devoted entirely to a single topic. Since it is five years since the discovery of the site thought to be the wreck of Blackbeard's flagship, *Queen Anne's Revenge*, the Council thought it would be appropriate to survey the project's present status, both to take stock of what has been accomplished so far and to prepare the ground for further progress. The Council is delighted that it can publish work by such well-qualified contributors.

Lindley S. Butler
Chair



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Pirates

by L. E. Babits



Above: 18th century woodcut of a party that purportedly took place at Ocracoke Inlet between the pirate crews of Blackbeard and Charles Vane.

Courtesy of North Carolina Maritime Museum

At left: Perhaps the best-known illustration of Blackbeard the pirate from Captain Charles Johnson's *General History of the Pyrates*, 4th edition, London, 1726.

Courtesy of North Carolina Maritime Museum

As the excavation of the Beaufort Inlet wreck continued to generate enthusiastic statements about it being Blackbeard's flagship, *Queen Anne's Revenge*, a close look at what might constitute a distinctive pirate assemblage became necessary. What distinguished a pirate from sailors was the act of piracy. Sailors were distinguished from landmen by their clothing and tools. What would survive in a shipwreck to demonstrate conclusively that the wreck was manned by pirates is difficult to ascertain.

The wreck site was publicly identified as Blackbeard's *Queen Anne's Revenge* by the Governor of North Carolina. While Governor James B. Hunt had obvious reasons for claiming *Queen Anne's Revenge* had been found, he was responding to an older, popular imagery with which we are all familiar.

Most children know what a pirate looks like long before they start learning any names or details of piracy. In part, this is attributable to James Barrie's *Peter Pan*, featuring Captain Hook, first published in 1911 (Barrie 1987). Captain Hook is relevant here because he was Blackbeard's bosun (Barrie 1987:44). Aside from an "iron claw" replacing his right hand, Hook's distinguishing attributes were that "he somewhat aped the attire associated with the name of Charles II" (Barrie 1987:52), a flamboyant style that included much lace. Hook's pirates were described as a "villainous-looking lot...great arms bare, pieces of eight in his ears, [and a] gigantic man" (Barrie 1987:50-51).

As they get older, many children graduate to Robert Louis Stevenson's *Treasure Island* and Long John Silver, originally published in 1883. Captain Silver's distinguishing attributes,



Blackbeard the Pirate.



Blackbeard the Pirate

Second edition, 1724.

depending on the written version rather than films, produces a standardized pirate figure, but with one leg and a Devonshire accent drawing out the r's until they are almost words in themselves. It is not simply Silver's appearance, the book begins with nautical references and Captain Billy Bones: "a tall strong, heavy, nut-brown man, his tarry pigtail falling over the shoulders of his soiled blue coat, his hands ragged and scarred, with black, broken nails, and the sabre cut across one cheek" (Stevenson 1965:11). "[H]is great sinewy arm. It was tattooed in several places. "Here's luck," "A fair wind," and "Billy Bones his fancy," were very neatly and clearly executed on the forearm; and up near the shoulder there was a sketch of a gallows and a man hanging from it" (Stevenson 1965:22).

Bones' assailants are all former members of Flint's crew. They were led by Long John Silver, "the ship's cook, Barbecue, as the men called him" (Stevenson 1965:66). His left leg was cut off close by the hip, and under the left shoulder he carried a crutch... He was very tall and strong (Stevenson 1965:54). "Aboard ship he carried his crutch by a lanyard round his neck, to have both hands as free as possible" (Stevenson 1965:66). "He was tricked out in his best; an immense blue coat, thick with brass buttons, hung as long as to his knees, and a fine laced hat was set on the back of his head" (Stevenson 1965:122). Silver

had a parrot, Captain Flint, and the parrot would say, "Pieces of eight! Pieces of eight" (Stevenson 1965:67). Linking Silver and Blackbeard can be accomplished via Israel Hands, a stalwart of Blackbeard's crewmen and by Captain Hook, "the only man of whom Barbecue was afraid" (Barrie 1987:44, 51).

The old pirates included Black Dog, "a pale, tall, lowy creature, wanting two fingers of the left hand, and though he wore a cutlass, he did not look much like a fighter. I had always my eye open for seafaring men, with one leg or two, and I remember this one puzzled me. He was not sailorly, and yet he had a smack of the sea about him too" (Stevenson 1965:18). Blind Pew lost his eyesight in the same broadside that took away Long John Silver's leg. "He was hunched, as if with age or weakness, and wore a huge old tattered seacloak with a hood that made him appear positively deformed." (Stevenson 1965:27). Others are described as "mahogany faced," muscular and tattooed but if they were not noted as pirates, the descriptions would fit law abiding sailors. The television film "Goonies" has many pirate caricatures with One Eyed Willie, clothed in Jacobean finery, sitting at a jewel-laden table on board his vessel.

While these twentieth-century images are well known, they are in the tradition of other pirate

Left: Blackbeard the Pirate. Captain Charles Johnson's *General History of the Pyrates*, 1st edition, London, 1724.

Courtesy of North Carolina Maritime Museum

Right: Blackbeard the Pirate. Captain Charles Johnson's *General History of the Pyrates*, 2nd edition, London, 1724.

Courtesy of North Carolina Maritime Museum

images from earlier times. Charles Johnson's 1724 book, *A General History of the Pyrates* (1992), went through many editions and, as styles changed, so did illustrations in the book. Johnson's illustrations showed popular sailor images and identified them as pirates. Without identification as such, no one would know the individuals were pirates.

The popular imagery is fairly consistent in showing a pirate leader as a flawed gentleman and his crew as hook armed, wooden legged, eyepatch wearing seadogs. This image was translated to a terrestrial funeral in the recent novel, *Cold Mountain*, when a dead preacher whose eye started to open was given two pennies because "to have covered the opening eye would have looked strange and piratical" (Frazier 1997:30).

A pirate's clothing and accoutrements were no different from those of law abiding sailors on a man-of-war or a merchantman. Even when sailor styles changed, the same styles were used by pirates. In fact, pirates of one time period are often shown dressed in the later clothing typical of when the book was published, rather than of their own time.

The images of Blackbeard are a case in point. The 1724 image shows him wearing a thrumm, the seventeenth century sailor's hat (Johnson 1992:72). In 1740, he is wearing a low cocked hat (Botting 1978:136), but in the 1780s, it is a full cocked hat (Cordingly 1995). His coat also varies in length according to current styles.

The generalized imagery is all well and good for the public but something else occurs with scientific archaeological reporting away from the media. For an archaeologist, faced with differential preservation, the popular image is little help. Cloth rarely survives in the archaeological record, wood floats away, and iron decays. That takes care of the flag, eyepatch, wooden leg, and hook. Unless there is a fortuitous occasion, such as occurred when the English collier *General Carleton* of Whitby sank in 1785 and tar preserved many clothing items (Babits and Ossowski 1999), little identifiable clothing will survive. Clothing clearly defined the sailor with his short clothes as opposed to the landsman with his long clothes (Lavery 1989:204; Rodger 1986:64).

Piracy is robbery at sea without a letter of marque or commission. Piracy, as a physical activity, does not survive in the archaeological record. So how does one tell a pirate from a sailor? More importantly for North Carolina, how does one tell if a wreck is a former pirate ship? An examination of what survives and what has been docu-

mented, and what has been found on this site might prove very instructive.

There are three lines of non-documentary evidence, the personnel, the ship itself, and the artifacts. Pirates, when illustrated, are impossible to tell from common sailors unless the description says they are pirates. At Ocracoke Inlet, where Blackbeard was killed, one of Lieutenant Maynard's crew was shot by a fellow Royal Navy sailor who took "him by mistake for one of the pirates" (Lee 1997:122). Their clothing (buttons, hooks, eyes, buckles, etc) then, can not be linked with piracy either. Their personal weaponry will reflect that available to other sailors.

Any vessel used by pirates may or may not have been modified. Modification included cutting down the forecastle, the stern castle, adding gun and sweep ports, and shifting masts (Botting 1978:133; Johnson 1992:64). Many archaeologists won't admit it, but most nautical archaeology has very little to do with the vessel above the bilge where most human activity was concentrated and distinctive embellishment was placed. Ships were burned, wrecked or rotted away; leaving only the lowest portions to survive in the mud or sand.

With the exception of a ship that came to rest on its side, virtually the only evidence of typical pirate modifications will be mast steps. With mast steps, how does one tell if the step was added, or put out of use, much less a modification to convert a merchant vessel to a pirate ship? An armed merchantman, especially a slaver or a privateer, has many of the same attributes for precisely the same reasons.

Artifacts may provide clues. If the vessel history is known, any recovered artifacts should reflect that history. For *Queen Anne's Revenge*, artifacts should reflect a ship outfitted in France for the slave trade that made at least three voyages to the Caribbean via West Africa, and returned (Lee 1997: 14; Mettas 1978:16, 37, 56). Most basic ship equipment should be French. Other artifacts should relate to the slave trade; *Henrietta Marie* might well serve as a starting point for comparative purposes (Moore 1989). There ought to be items taken from European and American vessels after the slaver was turned into a pirate. A listing of captured vessels should reflect these origins.

The *Queen Anne's Revenge* site has yielded ceramics including salt glazed stoneware (possibly Rhenish) and redware, (possibly Iberian). These are typical ceramics from Western Europe for the early 18th century. There were pewter plates, some of which were marked "London." There

Table 1. **1718 Pennsylvania Pirate Inventory**

10 Great Guns & Carriages	4 Sponges	2 Swivel Guns
2 Crows	3 Pateraroes	0 Organ Barrels
4 Chambers	7 Cutlasses	30 Muskets
5 Great Gun Cartridge Boxes	5 Blunderbusses	8 Cartridge Boxes for small arms
5 Pistols	53 hand Granadoes	4 Old Chambers
2 Barrl. Powder	20 Guns Tackles	4 Caggs of Catridge
10 Breechins	2 Powder Horns	2 Guns, Worm & Ladle
Acct. of Sails, Rigging & Stores		
1 Main Sail	2 Runners & Tackles	1 ffore sail
a Small Quantity of Tallow & Tobacco	1 Jib	2 fflying Jibbs
3 Compasses	1 Top Sail	1 Doctor's Chest
1 Sprit Sail	1 Black fflagg	1 Square Sail
1 Red fflagg	1 boat Main Sail & ffore Sail	2 Ensignes
22 Spare Blocks	2 Pendants	1 Topmast Stay
8 Stoppers	1 ffore halliards	1 fflying Jibb halliards
1 Topping Lift	1 main Halliards	2 Grinding Stones
1 main Down Hall	24 Water Casks	1 Jib Sheet, the other for Bow fast
1 barl. of Tar & a peice [sic]	30 barl. of Powder	1 Flying Tack
7 Dead Eyes	1 Fish Hook & Pendant	1 Kittle 2 Pump Spears
2 iron potts	1 Broad Ax	3 Anchors
1 Wood Ax	1 Cables [sic]	1 hand saw
1 old piece of junk	1 pair of Canhooks	13 planks
1 hammer	2 Top Sail Sheets	1 Auger
1 Boom Tackle	1 plain	13 bbr. of Beef & pork
Some Iron work & Lumber		
(Pennsylvania 1718)		

was a possible Spanish bell and a sounding weight. The barrel hoops and anchors are not distinctive, at least as far as they have been examined. The hoops are virtually gone, existing as hollow spaces inside concretions. The artifacts represent a generic nautical assemblage, except for the bell and the pewter plates.

Weaponry may provide better clues because it is large, resistant to decay, and diagnostic for time and place. Mixed weaponry might reflect several nationalities and sizes as well. In contrast, an armed merchantman, privateer, or man-of-war

would have adequate shot for a set of standardized guns. Pirates might be presumed to have a variety of weapons, captured as they upgraded their vessel and personal weapons. In particular, a mix of older pieces as well as up-to-date cannon should be found. This interpretation is partially based on a 1718 pirate vessel inventory (see Table 1; Pennsylvania 1718) and an Alabama pirate inventory (see Table 2; Sands 1818).

The Pennsylvania inventory shows ten cannon, two swivels, and nine patereros. The patereros were obsolete by 1718 but they had particular

Table 2. Alabama Pirate Inventory

4 Mosquito Bar	2 pr Pantaloon
1 Piece Gingaws	2 Vest & one Coat
1 Bed Sack	9 Bags
11 Old Guns	10 Pistols
2 Sords [sic]	1 Spade and Hatech [sic]
1 Quadrant	2 Compasses
2 Charts	8 Kegs
1 Sail Bag	1 Boat with 3 sails & 9 oars
2 Hatchets	1 Hammer
1 Hand Lead	1 Small box containing Sundry Articles
(Sands 1818)	

value as breech loaders that could be loaded with a lightly charged antipersonnel shot. The Pennsylvania inventory suggests the pirates planned on fighting only one side of their ship because there were only four sponges, and five cannon cartridge boxes. The Pennsylvania inventory also shows 30 muskets, five blunderbusses, five pistols, and 7 cutlasses, plus 53 hand grenades (Pennsylvania 1718). A hundred years later, an Alabama pirate vessel had similar diverse weaponry described as “11 old guns, 10 pistols, 2 Sords [sic]” (Sands 1818).

A number of weapon-related artifacts have been recovered from the *Queen Anne's Revenge* site. These include at least five cannon, a touch hole cover, several clusters of smaller shot, and cannon balls ranging in size from 2 to 24 pounds. The touch hole apron is identical to several found on the 1717 *Whydah* (Hamilton 1992:66–71), and the curve fits the vent of the recovered cannon. Two recovered barrels are six pounders. Preliminary measurements on all cannon, including at least ten still on site, suggest that, while there are several lengths, the bores all seem to be about four inches. This is consistent for a six to nine pounder cannon. Thus, the range of cannon seems fairly uniform and may reflect the original armament carried by the slaver *Concorde*. Upgraded weaponry might be questioned because *Concorde* was already well armed and any newer, larger guns may have been saved prior to abandoning *Queen Anne's Revenge*.

The cannon balls certainly reflect the diversity expected aboard a large vessel that upgraded its armament but this is misleading. The 24-pound shot may be intrusive since Fort Macon had

eighteen 24-pounders and fired them at a Union fleet standing one and one-quarter miles offshore. Unless we find a 24-pounder cannon on site, it is more likely that this ball is a Confederate projectile fired in 1862.

The 6-pound balls match at least two recovered cannon. The smaller shot could have been grape shot or for the lighter swivel guns which were common on eighteenth-century vessels. Two possible hand grenades might be erroneous. Impressions of cloth are clear on both clusters and x-rays show there is a variety of shot present. Pirates used bags of shot more so than men of war because they could make it up easily, wanted to capture vessels, not sink them, and thus disabled rigging or maimed crewmen with anti-personnel shot. Bag shot was certainly used on the 1717 *Whydah*, a vessel positively identified as a pirate. However, bag shot was used on privateers as late as 1814, “a twenty-four pounder... was loaded with an immense quantity of grape and buck shot, balls and bullets of every description” (Savannah 1814:3).

Further examination of lead shot in concreted clusters shows several size groups including swan shot, buck shot, and two larger ball types in the .554 inch to .576 inch and the .609 inch to .688 inch ranges. The diameters provide keys about other weaponry on board, including the blunderbuss. Gun experts can identify at least three musket sizes and two pistol sizes in these ranges. Far more interesting is that all the shot above a half inch diameter is very poorly cast in the mold, often misshapen, and many still have sprues. These were probably wasters but instead of recasting, they were simply bagged for antipersonnel use.

Table 3.

"Sundry dry goods, consisting of a variety of articles, a parcel of nails, several small arms, pistols, blunderbusses, cutlasses, and a quantity of powder, and many other articles saved from the brigantine Dispatch, William Sarjeant master, lately chased on shore, and stranded on the coast of North Carolina. And on Thursday the 14th of October, will also be sold at the South Quay, a quantity of rum, molasses, nails, canvas, osnabruugs, etc. also the rigging and sails, part of which are quite new, with a ten inch cable also new, an anchor of 800 wt. and a pair of swivels, also saved from the said brigantine. It is hoped that the skippers on the said vessels will be so obliging as to attend at Petersburg on the above day that some measures may be adopted for adjusting their respective proportions in the value of goods saved."

(*Virginia Gazette*, 2 October 1779)

The only firearm recovered is a blunderbuss which could take many different sizes of shot, including those found. Other small arms have been identified by parts found in concretions, including at least one musket. Pistols and muskets should be found eventually and the bag shot gives suggestions for bore sizes.

Knives and cutlasses should be found as well but suggesting these were present only on pirate ships is questionable. A North Carolina armed merchantman that ran aground in 1779 yielded a pair of swivels and several small arms, pistols, blunderbusses, and cutlasses (*Virginia Gazette*, Table 3). This listing of salvaged goods reads much like a pirate inventory, confirming the similarity between the two groups of seafarers.

What information recovered to date leaves one short handed when trying to support any specific determination about pirates. So far, there is a mix of artifacts that, except for date, are not diagnostic for Blackbeard. This is not to say they were not used by pirates, but rather, that we have identified nothing that is specifically diagnostic for pirates.

A suggested model for what should be found to confirm *Queen Anne's Revenge* exists in the mix of cannon, the range of multi-ethnic artifacts related to the French slave trade, the Caribbean, and the southeastern Atlantic coast. But what would make these items different from any legitimate vessel involved in slaving, the Caribbean trade, and Atlantic coasting?

The few recovered materials and our interpretation is subjective. It might be wise to go back to the public imagery and state that what we need to find is subject to differential preservation but it can happen. We may find a preserved purser's cabin with prosthetic devices (hooks and wooden legs), and eye patches. If so, we should also expect a skeleton of a wooden legged seafarer draped over the wheel with a parrot skeleton on his shoulder. The key elements are the wooden

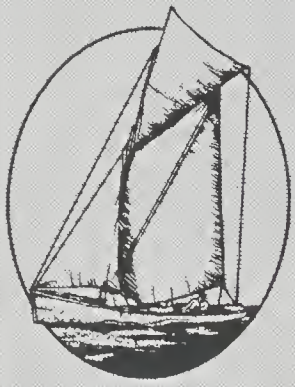
leg and the eye patch, otherwise we might never know if the vessel were once a pirate ship.

This is not flippant because pirates were sailors first and their vessels were in contemporary use. Even if it is not a pirate ship, the *Queen Anne's Revenge* site is important because it is the oldest wreck yet found in North Carolina. Pirates are just added titillation for the public, but until we start asking very specific questions about just what distinguishes a pirate's material culture from a legal sailor's, we will not know what is diagnostic for pirate vessels, even if we can match dates, construction techniques and materials, weaponry and artifacts with *Concordel/Queen Anne's Revenge* and the Beaufort site.

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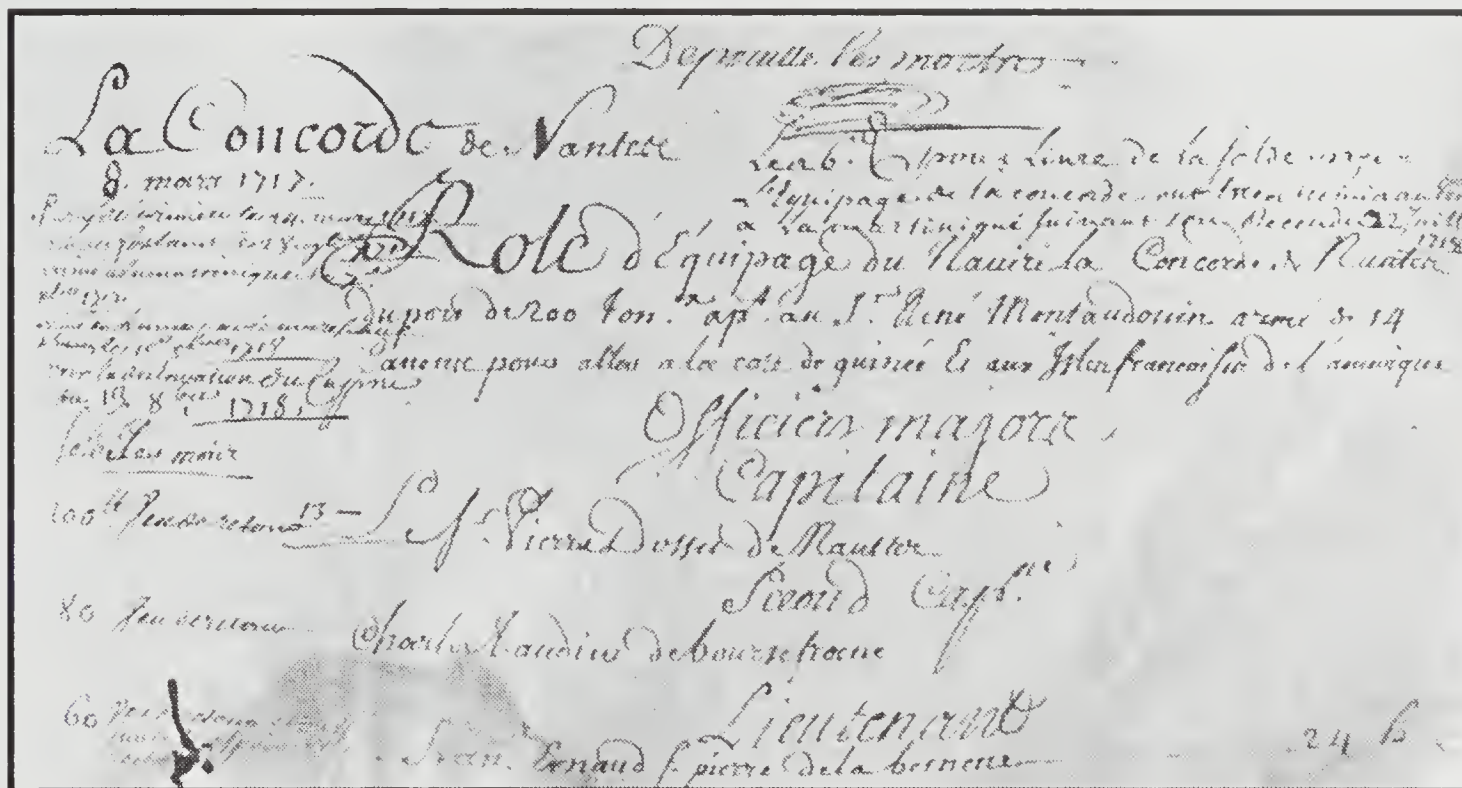
Tributaries

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		Enseigne	
40	Le 20 ^{me} 8 ^{bre} 1717.	Pierre Sanguier f. f. d'audience	52 ^l 23 ^l 17 ^l
30	Le 5 ^{me} 2 ^{me} 1717.	Joseph Dupuis f. Jean d'Aloune	23 M
		accoucheur	
30	Le 20 ^{me} 1 ^{er} 1717.	M ^{re} Claude Jean Perre d'Aloune	39 P
		chirurgien	
50	Le 20 ^{me} 1 ^{er} 1717.	Jean Dubois f. Jean d'Aloune	26 M
		off. maritime	
		Maître	
40	Le 20 ^{me} 1 ^{er} 1717.	Laurenceousse f. Lazare de Genet	36 M
		Pilote	
35	Le 20 ^{me} 1 ^{er} 1717.	Charles Duval f. Jean de l'orient	19 M
15	Le 20 ^{me} 1 ^{er} 1717.	Pierre Sagory f. Jean de f. nicolas	19 M
15	Le 20 ^{me} 1 ^{er} 1717.	Charles Raguieau f. de Nante	23 M
25	Le 20 ^{me} 1 ^{er} 1717.	Pierre Emery f. Jean de Genet	23 M
15	Le 20 ^{me} 1 ^{er} 1717.	Louis Raguieau f. Jean de Nante	23 M
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24	Le 20 ^{me} 1 ^{er} 1717.	Jean gouet f. Henry de f. nicolas	40 M
		Canonier	
33	Le 20 ^{me} 1 ^{er} 1717.	Jean giboulet f. de paimbeuf	50 M
50	Le 20 ^{me} 1 ^{er} 1717.	Esprit Lorrin f. Joseph du pellexin	28 M
40	Le 20 ^{me} 1 ^{er} 1717.	Rene Duval f. Guill. de f. nicolas	33 M
		Depensier	
25	Le 20 ^{me} 1 ^{er} 1717.	Francoise sumello f. francoise de f. Croix	26 M
		aide chirurgien	
30	Le 20 ^{me} 1 ^{er} 1717.	Marbournet f. Marie du pont de pierre	41 M
12	Le 20 ^{me} 1 ^{er} 1717.	Nicolas Gautrain f. Pierre d'Aloune enbeusse	28 M
		Matelasse	
22	Le 20 ^{me} 1 ^{er} 1717.	Nicolas Commenge f. Jacques de Dinan	22 M
20	Le 20 ^{me} 1 ^{er} 1717.	Jean Commenge f. Pierre d'Aloune	25 M
20	Le 20 ^{me} 1 ^{er} 1717.	Michel herve f. Pierre d'Aloune	36 M
20	Le 20 ^{me} 1 ^{er} 1717.	Thomas Guillaume f. Jean d'Aloune	24 M

Blackbeard's Capture of the Nantaise Slave Ship *La Concorde*: A Brief Analysis of the Documentary Evidence

by David D. Moore and Mike Daniel



Above: First page of the *Concorde's* 1717 Muster Roll

Archives Départementales Loire-Atlantique, Nantes, Marine 337 (120 J 337, 1717)
Photography by John de Bry

At left: Second page of the *Concorde's* 1717 Muster Roll

Archives Départementales Loire-Atlantique, Nantes, Marine 337 (120 J 337, 1717)
Photography by John de Bry

The Blackbeard Shipwreck Project was initiated in the spring of 1982 with the compilation of a research paper as partial credit for an underwater archaeology course in the Maritime History Program at East Carolina University.¹ Though few people took the proposal to locate Blackbeard's shipwrecks seriously until Mike Daniel and Intersal, Inc. located *Queen Anne's Revenge* in November 1996,² efforts to compile appropriate research materials concerning the pirate's activities, adversaries, associates, and ships have continued since that initial report. To date well over 350 documents have been acquired and transcribed (and translated where applicable) revealing numerous details of the pirate's career, many heretofore unknown and unpublished.³

Captain Charles Johnson reported in his well-known pirate biography only six years after the notorious pirate captain's death that Blackbeard and his crew,

met with a stout Ship, with upwards of 20 Guns, which they attack'd very boldly under their proper Colours, (*viz.*) a black Flag with a Death's Head in the Middle, and, after a small dispute, carry'd her; she was a *French Guiney-Man*, bound

to *Martineco*. This Ship was soon made fit for Pirate Service, aboard of which *Thatch* mounted forty Guns, taking every Thing he thought necessary out of the Sloop *Richards* commanded, and gave it the *Frenchmen*, to carry them to the aforesaid Island, so *Thatch* went into the great Ship, which was christned, *The Queen Anne's Revenge*.⁴

Yet another English source substantiates Johnson's account, and additionally provides the name of the French slaver taken by Blackbeard and company. This was the indictment against the pirate captain's quartermaster, William Howard, before his trial in Virginia in 1718, who

did some time in...1717 Join and Associate himself with one Edward Tach...to fit out in Hostile manner a Certain Sloop or Vessel Call'd the *Revenge* to commit Pyracys and deprivations upon the High Seas...did Pyratically take and Seize the ship *Concord*...near the Island of Saint Vincent...and having Rob'd and feloniously spoiled the said Subjects of the French King of their Merchandize and Effects consisting of Negroes Gold dust money Plate, and Jewels, did Carry away the said Ship and Convert the Same towards the Carrying on and Prosecuting...Pyratical designs...and afterwards denominated by the said Pyrates by the name of *Queen Anns Revenge*...⁵

Slave ships were a favorite prize among pirates due to their size and speed. After her capture Blackbeard increased the armament of *Queen Anne's Revenge* to around forty guns and for the next seven months the pirate embarked on a series of exploits that would create one of history's most famous legends. In less than one year from her capture *Queen Anne's Revenge* would be lost and Blackbeard, with about seventy of his crew, would suffer violent deaths at the hands of authorities.

The research design of the Blackbeard Shipwreck Project, focusing on the origins of French vessels captured by the pirates including a slaver used as his flagship, was initiated in 1991. An examination of various secondary sources eventually led to an initial search in French archives for primary documentation.⁶ Building on Moore's initial efforts, independent researchers were engaged to locate French documents relating to *Concorde* that resulted in the location of the muster rolls or crew lists for three voyages emanating from Nantes, France in 1713, 1715, and 1717.⁷ In 1998 Daniel, working with archivists in Nantes, France, acquired documents by her captain, Pierre Dosset and the ship's lieutenant, François Ernaud, that describe the final voyage and capture of *Concorde*.⁸ Over the past year Moore has acquired more than fifty additional documents from France, which added more details concerning the capture of *Concorde*, the activities of Blackbeard, and other pirates active in the area. This French documentation not only sheds new light on the pirates and *Concorde's* operational profile, but also a glimpse into the hierarchy and division of labor aboard a typical early eighteenth century slave ship, in addition to something of the social infrastructure present within the French slave trade system. This article provides a brief history of *Concorde's* involvement in the African trade, an initial analysis of the 1717 muster roll, the Dosset and Ernaud depositions describing their fateful voyage, and an overview of several of the recent archival acquisitions.

As previously mentioned the *Concorde's* known history begins within the context of the French slave trade. In 1642, the king of France, Louis XIII, authorized the trade in enslaved Africans, "for the good of their souls," not to mention the good of the French slave traders. King Louis XIV continued in this vein in 1676, when he wrote, "There is nothing which can contribute so much to the increase of my islands of America as the importation of a quantity of Negroes...." As with most of the participants, the French impetus was directly associated with colonial growth in the Caribbean and specifically tied to the need

for labor on their developing sugar plantations. France ranked third in the transatlantic slave trade during the eighteenth century behind England and Portugal and by most accounts transported just over twenty percent of all captive Africans brought into the Americas during this period. These efforts only began seriously with the development of the monopolistic trading companies during the last half of the seventeenth century and would last throughout the 1700s until both the French and Haitian revolutions served effectively to end France's role as a major slave supplier. Despite transporting hundreds of thousands of Africans into slavery, France never really managed to meet the demands for slave labor in her islands and it has been estimated that the French traders only supplied about sixty-two percent of the total number of slaves eventually imported into her own Caribbean colonies.¹⁰

In the late seventeenth century government-controlled monopolies slowed the progress of the French slave trade but a few historical events set the stage for its future development. In 1664, protectionist statesman Jean-Baptiste Colbert created a colonial system that would be the foundation for future trade relations with the crown's colonies and granted the recently created *Compagnie de Indes Occidentales* a monopoly over the French trade. The *Compagnie de Senegal* was formed in 1672, and in 1685 the *Compagnie de Guinee*, each given exclusive trading rights to certain districts in Africa. Most companies could not afford to administer such large areas and eventually went bankrupt, merged, or were reorganized under different names.¹¹

Before 1700 the French sold very few slaves to the Spanish, but following the concession of the *asiento*, or contract, to France in 1701, this changed. France agreed to deliver some four thousand slaves annually to the Spanish colonies over the next fifteen years. The *Compagnie de Guinee* was reorganized as the *Compagnie de l'Asiente* and began to deliver slaves to the Spanish colonies pursuant to this contract.¹²

This arrangement for the coveted slave *asiento* obviously upset the English and there was immediate concern over the balance of power the new relationship between Spain and France represented. Relations between these European nations quickly deteriorated leading to the War of Spanish Succession (1701–1714). This conflict involved most of Europe as well as the colonies where the conflict was known as Queen Anne's War. The war was fought on many fronts but England eventually emerged victorious and, at the Treaty of Utrecht in 1713, took over the *asiento*.



Figure 1. Eighteenth century engraving of the port of Nantes from Feydeau Island (by Ozanne).
Bibliothèque Nationale.

The failure of France to keep the *asiento* made Parisian bankers realize that the companies created in the seventeenth century were outdated and the system needed reorganizing if France was going to compete in this lucrative trade. In order to create incentives for French financiers to invest in the trade a major change in the market was needed. In 1716, John Law, a French banker of Scottish descent, felt that credit rather than large amounts of precious metals was the answer to increased national wealth. He promoted the extension of credit through the creation of a paper money system and helped establish a national bank. The government published new regulations governing the slave trade in two series of *lettres patentes* dated 1716 and 1717. The articles created a system that allowed all merchants to participate in the slave trade provided they were from one of five licensed ports: Rouen, La Rochelle, Bordeaux, Saint Malo, or Nantes. To generate the funds needed to build and maintain forts and trading posts along the African coast a twenty *livre* tax was paid on each slave traded. Exempt from the tax were slaves bought with French manufactured goods, imported East Indian goods, and other merchandise imported from the Caribbean colonies.¹³

While the initial French efforts in the African trade had concentrated in the ports of La Rochelle and Le Havre during most of the seventeenth century, Nantes, often called the “La ville des Négriers” or “the city of slavers,” quickly rose to dominance during the early eighteenth century (Figure 1). Part of the reason for this development was the city’s previous position as a leading

shipping entrepôt as well as its close ties with various north European mercantile capitals. In addition, Nantes maintained special tariff arrangements, particularly through the “free trade” law of 1716, providing her merchants with definite advantages over their competitors located at other ports. Due to these various advantages, Nantes slave merchants accounted for approximately seventy percent of all French slave trading during the first half of the eighteenth century.¹⁴

Until the mid-seventeenth century, the maritime economy of Nantes was limited to the inland and coastal areas of France. Lying thirty miles from the sea on the Loire River, Nantes was in a perfect geographical position to link inland cities of France with her transatlantic colonies (Figure 2). International merchants, including the Dutch, Irish, and English, were prevalent in Nantes to the extent that it was hard to “distinguish the true character of the native population.”¹⁵ The unique makeup of this international community encouraged trade with Northern Europe, which helped provide the merchants of Nantes with many of the commodities used in the slave trade, including iron bars from Sweden, East India cloths, and cowrie shells from the Maldiv Islands in the Indian Ocean. The *Compagnie de Senegal*, a major shipping concern, used Nantes as its main depot to distribute imported commodities from around the world into France and its colonies. Because of this advantage over other harbors Nantes became the leading commercial port in France by the 1720s and dispatched over 1400 slave ships to Africa during the eighteenth century. By the 1780s the

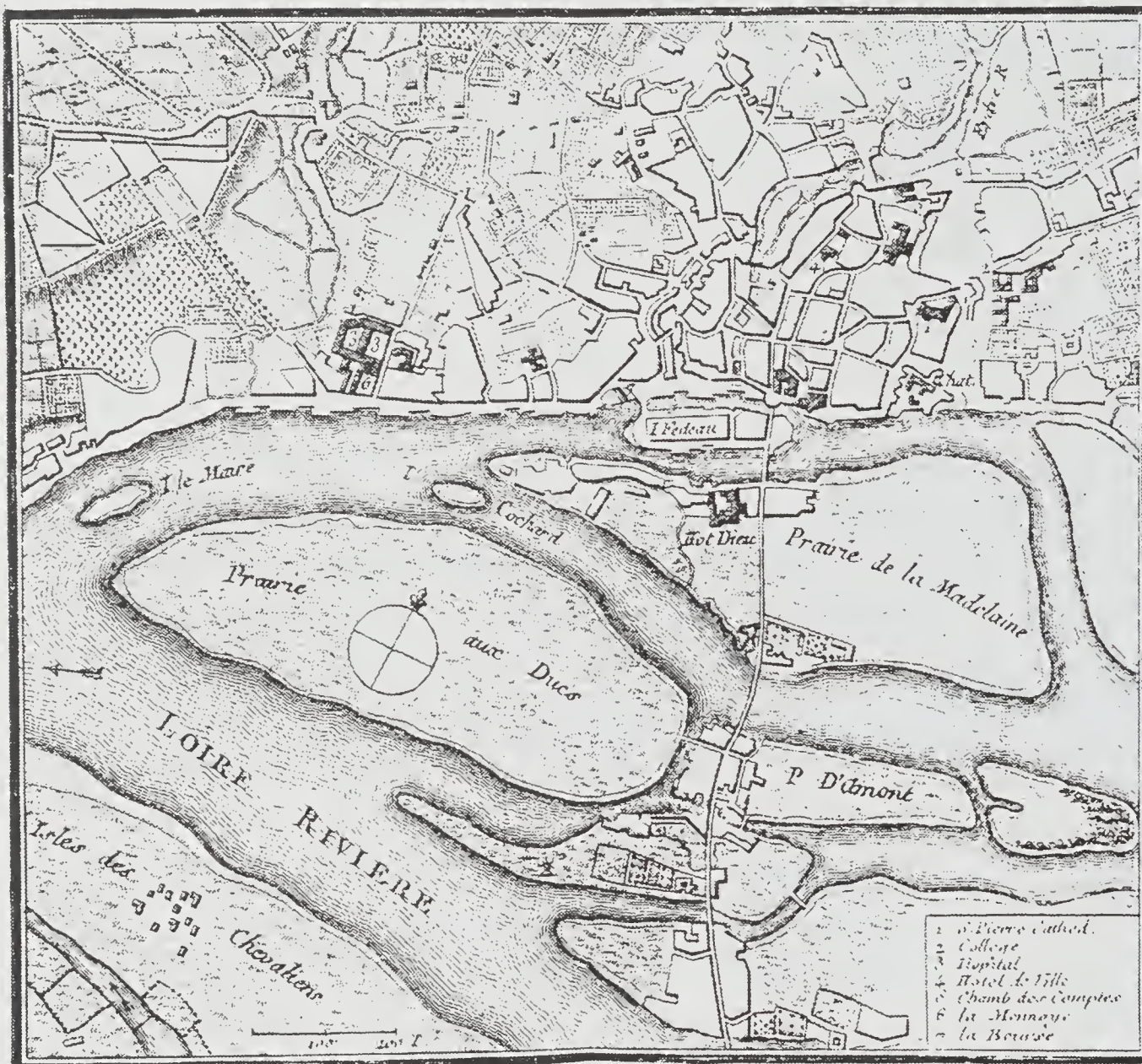


Figure 2.
Plan of the port of Nantes
during the eighteenth cen-
tury.
Courtesy of the North Carolina
Maritime Museum.

merchants of Nantes were so wealthy and opulent that they "...form a class apart, never mixing, save when business requires it," and reputedly even "...sent their dirty linen to be laundered in Saint-Domingue (Haiti) where the mountain streams were said to wash whiter than any in Brittany."¹⁶

Though there were many single voyage owners who attempted to enter the African trade in order to tap into the great potential for wealth, very few had the resources to maintain a sustained effort, and it was those few wealthy merchants who eventually controlled the trade. The decision to enter into the slave trade was not one to be taken lightly. Outfitting a ship to transport African captives across the Atlantic during the eighteenth century cost approximately three times as much as equipping a vessel for the normal West Indian commerce. This cost was not associated with the ships themselves, but in the preparations and cargoes carried to Africa. In fact, a cargo of various commodities destined for Africa accounted for roughly two-thirds of the total cost of a slave ship on average, the ship itself and its equipment making up the other one-third.¹⁷

Concorde was owned and operated by René Montaudoin, a member of the most prolific family in the French slave trade. The first of the Montaudoin family to move to Nantes was Jean, an artisan, and René's great-grandfather, who relocated from Paris in 1616. It was René's father, also named René, who began the family's mercantile fortunes.¹⁸ The junior René supported many charities and was a director of *La Sanitat*, the hospital in Nantes, where he helped establish a branch that processed the cotton he imported from the West Indies. Africans were fond of cotton prints manufactured in India called "*indiennes*" and Montaudoin was the first Frenchman to copy these prints using American products. He established *La Providence*, another division of the hospital which made cotton cloth, and helped build a modern factory in Nantes called *La Grande Manufacture* that combined the indigo and cotton from America, creating a commodity he then traded for slaves.¹⁹

An eminent member of the "*patriciat commercial*," the younger René Montaudoin made his fortune from West Indian gold, prizes taken by his privateers, cod fishing off the Newfoundland Grand Banks, the sugar trade of the Antilles, and

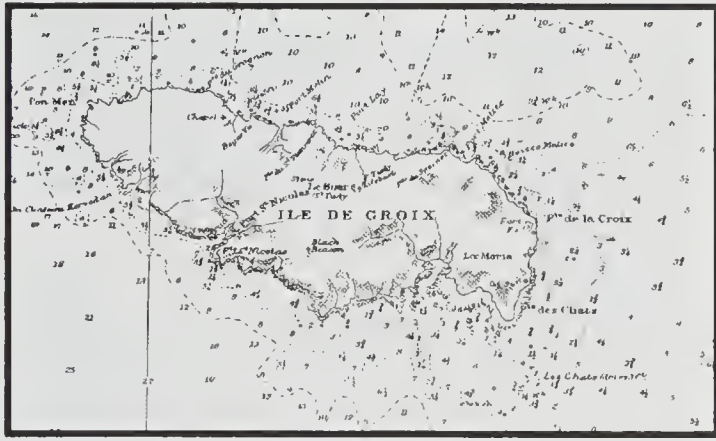


Figure 3.
Ile de Groix off the coast of
France. Chart Number
2352 from *French
Government Charts to
1959*.

Chart courtesy of Maritime
Research Institute.

the lucrative slave trade.²⁰ A list compiled in 1725 of Nantaise traders and their respective fortunes ranked Montaudoin first by a large margin with a personal value of 600,000 livres.²¹ Between 1694 and 1791 the Montaudoin family was responsible alone for 357 slaving voyages and almost 65,000 total tons of shipping. By comparison the family closest to the Montaudoins, the de Luynes, shipped 38,000 tons on 182 voyages.²²

Documents indicate that Montaudoin's *Concorde* made three voyages to Africa. On her first recorded voyage she was documented at 250 tons and departed Nantes under the command of Isaac Thomas on 13 April 1713 with a crew of sixty-two men. After an eighty-four day voyage, which included a stop at Cape Labou, she arrived at Juda on 5 July and took on board 418 slaves. She departed Juda on 14 October after being on the coast for seventy-two days and arrived in Martinique on 14 December. Fifty-five slaves perished during the sixty-two day crossing and four (or five depending on the document) of the crew died as well. She returned to Nantes on 31 July 1714, fifteen months and two weeks after her departure.²³

On her second voyage *Concorde* was again listed at 250 tons, but with two captains, Mathieu Denis and Michel Denis, and a crew of sixty-five men. She left Nantes on 27 February 1715 and arrived at Louango de Boiry, north of the Congo, on 19 June after 113 days at sea. They took on board 331 slaves from Louango and Gabingue (sixty miles from Louango) and departed on 23 November. They arrived at Leogane (thirty miles west of Port au-Prince) on Saint Domingue (now Haiti) on 23 February 1716 after a ninety-three day crossing. Captain Mathieu Denis died at Louango as did eight of her crew during the voyage. Additionally, thirty-one of the captives perished leaving 300 slaves (200 men, 55 women, 40 boys, and 5 girls) for trade. It was seven months between the time she arrived in Saint Domingue and finally returned to Nantes via Bermuda, where two additional crewmen died and another five deserted.²⁴

Details of *Concorde*'s third and final voyage as a slaver and her capture by the pirate Blackbeard are provided in the depositions of Lieutenant Francois Ernaud and Captain Pierre Dosset.²⁵ Ernaud testified that on 24 March 1717 *Concorde* left Nantes armed with sixteen cannon²⁶ and seventy-five crewmen. On 28 March, just four days after her departure, she encountered bad weather and was forced to anchor off Sous Grouais. They anchored at 8:00 p.m. on the 28th and on the morning of the 29th more bad weather forced them to deploy their second anchor, but they ran aground several times upon the Banc des Ecrants. Caught in a dangerous situation they had to jettison their anchor and head out to sea where they eventually anchored off the island of Sudie. On the 30th they returned to Meindin to recover the anchor they had let go at "sous Grouais in the said place of Meridien."²⁷

Cartographic research indicates that the places referred to in the Ernaud deposition are located off the coast of Brittany. Computing the time traveled and consulting both contemporary and modern charts of this area, the authors believe that Grouais is the modern Ile de Groix (Figure 3). Sous Grouais implies they dropped their anchor south of Groix on the Banc Ecrants. The shoal on the southeast corner of Groix is named "des Chats" and a harbor on the island's north side is called Port Melin. These names are spelled differently, but are phonetically similar and variations of these names appear historically. Although Sudie does not appear on any of the charts perused to date, it is possible that it is Belle Ile, which is to seaward or south of Groix.²⁸

They departed Meindin (Melin) on 12 April after re-provisioning. A week and a half later one of the sailors, Jean Morel, fell overboard and drowned and the ship's figurehead was lost, suggesting another substantial storm encountered. On 6 June, fifty-six days out of Melin, they arrived at Cape Mesurado near Cape Mount in West Africa to take on water and firewood. They departed on 18 June and arrived in Juda on 8 July (seventy-seven days at sea from Nantes to Juda) where they took aboard "...516 head of blacks..." and quantity of "...gold dust..."²⁹

During the approximately 130-year period of French slave trading, France established few permanent trading stations along the African coasts, preferring to operate out of temporary or seasonal locations. Nevertheless, significant establishments were permanently created at the Senegal River and at Juda (or Whydah) on the Gold Coast near the Bight of Benin.³⁰ Henrick Carloff, the Agent General for the *Compagnie des Indes Occidentales*, founded Juda in 1671. Carloff was

one of the most daring adventurers in the early history of the African slave trade. He established a trading post at Whydah he named Pillau in an area known as Grehue which became Juda. Over the years he established many of the forts along the Gold Coast of Africa for various European governments, including Carlosburg (Cape Coast), Christiansborg (Accra), and Friedrichsburg among others. In 1657, Carloff quarreled with his Swedish employers, began working for Denmark, and, with a Danish force, seized the Swedish establishments that he had founded and captured a Swedish ship laden with gold. He was declared a pirate by both Sweden and England, deserted the Danes, and eventually went to work for the French.

The Hueda (Whydah) kingdom whose capital was Savi (or Sahe), located a few miles inland, was to become the most important port of the slave trade in West Africa.³¹ The major slave trading nations had factories or forts at Whydah and each conducted the trade in peace despite the political climate in Europe. The English fort at Whydah was located three miles from the ocean between the Danish fort at Accra and the forts belonging to the French (Pillau or Juda) and the Dutch, all within half a mile of each other.

About four miles from Whydah, in the king's town, the company have a factory house, a place of considerable trade; but it is a wretched place, as well as all other European settlements, to live in by reason of the adjacent swamps, whence proceed noisome stinks and such swarms of mosquitoes or knats, as plague men night and day in an intolerable manner.³²

Of the various legs or routes undertaken by ships involved in the African slave trade, the two most dangerous were the period spent trading along the African coast and the Middle Passage between Africa and the Caribbean. Over fifty-three percent of the known deaths among Nantes slavers occurred off Africa, while thirty-five percent died during the Atlantic crossing.³³ The crew deaths aboard *Concorde* during her ill-fated 1717 voyage closely parallel these percentages at fifty-three and thirty-four percent respectively (see Table 1).

In August 1703 King Agbangla of Juda died and was succeeded by his son Amar. King Allada of Offra contested the succession, favoring his brother, and refused to "make custom" to the deceased Agbangla as tradition required, while Amar refused to send the customary presents to Allada recognizing him as his superior. In July 1707 Allada closed all the passages to Whydah leaving the slave trade "much in decline." Trade began

to develop when King Amar died in 1708 but his successor, Huffon, again refused to pay tribute to Allada. In retaliation, Allada refused to pay the customary funerary rituals for Amar as well as Agbangla. Due to these developments 1709 was a bad year for Whydah's slave trade. The trade increased in 1710–1711 but then declined again in 1712. During 1713–1714 the blockade was relaxed and trade resumed, but in 1714 the trade war took on a more serious turn when the local chiefs at Whydah broke off relations with Huffon. King Allada realized the leaders of Whydah were splintered and boycotted them to encourage the Europeans to trade at his primary port of Jakin. In June 1716 "the Kings of Whidah and Jacquine [were] at war with one another, and [would] not suffer traders to go through each others country."³⁴

In 1717, the last year *Concorde* sailed from Nantes, only seven ships left for Africa, illustrating how these relations around Whydah affected the trade. About this time the King of Dahomey, who was in rebellion against Allada, agreed with Huffon to send his slaves directly to Whydah.³⁵ This may in fact have been the source of the slaves taken aboard *Concorde* (Figure 4). An attempted attack on Jakin by Whydah failed and "the differences in which Whydah is embroiled are likely to increase rather than be accommodated." King Allada died in July 1717 and Huffon sent condolences and gifts to the new ruler of Offra, King Soso, which eased the friction.³⁶

The king's slaves were the first offer'd to sail, which the Cappashiers will be very urgent with us to buy, and would in a manner force us to it ere they would shew us any other...and we must not refuse them, tho' as I observed they were generally the worst slaves in the trunk, and we paid more for them than any others, which we could not remedy it being one of his majesties prerogatives. Then the Cappashiers each brought out his slaves according to his degree and quality, the greatest first, etc., and our surgeon examined them well in all kinds, to see that they were sound wind and limb, making them jump, stretch out their arms swiftly, looking in their mouths to judge their age: for the cappashiers are so cunning that they shave them all close before we see them, so that let them be never so old we can see no gray hairs on their heads or beards: and then having liquor'd them well and sleeked with palm oil, 'tis no easy matter to know an old one from a middle aged one, but by the teeth's decay. But our greatest care of all is to buy none that are pox'd, lest they should infest the rest aboard: for tho' we separate the men and women aboard by partitions and bulk-heads, to prevent quarrels and wranglings among them, yet do what we can they will come together and that distemper which they call the yaws, is very common here and discovers itself by almost the same symptoms as the Lues Venerea or clap does with us: therefore our surgeon is forc'd to examine

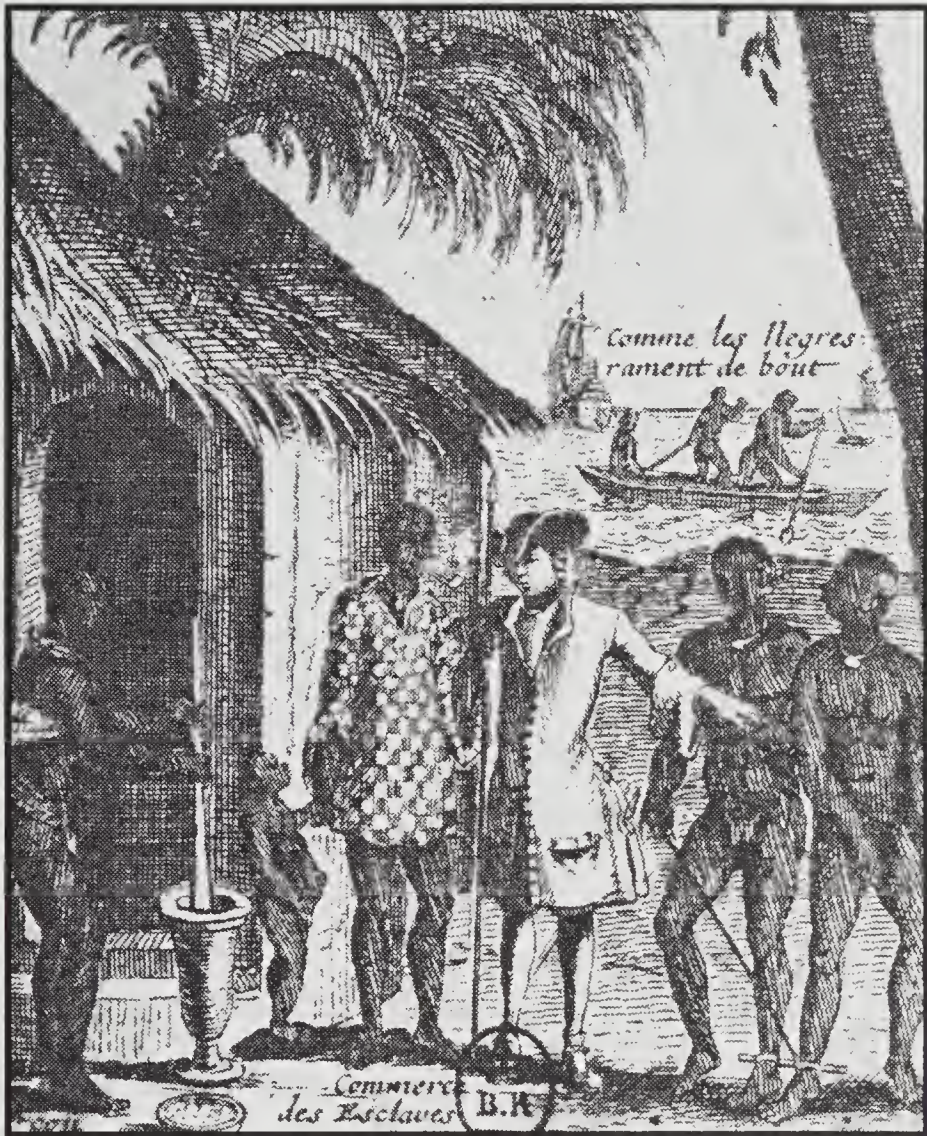


Figure 4. French slave trading in Africa. Late seventeenth century engraving from Maurice Besson, *The Scourge of the Indies: Buccaneers, Corsairs, & Filibusters*, New York, 1929.

Figure 5. Early eighteenth century engraving depicting the transport of captive Africans to a waiting slave ship. Bibliotheque Nationale.



the privates of privities of both men and women with the nicest scrutiny which is a great slavery, but what can't be omitted.³⁷

After close examination, the ship's surgeon branded each slave with a mark on their shoulder or thigh identifying them as belonging to that ship. They were "...marked on the breast with a red-hot iron imprinting the mark of the French, English or Dutch companies so each nation may distinguish their own and to prevent their being chang'd by the natives for worse as they are apt enough to do. In this particular, care is taken that the women, as tenderest, be not burnt too hard."³⁸ The Dosset deposition confirms the practice of branding the slaves, mentioning "...fifteen blacks that were reclaimed at Martinique, recognizing them from the mark of the said ship..."³⁹ If following the routine practice, the mark of *Concorde* would have been "LC" (for *La Concorde*).⁴⁰

There were few harbors along most of the West African coast and canoes were used to transport merchandise and water casks to shore and bring slaves and supplies on board. Some of the African canoes were huge, approaching seventy feet in length and capable of carrying ten tons or eighty slaves with eighteen to twenty paddlers. The most capable boatmen were the Kruman from

Mina who were the best insurance against capsizing on the bar at Juda where the "terrible surf" required extreme strength and endurance. The waves were large as were the sharks that would devour those unfortunate enough to fall from a capsized canoe.⁴¹ The danger of crossing the bar at Whydah from April to July was well known in the slave trade and it was said that conditions were so violent that one could not "...land here without running a great Risque... the Sea burns so violently, that according to the Proverb, he ought to have two lives who ventures"⁴² (Figure 5).

The cowrie shell was the primary trade item exchanged for slaves in Juda or Whydah during the eighteenth century. For hundreds of years it was a form of money in India and spread to West Africa through inland trade routes. Cowries (*cauris* from the Hindi *kaurior*, called *bouges* in Africa from the Portuguese *buzios*) were found in the Maldiv Islands south of India. "They are small shells, from pea size to as big as a hazelnut. These cowries are the silver and money of the country..., no other people in the universe putting such a value on them as the Guineans, and more especially those of Fida and Ardra..." The women made many objects from corn straw that they decorated with cowries taking the place

Table 1.

Muster Roll of *CONCORDE's* Crew, March 1717

Function aboard <i>Concorde</i>	Name	Pay Rate per month in livres	Miscellaneous Data
Captain	Pierre Dosset	100	Returned to Nantes
2nd Captain	Charles Baudier	80	Boudier*, returned
Lieutenant	Francoise Ernaud	60	Returned
Ensigns	Pierre Sanquia	40	Fauquier, 1st ensign**; Fantier, 2 nd lieutenant*, died enroute* (20 Oct 1717)
	Joseph Dupuy	30	Died enroute* (5 Dec 1717)
Chaplain	Claude le Cam	30	Chaplain, returned
Surgeon	Jean Dubert	50	Jean Dubert Gascon, chief surgeon,* forced by pirates*
Mariner Officers			
Master	Laurens Pousse	40	Master or quartermaster, returned
Pilots	Charles Duval	35	1 st pilot*, forced by pirates*
	Pierre Sagory	35	2 nd pilot* **, returned*
	Charles Raguideau	15	NA
	Pierre Emery	25	NA
	Louis Dirpinosè	15	Despinote, died enroute* (18 Oct 1717)
Boatswain's Mate	Jean Gouet	24	
Gunner's Mate	Jean Gibouteau	33	
Carpenters	Esprin Perrin	50	Esprit Perrin*, master carpenter*, forced by pirates*
	René Duval	40	2nd carpenter*, forced by pirates*
Steward	Francois Fumelles	25	Returned
Surgeon's Aids	Marc Bourneuf	30	Bourgneuf, assistant surgeon, 2nd surgeon*, forced by pirates*
	Nicolas Gautrain	12	Surgeon's aid, assistant surgeon, returned
Seamen	Nicolas Pommerays	21	Nicollas Pommeraye*, coxswain*, joined pirates*
	Francoise Lemarquis	20	Returned
	Michel Hervé	20	Returned
	Thomas Guillaume	20	Returned
	Jean Coups	20	Jan Coupard*, cooper*, died enroute* (13 Nov 1717)
	Dominique Demis Indien	20	Returned
	Georges Bineau	20	Returned
	Mathuren Estan	20	Returned
	Leonard Giraudais	15	Returned
	Pierre Peron	16	Perron*, cook*, died enroute* (23 June 1717)
	Francoise Maurice	22	Returned
	Etienne Favereau	18	Returned
	Francoise Nestier	16	Baker*, died enroute* (18 Nov 1717)
	Jean Mourel	19	Morel*, drowned enroute* (17 Apr 1717)
	Jean Puloin	25	Pueloin*, caulker*, forced by pirates*
	Jacques Caret	20	Died enroute* (1 Oct 1717)
	Pierre Pere	12	Perre*, cooper*, returned

Function aboard <i>Concorde</i>	Name	Pay Rate per month in livres	Miscellaneous Data
Seamen (cont.)	Noel Cayau	18	Returned
	Richard Robin	20	Returned
	Michel Mandin	18	Returned
	Francoise Druet	18	Deruel*, joined pirates
	Nicolas Hue	20	Returned
	Phillipes Charles	18	Trompette*, returned
	Pierre Lemoin	18	le Moinne*, cooper*, died enroute* (28 Oct 1717)
	Paul Charias	20	Returned
	Jean Daniel	20	Returned
	Tanguy Le Saule	20	Returned, drowned after being paid (30 Jan 1718)
	Yves Rolland	20	Returned
	Vincent Fraual	18	Returned
	Guenolé Quelaret	19	Guinollet Quilare*, died enroute* (22 Sep 1717)
	Pierre Chauvet	18	Returned
	Georges Bardeau	19	2nd cook*, forced by pirates*
	Louis Colas	18	Returned
	André Lejeune	18	Returned
	Joseph Lequer	20	Returned
	Francoise Lombard	21	Cosseman*, died enroute* (16 Oct 1717)
	Jacques Gautier	14	Died enroute* (26 Sep 1717)
	Jean Gobin	10	Returned
	Pierre Lambert	20	Died enroute* (16 July 1717)
	Jacques Eûen	20	Returned
	Jean Bart	20	Returned
	Guilluime Creuzet	16	Forced by pirates*
	André Guillard	15	Returned
	Jacques Boucard	18	Died enroute* (29 Aug 1717)
	Jacques Mecaut	21	Returned
	Pierre Laroche	10	Returned
Joseph Alabard	18	Negro from Juda, returned	
Francois Roulet*		Cook, picked up in Martinique*, died enroute*	
Gunsmiths	Jean Jacques	22	Forced by pirates*
	Claude Dehaye	22	Deshayes, 3rd surgeon*, forced by pirates*
Ship's Purser	Francois Martin	30	Returned
Volunteers	Jean Hirouuet	15	Returned
	Louis Dies	12	Returned
Cabin Boys	Fleury Dousset	10	Dosset*, volunteer*, died enroute* (23 Aug 1717)
	Julien Joseph Moisant	8	Jullien Joseph Mouezan*, volunteer*, joined pirates*
	Louis Arot	5	Joined pirates*

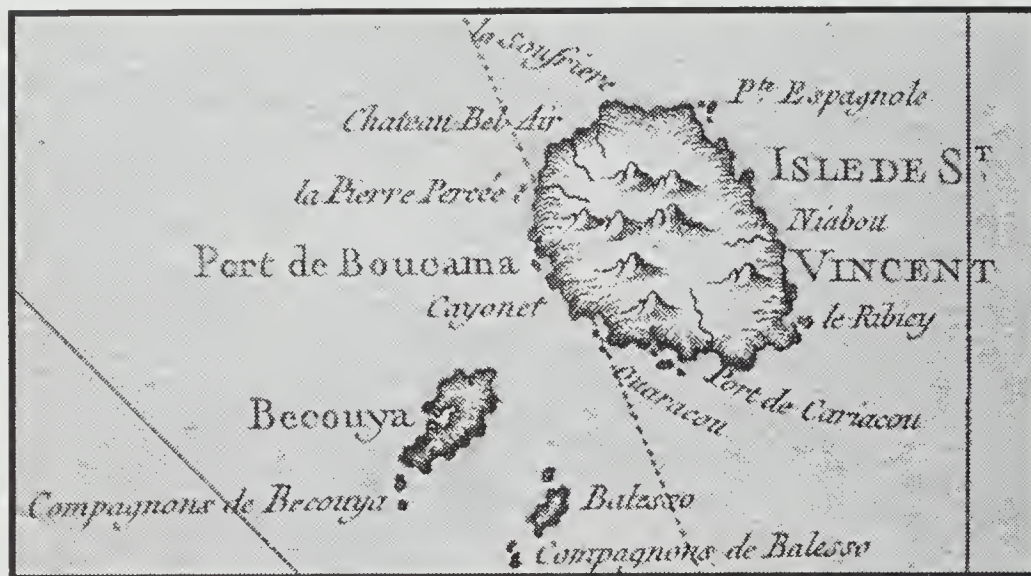
Note—Names & functions are taken from *Concorde's* 1717 muster roll (ADLA Marine 337, 120 J 337). Other data are gleaned from either the Francois Ernaud deposition (ADLA Serie B 4578, folio 90v-91v; denoted *) or that of Pierre Dosset (ADLA Serie B 4578, folio 56v-57; denoted **).

of pearls and gemstones.⁴³ Cowries were the medium used to determine the value of a slave in Whydah and the majority of the purchase price for a slave was usually paid in shells so that “each ship brings 30 to sixty or even eighty thousand weight.”⁴⁴ *Concorde* probably carried a quantity of these cowries to Africa as cargo.

Concorde left the African coast on 2 October 1717 sailing for the Antilles. Two months later, on 28 November, two pirate vessels “...manned with two hundred fifty one men, one with twelve cannon, the other with eight, and both commanded by Englishman Edoward Titcher...,” otherwise known as Blackbeard, captured the French slave ship thirty to sixty leagues due east of Martinique.⁴⁵ The French documentation recently acquired by the authors not only substantiates the famous pirate captain’s presence, but confirms earlier suspicions that Blackbeard was not sailing in “Consortship” with Benjamin Hornigold as indicated in Johnson’s *General History*. The new documents in fact strongly suggest that Hornigold was not even present at the taking of *Concorde*. Johnson had stated that Blackbeard had requested and received permission from Hornigold to take command of the slaver saying the pirate “...went aboard [*Concorde*] as Captain, and took a Cruize in her...by *Hornigold’s* Consent....”⁴⁶ Though seemingly a minute point, most authors and scholars writing on the subject of Blackbeard over the past two hundred years have perhaps overly-relied on Johnson’s pirate biography for many details of which some, at least, are proving to have been heavily embellished or simply erroneous.⁴⁷

Concorde’s lieutenant, Francois Ernaud, attempted to explain to authorities how the pirates had been able to overpower his ship. He deposed, following his return to France some months later, that, in addition to the sixteen men that had died during the voyage, “...thirty six men of their said crew were sick with scurvy and the bloody flux...” leaving barely enough crew to maneuver and manage the ship.⁴⁸

The slave trade was one of the most deadly voyages an eighteenth century seaman could make as the mortality rate for the crew averaged twenty percent, sometimes greater. *Marie-Gabrielle* of Nantes lost thirty-one sailors out of thirty-nine in 1769, and *Deux Pucelles* of Nantes lost all of her officers in 1750. The life expectancy of European slavers was reputed to be two years on the Slave Coast of Africa. A large crew was important on the transatlantic crossing but, as they approached the Antilles, the welfare of the slaves became more important than that of the crew. Some of the slaves would say “We are worth



money,” and they were of great value to the captain, who received a “prime” of about four percent of the selling price of every slave landed alive. A seaman, on return to Nantes, was owed a year’s wages, so many crewmen deserted due to inhumane treatment or were simply dismissed. Some seamen had been known to beg the Negroes for part of their rations, and often, out of pity, the Negroes would pass it up to them through the gratings.⁴⁹ The crews on slavers were treated “...with great rigour and many times with cruelty... They lie on deck and they die on deck.”⁵⁰

The white people looked and acted, as I thought in so savage a manor; for I had never seen among any people such instances of brutal cruelty; and this not only shewn towards us blacks, but also to some of the whites themselves. One white man in particular I saw when we were permitted to be on deck, flogged so unmercifully with a large rope near the foremast, that he died in consequence of it; and they tossed him over the side as they would have done with a brute.⁵¹

The division of labor among the crew of the slaver *Concorde* during its last slave trading voyage to Africa is illustrated in Table 1. The table has been compiled and presented in much the same layout as *Concorde’s* 1717 muster roll, providing the name, rank, and function of each crewman. Most of the data presented are gleaned from the muster roll itself, with a few additional details taken from both the Dosset and Ernaud depositions, such as different name spellings, if and when died, whether forced or voluntarily joined the pirates, and so on. In some cases the Ernaud deposition provides functions for several crew members otherwise simply listed as seamen on the muster roll; shipboard functions such as coopers, caulkers, and cooks. One of these seamen, Phillippes Charles, was apparently the ship’s trumpeter and Ernaud identified Francoise Lombard as a “cosseman.” Although we have yet to locate an exact definition in the Old French, Lombard’s position appears to have had something to do with the ship’s rigging (see Table 1).

Figure 6. Eighteenth century chart of the islands of St. Vincent and Beccouya (Bequia). Illustration courtesy of John de Bry.

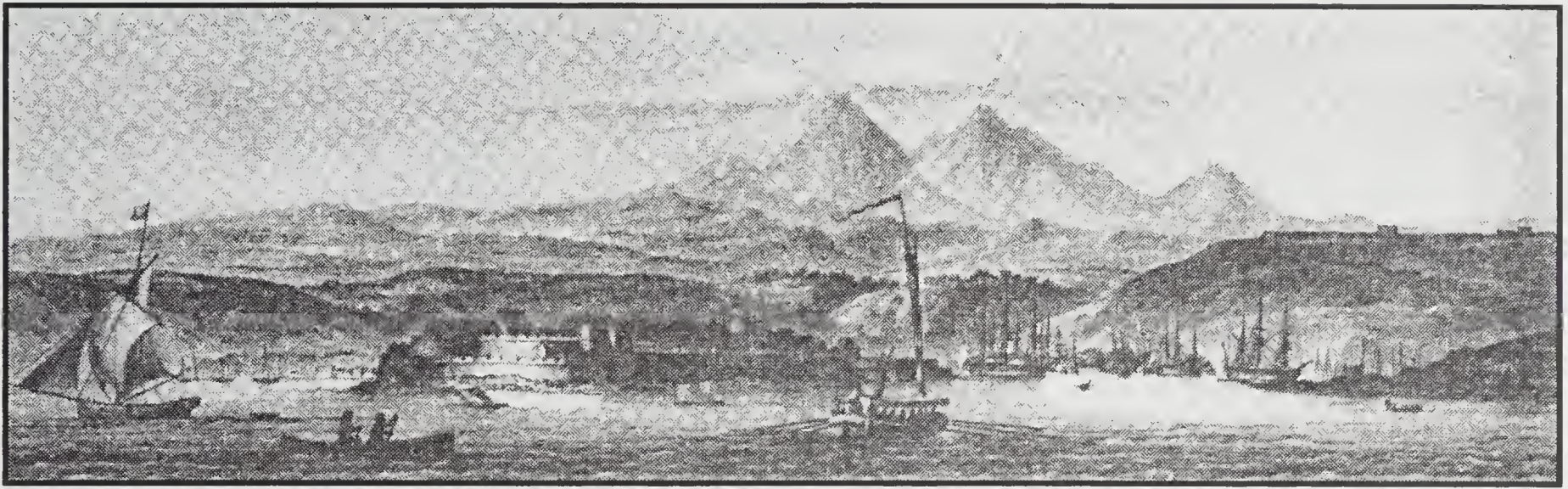


Figure 7. Eighteenth century engraving of the anchorage at Fort Royal, Martinique from Maurice Besson, *The Scourge of the Indies: Buccaneers, Corsairs, & Filibusters*, New York, 1929.

One of the more interesting details supplied by the muster roll and included in Table 1 are the pay rates for each crew member, allowing a comparison of their perceived value aboard the ship in relationship to each other, other crews, other trades, and even other nations. These rates vary from Captain Dosset's one hundred pounds per month to one of the cabin boy's five pounds per month. This paltry pay and status was undoubtedly one of the reasons that prompted the boy to join Blackbeard's crew voluntarily. Following Dosset's one hundred pounds per month came the second captain Baudier's eighty and Lieutenant Ernaud's sixty. The other officers and skilled positions fell into a range of twenty-five to fifty pounds per month, and the common sailors or seamen earned from ten to twenty-five pounds each month (see Table 1).

It is also interesting to examine the functions of the men who were forced by the pirates as most held certain skilled positions aboard *Concorde*, including three ship's surgeons, two carpenters, a pilot, caulker, cook, and gunsmith.⁵² Apparently not one of *Concorde's* crew who either joined voluntarily, or was forced, stayed with Blackbeard long as none of these names appear on any of the lists of those present at the pirate's end.

Following her capture, *Concorde* and her crew and cargo were taken to Bequia Island, just south of Saint Vincent, and plundered (Figure 6). One of the crew, the fifteen year old cabin boy named Louis Arot, voluntarily joined the pirates and subsequently revealed "...that his captain and senior officers had gold dust." The pirates then threatened to "...cut the throats..." of the crew if they did not hand over the valuable commodity. In addition to young Arot, three others of the crew willingly joined the pirates. Besides keeping the ship, its weaponry, and at least some of the captive Africans, the pirates also forced ten of the French crew to join their ranks.⁵³ The pirates allowed the French

crew to keep the majority of their African captives and even provided them with a small sloop in exchange for the larger slaver. It took the forty-ton Bermuda sloop, called *Mauvaise Rencontre*, two separate voyages to transport the remaining French crew and human cargo to Martinique⁵⁴ (Figure 7). The name of the sloop is interesting in that it translates to *Bad Encounter*, a name almost certainly given to the small vessel by the French crew who had just suffered such an experience at the hands of the pirates. Blackbeard also provided *Concorde's* ex-crew with "...two or three tons of beans..." to continue the sustenance of the Africans until they could be transported to Martinique.⁵⁵ Beans were a primary staple aboard slave ships during the Middle Passage and this small gift from the pirates was undoubtedly a remainder from *Concorde's* just completed Atlantic voyage.

Due to the cabin boy Arot's treachery, Dosset and his crew were forced to surrender their small cargo of gold dust. The quality of gold available from Africa could greatly vary depending on who handled it before it was traded. It was considered a virtue for an African to get the best of the deal when trading gold to Europeans who often had two different weights, one to sell by and another, weighing less, for purchasing needed goods. Honesty was an individual trait that varied among coastal regions and tribes and aboard various ships. Gold was adulterated by adding brass filings, tin, or silver, which required various methods to detect. Some of the means to detect "dross" or adulterated gold were acid, the touchstone method, or comparison with twenty-four needles made from the lowest to the highest carat gold. It was also common practice for a French ship to carry a goldsmith on board to detect adulterated gold.⁵⁶

Gold was discovered at Minas Gerais in Brazil 200 miles inland from Rio de Janeiro by Paulista pioneers in the 1690s. The Brazilian economy

was dependent on the trade from Whydah until the 1730s. Slaves from Whydah were said to have a nose for finding gold, making them more valuable and in demand in Brazil. An illegal trade developed between Brazil and Whydah where substantial amounts of Brazilian gold were being brought to Africa to pay for slaves.⁵⁷ So it remains a possibility that any gold recovered from the site of *Queen Anne's Revenge* could have originated in Brazil, been transported to Africa, and later been traded to Dosset and his crew.⁵⁸

Concorde sailed to both Martinique and Saint Domingue on her first two voyages and her crew finally arrived at the former with their cargo of captive Africans on their third voyage. During the early eighteenth century Martinique emerged as the leader in French colonial sugar production until overtaken in the 1740s by Saint Domingue (Figure 8). Hence, at least initially, the island demanded a large share of those Africans imported into the French colonial system.⁵⁹ During the entire course of the trade, Saint Domingue accounted for approximately three-quarters of all slaves imported into the French colonies, with Martinique and Guadeloupe splitting most of the remaining quarter. Furthermore, Saint Domingue was the leading consumer of slaves in the entire Caribbean, easily outpacing its closest competitor, the English colony of Jamaica⁶⁰ (Figure 9).

Concorde's known period of operation (1713–1717) fits comfortably within the 1711–1722 subset included within a set of data tables developed and published by Herbert Klein in his African slave trade survey, *The Middle Passage*,⁶¹ allowing a comparison of known *Concorde* data to certain averages from the same period. Though the question of *Concorde's* tonnage remains vague, the ship was undoubtedly larger than the average 150-ton French slaver prevalent during the early eighteenth century.⁶² Hence the ship transported more than the average 283 slaves per ship, 516 on her last voyage alone. *Concorde* correspondingly carried a larger crew (between sixty-five and seventy-five men) than the fifty-one man average on French slavers. It is difficult to correlate normal sailing times and the amount of time spent on the African coast as so many factors such as weather, availability of slaves, and sickness entered into the equation. In almost every leg of every voyage however, the obviously well operated *Concorde* eclipsed the averages by several weeks, and by an entire month in some instances.

Following the loss of *Concorde* to Blackbeard and his crew, both Pierre Dosset and François Ernaud would again find commands on ships



owned by René Montaudoin. Dosset left Nantes on 22 March 1719 as captain of the 250-ton *Affriquain* only to die somewhere along the West African coast 28 September of the same year.⁶³ Ernaud, who had served as lieutenant on both the 1715 *Concorde* voyage and that under Dosset in 1717, obviously was able also to maintain his employer's confidence. He too was given a command, departing Nantes on the smaller eighty-ton *Saint Nicolas* on 3 October 1719,⁶⁴ and then taking the same vessel on another successful voyage in 1721–1722.⁶⁵ Nothing has yet been found on the man during the intervening years, but documents indicate a command once again in 1728–1729 as captain of Montaudoin's 150-ton *Union*.⁶⁶ He left Montaudoin's employment shortly after this voyage as he shows up one last time in documents commanding *Hermione* out of Nantes for Jacques Jary in 1730.⁶⁷

The loss of *Concorde* to Blackbeard in November 1717 was not the only problem Montaudoin's ships would have with pirates during his illustri-

Figure 8. Eighteenth century engraving of a typical sugar plantation in the French Caribbean. Bibliotheque Nationale.



Figure 9. Eighteenth century engraving of an anchorage on St. Domingue from Maurice Besson, *The Scourge of the Indies: Buccaneers, Corsairs, & Filibusters*, New York, 1929.

ous career as an *armateur*. In 1712 *La Généreuse* was chased by a Dutch corsair and again encountered pirates in 1718.⁶⁸ In 1719 pirates captured *Union* under Captain Jacques Nadreau at Juda;⁶⁹ *L'Excellent* under Jean Denier was taken on 29 January 1723 and eventually condemned at Fayal;⁷⁰ and Captain Pierre Valteau's small thirty-ton support vessel *Expedition* was captured by pirates in 1728.⁷¹

Though captured by pirates and serving the infamous Blackbeard as his flagship, *Concorde*, now *Queen Anne's Revenge*, and its captain continued to be associated with the institution of slavery, if only by circumstance. If the ship continued under the pirate's command until the end, then she was even carrying slaves when she was run aground and lost. Initially the pirates kept sixty-one African captives following the capture of *Concorde*, but Dosset was able to reclaim these some time later when the pirates ran one of their ships aground on Grenada.⁷² Shortly after the pirates' blockade of Charleston and on their way to North Carolina, they encountered the brigantine *Princess* out of Angola with a cargo of eighty-six enslaved Africans.⁷³ Ignatius Pell, the pirates' boatswain who later gave evidence against them, deposed that the "...said *Thatch* took out of the *Brigantine* he took off the Bar of *Charles-Town* Fourteen Negroes; and that he heard *Thatch* tell the Commander of the said *Brigantine*, That he had got a Baker's Dozen."⁷⁴ Following the loss of *Queen Anne's Revenge* off North Carolina several days later, Blackbeard, "...having taken what Number of Men he thought fit along with him...set sail from *Topsail-Inlet* in the small *Spanish Sloop*, about *eight* Guns mounted, *forty* White Men, and *sixty* Negroes, and left the *Revenge* belonging to *Bonnett* there."⁷⁵

It is doubtful whether all "sixty Negroes" whom the pirate took with him when he left the inlet constituted a major part of his crew. In fact, many

of these were undoubtedly slaves taken from *Princess* and other recent prizes. Virginia governor Alexander Spotswood would later state in defense of his actions taken against the North Carolina pirates, though probably embellishing the numbers somewhat, that they were "...admitted to bring in & expose to sale as their proper estate, 80 or 90 Negroes confess'd by them to have been Piratically taken from the Subjects of the French King...."⁷⁶ Additionally, Blackbeard's quartermaster, William Howard, taken by authorities several weeks after the loss of the flagship, entered Virginia "...with two Negroes which he own'd to have been Piratically taken, the one from a French ship and the other from an English Brigantine."⁷⁷ And following the battle at Ocracoke Inlet, both a large volume of sugar and "...Six negroes all w^{ch} were the Effects of *Thach*," were recovered at "Bath Town" and taken back to Virginia.⁷⁸

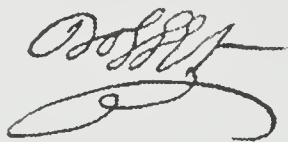
There is also ample documentation to indicate that at least a portion of Blackbeard's crew was of African descent, though it is not currently known whether these men were at any time ever subjected to slavery. In July 1718 Captain Ellis Brand reported to the Admiralty that the number of pirates then on the coast of North Carolina under Blackbeard's command "...concisted of three hundred and twentie, whites and Negroes...."⁷⁹ Following the final battle at Ocracoke there were numerous reports describing various details, including the pirate crew. The *Boston News-Letter* published two accounts mentioning Blackbeard's cohorts "...being about 20, and three or four Blacks..." and "...12 of his Men kill'd, and Nine made Prisoners, most of them Negro's, all wounded...."⁸⁰ Governor Spotswood related that one of Blackbeard's crew, "...a Negro was ready to set fire to the Powder..." if the battle went against the pirates and at the last moment was prevented from doing so.⁸¹ There was even much discussion following the

battle as to whether several of Blackbeard's crew should be tried as pirates or simply treated as slaves and sold. They were eventually tried, convicted, and hanged as pirates.⁸²

There seems to be little doubt that *Queen Anne's Revenge* was carrying slaves right up until her loss off Beaufort, North Carolina, and even following the loss of the flagship, Thatch continued to dabble in the trade of enslaved Africans. The significance of the pirate captain's activities and his loose association with the African slave trade cannot be overestimated. If the shipwreck currently under investigation off Beaufort Inlet eventually proves to be Blackbeard's flagship, the potential for illuminating the fascinating era of piracy through associated research and material culture exhibitry should be incredible. However, if Blackbeard kept the Nantaise slaver *Concorde* as his flagship *Queen Anne's Revenge* until the end, both the historical and archaeological significance of the site are greatly increased, as most slave trade scholars would undoubtedly attest. It is interesting to note that although comparatively few artifacts have been recovered during the initial five-year assessment phase of this project, none can be directly attributed to either French manufacture or typical slave trading operations, both expected if the wreck represented the remains of Montaudoin's *Concorde*. The time to start answering some hard questions concerning the shipwreck resting off Beaufort Inlet is long overdue.

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The signatures of Captain Pierre Dosset and Lieutenant Francois Ernaud of the slave ship *Concorde* from their respective depositions describing the capture of their vessel by the pirate Blackbeard.

Acknowledgements

The authors wish to thank Tom Babits and John de Bry, and particularly Vivienne Miguet, Virginie Serna, Paul Fontenoy, and Louise Fontenoy for their efforts in acquiring copies of much of the French documentation.

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Daniel would like to acknowledge the contributions of Eugene Brunnell, Ray Giroux, Will Kirkman, John and Phil Masters, Capt. Walter Matheson, and Jim Whitaker in helping him locate the *Queen Anne's Revenge*.

Endnotes

Abbreviations:

PRO—Public Record Office, London, England

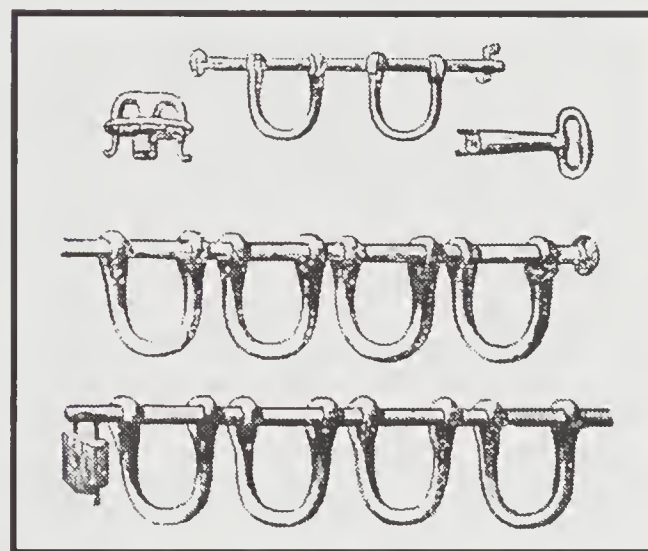
ADLA—Archives Départementales Loire-Atlantique, Nantes, France

1. David D. Moore, *Submerged Cultural Resources Associated with Blackbeard the Pirate*, unpublished MS, April 1982.
2. See Lindley S. Butler, "The Quest for Blackbeard's *Queen Anne's Revenge*," this volume.
3. Moore is currently preparing this research for eventual publication under the working title, *The Blackbeard Chronicles: A Detailed Analysis of the Documentary Evidence Relating to Pirate Captain Edward Thatch, 1717–1718*.
4. Captain Charles Johnson, *A General History of the Robberies and Murders of the Most Notorious Pirates*, London, 1st Edition, 1724, pp. 63–64 (hereinafter Johnson, *General History*); Johnson's 2nd Edition (pp. 70–71) agrees with most details in the 1st Edition on the taking of the French slaver, but has Blackbeard sailing in consort with Benjamin Hornigold (see also note 49, this article).
5. Tyler, Lyon G., M.A., LL.D., editor, "William Howard, the Pirate," *Tyler's Quarterly Historical and Genealogical Magazine*, Volume I, Richmond, Virginia, 1920, pp. 36–39; and William P. Palmer, M.D., editor, "Articles exhibited before the Hon^{ble} his Maj^{ty's} Commⁿ, appointed under the Great Seal, in Pursuance of an Act of Parliament made in the Eleventh and twelfth years of the Reign of King William the third, Entituled, an Act for the more Effectual Suppression of Piracy, Against, William

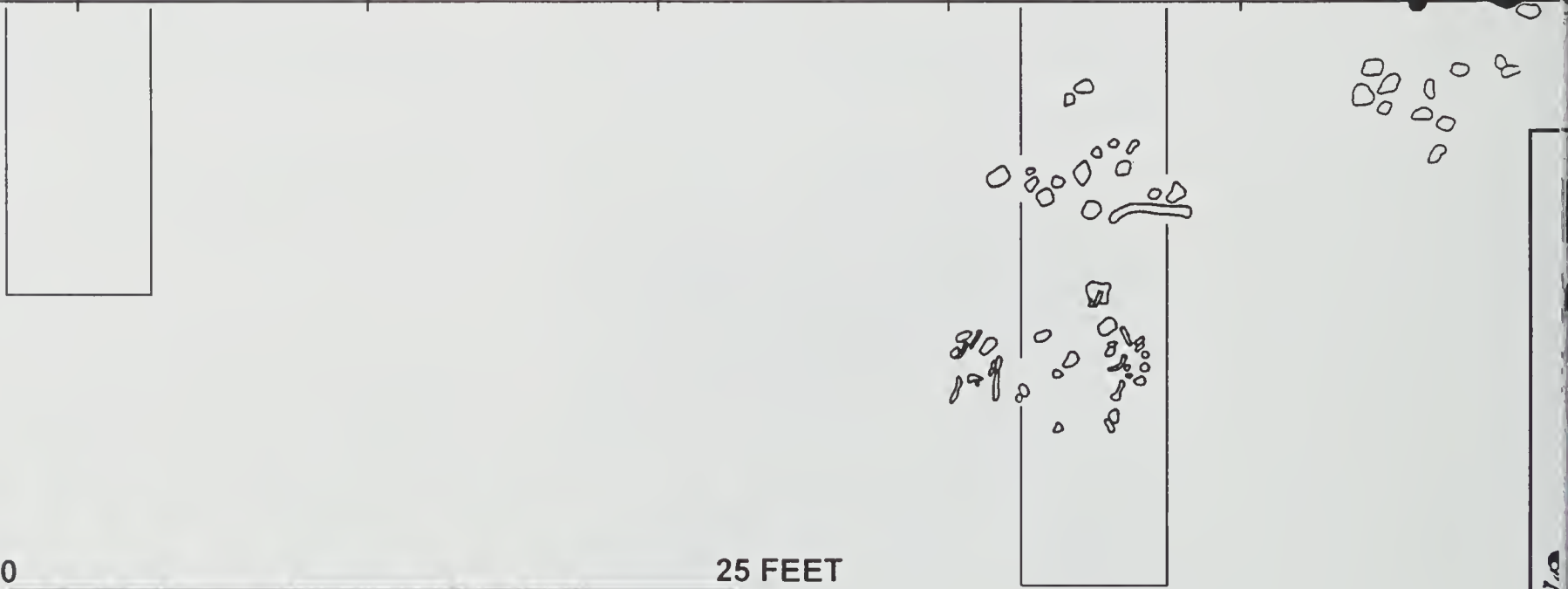
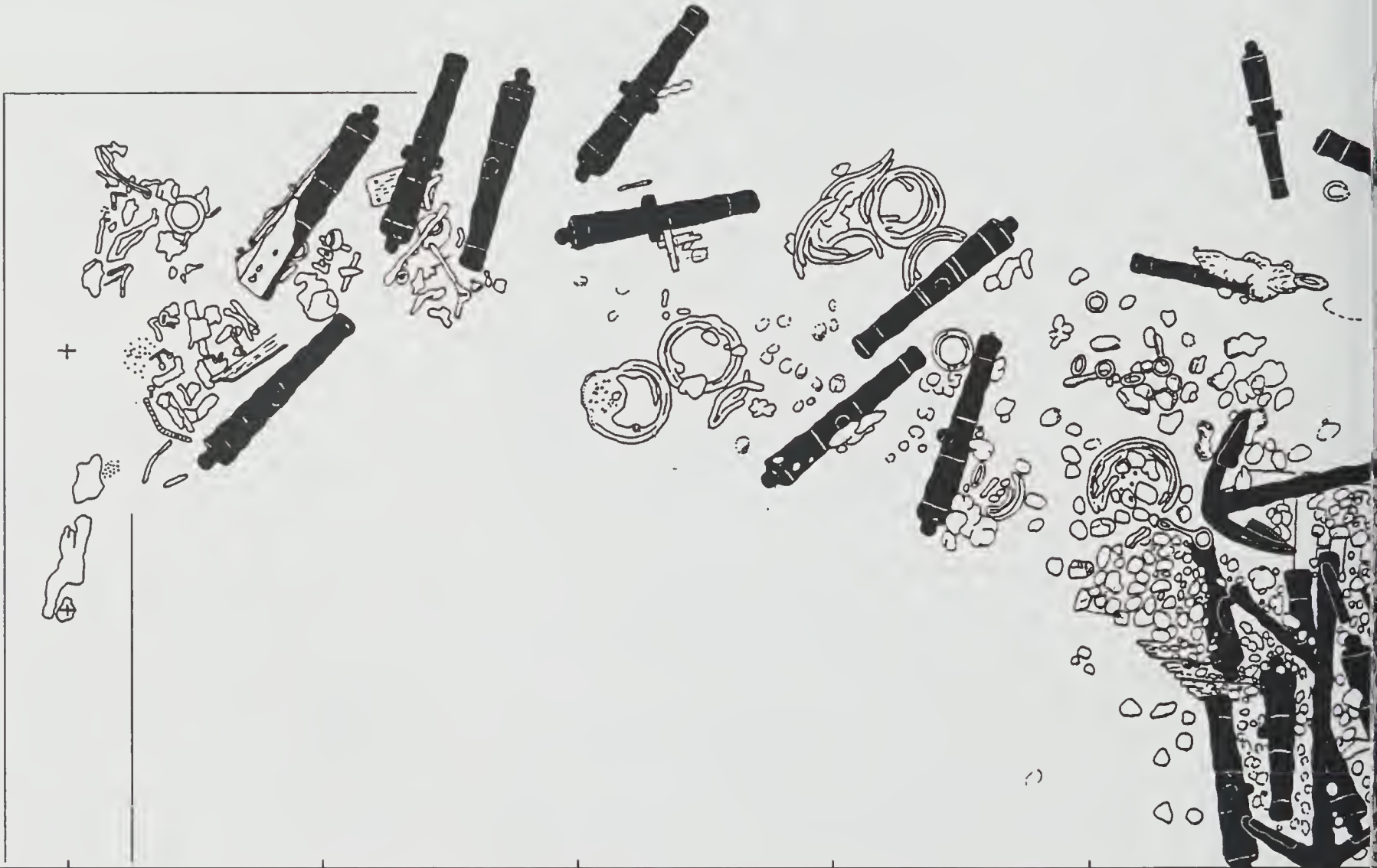
- Howard, For Piracy and Robbery committed by him on the High Sea," *Calendar of Virginia State Papers and Other Manuscripts, 1652-1781, Preserved in the Capitol at Richmond*, Volume 1, Richmond, Virginia, 1875, p. 196.
6. See Alain Demerliac, *Le Marine de Louis XIV: Nomenclature des Vaisseaux du Roi-Soleil de 1661 a 1715*, Editions Omega, Nice, 1992, which lists the *Concorde* (pp. 58, 219) in addition to several valuable secondary sources including, Jean Mettas, *Répertoire des Expéditions Négrières Françaises au XVIII^e Siècle*, 2 Volumes, Serge Daget, editor, Société Française d'Histoire d'Outre-Mer and Librairie Orientaliste Paul Geuthner S.A., Paris, Volume I, Nantes, 1978. Mettas also lists *Concorde* (pp. 16, 37, and 56), and several primary sources.
 7. Independent researchers Thomas Babits and John de Bry located several documents concerning the slaver *Concorde* including the muster rolls; see Nantes, Marine 335 (120 J 335, 1713); Nantes, Marine 336 (10 J 336, 1715); and Nantes, Marine 337 (120 J 337, 1717).
 8. ADLA Serie B 4648, folio 90v-91, Dosset Deposition, and ADLA Serie B 4648, folio 56v-57v, Ernaud Deposition.
 9. James A. Rawley, *The Transatlantic Slave Trade, A History*, New York, 1981, pp. 108, 110 (hereinafter, Rawley, *Transatlantic Slave Trade*).
 10. Marcel Chailley, *Histoire de l'Afrique Occidentale Française, 1638-1959*, Paris, 1968, p.85; Jean Meyer, *L'Armement Nantais dans la Deuxième Moitié du XVIII^e Siècle*, Paris, 1969, pp. 81-83; Herbert S. Klein, *The Middle Passage, Comparative Studies in the Atlantic Slave Trade*, Princeton University Press, N.J., 1978, p. 175 (hereinafter, Klein, *Middle Passage*); and Rawley, *Transatlantic Slave Trade*, pp. 125-127.
 11. Robert Louis Stein, *The French Slave Trade in the Eighteenth Century, An Old Regime Business*, The University of Wisconsin Press, 1979, pp. 10-12 (hereinafter, Stein, *French Slave Trade*); and Sue Peabody, "There Are No Slaves in France," *The Political Culture of Race and Slavery in the Ancien Régime*, Oxford University Press, New York, pp. 11-12.
 12. Stein, *French Slave Trade*, p.11, and Guy Chaussinand-Nogaret, *Les Financiers de Languedoc au XVIII^e siècle*, Paris, 1970, p. 111.
 13. Stein, *French Slave Trade*, pp. 14-18.
 14. Phillip D. Curtain, *The Atlantic Slave Trade, A Census*, The University of Wisconsin Press, Madison, 1969, 1970, pp. 163, 171; Jean-Claude Nardin, "Encore des Chiffres: La Traite Négrière Française Pendant la Première Moitié du XVIII^e Siècle," *Revue Française d'Histoire d'Outre-Mer*, Volume LVII, Number 209, Paris, 1970; and Klein, *Middle Passage*, pp. 177-179.
 15. Jean-Joseph Expilly, *Dictionnaire Geographique*, 5 Volumes, Paris, 1762, Volume V, p. 80.
 16. Hugh Thomas, *The Slave Trade, The Story of the Atlantic Slave Trade: 1440-1870*, New York, 1997, p. 450 (hereinafter Thomas, *The Slave Trade*); see also Francis Lefeuve, *Souvenirs nantais et vendéens*, Paris, 1913.
 17. Klein, *Middle Passage*, pp. 204-205; and Jean Meyer, *L'Armement Nantais dans la Deuxième Moitié du XVIII^e Siècle*, S.E.V.P.E.N., 1969, pp. 161-163.
 18. A. Perret, "René Montaudoin, Armateur et Négrier nantais (1673-1731)," *Bulletin de la Societe d'Archeologie et d'Histoire de Nantes*, Volume LXXXIII, 1949, p. 80 (hereinafter Perret, "René Montaudoin").
 19. Perret, "René Montaudoin," pp. 90-91, and Thomas, *The Slave Trade*, pp. 251-253.
 20. Perret, "René Montaudoin," p. 78.
 21. Archives Municipales de Nantes, CC 484, *État des négociants...avec leurs facultés au moins et leurs demeures de la ville et faubourg de Nantes*; list also published in Jean Meyer, *L'Armement Nantais dans la Deuxième Moitié du XVIII^e Siècle*, S.E.V.P.E.N., Paris, 1969, pp. 257-261 (hereinafter Meyer, *L'Armement Nantais*).
 22. ADLA, Registres des classes; see also Meyer, *L'Armement Nantais*, pp. 265-267.
 23. ADLA Serie B 4576; Nantes, Marine 335 (120 J 335).
 24. ADLA Serie B 4648; Nantes, Marine 336 (10 J 336); and Colonies C^{9A} 12.
 25. Ernaud made it back to France first (April 1718) and hence gave the initial report of *Concorde's* capture (ADLA Serie B 4578, folios 56v-57v). Dosset followed a few months later (October 1718) verifying most of Ernaud's report and providing a few additional details (ADLA Serie B 4578, folios 90v-91).
 26. Ernaud states that the *Concorde* was carrying 16 cannon (ADLA Serie B 4648, folio 56v), while both Dosset's deposition (ADLA Serie B 4648, folio 90v) and the 1717 Muster Roll (Nantes, Marine 337 (120 J 337)) indicate 14 cannon as the armament of the ship. In comparison, Gaston Martin (*L'Ère des Négriers, d'Après des Documents Inédits (1714-1774): D'Après des Documents Inédits*, Librairie Félix Alcan, Paris, 1931, pp. 30-31) states that "From 1715 to 1730, the normal armament of a ship of 200 tons was from 15 to 18 guns. Certain ships of R. Montaudouin, exceeded this figure. *Concorde* and *Lusancay* (1718), both of 200 tons, carried 26 and 24 guns respectively." It is not clear where Martin got this information, but efforts are currently underway to locate the source. The difference in the figures may, in fact, be indicative of the presence of smaller rail-mounted swivel guns, which would probably not have been counted by Dosset, Ernaud, or the official muster roll in a count of the ship's primary armament. This has become an archaeological as well as a historical question as more various-sized cannon are located on the wreck site and the number of observed and/or recovered cannon gets closer to the forty Blackbeard reportedly mounted on *Queen Anne's Revenge*, ex-*Concorde*.
 27. ADLA Serie B 4578.

28. On the 1542 chart of Jean Rotz, Groix and Belle Ile are spelled Groie and Bellile respectively; the 1548 Guillaume Brouscon chart, Gzoe and Belde; 1559 Diego Homem chart, Groya and Betaillia; and the 1662 chart of Francois Ollive, they are known as Gaïree and Betilla; in Michel Mollat du Jourdin and Monique de La Roncière, *Les Portulans: Cartes marines du XIII^e au XVII^e siècle*, Office du Livre S.A., Fribourg, 1984.
29. ADLA Serie B 4578, folio 91 and ADLA Serie B 4578, folio 57.
30. Simon Berbain, *Études sur la Traite des Noirs au Golfe de Guinée, Le Comptoir Français de Juda au XVIII^e Siècle*, Mémoires de IFAN, Number 3, Paris, 1942; and Rawley, *Transatlantic Slave Trade*, p. 131.
31. E. A. Soumonni, "The Administration of a Port of the Slave Trade Ouidah in the 19th Century," *Ports of the Slave Trade (Bights of Benin and Biafra)*, Papers from a conference of the Centre of Commonwealth Studies, University of Stirling, 1998, p. 49.
32. Hair, *Barbot on Guinea*, Volume II, p. 644.
33. Klein, *The Middle Passage*, p. 190, note 10.
34. Robin Law, *The Slave Coast of West Africa 1550–1750*, Oxford, 1991, pp. 254–256.
35. Archives Nationale, N: B.1/9, Bouchel, Whydah, 30 Jan 1716.
36. PRO Colonial Office 113/276, William Baillie, 9 April. 1717; and PRO Treasury 70/1475, 21 May 1717.
37. Thomas Phillips, "A Journal of a Voyage Made in the HANNIBAL of London, Ann. 1693, 1694, from England, to Cape Monseradoe, in Africa; and thence along the Coast of Guiney to Whidaw, the Island of St. Thomas, and so forward to Barbadoes," *A Collection of Voyages and Travels, Some Now First Printed from Original Manuscripts, Others Now First Published in English*, 6 Volumes, 3rd Edition, London, 1746, p. 234.
38. Daniel Mannix and Malcom Crowley, *Black Cargoes, A History of the Atlantic Slave Trade, 1518–1865*, New York, 1962, pp. 46–47 (hereinafter Mannix and Crowley, *Black Cargoes*).
39. ADLA Serie B 4578, f. 90v.
40. For numerous examples of descriptions of ship's marks, see Jean Mettas, *Répertoire des Expéditions Négrières Françaises au XVIII^e Siècle*, 2 Volumes, Serge Daget, editor, Société Française d'Histoire d'Outre-Mer and Librairie Orientaliste Paul Geuthner S.A., Paris, Volume I, 1978, Volume II, 1984.
41. Mannix and Crowley, *Black Cargoes*, p. 48
42. William Bosman, *A New and Accurate Description of the Coast of Guinea, Divided into The Gold, The Slave, and The Ivory Coasts*, 1st Edition in Dutch, 1704, 4th English Edition, 1967, p. 337.
43. Hair, *Barbot on Guinea*, Volume II, pp. 641–643.
44. Thomas, *The Slave Trade*, p. 356; see also Pruneau de Pommegorge, *Description de la Nigritie*, Amsterdam, 1789.
45. The pirate's name is discussed in Moore, "Blackbeard the Pirate: Historical Background and the Beaufort Inlet Shipwrecks," *Tributaries*, 7, 1997, pp. 31–32 (hereinafter, Moore, "Blackbeard the Pirate"); see both Colonies C^{8A} 22, 1717, folio 447 and Colonies C^{8A} 23, 1717, folio 39v for "Titche" taking *Concorde*; The deposition of Lieutenant Francois Ernaud (ADLA Serie B 4578, folio 57v) has *Concorde's* capture taking place "30–40 leagues" from Martinique, whereas a council report on 10 December 1717 (Colonies C^{8A} 23, 1717, folio 39v) reveals the distance from the island as "sixty leagues."
46. Johnson, *General History*, 2nd Edition, pp. 70–71.
47. For a brief discussion of the accuracy of Johnson's *General History*, see Moore, "Blackbeard the Pirate," pp. 33–34.
48. ADLA Serie B 4578, folio 57; Stein (*French Slave Trade*, p. 98–102) reveals that scurvy and the "bloody flux" or amebic dysentery were the most prevalent and serious of the diseases afflicting both the crew and Africans during the slave trade. See also Rawley, *Transatlantic Slave Trade*, pp. 290–295 and Klein, *Middle Passage*, pp. 200–202, particularly note 49.
49. Mannix and Crowley, *Black Cargoes*, p. 147.
50. James Morley, *Reports and Papers*, British Parliamentary Series, Volume 73, 1790, p. 163.
51. Olaudah Equiano, *The Interesting Narrative and other Writings*, Great Britain, 1789, p. 57.
52. Interestingly, the *Concorde's* 1717 muster roll (ADLA Marine 337, 120 J 337) lists Claude Dehaye as a gunsmith, whereas Ernaud's deposition (ADLA Serie B 4578, folio 91) calls the man the third surgeon, either way a seaman of value and skilled hands.
53. ADLA Serie B 4648, folio 56.
54. Colonies C^{8A} 25, 1718, folio 6, "List of Ships arriving at Martinique during the last six months from the last year 1717 & the merchandise and commodities which they brought in;" see also C^{8A} 29, 1721, folio 264, "List of Negros that have been introduced into Martinique since the beginning January 1714 until and including the 7th of the present month of August 1721." The latter list mentions *Mauvaise Rencontre* coming into Martinique on 7 December 1717 under the command of Pierre Dosset. Dosset eventually brought in 171 *negres mâles* (adult males), 147 *negresses* (adult females), 47 *negrillons* (boys), and 9 *negrattes* (girls) for a total of 374 enslaved Africans. *Negrillons* and *negrattes* were so categorized by being "de 13 ans le au dessous" or under 13 years of age. These figures do not include the Africans later reclaimed by Dosset through identification by the "mark of the ship." The pirates had kept a number of the slaves taken from *Concorde* who later gave them to the captain of a ship they had taken and plundered. These slaves were eventually taken into Martinique where Dosset was able to make a legitimate claim for their ownership (see

- Colonies C^{8A} 22, 10 December 1717, folio 448–448v; C^{8A} 23, 10 December 1717, folio 40; and ADLA Serie B 4578, folio 91).
55. Colonies C^{8A} 23, 10 December 1717, folio 39v.
 56. Hair, *Barbot on Guinea*, Volume II, pp. 483–486.
 57. James A. Rawley, *The Transatlantic Slave Trade, A History*, New York, 1981, pp. 35–38.
 58. An article on the gold dust recovered from the wreck site is currently under preparation by Dr. James R. Craig of Virginia Polytechnic Institute and David D. Moore of the North Carolina Maritime Museum.
 59. Gaston Martin, *Histoire de l'esclavage dans les colonies françaises*, Paris, 1948, p. 95.
 60. Rawley, *Transatlantic Slave Trade*, pp. 128–129.
 61. Klein, *The Middle Passage*, 180–204.
 62. For further discussion concerning the tonnage question, see David D. Moore, "Blackbeard's *Queen Anne's Revenge*: Archaeological Interpretation and Research Focused on the Hull Remains and Ship-related Accoutrements Associated with Site 31-CR-314," this volume.
 63. ADLA Serie B 4580.
 64. ADLA Serie B 4580; and Colonies C^{8A} 29.
 65. ADLA Serie B 4580; and Colonies F³ 94.
 66. ADLA Serie B 4584.
 67. ADLA Serie B 4585; and ADLA Serie B 4981–4982.
 68. ADLA Serie B 4576 and Marine 333; ADLA Serie B 4578 and Marine 337.
 69. ADLA Serie B 4580.
 70. ADLA Serie B 4581; and Marine 339.
 71. ADLA Serie B 4584.
 72. ADLA Serie B 4578, folio 91.
 73. Moore, "Blackbeard the Pirate," p. 34; South Carolina Admiralty Court, *The Tryals of Major Stede Bonnet, and other Pirates*, London, 1719, pp. iii–iv (hereinafter *Bonnet Tryals*); Governor Robert Johnson to Board of Trade and Plantations, CO 5/1265, folios 247–249; and *South Carolina Naval Office Imports from the 25th March to the 24th June 1718*, CO 5/508.
 74. Ignatius Pell deposition, *Bonnet Tryals*, pp. 11 and 48.
 75. David Herriot deposition, *Bonnet Tryals*, p. 46.
 76. Colonial Office 5/1318, Alexander Spotswood to the Board of Trade and Plantations, 11 August 1719.
 77. PRO Colonial Office 5/1318, Number 61, Alexander Spotswood to the Board of Trade and Plantations, 22 December 1718.
 78. PRO Admiralty 1/1472, Captain Ellis Brand to Josiah Burchett, Secretary of the Admiralty, 6 February 1719.
 79. PRO Admiralty 1/1472, Captain Ellis Brand to Josiah Burchett, Secretary of the Admiralty, 12 July 1718.
 80. *The Boston News-Letter*, Number 776, 23 February–2 March, 1719.
 81. PRO Colonial Office 5/1318, Number 61, Alexander Spotswood to the Board of Trade and Plantations, 22 December 1718.
 82. Robert J. Cain, editor, *Records of the Executive Council 1664–1734*, The Colonial Records of North Carolina, Second Series, Volume VII, Raleigh, 1984, p. 80; and H. R. McIlwaine, editor, *Executive Journals of the Council of Colonial Virginia*, Volume III, May 1, 1705–October 23, 1721, 1928, pp. 495–496.



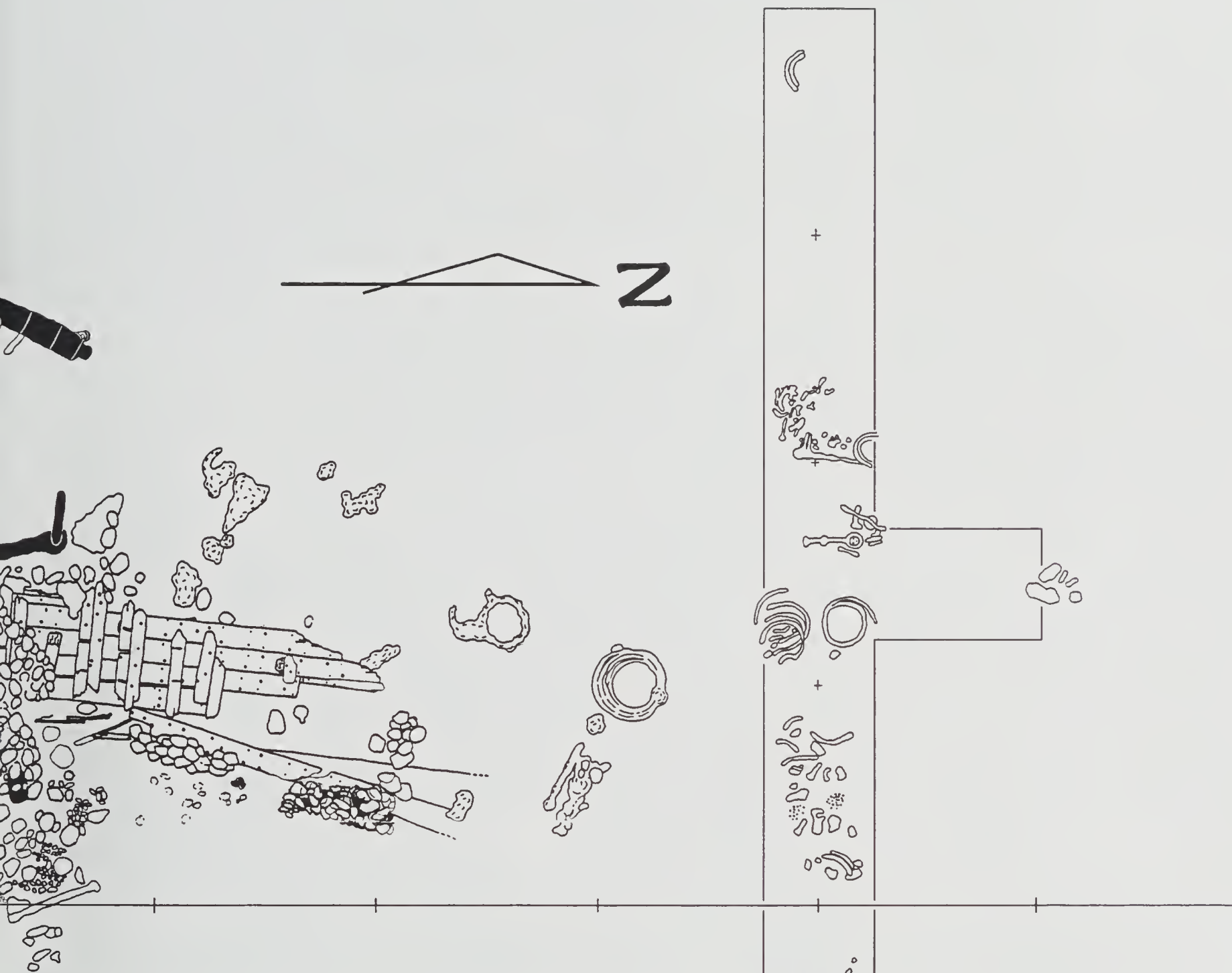
Early eighteenth century French engraving of slave shackles, probably the type of artifact most indicative of a shipwrecked slave ship. Bibliotheque Nationale.



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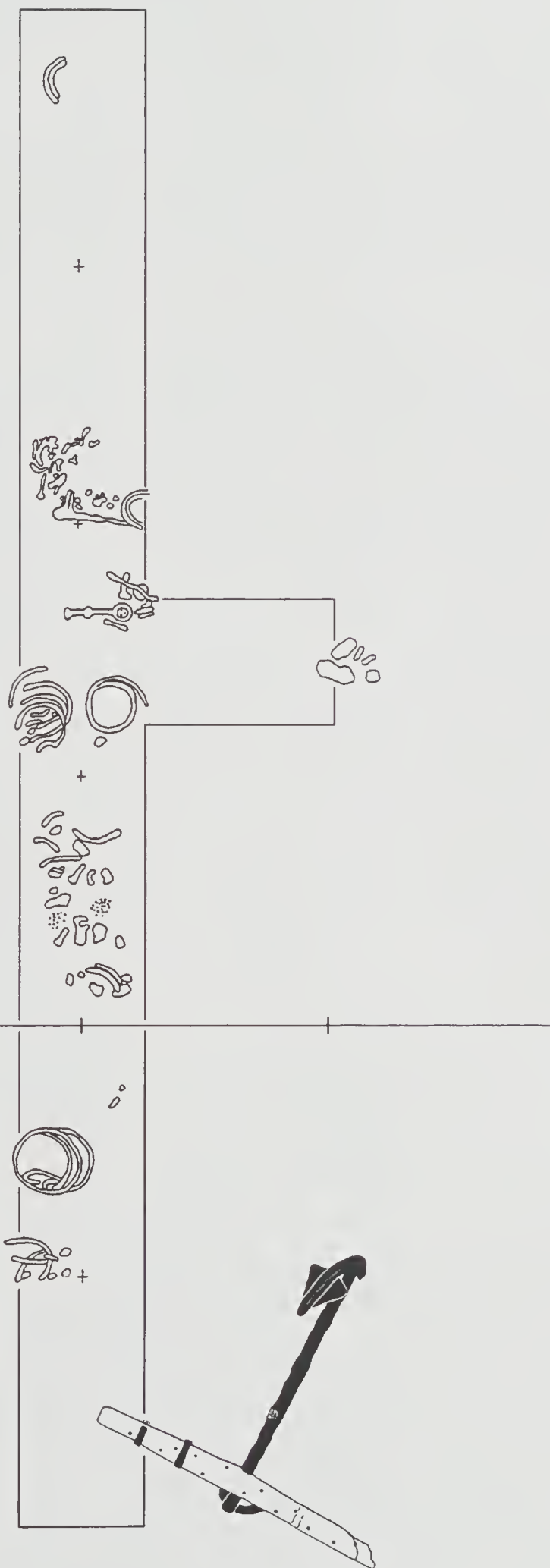
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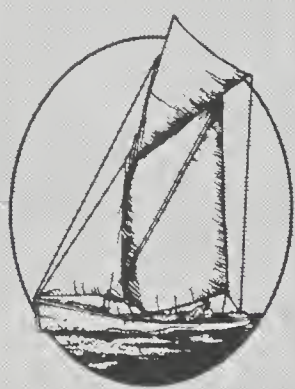
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INTERIM SITE PLAN
QUEEN ANNE'S REVENGE
 Beaufort Inlet, North Carolina

Illustrator: David D. Moore
 North Carolina Maritime Museum
 November 1999





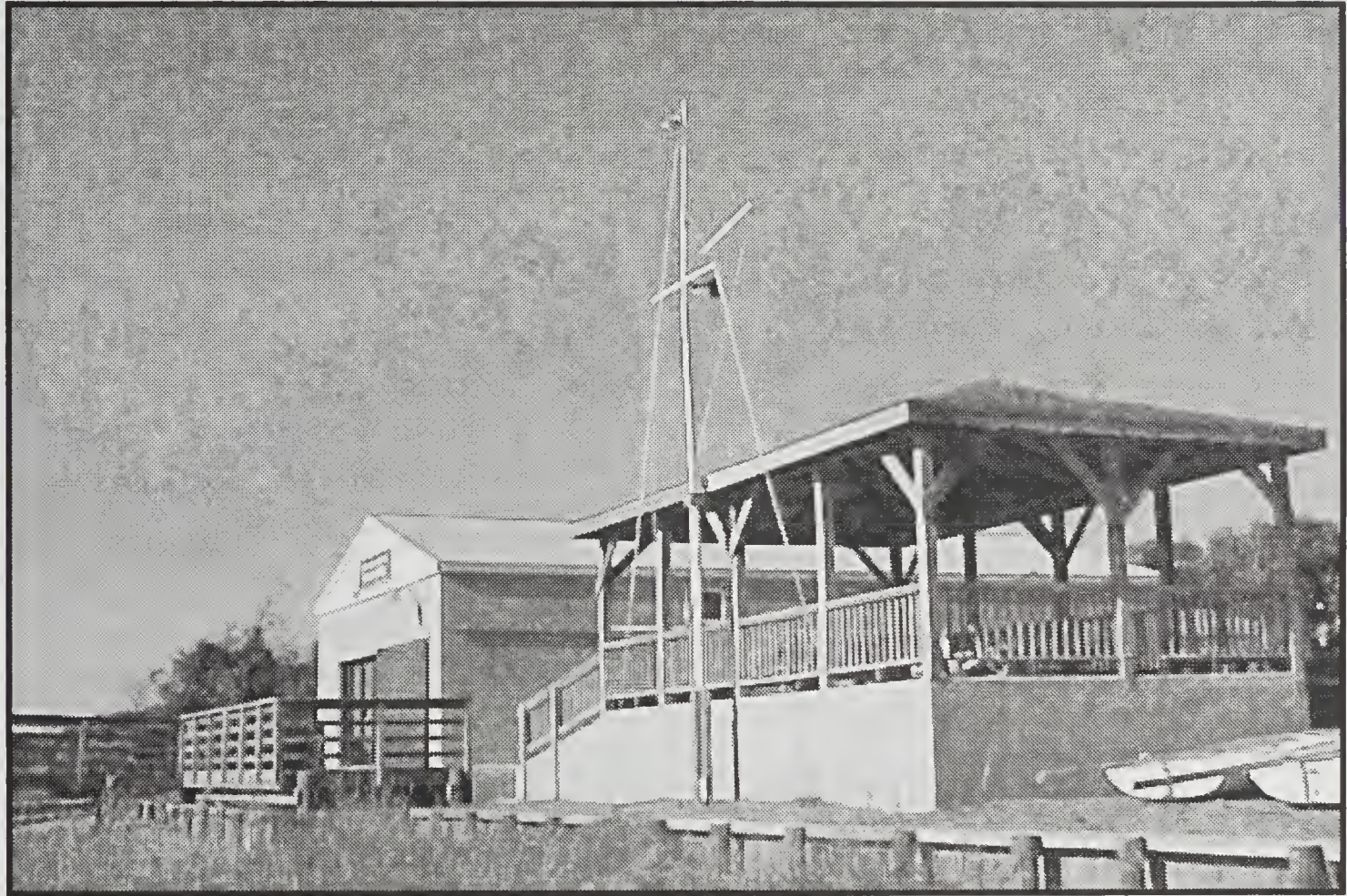
Tributaries

A Publication
of the North
Carolina Maritime
History Council



North Carolina Maritime Museum and the *Queen Anne's Revenge* Shipwreck Project

by George Ward Shannon, Jr.



Above: North Carolina Maritime Museum's Gallants Channel Research Facility and Artifact Repository
Photography by David D. Moore

At left: *The Search for Queen Anne's Revenge Traveling Exhibit*, North Carolina Maritime Museum

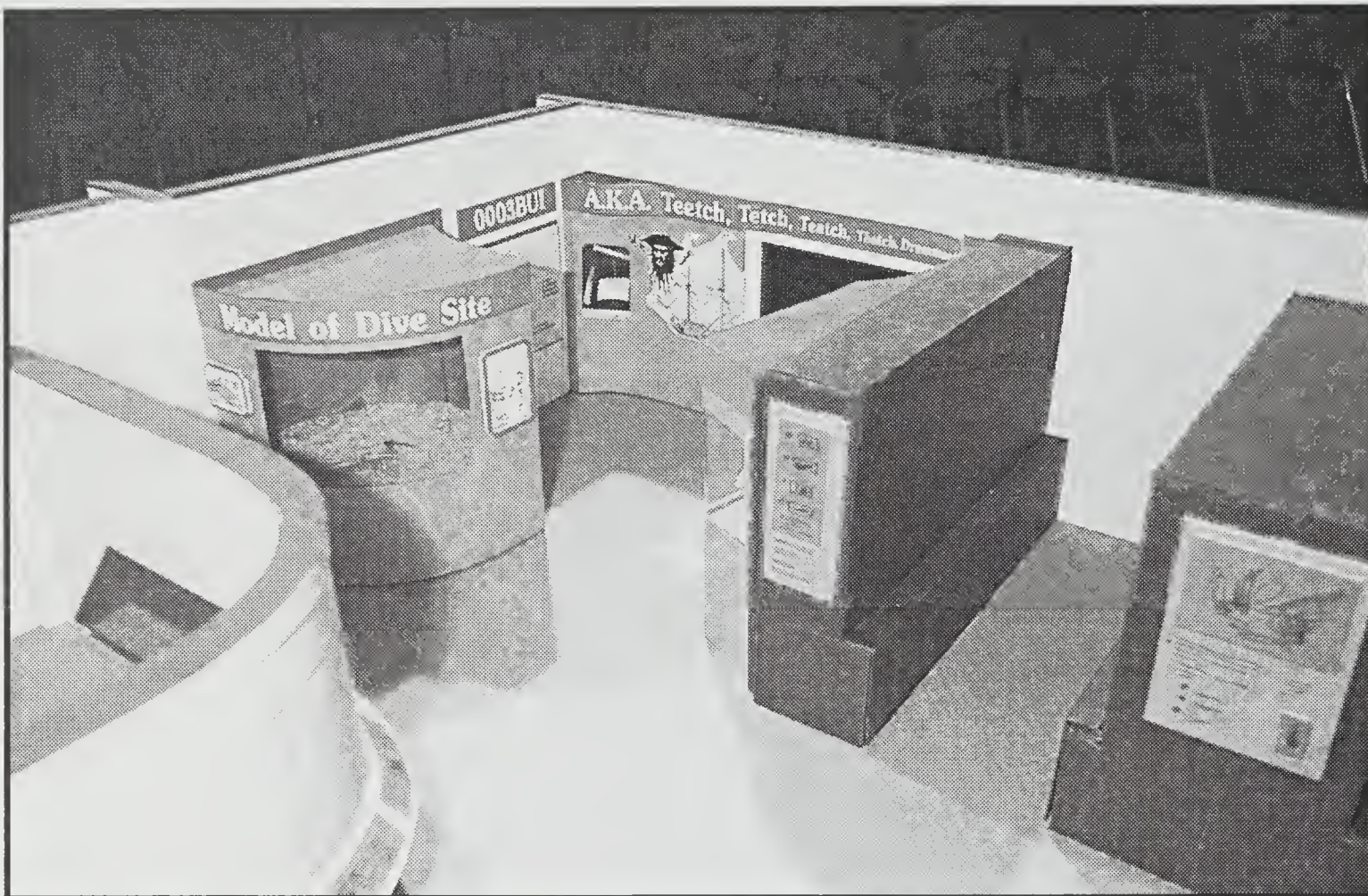
Exhibit design by Jerry Heiser
Photography by Diane Hardy

On the third day of March 1997 the Secretary of the North Carolina Department of Cultural Resources designated the North Carolina Maritime Museum as the official repository for all archaeological artifacts and records associated with the *Queen Anne's Revenge* (*QAR*) shipwreck project. Since that time, as the Office of State Archaeology has completed the conservation of artifacts brought up from the depths, stabilized *QAR* artifacts have been delivered to the North Carolina Maritime Museum, where they are curated as part of the museum's permanent collection.

The North Carolina Maritime Museum has the distinct honor of managing an assemblage of artifacts recovered from Blackbeard's flagship which is without a doubt one of this century's most remarkable underwater archaeological discoveries. The museum is charged as the project's official repository with storing, curating, exhibiting, and interpreting all artifacts associated with the *QAR* project. The North Carolina Maritime Museum is accredited by the American

Association of Museums (AAM) and manages the *QAR* collection according to professional standards set forth by both AAM and the Council of American Maritime Museums (CAMM).

A memorandum of agreement entered into on the first day of September 1998 between the North Carolina Department of Cultural Resources, Intersal, Incorporated, and Maritime Research Institute, Incorporated (MRI) enforces the Secretary's proclamation. That agreement states, "The department and the permittee agree that the most appropriate disposition of artifacts, such as vessel structure, ship's fittings, weapons, personal effects, and non-precious cargo shall be a suitable facility in the Beaufort area (The North Carolina Maritime Museum), where the material can be curated for scientific study and public display." The memorandum of agreement also contains a provision that enables the museum and MRI to work together to insure public access to the *QAR* collection. Currently the museum is working in partnership with Mike



Daniel of MRI to create and promote a traveling *QAR*/Blackbeard exhibition for world-tour. In addition, steps are being taken toward the creation of a working 200-ton replica of Blackbeard's flagship to be assembled by MRI on the museum's Gallants Channel property. Once launched the ship will promote the Blackbeard project and serve as an ambassador for North as she travels to various ports at home and abroad. In summary, the museum's two primary responsibilities associated with the *QAR* project are: to serve as the official repository for the entire *QAR* collection, and to educate the public about early Colonial period maritime history through the creation of interpretative exhibits on piracy and other aspects of early maritime life along our coast.

In addition to its responsibilities of collections management, the North Carolina Maritime Museum is charged by DCR with coordinating all educational programming associated with the *QAR* project. Seven primary museum staff members work as a team to achieve this end. The museum employs three professional archaeologists. They include; George W. Shannon, Jr., Ph.D., David Moore M.A., and Paul Fontenoy M.A. Dr. Shannon (museum director) uses his academic training and twenty-nine years of experience in cultural resource management to supervise all *QAR* collection management activities and education programs administered by the museum. David Moore, M.A., the nation's fore-

most authority on Blackbeard, lends his expertise to the project serving both as a research diver, nautical archaeologist and research historian. Paul Fontenoy, M.A., another of the museum's credentialed nautical archaeologists, serves the project as a maritime historian. His expertise is his vast wealth of knowledge on the ship building practices of the early Colonial period as well as a detailed understanding of maritime life and traditions of that period. JoAnne Powell, the museum's curator of education, chairs the *QAR* education advisory committee and coordinates all *QAR* public education programs. Connie Mason, the museum's collection manager, and Michelle Bennett, the museum's registrar, work together to insure that the *QAR* collection is housed under the appropriate environmental conditions, and, that it is managed, catalogued, and tracked through the use of the Re:Discovery computer program. The North Carolina Maritime Museum is known throughout the world for its outstanding exhibitry. This accolade is due primarily to the hard work and talent of Jerry Heiser, M.F.A. Jerry is the museum's award winning exhibit designer who produces some of the finest exhibits in our nation. His designs are noted for their aesthetic appeal, accuracy, and detail. To date, the museum has created both permanent and traveling *QAR* exhibits to educate the public about this important cultural resource. The North Carolina Maritime Museum looks forward in the near future to expanding its *QAR* exhibitions within its new exhibition hall to be

Model of the North Carolina Maritime Museum's Gallants Channel Research Facility and Artifact Repository illustrating proposed exhibits and artifact storage.

Exhibit design and model construction by Jerry Heiser
Photography by Joshua Loftin

North Carolina Maritime Museum's Gallants Channel Research Facility and Artifact Repository viewed from the docks.

Photography by David D. Moore



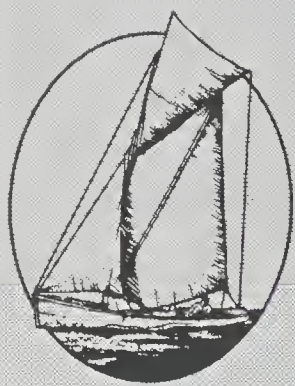
developed at the museum's Gallants Channel Annex site. The museum's professional staff works closely together to insure the quality of *QAR* collections care and educational programming offered by the museum.

At the present time the museum operates an interim *QAR* repository on its Gallants Channel Annex. This facility that is being renovated at this time and is scheduled to reopen to the public in January of 2002. At this time the public will be allowed to visit this facility via guided tour to view *QAR* artifacts both in storage and on display.

The museum is currently planning a multi-million dollar state-of-the-art *QAR* repository/Blackbeard exhibition hall that will replace the interim facility. When completed this facility will showcase the *QAR* collection and interpret Blackbeard, the role of piracy and other aspects of early Colonial maritime history and heritage. The state-of-the-art exhibitions and interpretations to be presented at the museum's annex on Gallants Channel will help drive heritage tourism throughout eastern North Carolina. The museum's *QAR* repository/Blackbeard exhibition hall proposed for the museum's new annex located on Gallants Channel will become the crown jewel of DCR's Division of Archives and History. Indeed, when completed, the museum's state-of-the-art *QAR* repository/Blackbeard exhibition hall will house and display America's finest assemblage of eighteenth-century nautical artifacts, and as such will become one of the most prestigious and profitable heritage tourism draws on the entire Atlantic Seaboard.

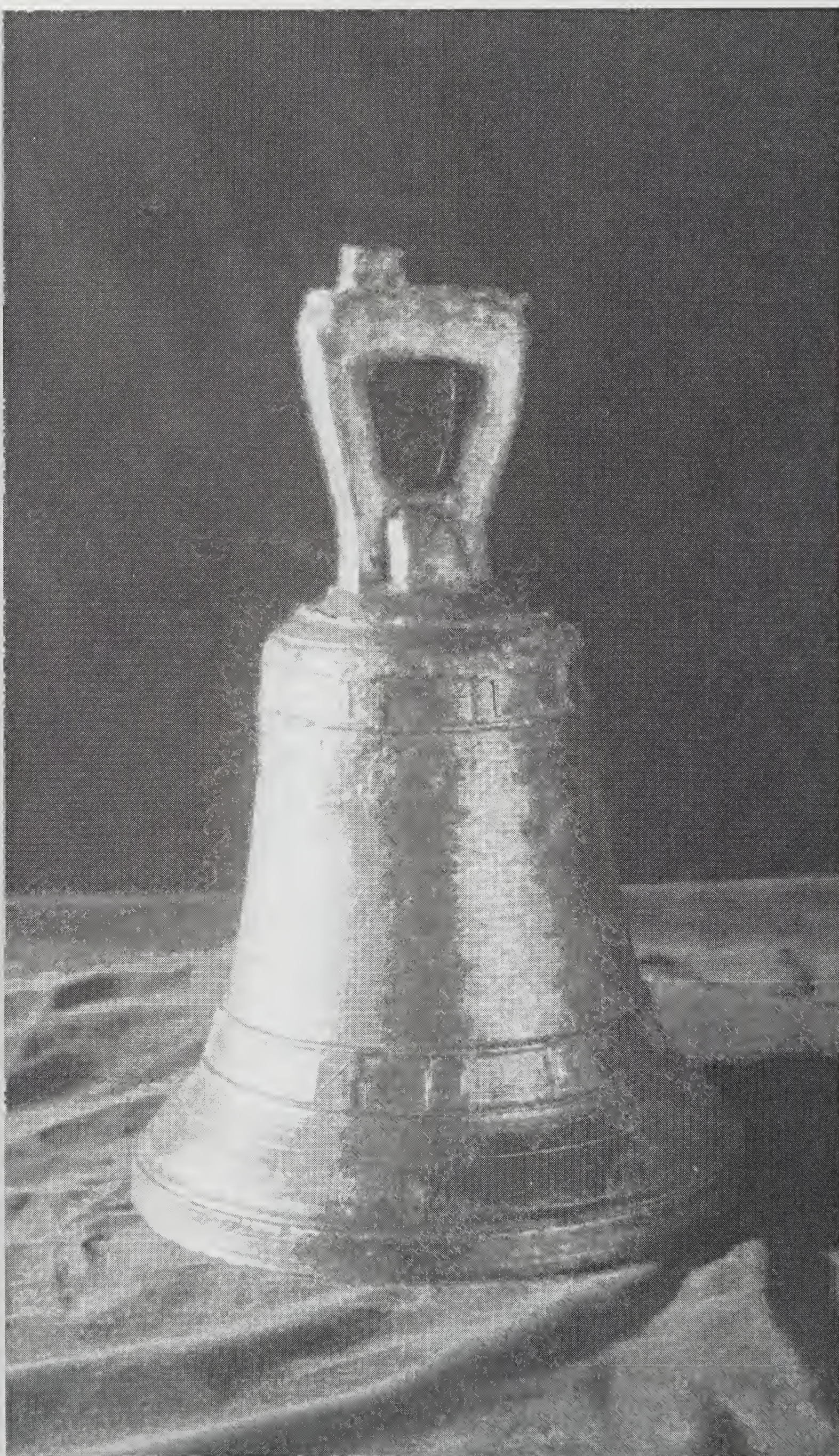
In summary, *QAR* is one of the most significant underwater archaeological sites discovered in the Americas. Given the importance of the site and the diversity of the cultural material found on *QAR* the North Carolina Maritime Museum staff fully appreciate and embrace their responsibilities associated with being good stewards of the *QAR* collection. Moreover, the museum's professional educators and curators recognize the potential of the *QAR* collection to serve as a catalyst to generate great excitement and interest in North Carolina's early colonial maritime life and traditions. Therefore to help drive the museum's education mission maximum emphasis will be placed on the professional exhibition and interpretation of this unique collection. Over the coming years the museum staff looks forward to its participation in the *QAR* project. Their exhibits based on the association of the site's artifacts will flesh out the 1718 story of Blackbeard's treachery at "Old Topsail Inlet" in a way never told before. The museum is indeed on the cutting edge of a great discovery and this project, like a pirate's cutlass, cuts both ways. It will help promote a better understanding of our maritime history, while at the same time deliver the added benefit of providing the museum with an engine to promote economic development via heritage tourism across North Carolina's Coastal Plain. The North Carolina Maritime Museum is proud to be a partner in the Blackbeard Shipwreck Project.

George Ward Shannon, Jr. is Director of the North Carolina Maritime Museum.



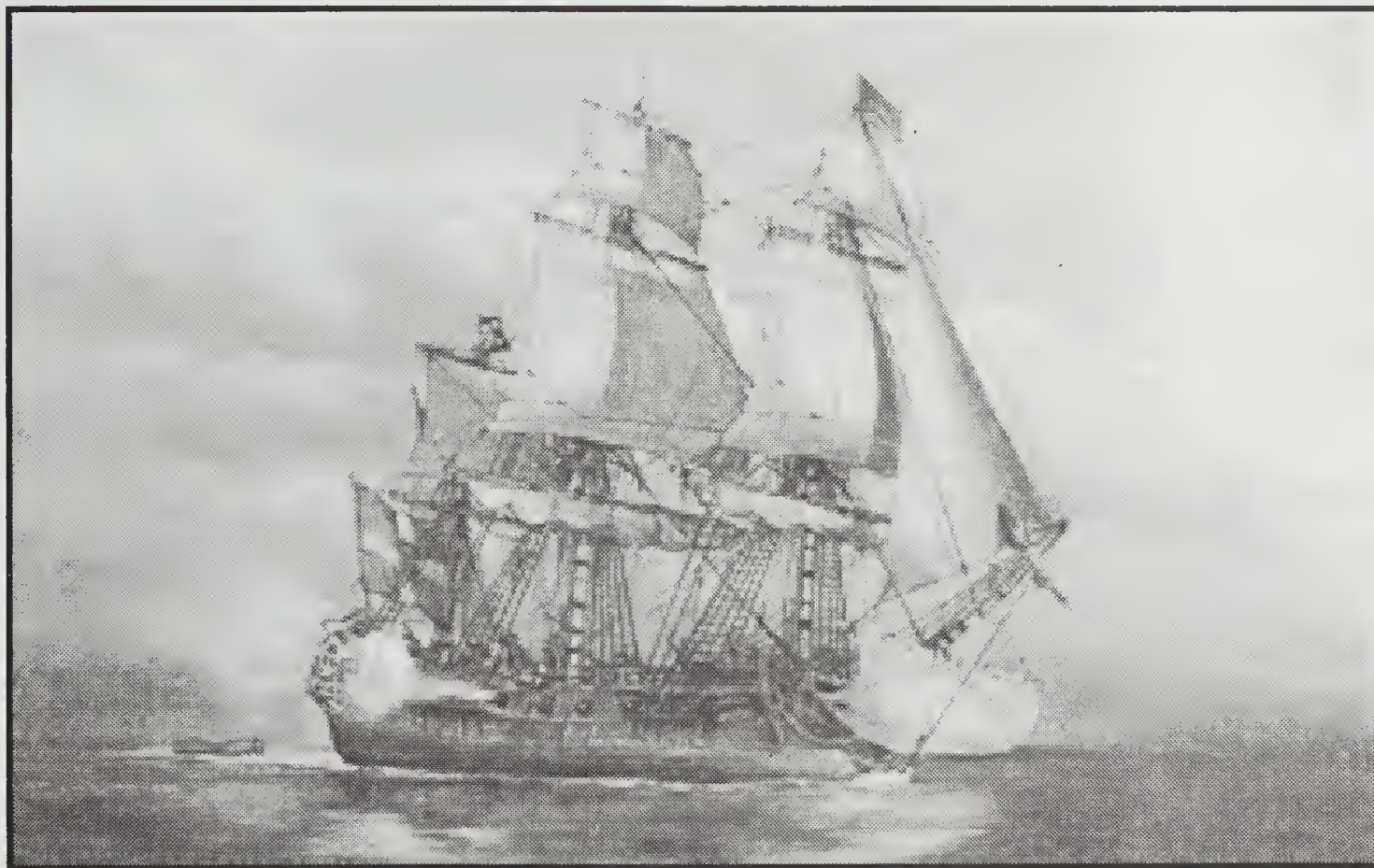
Tributaries

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The Quest for Blackbeard's *Queen Anne's Revenge*

by Lindley S. Butler



Above: *Queen Anne's Revenge*

Watercolor by John Henry Anglin. Used with permission from the artist.

At left: One of the first artifacts from the wreck-site was this bronze bell bearing the date 1709.

Photography by Diane Hardy

Concorde boomed along before the trade winds about one hundred miles from her destination—Fort Royal in Martinique. The previous March, the 200-ton ship had left her home port of Nantes, France, under Captain Pierre Dosset, bound for another slaving voyage to West Africa. After three months on the Guinea coast *Concorde* left Juda, or Whydah, packed tightly with 516 slaves, seventy-five crew, and laden with gold dust, cocoa, and copper. The voyage had gone well until scurvy and dysentery struck the crew, leaving sixteen dead and thirty-six confined to the sick bay. Isolation of the crew from the human cargo had resulted in the loss of only sixty-one slaves, which the ship's owner René Montaudoin would consider an acceptable toll. Now sailing in pirate-infested waters, Captain Dosset knew that his sixteen cannon were useless, for with only a third of his men able to stand duty he barely had enough hands to man the ship.¹

Suddenly, the cry "sail ho" brought Dosset quickly to the deck where he joined his first officer, Lieutenant François Ernaud, who was observing

the swift approach of two armed sloops and could make out the dreaded death's head flag of piracy. Captain Dosset attempted flight, but the pirates rapidly closed and when in range unleashed two volleys of cannon and musket fire. Hove to, *Concorde* was boarded by a colorfully dressed but unsavory gaggle of brigands led by a striking tall bearded figure who called himself Blackbeard. The officers were seized and restrained below, and Blackbeard in company with Stede Bonnet's *Revenge* from Barbados sailed the ship south to Bequia in the Grenadines. There *Concorde* was looted, the pirates keeping 125 slaves and uncovering the gold dust after they threatened to murder the officers. Left with the smaller of the pirate sloops, which was renamed *Mauvaise Rencontre*, the French were set ashore with over 300 slaves. Subsequently they made it to Martinique.

Blackbeard named his new command *Queen Anne's Revenge*, an intentional insult to the reigning Hanoverian monarch, George I,² and increased the armament to possibly forty guns, making her the most powerful warship in the

Americas. For months *Queen Anne's Revenge* and *Revenge* ravished trade in the Americas, capturing and destroying prizes from the Leeward Islands to the Virgins. By March 1718 Blackbeard and Bonnet were in the Bay of Honduras on the fabled Spanish Main, where they seized a Jamaican sloop named *Adventure*. Blackbeard was in effect now commodore of a formidable pirate squadron, mounting over sixty guns and more than a match for the dispersed Royal Navy, whose few vessels in the hemisphere were scattered throughout the Caribbean and the North American colonies.

The pirate fleet followed a circuitous route north, acquiring off the coast of Cuba a small Spanish sloop, which they kept for a supply tender. In May 1718 the citizens of Charles Town, South Carolina awoke to a frightening prospect: the pirate Blackbeard, the "Devil incarnate," lurked off the entrance to their harbor, his powerful fleet of four ships crewed by nearly 400 pirates holding the port at his mercy. Blackbeard blockaded the harbor for a week, seizing ships and hostages. Coming on the heels of a long Indian war and a recent raid by the pirate Charles Vane, this notorious episode reinforced the sense of helplessness the Carolina authorities felt at being beleaguered by a plague of sea wolves. The numerous vessels waylaid off Charles Town during that week enriched the rogues by nearly £1500 in gold and silver and the usual supplies. Blackbeard's ransom demand for the release of the ships and hostages was surprisingly low—a medicine chest worth about £400—but drugs were expensive and not easily procured. A threat to burn the prizes and behead the hostages brought forth the ransom from the reluctant governor.

Blackbeard set a course for sparsely populated North Carolina, seeking a place to careen and repair his fleet. Isolated Topsail Inlet (now Beaufort Inlet) and the tiny village of Beaufort seemed an ideal location on a large but little-known protected anchorage. The three sloops easily passed through the treacherous inlet, but when the ship reached the bar there was a visible jolt as she shuddered to a dead stop with the sails backed and the yards swinging aimlessly. While *Adventure* slowly tacked back through the shoals to assist her flagship, small boats were launched from the *Queen* to set a kedge anchor to the south in an attempt to winch her off the bar. But the effort was to no avail, and shortly *Adventure* too was hard aground in the inlet. As the afternoon wore on, the rising wind shifted, careening both of the grounded vessels. *Queen Anne's Revenge* heeled sharply to port, causing cannon to break loose and smash through the bulwarks into the sea. Crewmen dropped over the rails into small boats or clung to planks, spars, kegs, and

barrels. The boats pulled through the choppy inlet, and those floating were either picked up or swept into the harbor by the tidal surge. By dusk the heavily listing derelicts were completely abandoned to the merciless wind and waves. Through the summer and fall the impoverished villagers salvaged what they could from the wrecks, and the vessels disappeared beneath the surface, breaking up in the nor'easters and hurricanes that frequented their coast.³

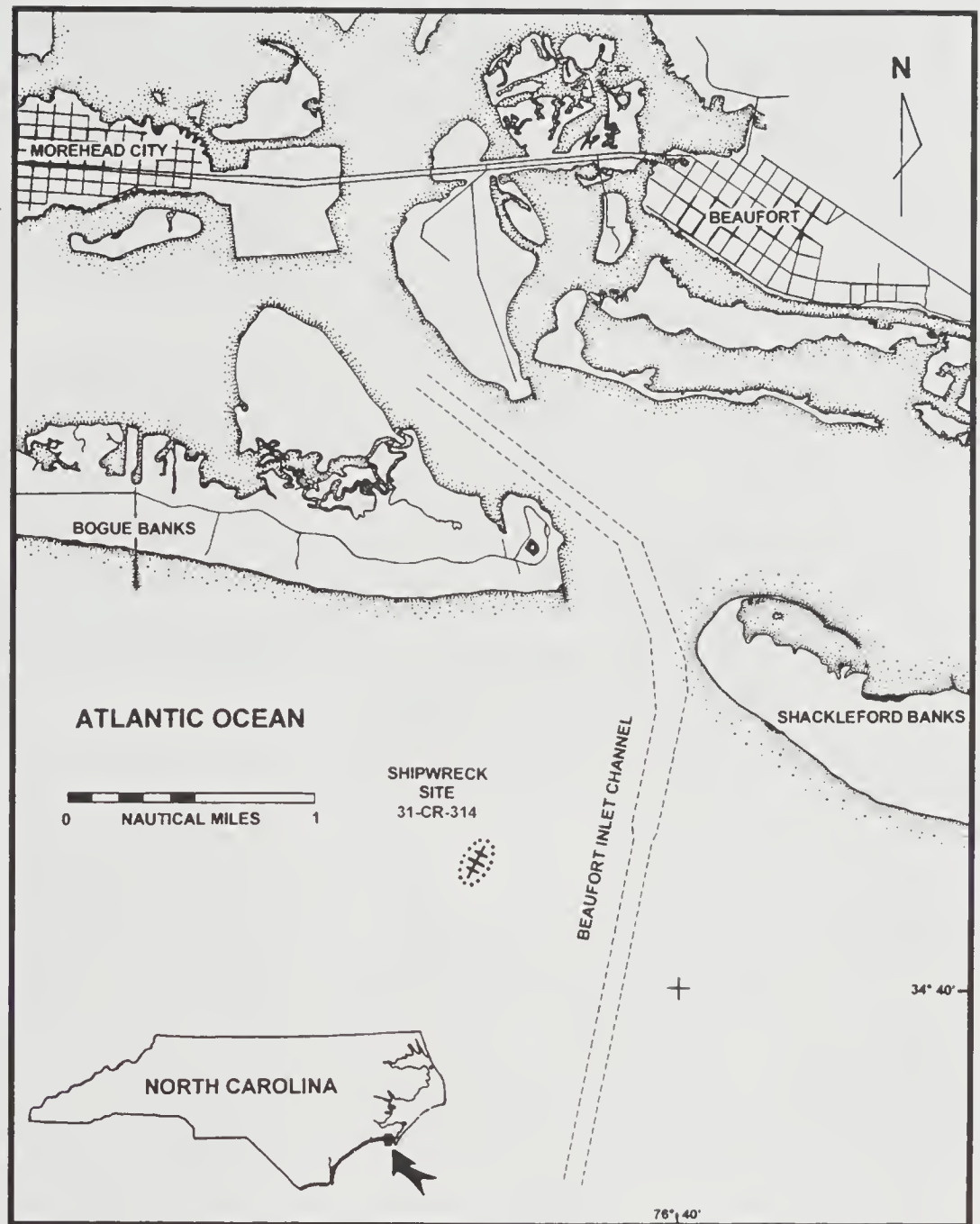
Even though Blackbeard was a skilled seaman, North Carolina inlets were infamous for drifting sandbars and shifting channels, and it is not apparent that any of the pirates were familiar with Topsail Inlet. Later court depositions aired suspicions that Blackbeard had intentionally grounded his ships to reduce the number of pirates with whom to divide the spoils. Lending credence to the notion of a conspiracy to downsize his group, reported to be 400 men, was Blackbeard's subsequent action of fleeing the scene with forty crew, sixty blacks, and most if not all of the loot and marooning two dozen of his men on a desolate island nearby. When Blackbeard and Bonnet weighed anchor some 200 of the pirates were left behind. Many drifted off to other colonial ports in Virginia, Maryland, Pennsylvania, and New York. Others likely remained in and around Beaufort, working as seamen, fishermen, and possibly farmers, settling down to marry local women and live out their remaining days in the anonymity of the Carolina backwater.

For nearly three centuries the shattered remains of the pirate vessels remained undetected under the shifting sands of Beaufort Inlet. Meanwhile the pirate legends of the region were fed with tales of Blackbeard, Stede Bonnet, and their contemporaries until Blackbeard became a globally recognized icon of piracy forever ensconced in the folklore and history of the Carolinas, which became renowned as a notorious pirate coast.

Over the next centuries many people obsessed with the glitter of pirate gold came to the Carolinas to hunt for a nonexistent treasure, but about twenty years ago a quest began for *Queen Anne's Revenge* that would lead to the discovery of the wreck in Beaufort Inlet. The fascination of pirates in general and Blackbeard in particular attracted David Moore, a graduate student in the maritime history program at East Carolina University. As part of a field school at Beaufort Inlet conducted by the North Carolina Underwater Archaeology Unit (UAU) and the university in 1982, Moore began research on Blackbeard and *Queen Anne's Revenge* that would turn into a life-long pursuit of the pirate chieftain and his ship. Over a two-

Chart showing location of the shipwreck *Queen Anne's Revenge* off Beaufort Inlet.

Illustration by David D. Moore



decade career as a nautical archaeologist, Moore participated in excavating a number of late seventeenth and early eighteenth century shipwrecks in the Caribbean, Florida, and the Pacific. He came back to his native state to the North Carolina Maritime Museum in Beaufort in 1996, working as the museum's nautical archaeologist in sight of Beaufort Inlet where he knew *Queen Anne's Revenge* was waiting to be found.

That the most famous pirate ship in the world could be found seemed so unbelievable that Moore could persuade neither the museum nor the UAU to devote their limited resources to the search. While Moore bided his time, Phil Masters, a former New York salesman, had been following his own dream of uncovering Spanish gold. He had in mid-life left his successful but humdrum career and moved to Florida to become a professional treasure hunter. His approach was methodical, and after extensive research he settled on searching for *El Salvador*, which was lost in a storm off Beaufort Inlet in 1750. Masters applied for a search permit in 1986 from the UAU. From the

unit's research files, Masters was shown Moore's initial report and resolved to seek the pirate wrecks himself. Forming Intersal, Incorporated to finance excavation of treasure and historic ships, he then received a permit to survey the coast at Beaufort Inlet, searching primarily for *El Salvador* but later added *Queen Anne's Revenge* and her consort, *Adventure*.

Since the Beaufort Inlet project was one of several treasure hunts engaging Intersal's limited resources, the work there was intermittent. After extensive study of historic charts, Masters was able to locate the outer bar about one mile south of the inlet's mouth. Beginning in 1988 Masters sent Jim Whitaker to Beaufort with remote sensing apparatus to survey the inlet, where Whitaker located numerous underwater anomalies that warranted further investigation. Years were spent in disappointment and frustration as one wreck site after another proved to be from the nineteenth or twentieth century. With time running out on an annual permit in 1996, in a last ditch effort Intersal brought in as director of opera-

tions an experienced wreck diver, Mike Daniel of Jupiter, Florida. He had extensive background in research and museum work as well as thirty years of underwater and terrestrial archaeological experience. Based on Daniel's interpretation of the historic charts the search focused on the early eighteenth century entrance to the inlet, and five promising wreck sites were soon located.⁴ Early in the morning of November 21, the last day of the survey, divers descended on the west side of the inlet and saw in the murky water a large mound of debris heavily concreted with marine growth. Clearly visible were large anchors and three cannon. With mounting excitement Daniel joined his divers, and during the day the elated team identified more cannon and recovered several artifacts from the pile—a bronze bell, a gun barrel, lead items, barrel hoops, and cannon balls. Since the number and size of the cannon and the large anchors were appropriate for a vessel the size of *Queen Anne's Revenge*, they dared hope that the bell would bear a date or an identifying inscription.

A call to the UAU at Fort Fisher brought the section head Richard Lawrence and his chief conservator Leslie Bright to Beaufort to dive with Intersal on the twenty-second, the 278th anniversary of Blackbeard's death. Despite rough water and rising wind, the dive was completed, and the state archaeologists were convinced that this wreck might be the pirate flagship. As Bright carefully removed the marine encrustation from the bell, exhilaration grew as 1709 was painstakingly revealed, a date nine years prior to the loss of *Queen Anne's Revenge*. The inscription, IHS MARIA, identified the bell as Spanish in origin. While it may be a ship's bell, it could also be plunder from a church or mission. The brass gun barrel was from an English blunderbuss. The lead pieces were identified as a cannon touch hole apron which protected the powder charge from dampness and a twenty-one pound deep sea sounding weight. Because of worldwide interest generated by this find, Intersal formed a nonprofit corporation to study historic wrecks, Maritime Research Institute, Incorporated (MRI), headed by Mike Daniel.

Cleaning and conserving the eclectic mix of artifacts consumed the next few months. When the artifacts were prepared for exhibit, the North Carolina Division of Archives and History held a joint press conference with Intersal in Raleigh on March 3, 1997. The conference opened with Governor James B. Hunt's official announcement, "It looks as if the graveyard of the Atlantic yielded one of the most exciting and historically significant discoveries ever located on our coast." The governor was followed by the Director of the

Division of Archives and History, Dr. Jeffrey J. Crow, whose opening remark was, "This is the most important underwater archaeology discovery since the USS *Monitor* was found off Cape Hatteras in 1973." Secretary Betty Ray McCain of the Department of Cultural Resources announced the designation of the shipwreck as a protected site for historic and scientific research.⁵

With a working hypothesis that the wreck might be *Queen Anne's Revenge*, archaeologists scheduled a major investigation in the fall involving nine different agencies, universities, and museums. Less than two miles offshore in shallow water, twenty-two to twenty-six feet in depth, the site is on a clear sandy bottom, in an area with moderate current. The only drawbacks to the site are intermittent poor visibility and tidal surge from its being so close to the inlet. On October 3 a flotilla of research vessels—the UAU's *Snap Dragon*, UNC Wilmington's *Seahawk*, and Intersal's *Pelican II*—anchored over the wreck to begin a month of surveying, mapping, photography, and excavation. Principal divers, supervised by field director Mark Wilde-Ramsing, came from MRI, the UAU, the Maritime Museum, and East Carolina University. The Institute of Marine Sciences of the University of North Carolina at Chapel Hill provided scientific analysis of site sedimentation and currents. Throughout the month the expedition uncovered an astonishing array of artifacts, including fifteen cannon, three large anchors, ship's rigging, a grapnel, numerous barrel hoops and ballast stones, large quantities of eighteenth-century glass and ceramics shards, marked English pewterware, musket balls, bagged lead shot, lead shot in a bottle fragment that might be a crude grenade, and a sheet-lead bilge pump screen. The high point of the excavation occurred on October 23 when Cape Fear Technical Community College's large research vessel, *Dan Moore*, was brought in to raise two of the cannon, each weighing about a ton. Six days later the excavation culminated in a crowded press conference at the Maritime Museum in Beaufort presided over by Secretary McCain. Dr. Crow dramatically announced that the archaeologists were "95 percent certain" that the wreck is the flagship of the infamous Blackbeard."

Over a six-week season in September and October 1998, which was hampered by strong southwest winds and choppy seas, divers added considerable detail to the site plan, uncovered a section of the hull, and recovered more artifacts, including a sizable cache of musket balls and swan shot, two cast iron hand grenades, and three more cannon. More pewter tableware was recovered, as well as two intact early eighteenth-century wine bottles. The new artifacts which generated the most

excitement were a urethral syringe used to inject mercury to treat syphilis, parts of brass surveying and navigational instruments, and a minuscule amount of gold dust. Several hundred feet south of the wreck was found a well-preserved anchor that was exactly aligned with the wreck. This anchor may have been a kedge anchor set in an attempt to free the doomed ship from the sandbar.

Limited by reduced state funding, two short dive seasons were scheduled for 1999. The first, in early June, brought in the Surface Interval Dive Company (SIDCO), a local group of amateur underwater archaeologists and divers. A diver-positioned magnetic gradiometer survey, using equipment owned by SIDCO, took over 2000 readings at the site, established the boundaries of the artifact spread, and identified metal concentrations likely to be additional cannon.⁶ Intersal continued to search by magnetometer, endeavoring to locate the associated wreck of *Adventure*. Short of recovering artifacts that could be tied directly to *Concorde* or to Blackbeard himself, the identity of the wreck would be confirmed by the discovery of *Adventure* and the location of more cannon. The eighteen guns already found, although many more than carried by any other known ship of the period on the Carolina coast, were still less than halfway to the forty guns that Blackbeard reportedly had on board. The magnetometer survey located large anomalies that were probably additional cannon, and the artifact spread revealed that the vessel was about ninety feet long, which would be expected for a ship of about 200 tons. *Adventure*, however, continued to elude the investigators.

In the aftermath of unprecedented floods and pollution from hurricanes Dennis and Floyd, the worst natural disaster in the state's history, the team assembled again in Beaufort in October 1999 to examine the wreck for storm damage, complete the magnetometer survey, extend the site map, and recover more cannon and a portion of the hull. Pollution spread out into Pamlico Sound but remained north and away from Beaufort; however, the dive was hampered by contrary winds and poor visibility from increased silt from the floods. The magnetometer survey located three more guns, and a hull plank, separated by the storms, was raised. Known to enclose a cannon, a heavily-encrusted concretion of ballast stones, dubbed the "Baby Ruth" for its resemblance to the famous candy bar, was also lifted. Project conservator Wayne Lusardi broke open the concretion, revealing a Swedish proof mark and the date 1713 on the project's first dated cannon. To the amazement of all involved, the concretion also contained a smaller cannon. A few weeks later Intersal's persistent magne-

tometer search finally discovered an eighteenth century wreck from just a half mile away. The project was electrified by the possibility that the long-sought *Adventure* might be found, even though it could take years to confirm.

In 2000 there were two excavation periods—a week-long spring season in May and a three-week season in September and October. The goal of the spring session was to recover fragile hull timbers that might be lost in the recurring storms. Steady southwest winds confined the underwater work to four days, but an exposed eight-foot by twenty-seven-foot hull section was disassembled by separating the framing timbers from the hull planks and the sacrificial planks or sheathing. The entire section was raised and placed in the temporary conservation lab at Carteret Community College, where the framing timbers and hull planks were found to be white oak, while the sheathing planks are pine.⁷

The fall season consisted of a complete excavation of a twenty by thirty-foot area on the north side of the wreck pile where the hull timbers had been removed in the spring. Again, contrary winds and rough seas hampered excavators, but the season objective was completed. Artifact recovery included more hull planks, ballast stones, cannon balls, lead shot, and a small brass measuring cup. *Shellpoint* from the North Carolina Marine Fisheries provided a stable dredging platform.

Funding uncertainty limited work on the site in May 2001 to a special media event that brought *Dan Moore* back to raise cannon C-22 (Baby Ruth II). The newly appointed Secretary of Cultural Resources, Lisbeth C. Evans also came to become acquainted with the project and to pledge her full support.⁸

A long-term major excavation in the media spotlight was a new experience for the UAU, now the Underwater Archaeology Branch (UAB). Over several decades the staff had compiled considerable experience surveying and documenting nineteenth century sites, primarily Civil War wrecks, but had less experience in shipwreck excavation and none in early eighteenth century sites. In addition, like many state agencies, the UAB was chronically underfunded and under-equipped, learning to survive by mastering improvisation and scrounging. Director Richard W. Lawrence and his staff Julep Gillman-Bryan, Nathan Henry, and Barbara Brooks, brought to the project extensive experience in underwater techniques peculiar to the coastal environment of North Carolina. The documenting of the project—mapping, drawing, photography, and videography—has been excellent. The main

drawbacks to the progress of the research have been that the excavation seasons have been too short and the conservation facilities have not been adequately staffed. In some excavation seasons, opening and closing the site has left little time to excavate. With adequate funding, field excavation and conservation of artifacts could be an almost continuous process, reducing the span of the research from decades to years.

The Underwater Archaeology Branch has been ably supported by the North Carolina Maritime Museum. The Maritime Museum is the repository and the exhibiting center of the artifacts and has already mounted a stunning traveling exhibit and a permanent exhibit in Beaufort. The museum staff includes David Moore, "the nation's leading authority on Blackbeard and the *QAR*,"⁹ and the director since 1998, George Shannon, an experienced archaeologist. The Beaufort Inlet project has coincided with the development of the new museum facility at Gallants Channel. Through the Friends of the Maritime Museum, Director Shannon has provided funding, a base of operations, and a facility for conservation and storage at Gallants Channel. He expects to have a world-class conservation center and exhibition hall for *Queen Anne's Revenge* that could "become the number one heritage tourism draw on the entire Atlantic seaboard."¹⁰

The state of North Carolina was fortunate in 1996 that the Beaufort Inlet wreck was discovered by a salvor who understood and was deeply interested in history. Unlike underwater treasure projects in other states where clashes between governmental and private interests have led to long and bitter legal battles, in North Carolina there has been cooperation rather than conflict between Intersal, the discoverer of the wreck, and the state, represented by the Department of Cultural Resources. Crucial to this rare, almost unprecedented, partnership has been the understanding and concern that Phil Masters for Intersal and Mike Daniel for Maritime Research Institute, have shown for the importance of the state's history and artifacts. By 1998 an agreement was signed establishing a partnership between the state and the private corporations that serves as a guideline for the excavation project. An archaeological advisory committee was formed with representatives from all parties. Both Intersal and MRI have continued to make significant contributions to the excavation project. Although Phil Masters has moved on to search for *El Salvador* and the pirate sloop *Adventure*, each excavation season he has been on site with his dive boat, divers, and equipment. Drawing on his long experience, Mike Daniel has been involved every season, furnishing dive boats, equipment, and

divers. Certainly the in-kind contributions of Intersal and MRI, coupled with the work of the volunteer scientists and researchers, have greatly extended what would have been accomplished under the limited state appropriations.

Probably the most significant achievement of the Beaufort Inlet shipwreck research has been the unanticipated engagement of volunteer scientists from nearly two dozen universities around the country. The attraction of the Blackbeard mystique is irresistible, and the project has been enriched by contributions of scientists who have analyzed the hull timbers, the ballast stone, the site sedimentation and currents, the gold dust and other metals, and the marine fauna on the wreck pile. All of these intense scientific studies provide bits and pieces of evidence about the ship and the wreck site, providing invaluable information about the environmental context of the wreck and the construction and voyages of the ship. While the core of the *Queen Anne's Revenge* story will come from historical and archaeological research, the geological and biological analyses are valuable components of the total picture. For example, the radiocarbon dating of hull structure has confirmed a construction date of 1690 to 1710, which is consistent with the historical record of *Concorde*.¹¹ Studies of the gold and other metals are too preliminary to include origin, with the exception of the lead, which is from Europe or the Mediterranean region.¹² The ballast stone have been identified, but so far the sources are unknown. Future comparison of the ballast with rock collected from sites visited by *Queen Anne's Revenge* may provide additional evidence of the ship's voyages.¹³

After five years of archaeological research, the over 2000 recovered and conserved artifacts offer a compelling circumstantial case that this wreck is likely *Queen Anne's Revenge*, but in reality this project has just begun, and in effect the archaeological surface has barely been scratched. It is true that the anchors and ship's fittings suggest a ship of that size, and no other known wreck at this location had such a number and size of armament. Furthermore, the multi-national origins of the recovered objects would be expected on a pirate ship which pillaged vessels sailing from many different countries, and the artifacts mirror closely those recovered from the 1717 wreck off Cape Cod of the pirate ship *Whydah Galley*.

Still, the nagging question of whether this wreck is indeed *Queen Anne's Revenge* remains unanswered. Every time archaeologists enter the water a definitive artifact such as *Concorde's* bell may be discovered—or that evidence may remain hidden for years. It seems prudent, then, to create a spe-

cial research team within the project whose goal is to pursue the evidence that would conclusively identify the wreck as *Queen Anne's Revenge*. Fortunately, there are possibilities that are as definitive as *Concorde's* bell. According to some contemporary accounts, *Queen Anne's Revenge* may have carried as many as forty cannon, and a concerted effort could be made to expand the currently known twenty-two guns to locate all of the guns extant on the site. However, a further complication is that of the twenty-two guns found, only fourteen can definitely be interpreted as having been mounted on the ship. Most of the remainder appear to have been stowed in the lower hold as ballast. While archaeological interpretation is complex, the researcher is left with the question, where are the forty guns? Another possibility is that the forty guns may be another example of Blackbeard's exaggeration, designed to strike fear into his prey. From what is known of the size and tonnage of the Beaufort Inlet wreck and *Concorde*, neither vessel could have carried forty carriage guns of any size. What is more likely is that *Concorde/Queen Anne's Revenge* had between twenty and thirty carriage guns supplemented by a number of small rail mounted swivel guns.

The discovery of the sloop *Adventure*, which wrecked nearby, would be conclusive evidence, but no effort has been made by the *Queen Anne's Revenge* project to locate her sister ship. Intersal has been searching for *El Salvador* and secondarily for *Adventure* for the past five years by magnetometer survey and has discovered an eighteenth century wreck in proximity to the suspected *Queen Anne's Revenge* site. Unfortunately, this wreck is buried under a heavy overburden of sand, and it may take years to identify this vessel. A joint effort by the project and Intersal could make the search more efficient and productive.

Enormous potential remains in the possibilities of documentary research in the French archives. It is an axiom of historical archaeology that the historical research is completed, if possible, before the archaeology is begun. In the past few years virtually no state resources have been allocated to historical research. The Dosset and Ernaud depositions, discovered by Mike Daniel of Marine Research Institute, have told us more about *Queen Anne's Revenge* than has been known from many years of previous research and are prime examples of the treasures that lie waiting in France.

Considerably more research needs to be done in British colonial shipping records. While scholars are aware of only eleven ships lost at Beaufort Inlet between 1718 and the end of the century, there may well have been others that are simply

not known. Borne on the Gulf Stream, hundreds of ships annually skirted the treacherous North Carolina coast in that era. North Carolina historian Jerry C. Cashion has observed that there was "too much traffic and the records of early shipwrecks too sparse." He also has noted that in the early eighteenth century there were many merchant ships plying the waters off the Outer Banks armed with at least as many guns as have been found at Beaufort Inlet.¹⁴

A historical research initiative recently undertaken by the Maritime Museum's David Moore has collected a number of documents from various French archival agencies. Already, exciting new evidence has changed the historical record about Blackbeard and *Queen Anne's Revenge*. For years, historians have thought that Blackbeard was serving with his pirate mentor Benjamin Hornigold when *Concorde* was captured, but Moore has discovered that Blackbeard himself was the commander of the two pirate sloops that took the French slaver. Moore also has learned that when the pirates left the French and their slaves at Bequia, they gave them a vessel, several tons of beans for subsistence, and a quantity of trade goods that were valuable on the African coast but of little or no worth to the pirates. Moore commented when announcing the discoveries, "It helps deflate the whole bloodthirsty image that the pirates developed and that has continued to develop over the past 200 years."¹⁵ In the future the *Queen Anne's Revenge* project should provide significant funding to historical research, which should for a period have priority over field archaeology.

Regardless of how convinced the project participants are that this wreck is indeed Blackbeard's flagship, the questions most often asked by the public are "Why haven't you been able to prove conclusively whether this wreck is *Queen Anne's Revenge*? What evidence would prove that this wreck is the pirate vessel?" As the years go by, this has become a nagging issue and may be one of the reasons the project continues to have difficulty securing state funding and private grants. The state archaeologists have chosen to gather a wealth of scientific data and historical information instead of pursuing the more limited goal of identifying the wreck, apparently hoping that positive identification will emerge sometime in the future. Although this is a valid and archaeologically sound approach, unless the wreck is proven without doubt to be *Queen Anne's Revenge*, interest will wane, and political support will drift away to other needs and new discoveries about our past. As long as uncertainty continues about the vessel's identity, there is growing public perception that this wreck may be some other ship, even

though strong circumstantial evidence to date makes it much easier to argue that this wreck is the pirate ship than that it is not.

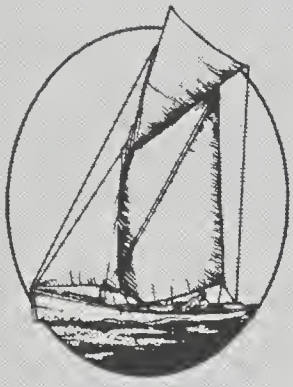
Nevertheless, if this were just an unidentified early eighteenth century shipwreck, there would have been no funds appropriated for survey and excavation. Scholars understand the importance of the oldest known shipwreck on the coast and the significance of excavating a vessel from a period that is poorly documented and a mystery to most North Carolinians. But clearly the glamour of the association with the infamous pirate Blackbeard, who is known worldwide, has been why the state and local government have supported the project and why dozens of universities and scholars have eagerly joined the search. Few citizens or government officials seem to realize that this is a long-term project that may take a generation to complete, will probably cost tens of millions of dollars, and will recover possibly a quarter of a million artifacts that will be preserved and exhibited in a multi-million dollar facility. The payoff for North Carolina in an era in which the traditional bases of our economy are crumbling is a heritage tourism site that will draw hundreds of thousands of visitors annually from around the world to our state where they will spend millions of dollars.

As to the future of the project, Mark Wilde-Ramsing, director since 1998, views the past five years as an assessment phase and expects that the previous research and excavation will generate a major site report and plans for the future. To Wilde-Ramsing, among the most important accomplishments have been the involvement of thirty scientists from two dozen universities, the extensive survey of the site and its environmental context, the establishment of an excellent website, and the interactive Internet broadcast to school children. He enthusiastically projects a long-range comprehensive approach that will result in "a shining example of an underwater archaeological investigation and through twenty-first century technologies a wide ranging public audience can learn and participate in a unique and fascinating way through dazzling museum exhibits and via the world wide web. In doing this, *Queen Anne's Revenge* shipwreck project will showcase North Carolina's academic and research communities, its beautiful waterways, and its rich history and cultural resources to the world."¹⁶

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Endnotes

1. Nantes was the center of the French slave trade. Judah is the modern city of Ouidah in Dahomey. There are unexplained discrepancies in reports of the armament which varies from fourteen guns (Dosset) to sixteen guns (Ernaud), and the crew numbers from seventy-two (Dosset) to seventy-five (Ernaud). Lieutenant François Ernaud, "The Concorde of Nantes plundered and taken by pirates," 27 April 1718, Archives Départementales de Loire-Atlantique, Nantes, France B4578, Folio 90vo. Captain Pierre Dosset, "Verification and an addendum to the deposition of Ernaud, lieutenant on the Concorde, plundered and taken by the pirates," 13 October 1718, Archives Départementales de Loire-Atlantique, Nantes, France B4578, Folio 56vo.
2. Blackbeard may have been honoring the last Stuart monarch for whom he is believed to have served as a privateer in the War of Spanish Succession. More likely, he was insulting the unpopular "German George," who had succeeded the childless Anne. By preying on British commerce in *Queen Anne's Revenge*, Blackbeard was "thumbing his nose" at Hanoverian authority. *The Tryals of Major Stede Bonnet, and Other Pirates, ... Who were all Condemn'd for Piracy* (London, 1719), 44-45. *Ibid.*, 74-75, 87-92; David D. Moore, "Blackbeard the Pirate: Historical Background and the Beaufort Inlet Shipwreck," *Tributaries*, 7 (October 1997), 34-36.
3. Founded as Beaufort in 1713, the village was incorporated in 1723 and became the county seat of Carteret County. Despite local traditions, it is not likely that there are any extant structures in Beaufort that can be associated with Blackbeard. Charles L. Paul, "Colonial Beaufort," *North Carolina Historical Review*, 42 (April, 1965), 144-45. *Bonnet Tryals*, iv, 19, 45-46.
4. Philip Masters, "The Historical Geography of Beaufort Inlet," *Tributaries*, 8 (October 1998), 25-26.
5. Mark Wilde-Ramsing and Wayne R. Lusardi, *Management Plan for North Carolina Shipwreck 0003 BUI: Queen Anne's Revenge* (Kure Beach, N.C.: Underwater Archaeology Unit, Division of Archives and History, 1999) iii, 91. "Wreck of Ship Believed to Have Been Blackbeard's Discovered," *Carolina Comments*, 45 (May 1997), 45.
6. Richard W. Lawrence and Mark Wilde-Ramsing, "In Search of Blackbeard: Historical and Archaeological Research at Shipwreck Site 0003 BUI," *Southeastern Geology*, 40 (February 2001), 1, 5. This account of the excavation is based on Lindley S. Butler, *Pirates, Privateers, and Rebel Raiders of the Carolina Coast* (Chapel Hill: University of North Carolina Press, 2000), 25-29. The website of the North Carolina Department of Cultural Resources, Division of Archives and History, has extensive primary resource material, including the excavation plans and daily dive logs. Wilde-Ramsing and Lusardi, *Management Plan*, 7, 18-27. Lawrence and Wilde-Ramsing, "In Search of Blackbeard," 3-8. See Wayne R. Lusardi, "The Beaufort Inlet Shipwreck Project," *The International Journal of Nautical Archaeology*, 29 (2000), 57-68 for the most current survey of the artifacts.
7. Prior to the use of copper sheathing to protect a hull from the damage of marine plant and animal growth, especially the teredo worm, it was customary to cover the hull below the water line with an outer sheathing which could be periodically replaced (hence the term "sacrificial planks"). In southern waters ships were frequently careened so that marine growth could be burned and scraped off and damaged sacrificial planks replaced. David D. Moore, "Historical and Archaeological Research Focused on the Hull Remains Associated with Site 0003 BUI, Beaufort Inlet, North Carolina," *Underwater Archaeology*, 1999, 133-135. Lawrence and Wilde-Ramsing, "In Search of Blackbeard," 8.
8. *The Daily News*, Jacksonville, 10 May 2001. *The News and Observer*, Raleigh, 8 July 2001.
9. George W. Shannon, Jr., "North Carolina Maritime Museum and the *Queen Anne's Revenge* Shipwreck Project, Fact Sheet," North Carolina Maritime Museum System Website, North Carolina Department of Cultural Resources, 2.
10. *Ibid.*, 3.
11. Christopher S. Martens and Ann P. McNichol, "Radiocarbon Dating of Wood Samples and Plutonium Sediment Disturbance Studies at the *Queen Anne's Revenge* Wreck Site," *Southeastern Geology*, 40 (February 2001), 29, 39.
12. James R. Craig, John E. Callahan, J. William Miller, Wayne R. Lusardi, "Preliminary Studies of Some Base and Precious Metals from the *Queen Anne's Revenge*," *Southeastern Geology*, 40 (February, 2001), 41, 44, 47.
13. John E. Callahan, J. William Miller, James R. Craig, "Ballast Stone Studies from North Carolina Shipwreck 0003BUI, The *Queen Anne's Revenge*: Hand Specimen, X-Ray, Petrographic, Chemical, Paramagnetic, and 40K-40AR Age Results," *Southeastern Geology*, 40 (February 2001), 49, 56, 57.
14. Jerry C. Cashion, "Remarks at Trinity Center," Pine Knoll Shores, N.C., 19 February 1998.
15. David D. Moore to Lindley S. Butler, Beaufort, N.C., 24 August 2001. *The News and Record*, Greensboro, N.C., 25 August 2001.
16. Mark Wilde-Ramsing to Lindley S. Butler, Morehead City, N.C., 13 August 2001.



Tributaries

A Publication
of the North
Carolina Maritime
History Council

STRUCTURAL COMPLEX

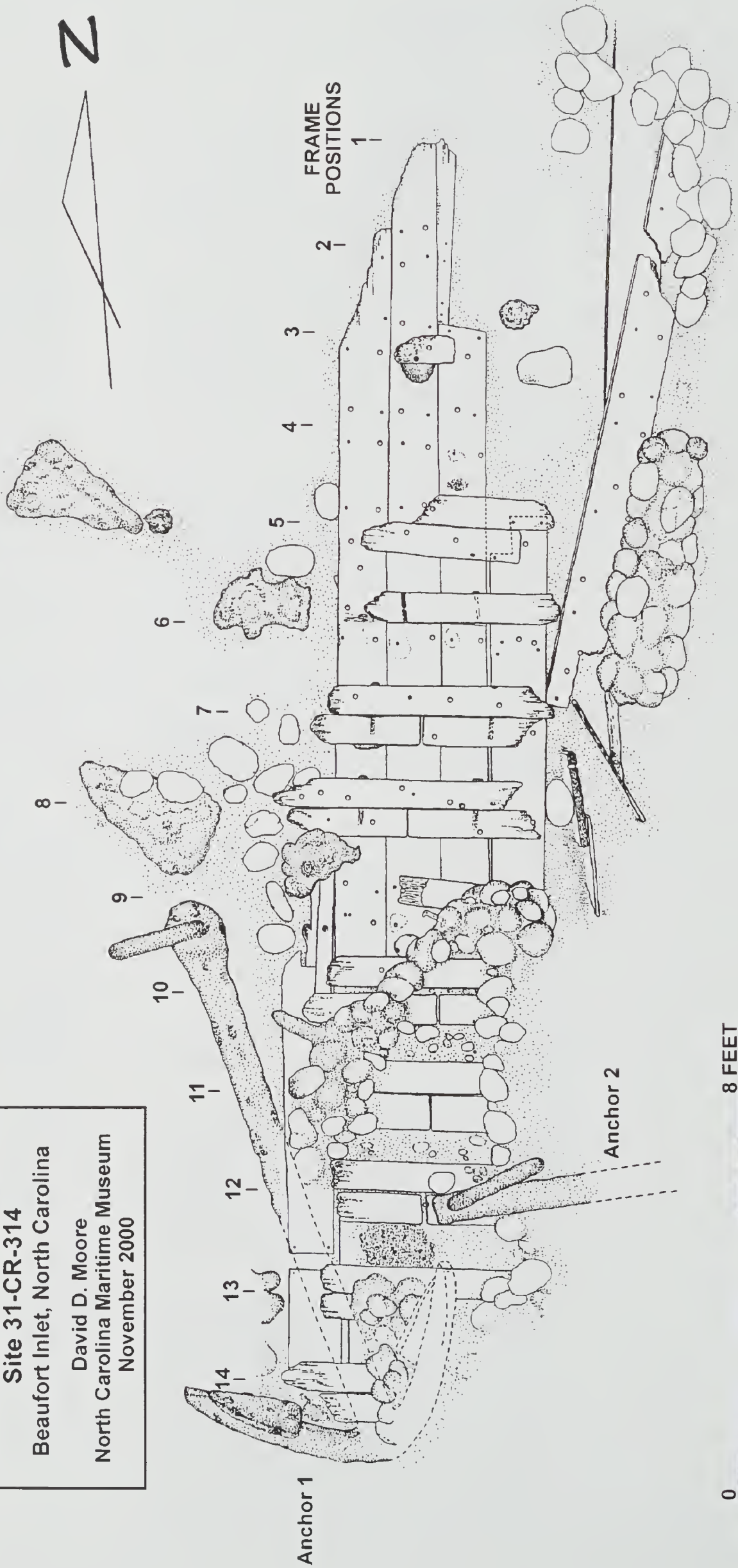
Site 31-CR-314

Beaufort Inlet, North Carolina

David D. Moore

North Carolina Maritime Museum

November 2000



0 8 FEET

Blackbeard's *Queen Anne's Revenge*:

Archaeological Interpretation and Research Focused on the Hull Remains and Ship-related Accoutrements Associated with Site 31-CR-314

by David D. Moore

Introduction

Figure 1. (at left)
Structural Complex—
Site 31-CR-314.

Unless otherwise noted, all
illustrations and photographs in
this article by David D. Moore

In 1996, southeastern North Carolina was pummeled by two hurricanes; Bertha on 12 July and Fran on 6 September. Soon after weather forecasters were predicting that we were in the initial stages of a cycle of increased hurricane activity that could last for several years. In November of that same year, Mike Daniel, working for Phil Masters and Intersal, Inc., located the remains of a shipwreck off Beaufort Inlet that some archaeologists feel represent the final resting place of Blackbeard's flagship, *Queen Anne's Revenge*. Although 1997 was storm-free, limited work was undertaken and a small volume of artifacts recovered including two cannon.

The following year on 26 August 1998, yet another hurricane arrived off the eastern United States coast near Wilmington, North Carolina, as a category two storm (96–110 mile per hour winds). Although Bonnie quickly downgraded to category one (74–95 mile per hour winds) and then to tropical storm status as it made its way northward along the southeastern North Carolina coastline, the effects around the Beaufort Inlet vicinity were more like that of a substantial "northeaster" due to its long duration. Winds at tropical storm velocity or greater were felt for over sixty hours prompting concern that site 31-CR-314 would be subjected to negative environmental effects.

When the second field season commenced just three weeks later, one of the first things noticed upon descent to the site was the tops of two sets of paired frames immediately north of the concreted wreck features, frames that were not observed during the 1997 recording efforts. The hurricane had moved a wave of sand onto the site covering much of the southern expanse and reburying numerous features recorded the year before while scouring out and revealing new features immediately north of the primary concentration of concreted material. Fortunately, the storm appeared to have done little or no damage to any cultural material associated with site 31-CR-314.

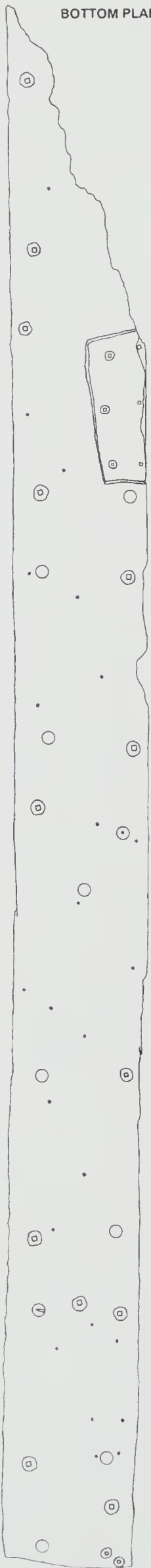
Once the frames were examined and additional hand-fanning revealed associated coherent hull structure, the decision was made to focus at least part of the 1998 effort on determining the extent of these remains and recording everything encountered in as much detail as possible.

Description of the *In Situ* Hull Structure

With an alignment or longitudinal axis lying very close to north-south (5 degrees east of true north), the visible articulated hull structure is approximately 31 feet (9.45 meters) in length and around 9 feet (2.75 meters) in width (see Interim Site Plan, pp. 32-33). This comparatively small section of ship's structure was made up of numerous fragments of frame components and bottom planking with associated sacrificial planking or sheathing. Unfortunately no sign of either the keel or keelson has been revealed to date. Additionally, no real clues currently exist to even suggest where on the original ship the present hull structure was positioned. The only diagnostic feature in this regard is the presence of sacrificial sheathing that at least suggests a position below the waterline.

There were at least fourteen frame positions represented on the section of remaining hull structure immediately north of the artifact mound at site 31-CR-314 (Figure 1). Twenty-four separate frame components (i.e., futtock and possible floor fragments) make up the remains of eleven paired frames. These frame components range in width from 6 to 8 ³/₈ inches (15.24–21.29 cm) averaging 7 inches (17.78 cm). Though extremely deteriorated on most upper surfaces, moulded dimensions of the frames appeared to be around 8 inches (20.32 cm) where available for measurement. The room and space figure also varied slightly but averaged 22 inches (55.88 cm). Botanical analysis of several frame samples revealed *Quercus* species or white oak.¹

BOTTOM PLANK 437



BOTTOM PLANK 493

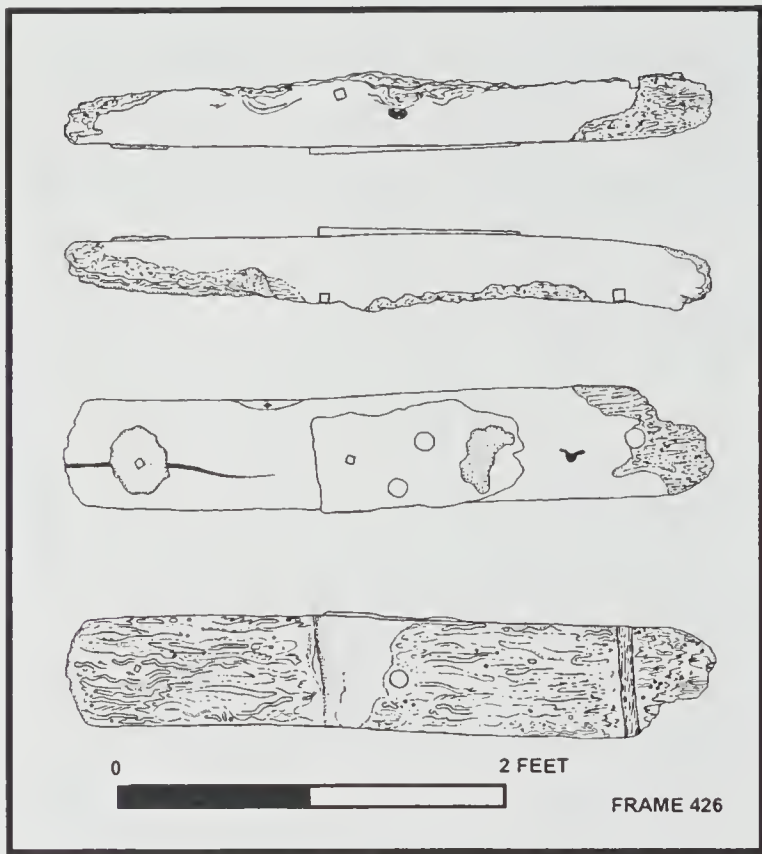


Figure 2.
 Frame Component—
 Number 426.
 Note the shim on the
 external surface and the
 heavy deterioration on the
 internal surface.

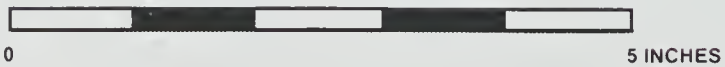


Figure 3.
 Bottom Planks—
 Numbers 437 and 493.
 Plank 437 exhibits a simple
 repair or "Dutchman";
 Plank 493, a single repair
 (see enlarged detail) and
 the remains of a second
 near one end. Notice the
 typical fastening pattern of
 alternating treenail-spike,
 spike-treenail, etc.

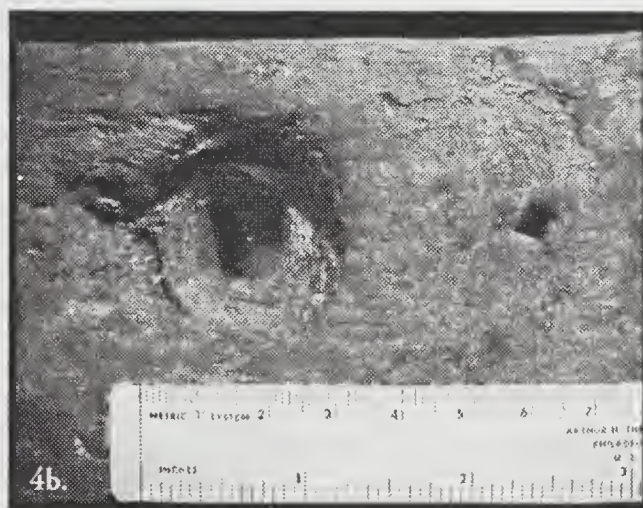


Figure 4.
Fastener Details.
a. External end of treenail exhibiting tool marks (bottom); and a fastener hole illustrating the dimensions of a typical sacrificial planking spike (top).
b. Bottom plank spike hole with typical countersinking to accept fastener head (left); hole for sacrificial plank spike.

Many of the components exhibited simple squared butt joints, but whether these represent futtock/floor or futtock/futtock junctures is currently unknown. Transverse bolts were also present between framing components and positioned on either side of the respective butts. In several cases, the upper (inboard) faces of the frames were eroded down to these fastener positions by wood-boring organisms and natural degradation. Another interesting feature recorded was a white oak (*Quercus* sp.)² shim positioned immediately beneath the single remaining component of frame 6. Tapering from $\frac{3}{8}$ inch (1.00 cm) thick to almost nothing, this wedge measured approximately the width of the frame above by the width of the plank below (Figure 2).

The planks available for recording were within the range of $10\frac{1}{4}$ – $13\frac{3}{4}$ inches (26.04–34.93 cm) in width and averaged about 12 inches (30.48 cm). The planks varied in thickness only slightly and averaged $2\frac{3}{4}$ inches (6.98 cm). Botanical analysis of several samples all proved to be *Quercus* sp. or white oak (Figure 3).³

There were three intact plank joints present among the structural assemblage and all three of different configuration. One, a typical squared butt joint, was located within the pile of concreted wreck material and beneath Anchor #1 at frame number 13. A second was located at frame number 3 and slightly beveled from a typical square butt. The third was recorded beneath the western extreme of frame number 5 and is something of an inversely beveled scarf joint that would have facilitated a slight but effective locking mechanism between the two planks in that particular strake (Figure 1).

Sacrificial planking or sheathing, mostly sprung or otherwise dislocated, was observed and

recorded in several different locations on the site, but particularly in and around the articulated hull structure. The thickness varied between $\frac{3}{4}$ and 1 inch (1.91–2.54 cm) depending on where recorded, but averaged around $\frac{7}{8}$ inch (2.22 cm). The only example of an intact width was measured at $12\frac{1}{2}$ inches (31.75 cm). Botanical analysis revealed a *Sylvestris* group pine, most likely red pine.⁴ Interestingly, there was no hair and tar observed associated with those sheathing planks located around the primary hull structure, although this matrix was recorded around the planks positioned just beneath the ballast ledge on the west side of the site. Although a laboratory analysis has not been received at the time of this writing, a brief examination by a local veterinarian suggests that the hair is *Bovine* in origin.⁵

The somewhat normal fastening pattern was one spike and one treenail per plank/frame juncture, a pattern which alternated with each framing component. Treenail diameters ranged from 1 to $1\frac{1}{4}$ inches (2.54–3.18 cm) with no tightening wedges observed to date although several exhibited tool marks reminiscent of a blunt chisel utilized to pound the treenail into place (Figure 4a). Several samples taken for botanical analysis all revealed *Quercus* sp. or white oak.⁶

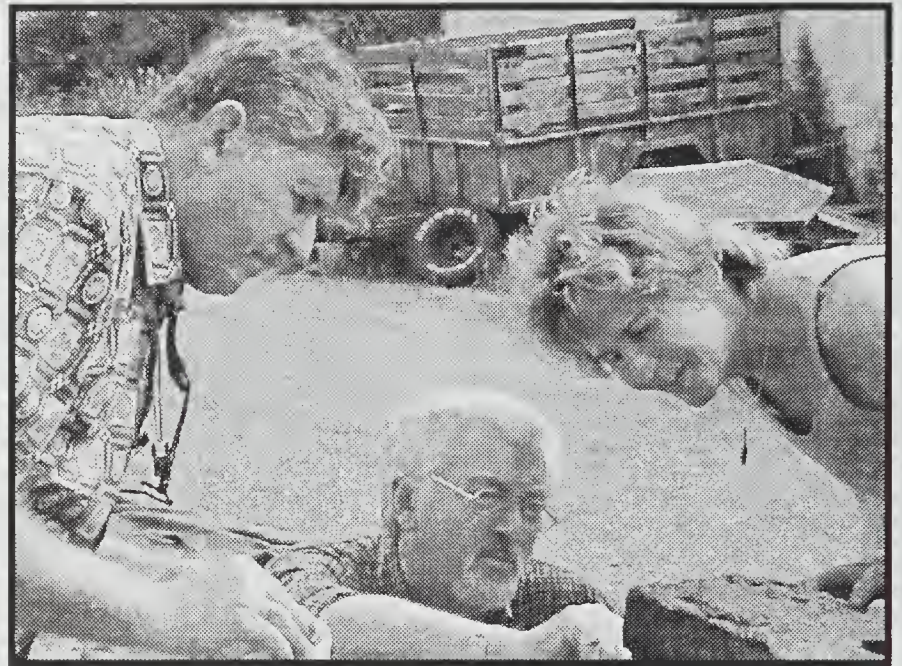
Very few iron spikes have been recovered to date and fewer still conserved, but holes for spikes recorded in planks averaged $\frac{1}{2}$ inch (1.27 cm) in section. Spike holes on the outboard faces of the planks were slightly countersunk to receive the spike heads (Figure 4b). The fastener holes recorded in the sacrificial planking were much more random than that of the bottom planks and smaller, averaging about $\frac{1}{4}$ inch (6.3 mm) in square section (Figure 4a and b).

Hull Recovery and Continued Investigations

In 1999, North Carolina was again visited by violent storms and once again the wreck site was subjected to potential storm damage. On 30 August Hurricane Dennis passed within ninety miles of the wreck site before heading north past Cape Lookout to a position off Cape Hatteras where it stalled against a high pressure system for several days. The storm downgraded to a tropical storm as it moved southward and eventually turned yet again and came ashore just north of Cape Lookout on 4 September with 60 mile per hour winds. Less than two weeks after Dennis, Hurricane Floyd roared up the eastern seaboard with sustained winds recorded around 150 miles per hour. Fortunately, by the time this storm began to affect North Carolina around Wilmington on 16 September, the winds had dropped considerably to around 110 miles per hour. Floyd headed inland through the coastal plain and passed within ten to fifteen miles of the shipwreck, once again prompting concern for the survival of the site.⁷

Following Hurricane Floyd in October 1999, a ten-day expedition to the site was mounted to continue the extensive assessment begun two years before. The effects of the storm were immediately observed although visibility on the bottom was still greatly limited by the recent event. An approximate 250–300 square foot area immediately north of the concreted artifact mound had been severely scoured by the hurricane. Many of the sand bags that had been filled at the site with bottom sediments and deposited atop the fragile hull structure for protection during the previous expedition had been moved in several places, some quite a distance across the bottom, partially revealing the coherent structure. During the course of the expedition a single bottom plank was removed and transported to the North Carolina Maritime Museum's Gallants Channel research facility. The structure was once again covered with sandbags and back-filled before leaving the site for the winter.

As the meteorologists were undoubtedly proving to be rather accurate with their storm forecasting, the decision was made to recover the hull structure from that area proven to be one of primary scouring during the recent storm sequence. An expedition was mounted to the wreck site between 26 May and 2 June 2000 and much of the visible structural components carefully sawn immediately south of frame position 7 (Figure 1), recovered, and transported to laboratory facilities.



A few weeks later on 28 and 29 June 2000 project personnel conducted a wood analysis workshop with several experts in the field of wood anatomy. Doctors Lee Newsom (Center for Archaeological Investigations, Southern Illinois University), Regis Miller (Wood Products Laboratory, United States Department of the Interior), and Mike Baillie (Department of Archaeology, Queen's University, Belfast) traveled to North Carolina and made a close examination of the structural components recovered from site 31-CR-314 (Figure 5). In addition to substantiating the earlier botanical identifications, additional samples were taken, and other potential avenues of research were discussed (Figure 6).

Two techniques of chronometric dating have been tested on the structural components recovered from site 31-CR-314. This type of dating technique theoretically provides results in calendar years before the present.⁸ The first, dendrochronology or tree-ring dating, is potentially the most accurate of the chronometric techniques. Dendro-dating is based on the botanical principle that trees add yearly growth rings that can be compared and potentially matched with known chronologies or datasets of rings to date a tree or structural components made from wood.⁹ Under the supervision of Baillie, a leading authority on dendrochronology, samples were taken from several of the recently recovered hull planks at the point where they had been sawn for recovery (Figure 7). Although it was initially estimated that there would not be enough rings in any of the timbers observed on the site to effectively date using this method, the decision was made nonetheless to test the technique. Samples were taken from three oak bottom planks, numbers 434, 435, and 427, however

Figure 5 (above). Timber examination during Wood Analysis Workshop. Left to right, Drs. Regis Miller, Mike Baillie, and Lee Newsom.

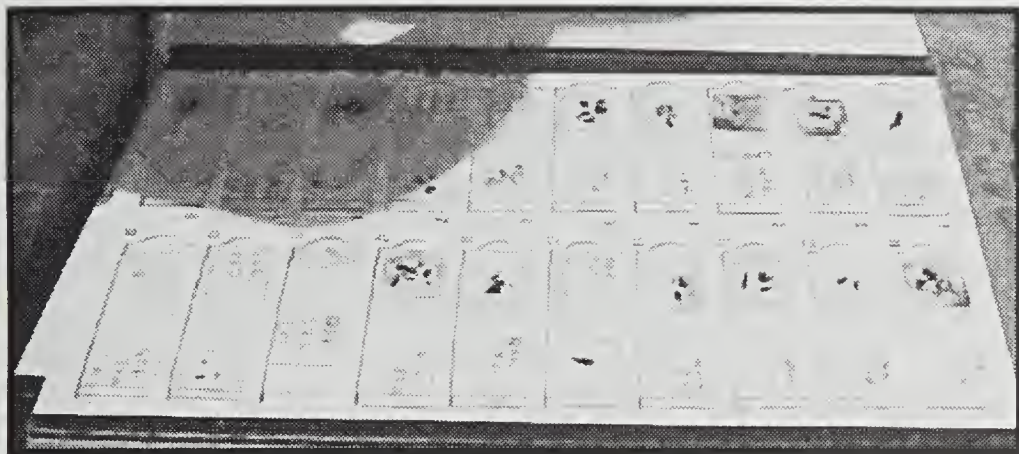


Figure 6 (above).
Botanical Sample Slides.
Portfolio of botanical sam-
ples taken from structural
components recovered
from site 31-CR-314.

Figure 7 (above right).
Dendro-dating Sample.
Slice of bottom plank
number 435 removed for
potential dendrochronolog-
ical analysis.



unfortunately and as initially surmised, their ring patterns (58, 43, and 62 rings respectively) were too short to effect correlations against ranges of known chronologies. Hence, Baillie was unable to dendro-date the timber or identify where the trees were harvested.¹⁰

The second chronometric technique utilized was radiocarbon dating. This technique is based on the theory that neutron-producing cosmic rays bombarding the earth's atmosphere interact with nitrogen (N14) to produce the radioactive carbon isotope C14. C14 enters into trees and other plants by photosynthesis in the form of carbon dioxide. The process of C14 absorption continues until the tree (or any other living organism) dies, at which point the isotope C14 begins to decay into non-radioactive N14. Since the half-life of radiocarbon is known and assuming that the C12/C14 ratio has remained constant through time, it should theoretically be possible to measure the remaining C14 in a sample and to determine its age.¹¹ Several samples taken from the hull structure in 1998 were submitted for this type of testing to Dr. Chris Martens of the Department of Marine Sciences at the University of North Carolina, Chapel Hill. Martens in turn worked through a cooperative project with the National Ocean Sciences Accelerator Mass Spectrometry facility at the Woods Hole Oceanographic Institution. Rather than delving into a complicated explanation, I offer Martens' admirably simplified results,

Radiocarbon ages for the randomly collected sample from planks, frames, treenails, anchor stocks and other organic materials found at the putative *QAR* wreck site are consistent with a calendar year age range from 1630 to 1670 AD. The combined data yields ages consistent with a ship construction date between 1690 and 1710 AD.¹²

During the most recent expedition to the site from 28 September to 13 October 2000, efforts were made to excavate the area immediately beneath the recently recovered hull structure. Few artifacts were encountered although numerous ballast stones and two additional hull components, one bottom plank fragment and a rather long example of a sacrificial plank, were recovered.

The recovered components of the hull structure were recorded with video, digital and film still photography, and full-scale one-to-one tracings. Several of these structural components illustrating some of the more interesting features are shown in Figures 2 and 3. Of particular interest are two bottom planks that exhibit patches, sometimes known in the nautical vernacular as "Dutchmen."¹³ Also of interest is the severely fragmented framing component that exhibits a flaw-altering shim. The frame fragment is typical of others recovered from the site and illustrates the severe amount of degradation present among the remaining frame components.

The remaining hull structure on site 31-CR-314 potentially provides some clues in determining the origin of the ship itself. *Concorde* was apparently in the midst of its third slaving voyage out of Nantes, France, when captured by Blackbeard and his cohorts during the Middle Passage between the West African coast and Martinique. Nothing is currently known of the ship before its first slave-trading trip in 1713 and it is only suspected that its construction took place in France. *Concorde's* owner, René Montaudoin, was extremely rich and operated numerous privateers during Queen Anne's War, so it is not difficult to imagine the numerous possibilities of the ship's origin.¹⁴

However, a shipbuilding treatise produced during the second quarter of the eighteenth century may help illuminate the origin of *Concorde*. In 1737, the master shipwright of the Royal Dockyard in Brest, France, Blaise Ollivier, was sent to several shipbuilding centers in Holland and England to collect extremely detailed data on construction practices. The resulting 360-page report, published for the first time in 1992, provides some basic national characteristics of hull structures through which to draw some interesting conclusions.

Concerning transverse fasteners between framing components, Ollivier stated:

The English shipwrights set up as we do several moulded frames which they space along the keel 7, 8 or 9 feet apart one from the other according to the size of the ship. These frames are made up of a floor timber, two first futtocks, two second futtocks, two third, fourth and fifth futtocks, like the frames of our own ships; and these timbers are fastened together one to another at each scarph by three treenails, in place of which we use three iron bolts. The English shipwrights in this regard do better than we. They make a saving in iron, they render the ship lighter, and the fastening is equally tight.¹⁵

In discussing the bottom planks of the ships he observed and recorded, Ollivier added:

The English shipwrights plank the bottom of their ships with plank of the same thickness as that used in our French ships, yet instead of fastening them as we do with one nail and one treenail to each frame, they fasten them with two treenails.¹⁶

These statements by the shipwright Ollivier by no means prove anything conclusively. They do at least suggest that the lower hull represented at site 31-CR-314 might have been built by French shipwrights following practices mentioned in Ollivier's treatise as being normal in France during the period. The transverse fasteners recorded on the frames at the site are wrought iron in the French fashion rather than wooden and the French fastening pattern of "one nail and one treenail to each frame" is mimicked perfectly on the limited remains recorded to date (Figures 1, 2, and 3).

An additional small avenue of investigation has been the effort to compare the number of fastener holes between the sacrificial planks and the outer hull planks to possibly determine if and how many times the ship may have been previously sheathed, perhaps offering some small clue as to the age of the ship. If previous episodes of sheathing had taken place we would expect to locate roughly the same number of empty fas-

tener holes per episode. The limited number of both bottom and sacrificial planks recovered from the site and the current unavailability of the structural components for additional investigation makes any accurate determination difficult at best. It can be said however, that the larger number of holes in the bottom planking suggests at least one previous episode of sheathing. One interesting feature located among the sheathing fastener holes in the bottom planks are numerous examples of plugged holes, possibly an attempt by contemporary shipwrights to prevent planking rot by filling unused holes before applying a new sheathing layer.

Overall Ship Dimensions and Tonnage Calculations

Several primary sources provide an idea of the overall size of *Queen Anne's Revenge, ex-Concorde*, for utilization in the present study. Both *Concorde's* captain's and lieutenant's reports¹⁷ of the capture of the ship in November 1717 mention that the vessel was of 200 tons, as does the 1717 muster roll.¹⁸ The question emerges at this point as to what this tonnage figure means in practical terms and whether it can provide enough information to add to the growing circumstantial database that site 31-CR-314 does indeed represent the remains of Blackbeard's flagship *Queen Anne's Revenge*.

Though tonnage figures have meant different things during different historical periods, as long as we are able to identify appropriate formulae, dimensional ratios, and other criteria, we should be able to at least manipulate the data and possibly calculate an acceptable dimensional range for the ship. There are a number of tonnage formulae available for use in these calculations that were utilized by the French during the period of *Concorde's* operations. Unfortunately, it is currently unknown which formula may have been used and, in fact, documents suggest that more than one may have been utilized to determine the tonnage of the ship on any of *Concorde's* three known voyages. In 1713, the vessel's tonnage was listed as "250 (or 300) tons"; in 1715 as, "250 (or 200) tons"; and as 200 tons in 1717.¹⁹

It was decided to utilize the entire 200-300 tonnage range revealed by the documents in our calculations, with the understanding that all figures were undoubtedly estimates. We had to next identify appropriate ratios to maintain when using the tonnage formulae to reveal the ship's potential overall dimensions. Jean Boudriot, well

Table 1. French Tonnage Formulae Analysis

	Length	Keel	Beam	Hold Depth	Tonnage Variable
François Coulomb, Early 18 th Century	72.8	61.6	20.5	9.5	200
Blaise Pangalo, 1689	77.5	<i>65.4</i>	21.8	10.1	200
Anonymous, 17 th -18 th Centuries	78.1	66.0	22.0	10.2	200
P. Morineau, 18 th Century	78.9	<i>66.6</i>	22.2	10.3	200
P. Morineau, (in English Feet)	84.1	<i>71.0</i>	23.7	11.0	200
P. Morineau, based on 300 ton variable	90.4	<i>76.4</i>	25.5	11.8	300
P. Morineau, based on 300 ton variable (in English Feet)	96.3	<i>81.4</i>	27.2	12.6	300
All dimensions given in French feet unless otherwise noted. 1 French foot = 324.8 mm; 1 English foot = 304.8 mm Variables in italics denote calculations derived from ratios and apart from the respective formulae.					

known French ship historian and naval architect, provides appropriate ranges for dimensional ratios of French merchant vessels during the period in his excellent treatise *La Navire Marchand*:²⁰

Overall length to beam (L:B) ratio range
= 3.41 – 3.68 (average – 3.55)

Beam to Depth in Hold (B:D) ratio range
= 0.419 – 0.500 (average – 0.460)

Additionally, the keel to beam ratio (K:B) of approximately three to one has been maintained where appropriate based on information provided by ship historian R. C. Anderson.²¹ As long as applicable ratios of length:beam, keel:beam, and beam:depth in hold can be ascertained and the tonnage figure is known, the formulae can be manipulated in reverse to reveal these dimensions.

Table 1 exhibits the results of utilizing several tonnage formulae known to French shipwrights and merchants during the late seventeenth and early eighteenth centuries.²² The Coulomb formula results in dimensions somewhat less than the other three; while the Pangalo, Morineau, and the anonymous formulae reveal results fairly similar in value. It should be remembered that when using French formulae, resulting dimensions are in French measurements. The calculat-

ed dimensions based on the Morineau formula have been arbitrarily chosen to develop this exercise and are converted to English measurement. In addition to the 200 ton figure, the Morineau formula has been subjected to a 300 ton calculation taking into consideration the mention of this figure on *Concorde's* first known voyage. Once these latter dimensions are converted to English values, we are provided with a basic range for the potential length overall of a 200–300 ton *Concorde* of 84.1 to 96.3 English feet; keel of 71.0 to 81.4 feet; beam of 23.7 to 27.2 feet; and depth in hold of 11.0 to 12.6 feet.

One additional problem that normally escapes discussions on ship's tonnage figures was the prevailing practice among colonial merchants of understating tonnage values to reduce taxes and tariffs owed the government. This was a particularly common practice among English merchants during the late seventeenth and throughout most of the eighteenth century. We still must ascertain whether other European nations, particularly France, followed suit. If French merchants were equally guilty of this reduction problem, then the 200 "registered" tons of *Concorde's* 1717 voyage could have easily approached 300 "measured" tons in reality. Economic historians who have studied the problem for several decades estimate that the reduction factor averaged anywhere from one-quarter

to one-third, which might also help explain the wide range of tonnage figures for *Concorde's* three known voyages.²³

It should be emphasized that this is an initial exercise based on very preliminary research and is simply intended to create a baseline of information through which continued observations and hypotheses can be developed. It is hoped that as both historical and archaeological research continues, additional documentation will surface to provide more clues to the ship's origin and size, and evidence of the hull will continue well beneath the extant cannon, anchor, and ballast mound to eventually reveal additional diagnostic structural features.

Ballast

One of the primary constituents associated with this particular site is the large volume of ballast concentrated in and around the central cannon and anchor features. While not an elliptical shape in the classical sense of a typical ballast mound, initial observations reveal that most of this material is concentrated within a comparatively compact area (see Interim Site Plan, this volume). Efforts are currently being made to interpret these ballast elements during excavation and following their recovery by weight, volume, and laboratory analysis.

One problem with ballast studies is determining the difference between primary and secondary elements among a pile of stones that may or may not have been dispersed and intermixed between the original wrecking process and the present. Primary ballast would be considered those stones in the lower hull and potentially remaining from the ship's original lading. Secondary ballast are those upper level elements which were more apt to be shifted, added, and/or removed to make room for cargo, additional cannon, etc. to improve and ensure the vessel's stability, and hence could be from her point of origin, though this is unlikely.

A second problem would be that even if primary ballast elements could be identified within a relatively intact lower hull, we would not necessarily be assured that this particular layer or lens of stones remains from the original lading of the ship and hence not reflective of any geologic signature near her origin. Two scenarios inherent to slave ships must be kept in mind. One is that slavers were notoriously filthy ships due to the refuse of human cargoes being routinely deposited into the lower hull, prompting additional efforts to clean this area between voyages. This

could include emptying the entire vessel of ballast during a careening process and scrubbing these spaces with hot vinegar while the stones were exposed on a beach to several changes of the tide. Although it might make sense that the stones would be returned to the ship in some semblance of order, this obviously cannot be guaranteed. We also have to keep in mind that slave ships were involved in a trading system which almost always dictated that they return to Europe with cargoes of extremely heavy hogsheads of raw muscavado sugar when available. Hence the ships required much less ballast in the form of stones, providing yet additional opportunities to displace portions of any extant primary ballast layers. And of course the longer the ship was afloat and the more voyages it made to various ports, taking on and eventually disembarking numerous cargoes of varying weights and volumes, provided an even greater possibility of primary ballast displacement.

To make matters even more complex, there is always the good possibility that her initial load of ballast at launching was taken up from an area where ships, having come from all over the world, routinely deposited and loaded stones ensuring a thoroughly global mixture of types available for subsequent ships. This might be particularly true of *Concorde* if constructed at or near Nantes, France, due to this port's long history of seafaring dating back well before the eighteenth century. Despite these problematic issues, efforts have continued to perform a thorough ballast analysis and, though inconclusive to date, have provided a tremendous baseline of information through which to continue development as the site investigations progress.²⁴

Anchors

Perhaps the most easily identifiable features upon descent to the site are the two large anchors which lie in essentially prone positions among the large volume of ballast stones, cannon, numerous barrel hoops, and other heavily encrusted and presently unidentifiable material. A third anchor lies approximately 50 feet (15 meters) north of the primary concentration of material (Figure 8) while a fourth is located about 400 feet (122 meters) south of this area.

Though somewhat camouflaged by the heavy concretion and encrusting marine organisms, a smaller grapnel-type anchor is discernible lying atop the pile and between Anchors 1 and 2 (see Interim Site Plan, pp. 32–33). Unfortunately at least two of its arms have either deteriorated or been broken off. Although accurate recording

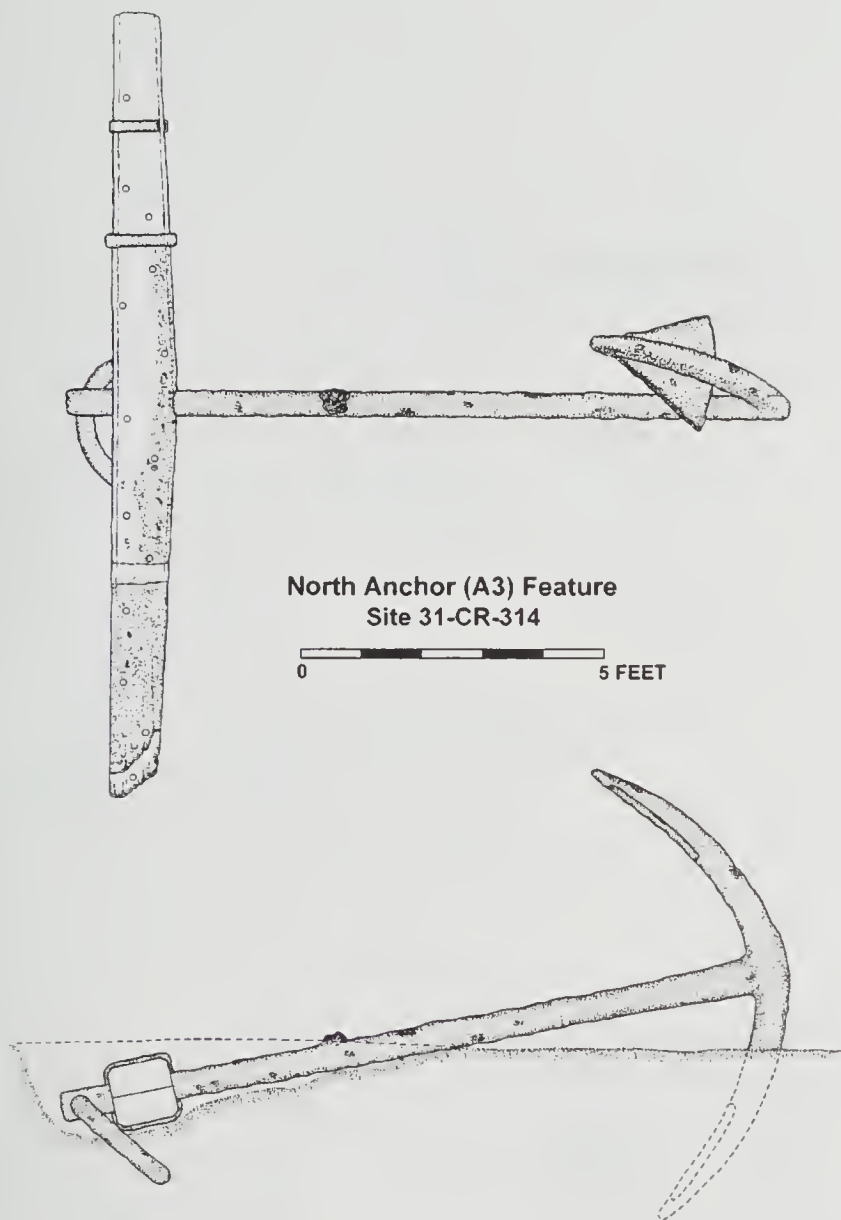


Figure 8. North Anchor (A3) Feature. One of four anchors located on site 31-CR-314, Anchor 3 still exhibits a relatively intact iron-banded wooden stock.

must wait for recovery and eventual cleaning and conservation, all of the anchors have been measured to facilitate appropriate site plan placement and initial interpretation efforts (see Table 2). Both Anchors 3 and 4 have fairly well preserved wooden stocks remaining *in situ*.

Anchor 4, positioned approximately 400 feet (122 meters) south of the site proper, provides the most interesting interpretational scenario. Though its style could easily date to the appropriate period, the distance from the site obviously brings into question any potential association with the wreck currently under investigation as it could have easily been lost by another ship. However, the anchor's position and alignment pointing directly toward the site at least suggests a contemporary attempt to kedge the vessel off the sand bar. Although historical documentation confirms that *Queen Anne's Revenge* was abandoned on the Beaufort bar following its running aground, no mention is made of any kedging efforts by the pirates. This becomes important when attempting to interpret the historical events, as it is apparent from the trial records of some of the pirates who took part in the affair at Beaufort Inlet that they believed that Blackbeard

Table 2. Anchor Shank Lengths

Anchor	Shank Length
1	11 feet 4 inches (3.45 meters)
2	13 feet (3.96 meters)
3	13 feet 7 inches (4.14 meters)
4	c. 8 feet (2.42 meters)
Grapnel 1	4 feet 10 1/2 inches (1.49 meters)

had purposely run the ship aground. David Herriot, who had been with the pirate captain for several months, deposed in Charleston that, "Twas generally believed the said *Thatch* run his Vessel a-ground on purpose to break up the Companies, and to secure what Moneys and Effects he had got for himself and such other of them as he had most Value for."²⁵ If Blackbeard did indeed run the ship aground on purpose, would he then have attempted to kedge the vessel off the bar? Or perhaps he was simply making his ploy appear all the more realistic. We shall probably never know the answer to this particular question, but the presence of Anchor 4 and its positioning does raise some interesting points for future discussions.

Miscellaneous Ship-Related Accoutrements

Although artifact recoveries over the past five years have been comparatively few, a number of items have either been observed and recorded on the bottom or recovered for study that can be directly related to either the ship's operation as a sailing vehicle or otherwise associated with the ship itself. A number of rigging elements have been recorded *in situ* although not yet recovered. These include several deadeye strops, one with a wooden deadeye still intact, several unidentified rings, and at least one topmast futtock plate (Figure 9). What appears to be a lower bilge pump strainer or sieve (Figure 10) and a second strainer, possibly part of a pump foot valve (Figure 11), have been recovered. Additionally, the remains of two numerals were recovered, cut from sheet lead and possibly representing draught marks once utilized to determine the depth of water the ship drew (Figure 12). Figure 13 illustrates a fragment of a grindstone located among the ballast stones of the site. While this item may represent a fragmentary piece of the ship's original equipment, there is also the possibility that it had been broken years before the vessel wrecked and was simply serving as ballast material.

One of the first artifacts recovered from the site by Intersal, Inc. divers in 1996 was a 13 1/4 inch bronze bell (Figure 14). The bell bears the inscription "IHS MARIA" just beneath the crown and "ANO DE 1709" just above the flare. There has been much discussion as to whether the artifact represents the original ship's watch bell, plunder taken from a previous prize by the pirates, or another reason altogether. The bell's probably Iberian origin may in fact be indicative of the vessel's origin as well and research continues in this vein to explore this possibility. Nonetheless the most important element of the bell is the embossed date effectively dating the site to the appropriate period of operation for Blackbeard's *Queen Anne's Revenge*.

Some of the more interesting and diagnostic artifacts recovered are several cast iron cannon. To date twenty-two cannon have been observed and mapped on the site, six of which have been recovered, and of these, five cleaned and recorded (Figure 15). Cannon 2 and 3 are six-pounders, the latter with the numbers "1 7 3" and possible "0" incised into the top of the tube just forward of the vent. A number of suppositions have been made as to the meaning of these numbers, from weight to identification marks. Their origin remains unclear, but these guns possibly represent part of the ship's original armament.

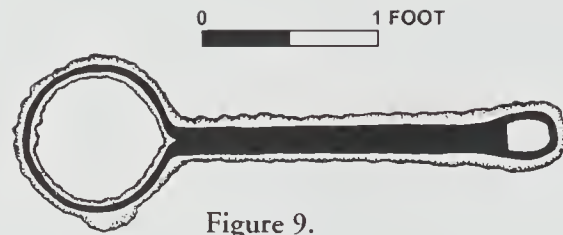


Figure 9.



Figure 10a.

Cannon 4 is an English 'minion' or four-pounder with very typical proof ("P") and weight ("6-3-7") marks of the period indicating that the gun had undergone official testing and weighed 763 pounds. Cannon 19 and 21 both one-pounders, were recovered and removed from within the same concreted mass of ballast stones. Although still questionable as to whether they were originally mounted on carriages or one of the ship's rails, they nonetheless provide some interesting diagnostic features. Cannon 19 bears the embossed numerals "713" on one trunnion representing the date 1713, and possibly the embossed letters "IEC" on the other. These letters may be indicative of the Ehrendals Styckebruk, a 17th and 18th century Swedish gunfoundry operated by the Ehrencreutz family.²⁶ Figure 16 illustrates the internal profile of Cannon 19 and the interesting way in which it was loaded. Exhibiting the normal charge, rope wadding, and solid round shot, the gun's bore also contained three broken fasteners or pins which would have created quite effective anti-rigging and anti-personnel projectiles. Pirates were certainly much more interested in capturing ships rather than sinking them and removing the rigging of the prospective prize as well as men who would operate that rigging would have facilitated this ultimate goal.

Cannon 21 represents the smallest of the cannon tubes yet recovered from site 31-CR-314 and is also of English manufacture. It also bears the typical proof and weight marks, the "1-3-3" representing 199 pounds.

Figure 9. Futtock Plate. Rigging component from one of the ship's topmasts; it remains *in situ* on the wreck site. Shaded area depicts probable configuration of original artifact within the encrusted surface layers of concretion.

Figure 10. Bilge Pump Strainer. a. Bilge pump strainer cut from sheet lead; flattened view. b. Hypothetical configuration of original strainer utilization.

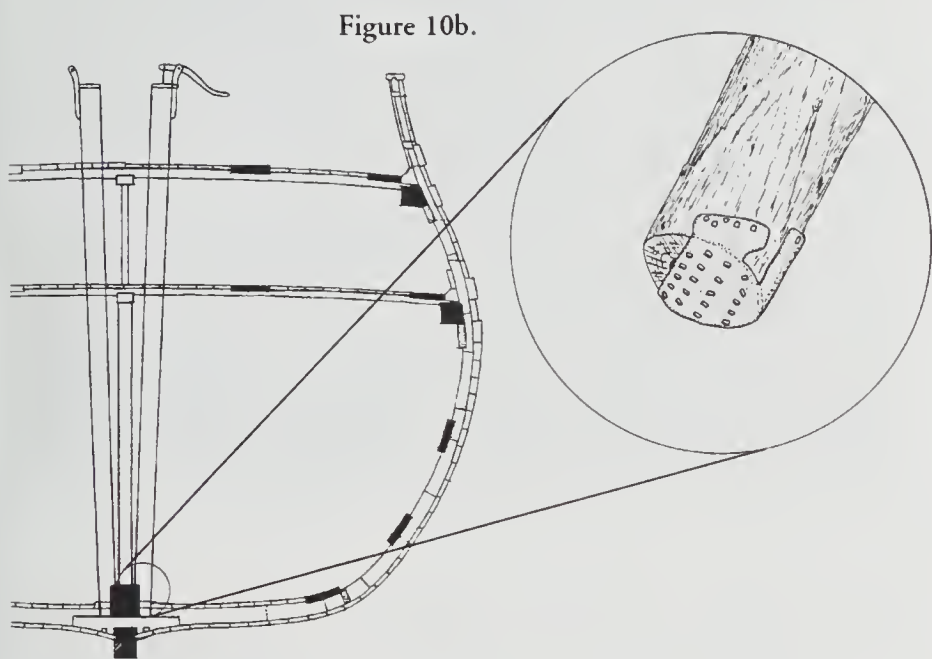


Figure 10b.

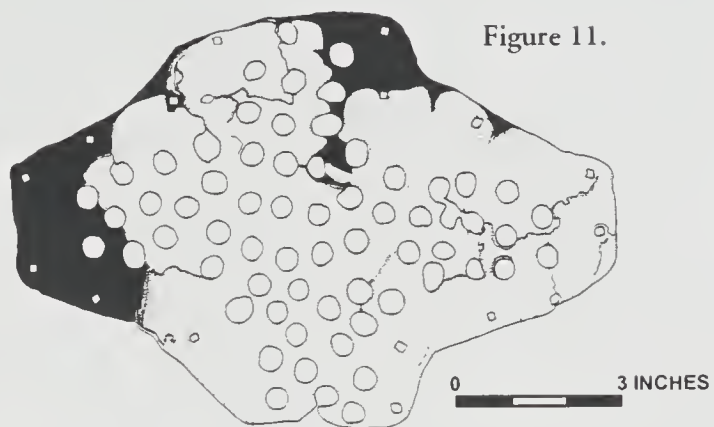


Figure 11.

Figure 11.
Unidentified Strainer.
Fragment of a sheet lead
strainer that may have
originally been associated
with the ship's bilge pump
and used in a foot valve
arrangement; strainers
would have helped in
keeping the pump appara-
tus free from debris.

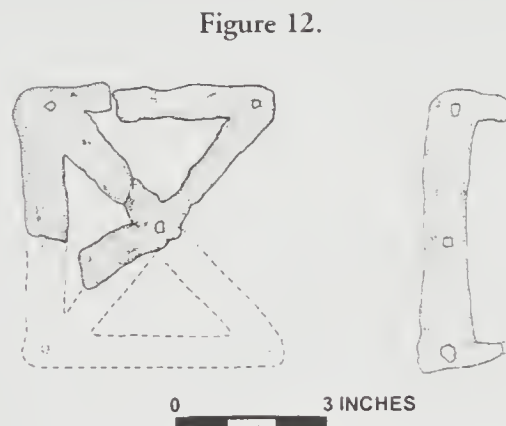


Figure 12.

Figure 12.
Lead Roman Numerals.
Roman numerals cut from
sheet lead and possibly
used as draught numbers
"IX" (or "XI") and "I"
on the ship's hull.



Figure 13.

Figure 13.
Grindstone.
A quarter fragment of a
grindstone utilized for
sharpening edged weapons
and tools aboard ship.

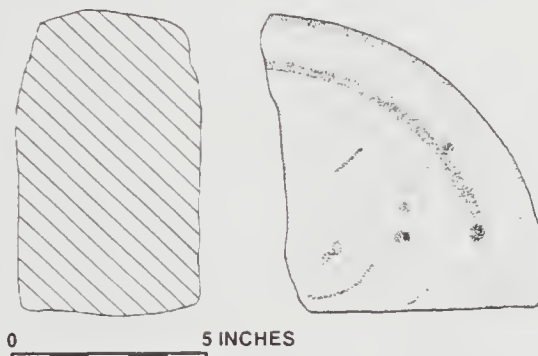


Figure 14.

Figure 14.
Bronze Bell.
The crudely cast and dated
artifact of Iberian origin
may represent the ship's
original watch bell.

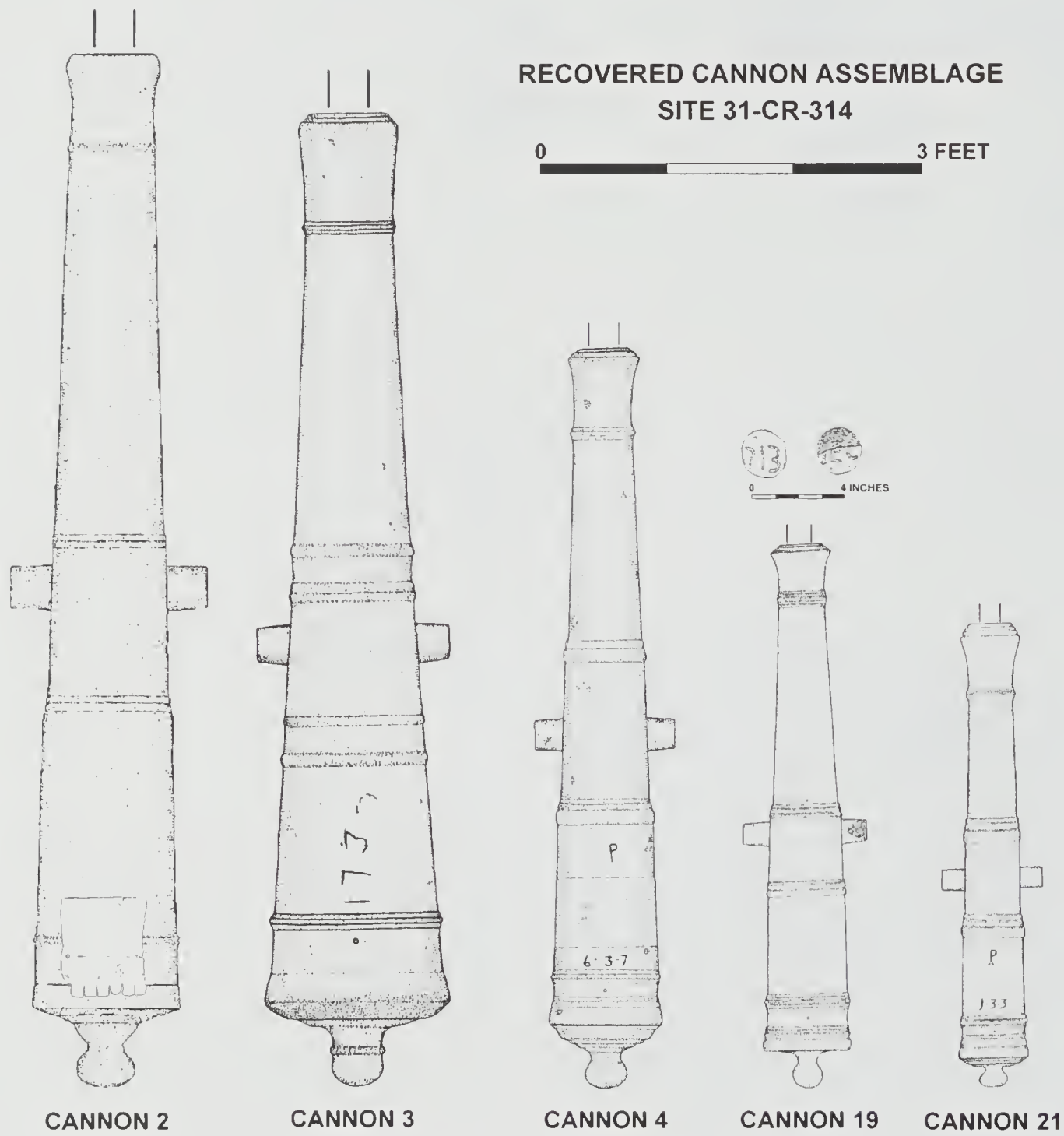


Figure 15.
Recovered Cannon
Assemblage. Note the
vent apron positioned
on Cannon 2.

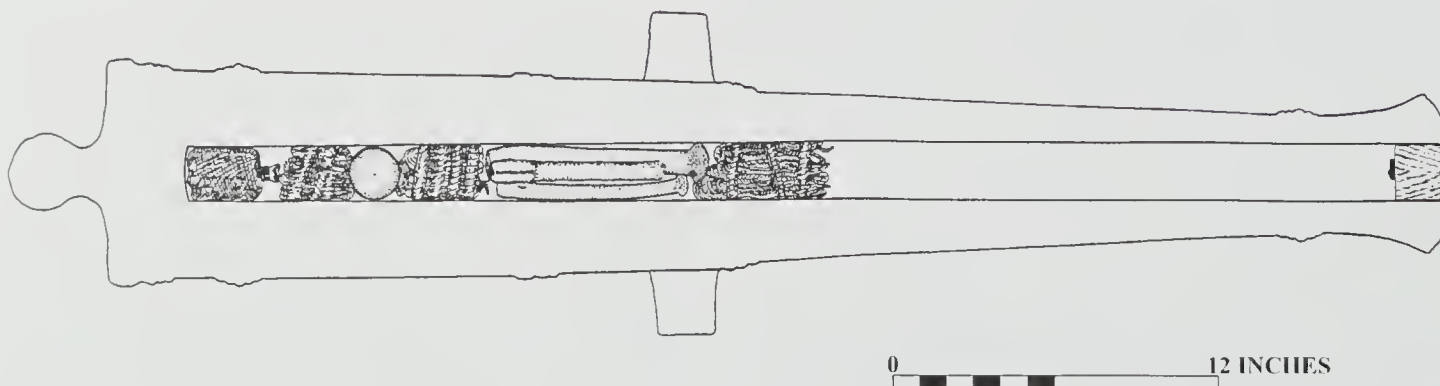


Figure 16.
Cannon 19 Internal
Profile.

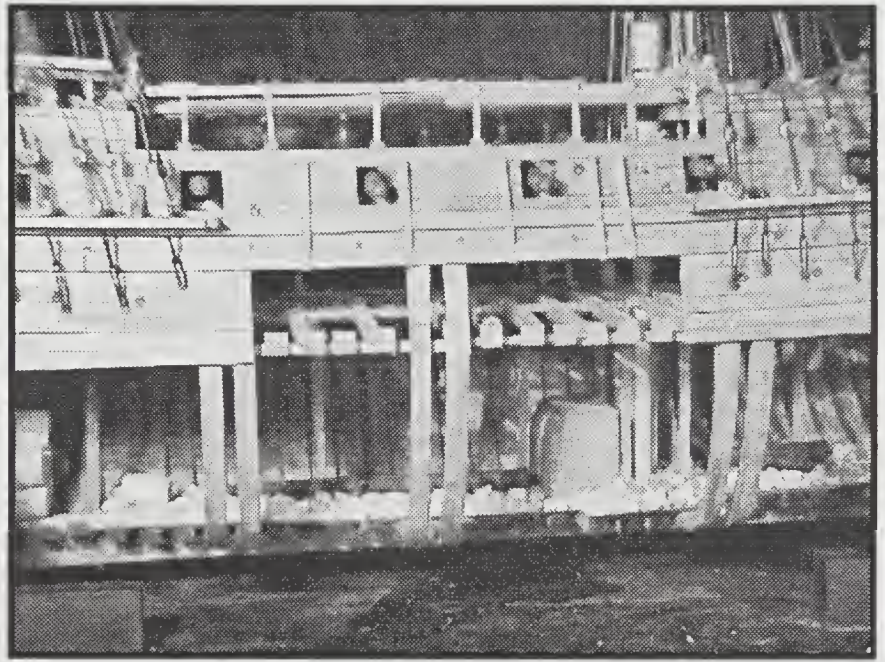
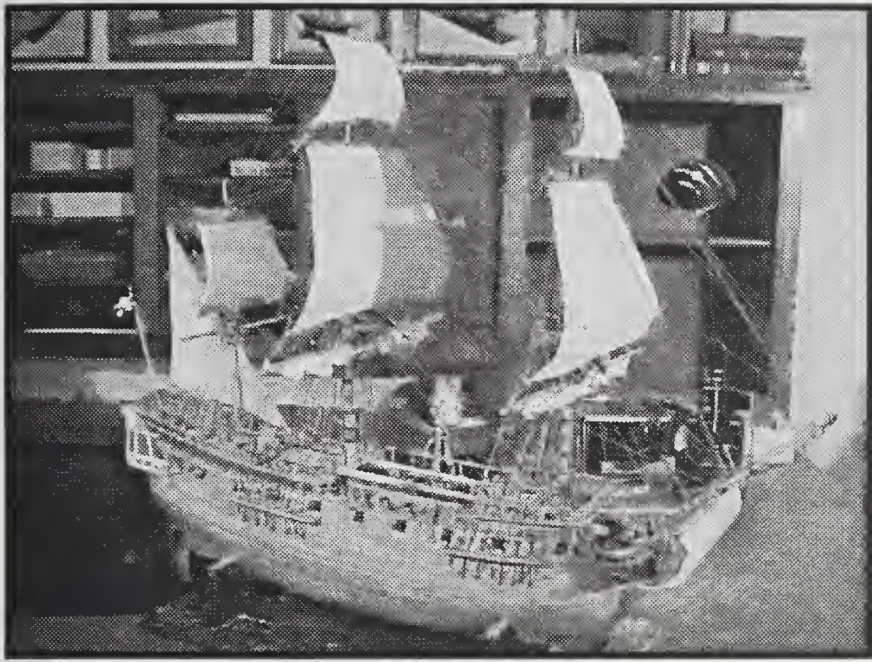


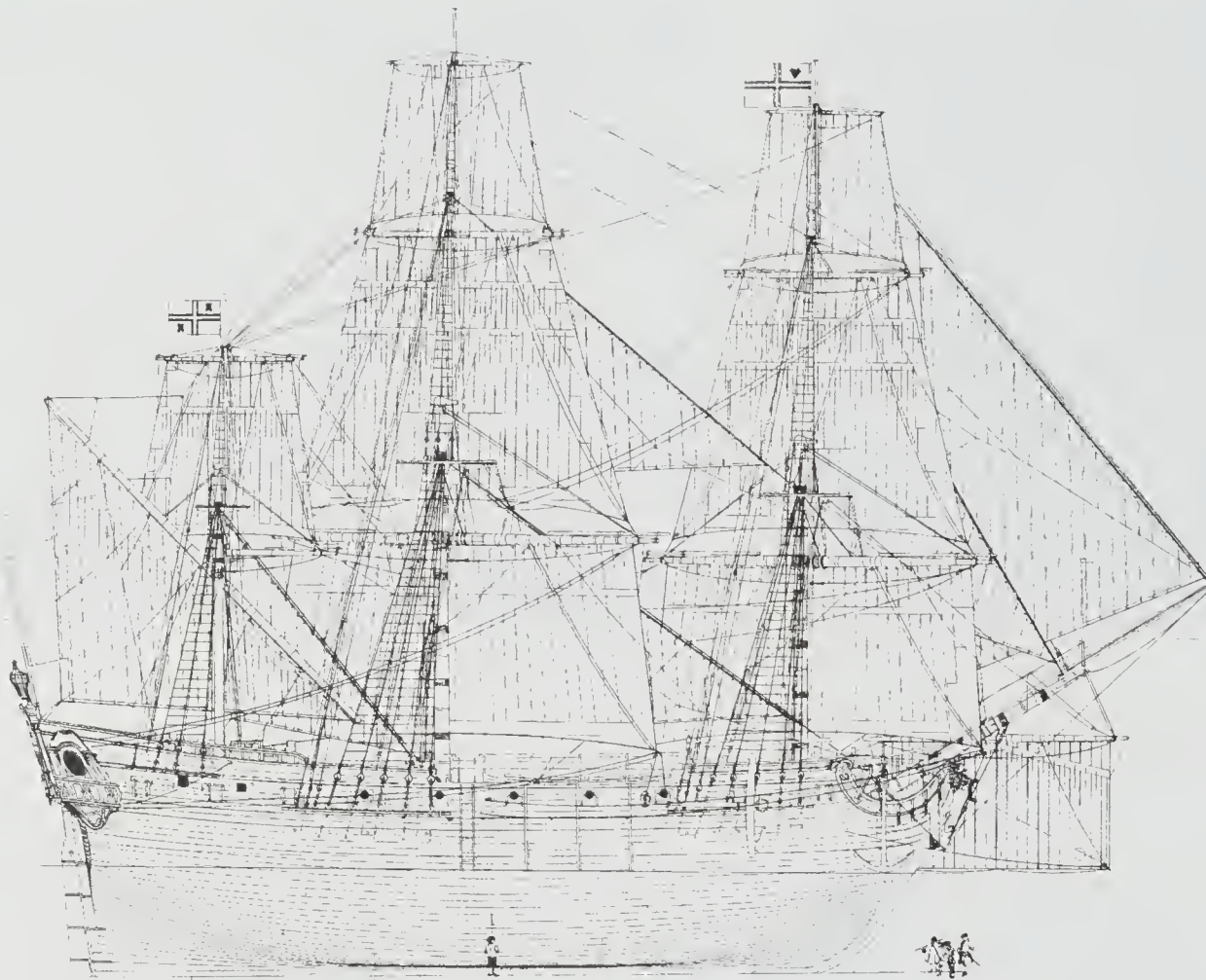
Figure 17.
Model of *Queen Anne's Revenge*, ex-*Concorde*.
Left: Starboard view.
Right: Cut-away port side revealing the ship's internal arrangements.

Ship Model of *Queen Anne's Revenge*

In 1998 North Carolina Maritime Museum Curator of Education JoAnne Powell applied for and received a \$25,000 matching grant from the National Park Service's National Maritime Heritage Grants Program to help fund educational programming relating to the *Queen Anne's Revenge* shipwreck project. Master model builder Frank Gaskill agreed to donate his time and skill to construct a scale model of Blackbeard's flagship *Queen Anne's Revenge*. As there are currently no architectural plans or other structural data known to exist concerning *Concorde*, or its piratical alter ego *Queen Anne's Revenge*, it was decided to construct a model of a vessel to closely represent a typical early eighteenth century French merchant ship. In addition efforts were made to incorporate as much archaeological data into the model as possible, including structural scantling (room and space, planking, and frame dimensions); sizes of cannon and anchors; rigging elements; and smaller items such as the bell, lead vent aprons, grindstone, sounding lead, etc. Gaskill has worked closely with the museum's Curator of Nautical Archaeology David Moore and Curator of Maritime Research Paul Fontenoy to compile additional archaeological and historical data pertinent to the effort. Additionally personnel from the University of North Carolina Center for Public Television (UNC-TV) made numerous trips to Gaskill's residence to record the progress of the model in order to facilitate development of future educational venues via Digital Video Disc format and documentaries with the museum. The finished model was unveiled at Kinston Art Center on 29 September 2001 and, when not traveling, will remain on display at the museum's Gallants Channel Research Facility (Figure 17).

The model itself was built to specifications and dimensions of *Mercure*, a typical 300-ton French merchant ship of 1730 featured in Jean Boudriot's *La Navire Marchand* (Figure 18).²⁷ Certain modifications were made including removing approximately ten feet from the *Mercure's* length in order to better utilize the framing patterns and 22 inch room and space recorded on the site and to reconcile the number of gun ports suggested by historical research. Slightly shortening the vessel also lowered the length to beam ratio to one which might be expected on a slightly earlier ship during *Concorde's* known period of operation.

The 1:48 scale model's scaled dimensions of 97 foot length overall, 84 foot keel, 27 foot breadth (moulded), and 11 1/2 foot depth in hold falls slightly above the upper range of dimensions calculated in Table 1 and takes into consideration the strong possibility that *Concorde's* actual "measured" tonnage was probably greater than its reported 200 "registered" tons as discussed above. This model project has additionally served as something of an experimental archaeology exercise as we have been able to ask and perhaps answer such questions as where on board over 500 slaves would have been quartered. Another question addressed during the development of the model has been that of the number of cannon and their potential placement aboard a ship of this size. *Concorde* carried at least fourteen cannon when captured by Blackbeard and most documents agree that by the time she was lost as *Queen Anne's Revenge* at Beaufort Inlet almost seven months later the ship was carrying forty. The model fairly conclusively proves that the pirates almost had to have utilized a number of smaller rail-mounted swivel guns to have comfortably carried forty cannon aboard a ship the size of *Queen Anne's Revenge*.²⁸



The port side of the model has been cut away to reveal most of the internal arrangements. One can easily observe the lading of ballast, stowed cannon and anchors, the galley area complete with stoves, barrels, storage bins and lockers, the rudder's tiller and whipstaff configuration, and many other details not usually readily visible on ship's models. Gaskill has also constructed a separate one inch slice of the 'tween deck area illustrating the temporary half-deck arrangement that would have been utilized during the Middle Passage for quartering the cargo of captive Africans.

Conclusions

Although based on sketchy evidence at best, much of the previous research conducted during this project has been based on the premise that Blackbeard captured the French slave ship *Concorde* and turned it into his flagship *Queen Anne's Revenge*. Fortunately this has been substantiated by several documents recently acquired from French archives.²⁹ The other premise maintained throughout this research project is that Blackbeard continued to utilize the French vessel as his flagship until it ran aground and was lost on the coast of North Carolina in June 1718. After five years of assessment and sporadic recoveries, no evidence has

surfaced from site 31-CR-314 to prove conclusively that the wreck represents either *Concorde* or *Queen Anne's Revenge*. Although circumstantial evidence slowly continues to mount in support of the site being the pirate's flagship, little if any archaeological data currently exists to even suggest that the wreck was once a French slave ship. Despite this, and for the sake of argument, research efforts will continue under the assumption that the pirates maintained command of *Concorde* until its demise at Beaufort Inlet.

The tonnage exercise and dimensional calculations provide a baseline of data for future hypotheses. While proving little, this data does at least provide a range of dimensions that can be compared to additional hull structure excavated in future field seasons. The recorded room and space and the scantling of the respective framing components in relation to the bottom planking thickness certainly indicate a comparatively lightly-constructed vessel and not necessarily what might be expected of a typical naval ship of the period. This seems to suggest a smaller to medium sized merchant vessel, albeit one that was obviously heavily armed in light of the twenty-two cannon tubes recorded to date, and the possibility of more on the site. One might easily be tempted to term this a possible characteristic of a ship re-adapted for temporary and typical piratical use.

Figure 18.
Naval Architect's
Rendering of French
Merchant Ship *La
Mercure*, c. 1730.

Illustration by Jean Boudriot,
*Navire au commerce, LE MER-
CURE, 1730*, in *Le Navire
Marchand: Ancien Regime, Etude
Historique et Monographie*,
Collection Archeologie Navale
Française, published by the
author, Paris. 1991.

Both the ballast and anchor features, while interesting and continuing to undergo recovery, interpretation, and analysis, offer little in the realm of evidence to even suggest an association with Blackbeard the pirate. However, should geologists prove that large quantities of the stones from the site originated in the Loire River area near Nante, France, then we might be able to add yet another small piece of circumstantial evidence to the database that strongly suggests this to be the infamous *Queen Anne's Revenge*.

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Endnotes

1. Dr. Lee Newsom, personal communication, Email dated 8 December 1998.
2. *Ibid.*
3. *Ibid.*
4. *Ibid.*
5. Dr. R. Guy Jaconis, D.V.M., personal communication, 4 December 1997.
6. Dr. Lee Newsom, personal communication, E-mail dated 8 December 1998.
7. The author is currently coordinating a research project with the National Oceanic and Atmospheric Administration's National Climatic Data Center which is compiling a database of hurricanes that have affected the Beaufort Inlet/Cape Lookout area since the early 18th century.
8. Sara Champion, *Dictionary of Terms and Techniques in Archaeology*, Everest House Publishers, New York, 1980, p. 26.
9. Sara Champion, *Dictionary of Terms and Techniques in Archaeology*, Everest House Publishers, New York, 1980, pp. 34-35; see also M.G.L. Baillie, *Tree-Ring Dating and Archaeology* (University of Chicago Press, Ltd., London, 1990) and M.J. Aitken, *Science-based Dating in Archaeology* (Longman, Inc., New York, 1990, pp. 36-49) for a more detailed discussion of tree-ring dating and dendrochronology.
10. Mike Baillie, personal communication, 3 November 2000; for a discussion of the complexities dealing with dendro-dating shipwrecks, see Brad Loewen, "Ships and Shipbuilding, Recent Advances in Ship History and Archaeology, 1450-1650: Hull Design, Regional Typologies and Wood Studies," *Revue d'histoire de la culture matérielle*, Volume 48, Fall 1998.
11. Sara Champion, *Dictionary of Terms and Techniques in Archaeology*, Everest House Publishers, New York, 1980, pp. 103-104; for a more detailed explanation on radiocarbon dating, see M.J. Aitken, *Science-based Dating in Archaeology* (Longman, Inc., New York, 1990, pp. 56-108) and Sheridan Bowman, *Radiocarbon Dating* (British Museum Publications, Ltd., London, 1990).
12. Christopher S. Martens and Ann P. McNichol, "Radiocarbon dating of Wood Samples and Plutonium Sediment Disturbance Studies at the *Queen Anne's Revenge* Wreck Site," *Southeastern Geology*, Volume 40, Number 1, February 2001, p. 39.
13. John G. Rogers defines the term in *Origins of Sea Terms* (The American Maritime Library, Volume XI, Mystic Seaport Museum, Incorporated, Mystic, Connecticut, 1985, p. 64) as "A small patch, usually of wood, to repair damage or replace rotted material....The word is considered to be pure

- slang." Rogers surmises the word to date to the 18th century and probably earlier.
14. See Mike Daniel and David D. Moore, "Blackbeard's Capture of the Nantaise Slave Ship *La CONCORDE*: A Brief Analysis of the Documentary Evidence," this volume.
 15. David H. Roberts (translator and editor), *18th Century Shipbuilding, Remarks on the Navies of the English & the Dutch from Observations made at their Dockyards in 1737 by Blaise Ollivier, Master Shipwright of the King of France*, Jean Boudriot Publications, Rotherfield, East Sussex, England, 1992, p. 65 (hereinafter Roberts, *18th Century Shipbuilding*).
 16. Roberts, *18th Century Shipbuilding*, p. 52.
 17. Archives Departementales Loire Atlantique Serie B4648, folio 90v-91, Pierre Dosset Deposition (27 April 1718); and Archives Departementales Loire Atlantique Serie B 4648, folio 56v-57v, Francois Ernaud Deposition (13 October 1718).
 18. Nantes, Marine 337 (120 J 337, 8 March 1717), muster roll of the Nantaise slave ship *Concorde*.
 19. Nantes, Marine 335 (120 J 335, 1713); Nantes, Marine 336 (10 J 336, 1715); and Nantes, Marine 337 (120 J 337, 1717); see also Jean Mettas, *Répertoire des Expéditions Négrières Françaises au XVIII^e Siècle*, 2 Volumes, Serge Daget, editor, Société Française d'Histoire d'Outre-Mer and Librairie Orientaliste Paul Geuthner S.A., Paris, Volume I, Nantes, 1978, pp. 16, 37, and 56.
 20. Jean Boudriot, *Le Navire Marchand: Ancien Regime, Etude Historique et Monographie*, Collection Archeologie Navale Française, published by the author, Paris, 1991, p. 28,
 21. R.C. Anderson, "Comparative Naval Architecture," Part I, *The Mariners Mirror*, Volume VII, Number 10, 1921, pp. 41-43.
 22. Roberts, *18th Century Shipbuilding*, p. 10
 23. The author discusses the tonnage reduction problem in some detail in *Site Report, Historical and Archaeological Investigations of the Shipwreck HENRIETTA MARIE*, Mel Fisher Maritime Heritage Society, Key West, June 1997; see also John J. McCusker, "Colonial Tonnage Measurement: Five Philadelphia Merchant Ships as a Sample," *The Journal of Economic History*, Volume XXVII, Number 1, March, 1967; Gary M. Walton, "Colonial Tonnage Measurement: A Comment," *The Journal of Economic History*, Volume XXVII, Number 3, September, 1967; and Christopher J. French, "Eighteenth-Century Shipping Tonnage Measurements," *The Journal of Economic History*, Volume XXXIII, Number 2, June, 1973.
 24. For much more detail concerning on-going ballast studies, see John E. Callahan, J. William Miller, and James R. Craig, "Ballast Stone Studies from North Carolina Shipwreck 0003 BUI, the *Queen Anne's Revenge*: Hand Specimen, X-ray, Petrographic, Chemical, Paramagnetic and 40K-40Ar Age Results"; J. William Miller, Katherine M. Whatley, John E. Callahan, and James R. Craig, "Ballast Stone Studies from North Carolina Shipwreck 0003 BUI, the *Queen Anne's Revenge*: Mössbauer Spectroscopy"; and Steven J. Hageman, "Encrusting Invertebrate Faunas and Shipwreck Histories: Ballast Stones from North Carolina Shipwreck 0003 BUI (*Queen Anne's Revenge*)," all published in *Southeastern Geology*, Volume 40, Number 1, February 2001.
 25. Deposition of David Herriot, appendix attached to *The Tryals of Major Stede Bonnet, and other Pirates*, London, 1719.
 26. See P. J. Ellis, "Ehrendals Styckebruk, The Ehrendal Ordnance Factory," unpublished manuscript, July 1987; Gösta Hahr, "Ehrendals Styckebruk—ett axplock ur dess historia," *Arte et Marte*, 1953, pp. 37-41; and Theodor Jakobsson, *Om Tillverkarmärken Och Sifferuppgifter Å Svenska Artilleridrör I Armémuseum*, Arsskrift, 1940, pp. 6-8. The Ehrendals foundry utilized a number of marks during its existence (c.1680-1800), but previous research reveals no known gun tubes with the "IEC" mark dated earlier than 1741. Cannon 19 would certainly help clarify and add to this limited database if proven to be an Ehrendals gun. Interestingly, the Ehrendals foundry reportedly sold a large volume of ordnance to the French during the 18th century and so to recover one of their guns from the remains of a French shipwreck might not be as unexpected as previously surmised nor necessarily associated with possible piratical plunder. The author is currently compiling a report on weaponry from site 31-CR-314 for publication in a proposed European treatise on shipwrecked ordnance.
 27. Jean Boudriot, *Navire au commerce, LE MERCURE, 1730*, in *Le Navire Marchand: Ancien Regime, Etude Historique et Monographie*, Collection Archeologie Navale Française, published by the author, Paris, 1991.
 28. Model-builder Gaskill, and research curators Fontenoy and Moore are currently compiling an article on the construction of the model and the various research efforts that went into its construction.
 29. See Mike Daniel and David D. Moore, "Blackbeard's Capture of the Nantaise Slave Ship *La CONCORDE*: A Brief Analysis of the Documentary Evidence," this volume.

French Naval Architects at Work.

Engraving by Ozanne, from Duhamel du Monceau, *Traite de la construction pratique des vaisseaux*; 1758. Courtesy of British Museum.



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