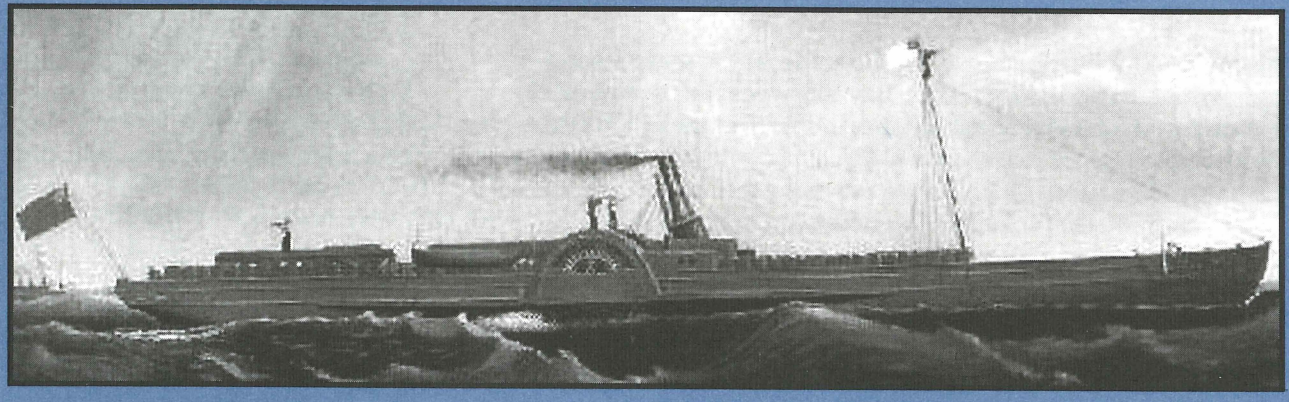
# THE INA QUARTERLY

Summer 1999

Volume 26 • No. 2



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**On the cover:** A painting shows the Confederate blockade runner *Denbigh*, which sank in Galveston Bay six weeks after Robert E. Lee's Army of Northern Virginia surrendered in 1865. Courtesy Charles Peery.





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# The Confederate Blockade Runner *Denbigh*

**J. Barto Arnold III, Andy Hall, Tom Oertling, and Christine A. Powell**

The most decisive engagement of the American Civil War may have been fought at sea, not on the great battlefields that tourists visit today. The South had to protect its supply lines in order to survive, just as winning the Battle of the Atlantic was essential to Britain's victory in World War II. President Lincoln recognized this when he organized the "Anaconda Plan," the Union blockade named after the South American snake that suffocates its victims. Ships like the blockade runner *Denbigh*, the object of recent INA operations in Bolivar Roads near Galveston, were the warriors in this crucial battle.

From the beginning, the leaders of the Secession knew that the overwhelming resources of the northern states prevented any chance of an unaided Confederate victory. However, they relied on the aid of their commercial partners in Europe. Fully 78% of the cotton crop was shipped to Great Britain each year, bringing $150,000,000 into Southern coffers. Tobacco and naval stores such as turpentine also formed an important part of the European economies. Continued trade would provide the capital to purchase war materials, which the British and French were anxious to sell.

The Confederate government was confident that the Federals could not effectively blockade the 3500 miles of coast from Chesapeake Bay to the Rio Grande. However, they also firmly believed that the Royal Navy would act to keep the South's ports open if there was any danger that cotton supplies to the mills in Liverpool and Manchester might be cut off. Almost five million British subjects were employed in manufacturing cotton goods. With foreign aid, the War for Southern Independence was a viable proposition.

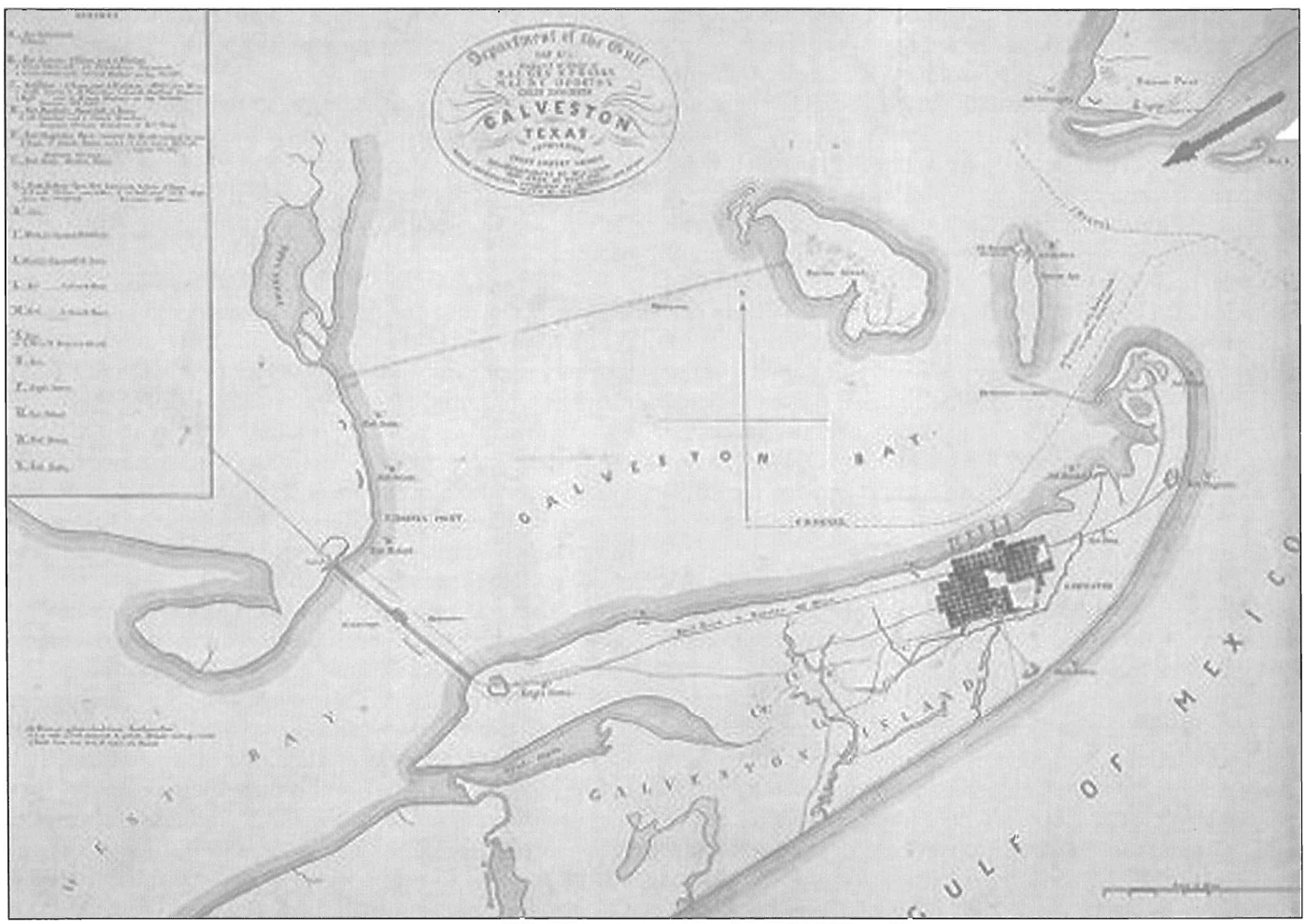



Fig. 1. *Galveston Bay and Island, including Bolivar Roads, where* Denbigh *grounded. Courtesy of National Archives, on line.*

The Confederate leaders had made two miscalculations. First, the North had no need to watch the entire coast. The South could only use ships capable of outrunning the Union coastal squadron, an unexpectedly large force composed largely of converted civilian ferries and other steam vessels. This meant that almost all of the runners used fast oceangoing steamships. These required deep water harbors with good communications to the interior. There were only nine suitable ports on the entire Eastern seaboard of the Confederacy, and only a handful more on the Gulf Coast. Since the ports west of the Mississippi River had poor connections to the rest of the Confederacy, trade would only go there as a last resort. Galveston (fig. 1) only became important in the last year of the war.

This scarcity of harbors made it feasible for the Anaconda Plan to throw its coils around the South and gradually squeeze the life out of it. The 1860 cotton crop had already been shipped when the blockade went into effect in May 1861. By the time the 1861 crop was ready for shipment, the Union had captured the approaches to most of the ports east of Texas. Thereafter, the blockading fleets could safely ignore virtually all the Atlantic and eastern Gulf coasts and concentrate on just three locations—Wilmington, North Carolina; Charleston, South Carolina; and Mobile, Alabama.

The second miscalculation involved the willingness of Great Britain to get involved. The Anaconda Plan was not very effective in its early days, but Britain had always been a champion of the right of blockade against the right of neutral navigation. Ironically, the United States had always taken the opposite tack—insistence on freedom of the seas had sparked the War of 1812 and was to bring America into World War I. Britain and France saw no reason to surrender their strategic position until the tactical situation grew clearer. Slavery was very unpopular in Europe by mid-century. Therefore, the European powers declared their neutrality in May 1861. They already had the 1860 cotton crop and could afford to wait for developments. By the time the next crop was ready to ship, there was no way for the Royal Navy to clear the blockaders from any of the remaining Confederate ports without a major fleet action.

Soon, two million British subjects were out of work and facing starvation in the 1862 Lancashire cotton famine. Even so, the British government was unwilling to commit itself to a full-scale war with the United States unless it was reasonably sure of betting on the winning side. Restoring employment in the English Midlands was not worth risking humiliation, disruption of trade with the colonies, and perhaps even French adventurism in an unpopular trans-oceanic war. Before Great Britain would interfere with the blockade, it wanted to see decisive Confederate victories—victories that remained elusive in large part due to the supply problems brought on by the blockade itself. Jefferson Davis, his government, and his generals were never able to convince Queen Victoria's ministers that intervention was worth the risk.

**Blockade Running**

Because the Southerners had been so sure that the Northern blockade would be ineffective, they made no contingency plans until the unpleasant truth became apparent. By then, they had only three remaining ports of entry with adequate connections to the rest of the Confederacy. Keeping Wilmington, Charleston, and Mobile harbors open and getting as much material into them as the blockade allowed became a critical survival issue for the Confederacy, just as closing those ports became a high priority for the Union.

The South was not self-sufficient in food production. Ironically, much of its meat supply during the war was tinned beef and pork from the midwestern Union states, imported by way of Bermuda or Nassau. It was even less independent of Northern and foreign manufactured goods and armaments. A Confederate rout at Shiloh was only avoided by the last-minute arrival of 900 kegs of British gunpowder through the Port of Wilmington. Loss of the industrial centers of New Orleans and Memphis in early 1862 only made this situation worse.

Federal warships lined the horizon outside each of the remaining Southern harbors. The blockade runners carried no weapons beyond sidearms, lest they be considered pirates and hanged on capture, so they had to outwit or outrun their opponents. It was effectively impossible to enter by daylight, so the runners had to slip past the blockaders by night, if necessary in a mad dash for the protection of the Confederate batteries protecting the harbor mouth.

Since each of the ports had shallow bars at the entrances, it was not uncommon for runners to go aground. A light draft was essential. Although screw-driven vessels had been replacing paddlewheels for nearly twenty years, propellers required deeper water. Sidewheels are less efficient than screw propellers, but they bring a ship to maximum speed more quickly. This allowed the runners to drift quietly past the blockaders and still outrun them on discovery. By backing one side, side-wheelers can turn much more sharply than a screw-driven vessel, and they can more easily rock themselves off a sandbar.

The most successful sidewheel blockade runners were built in a style that had been perfected for use as river and coastal packets on the Clyde River in Scotland. These had long, low iron hulls with a narrow beam, powerful engines, and a light draft. They were adapted for the blockade trade by removing staterooms and making other modifications to increase their capacity and reduce their visibility. They were typically painted in light blues, greens, or grays to blend into the dunes or sea mists, and burned anthracite coal near shore to reduce smoke. By 1862, many of these vessels were being outfitted in Glasgow or Liverpool. *Denbigh* was among their number.

## The Runner *Denbigh*

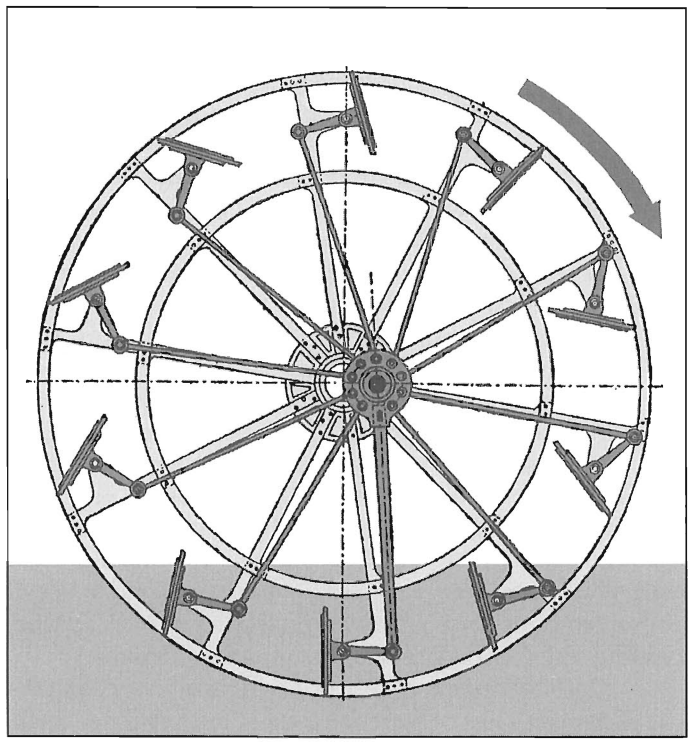
*Denbigh* (cover) was originally built by Laird, Sons & Co. of Birkenhead, England as an ordinary merchant vessel, probably for use on the Mersey River and estuary near Liverpool. The order was acknowledged by Laird, Sons & Co. on May 16, 1860, and the new hull was launched on August 18, 1860. In 1863, after a short period in civilian service, *Denbigh* was purchased by the new European Trading Company, a consortium of Confederate, English, and French companies organized to run the Federal blockade into Mobile, Alabama.

Abner M. Godfrey, *Denbigh's* first master, was born in 1825 or 1826 in Maine. Sometime prior to 1859 he relocated to Mobile, Alabama, for in that year's City Directory he is listed as a stevedore, with lodgings at the Battle House Hotel. In the summer of 1861, shortly after the Union blockade was declared, he sailed for England to serve as a Confederate agent there. By mid-1863, Godfrey and his wife were living in Cardiff, where he served as a coal agent for the Confederacy, purchasing good Welsh coal for blockade runners. In the fall of 1863 he was appointed to command the new runner *Denbigh*. Captain and Mrs. Godfrey sailed in her for Havana.

The ship was probably designed initially as an excursion steamer. As a small vessel with limited cargo capacity, *Denbigh* would not seem to have been a likely choice for a blockade runner. The European Trading Company's agents apparently saw something others missed, for their decision proved to be a wise one. Perhaps the ship's apparent insignificance was a form of "protective coloration." The 162-ton iron-hulled sidewheel steamer measured 181 feet 11 inches in length, 22 feet in breadth amidships, and had a depth of hold of 8 feet 5 inches (55.5 x 6.7 x 2.2 meters).

On either side of the hull was a "feathering" paddlewheel (fig. 2). The feathering wheel was perhaps the most successful attempt to improve the efficiency of the conventional paddlewheel. The idea was to continually adjust the paddle blades, or "floats," as the wheel turned, so that each blade entered the water at the most efficient angle when the vessel was running at speed. This provided the best, most effective use of the engine's power. Although such sidewheels were relatively commonplace on steamships of the period, they are very distinctive and strongly support the identification of the Galveston wreck investigated by INA as *Denbigh*.

In the feathering wheel, each float was secured in an iron frame so that it could pivot slightly. Attached to the rear face of each float was a short arm that was itself attached to a second wheel, attached to the outside frame of the paddlebox, and set to pivot slightly forward of the main wheel. It was a complex arrangement, but it worked well. Although they were not developed for blockade running, feathering wheels possessed an additional advantage for smugglers: because the floats entered the water at a more efficient angle, they were quieter and kicked up less whitewater than conventional wheels, important considerations in sneaking past Federal warships in the dark.



Drawing: INA

Fig. 2. *The offset wheel and lever system allowed the feathering paddlewheel to operate much more efficiently and quietly.*

A report from Thomas Dudley, the U.S. Consul at Liverpool, described the *Denbigh* as follows:

> "Built of Iron. Marked draft of water—7 feet fore & aft. Hull painted black. Artificial quarter galleries. Elliptic stern. Straight stem. Name at the bows gilt, on a blue ground. Wheel; binnacle. House with skylight on top. Boat painted white in iron swing davits on port quarter. Boats painted white, abreast of mainmast. [?] House athwartships between paddle boxes, with binnacle on top. Funnell [sic.] or smokestack painted black, with bright copper steam pipe after part of same. Side houses. Hurricane deck; foremast, through same. Masts bright; mast heads, top caps, coasters [?] bowsprit and gaff painted white. Inside of bulwarks & c. painted cream color. On her trial trip she attained the speed of 10 1/2 knots.
>
> Her crew consists of Captain, two mates, two engineers, six seamen, seven firemen, cook, and steward."

## *Denbigh* at Mobile

The ship sailed from Liverpool on Monday, October 19, 1863, for Havana, Cuba, and made its first dash

past the blockade into Mobile on January 10, 1864. She loaded 500 bales of cotton and on January 31 sailed for Havana. *Denbigh* ran aground a mile east of Fort Morgan—the primary Confederate fortification guarding the mouth of Mobile Bay—about 100 yards offshore. She endured four days of long-distance shelling from the blockaders before 100 bales of cotton were off-loaded and the vessel was light enough to be towed off the shoal. The ship went on to complete her run to Havana, the first of seven round trips she would make between the two ports. Over the next 18 months, *Denbigh* would become the second most-successful Gulf blockade runner of them all. So successful, in fact, that the Confedertes began to fondly refer to her as "the packet."

Although the entrance to Mobile harbor was difficult to navigate, the guns of Fort Morgan offered some protection from Union ships to grounded vessels until they were freed. *Denbigh* was happy for the gunnery, as she went aground again in May 1864. Mobile had a fast turn-around time, and there were no restrictions concerning the use of cotton bonds as there were at Wilmington and Charleston, closer to the central government of the Confederacy.

Cotton bonds were the principal "currency" that the Confederate States of America used in international trade. The bonds were sold to foreign investors to finance the Confederate war effort. Their attraction to an investor was that they were redeemable in Southern cotton at about one-fourth the market price. The European Trading Company was a consortium of Mobile merchants and European financial institutions created to promote the cotton bond business. *Denbigh's* maiden run caused a fervor in Liverpool. Until that time, blockade runners using bonds had to consign one-half of their cargo to the Confederacy. *Denbigh* changed that; her entire cargo was a private load. More shippers began to use Mobile, and demand for bonds increased.

As another plus for Mobile, the capture of Morris Island at the southern entrance to Charleston Harbor effectively closed that port from June 1863 until March 1864. Desperation and lower, faster ships enabled daring captains to reopen it to a limited degree. However, only thirty-eight ships entered Charleston in 1864 and eight in 1865 before February 17, when the last runner literally pulled away from a flaming wharf as the city fell. Wilmington and Mobile had to pick up the slack, but their own days were numbered.

For the moment, times were good in Mobile. The average blockade-running vessel only made two round trips, but that was enough to pay for the ship and make a profit for the owners. Since the vessels were insured (at considerable cost), capture of one ship merely provided the funds to purchase another. Masters of vessels attempting to run the blockade faced considerable risks, but the rewards were very high for them as well. The salary of a captain might amount to several thousand dollars in gold for a successful round trip through the Federal fleet. It seems a safe assumption that Captain Godfrey amassed a small fortune during his command of *Denbigh*, for after the war he purchased the Battle House Hotel, the best establishment in Mobile, the same hotel where he rented lodgings as a stevedore just a few years before.

*Denbigh* was often described by Union Admiral David Farragut as too quick for the Union forces. More than once, he thought he had captured the runner, only to be outwitted. The only way to stop the blockade runners—and cut off the flow of supplies and cash to the Confederacy—was to deny them use of the harbor. By the summer of 1864, Farragut had orders to take Mobile. While still waiting for backup from warships, his small fleet managed to drive off three of five attempts to run the blockade into Mobile; *Denbigh* and *Alice* were the only two ships that made it through. On August 5, in the famous "Damn the torpedoes" attack, Farragut's reinforced squadron of 18 ships beat the Confederate Navy and captured the enemy ram *Tennessee*. Sixteen days later, Fort Morgan surrendered, effectively closing Mobile Bay. *Denbigh* was the last runner out of the harbor.

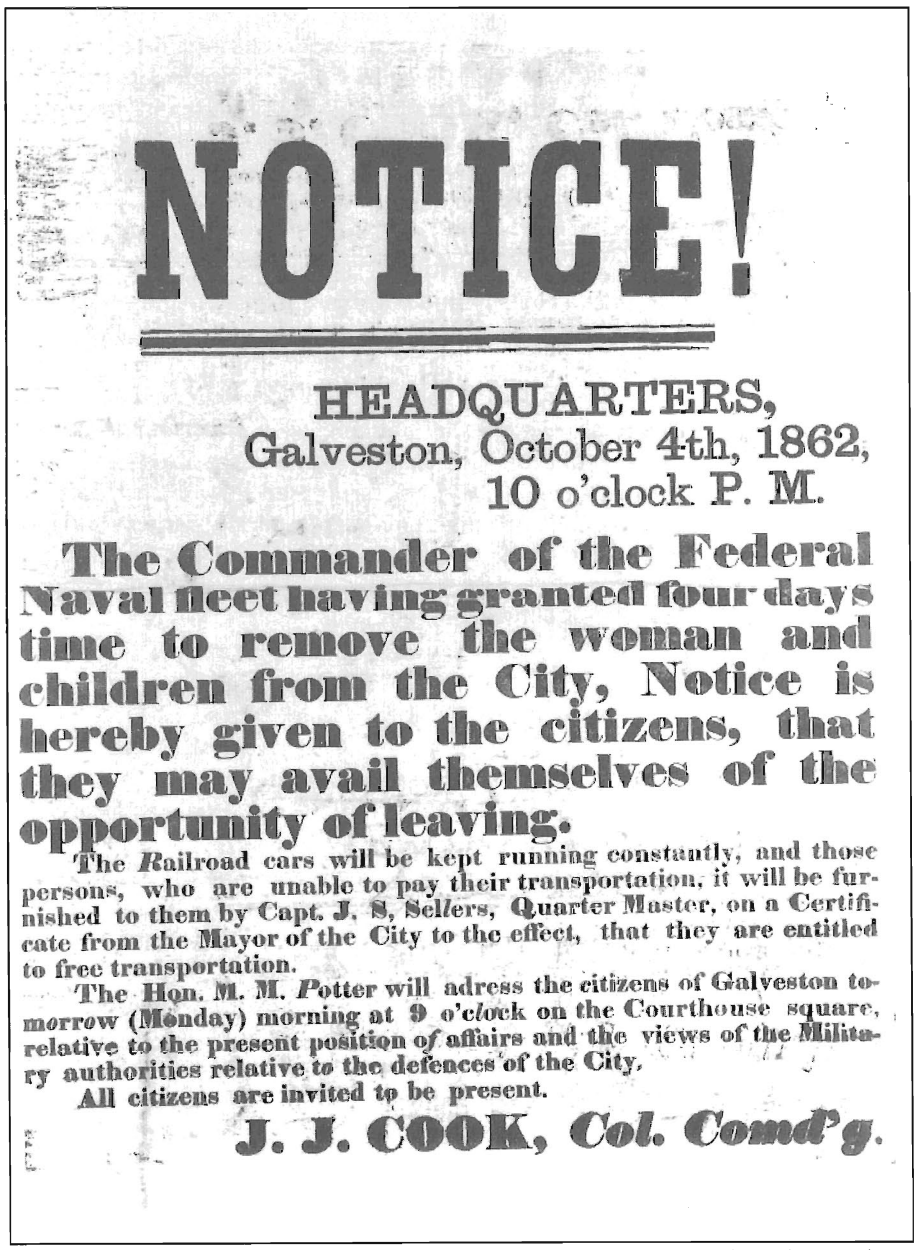
### *Denbigh* at Galveston

With Mobile shut down as a shipping base, and both Wilmington and Charleston under increasing pressure in 1864, the blockade runners' attention turned to the Texas coast. Federal forces had captured Galveston in October 1862 (fig. 3), only to lose it to a surprise attack on New Year's Day, 1863. The Federals never tried to retake Galveston, but reinforced the blockade of Bolivar Roads—the main entrance to Galveston Bay—in an effort to render the city useless as a seaport. They also established a blockade off San Luis Pass, at the western end of Galveston Island, to capture the small schooners that used that access to the Bay. Galveston was too far removed geographically from the center of the war effort to have much importance for the Confederacy as a whole. Only a dozen steam blockade runners had come into Galveston during the first three years of the war. After the fall of Fort Morgan, however, Galveston was one of the only ports left to the Confederacy, and the largest on the Gulf; now another runner entered the port almost every week. The fall of Mobile also increased the traffic from and into the Port of Matamoros, Mexico, a short lighter trip from Brownsville, Texas.

*Denbigh* made her first run into Galveston at the end of August 1864; she would make five more successful round trips into the harbor before being lost in May 1865. Although *Denbigh* was older and slower than some of her contemporaries, she was one of the most successful and profitable vessels that made the run between Havana and the Confederate states. She was small, low in the water, and painted a dark shade that made her difficult to spot at long ranges. The vessel burned little coal, therefore pro-

ducing little smoke, but carried large quantities of cotton, making her very profitable for the Confederates. Admiral Farragut indeed had reason for his dislike of *Denbigh*. Her scheduled arrivals in Havana were almost as certain as those of a regular packet, and she had not yet disappointed her admirers.

Sometime after *Denbigh* began running between Galveston and Havana in August 1864, Robert Horlock, who was about fifteen years old, signed on the blockade runner as a captain's boy. How Horlock came to serve aboard *Denbigh* is not yet known, although it is most probable that it was through the efforts of the blockade runner's first master, Abner M. Godfrey of Mobile. It was common practice for merchant captains to take their sons, nephews, or the sons of friends to serve as "captain's boys" at sea. The young men did not act as servants, as the term suggests, but were in fact more like naval midshipmen, learning their trade through hands-on experience. Godfrey, who is listed in antebellum Mobile directories as a stevedore, undoubtedly had known Robert's father, John Horlock, a chandler in Mobile who later relocated to Galveston. After the war, young Horlock went on to become one of the leading citizens of Navasota, Texas, where his former home is now preserved as a museum.



NOTICE!

HEADQUARTERS,
Galveston, October 4th, 1862,
10 o'clock P. M.

**The Commander of the Federal Naval fleet having granted four days time to remove the woman and children from the City, Notice is hereby given to the citizens, that they may avail themselves of the opportunity of leaving.**

The Railroad cars will be kept running constantly, and those persons, who are unable to pay their transportation, it will be furnished to them by Capt. J. S. Sellers, Quarter Master, on a Certificate from the Mayor of the City to the effect, that they are entitled to free transportation.

The Hon. M. M. Potter will adress the citizens of Galveston tomorrow (Monday) morning at 9 o'clock on the Courthouse square, relative to the present position of affairs and the views of the Military authorities relative to the defences of the City.

All citizens are invited to be present.

J. J. COOK, Col. Comd'g.

Fig. 3. *The Confederacy was forced to abandon Galveston in October of 1862, but recaptured it at the beginning of 1863. Courtesy of the Rosenberg Library, Galveston, Texas.*

Galveston was the last harbor in the Confederacy to remain open. Wilmington, the most important runner port, was closed even before Charleston, when Fort Fisher fell in mid-January 1865. Between October 26, 1864, and January 1, 1865, Wilmington and Charleston had imported 8,632,000 pounds of meat, 1,507,000 pounds of lead, 1,933,000 pounds of saltpeter, 546,000 pairs of shoes, 316,000 pairs of blankets, 69,000 rifles, 43 cannon, and a variety of other items. The Confederate government's share of cotton sales during 1864 exceeded $6,000,000 in gold. When Wilmington fell, the Confederate States Army estimated it had only about a three-month supply of materials... and it surrendered about three months later. This clearly indicates the importance of the blockade runners to the Southern effort. The Army of Northern Virginia surrendered on April 9, 1865, and the other Confederate forces sued for peace as the word of Lee's capitulation arrived. However, news was slow to get to Texas.

On the night of May 23–24, *Denbigh* again attempted to enter Galveston Bay, but hit one of the many sandbars that surround the island. This time they could not work her free, and there were no friendly forts to protect her from the blockaders who would inevitably discover her predicament. *Denbigh's* crew jumped into the ship's boats, headed to nearby Bolivar Point, and escaped into Galveston. Next morning the Federal gunboats *Cornubia* and *Princess Royal* blasted *Denbigh* with forty shots

and sent two smaller gunboats, *Kennebec* and *Seminole*, to burn the remains. A Union sailor aboard *Seminole* died when the seaman's weapon accidentally discharged while he was leaving *Denbigh*. Apart from this, *Denbigh's* demise had been swift, bloodless, and almost anti-climactic.

Life in Galveston had become increasingly difficult as the war dragged on. Food and firewood were scarce and crime was out of control. Despite the excitement caused by the regular arrival and departure of the blockade runners, conditions continued to deteriorate. The same morning *Denbigh* was boarded and burned by the Federals, the runner *Lark* entered the harbor. The local population formed an unruly mob that stripped the vessel of everything of value. A local historian who witnessed the spectacle as a boy later recalled seeing "stout old women staggering through the streets heavily burdened with sets of artillery harness and other plunder taken from the vessel."

After the crowd finally dispersed, *Lark's* captain took aboard *Denbigh*'s crew and dashed out to sea again, the last blockade runner to clear a Confederate port. General E. Kirby Smith surrendered the Southern forces in Texas and the Trans-Mississippi Department two days later. Federal marshal law and the Emancipation Proclamation were announced at Galveston on June 19. The war was over.

### The Exploration of *Denbigh*

It is only fair to point out that *Denbigh* was never really "lost." The iron-hulled steamer, stranded on the edge of Bird Key, was a harbor landmark for many years after the Civil War. An 1880 Corps of Engineers map, for example, clearly marked the location of the wreck, and sport divers and fishermen have known about it for many years. Few people recognized the deteriorating remains for what they were—the physical remnants of one of the Confederacy's most successful blockade runners.

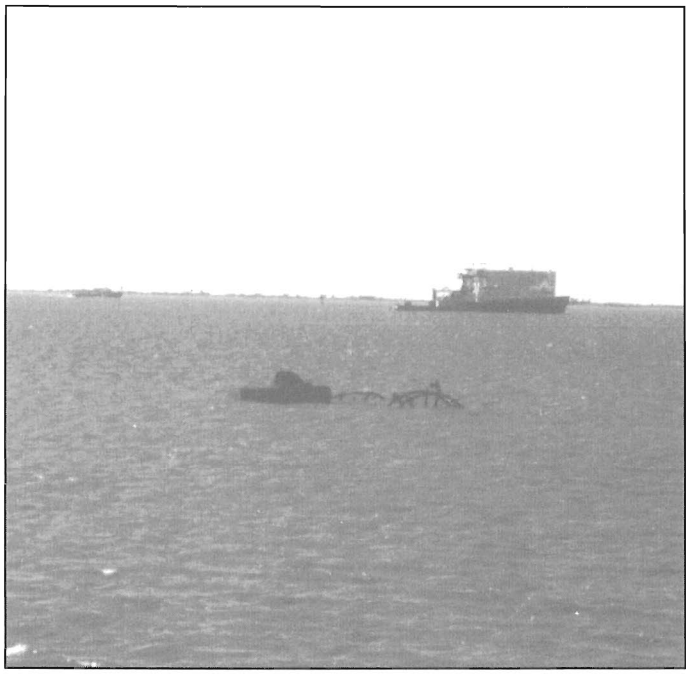


Photo: INA

Fig. 4. *The* Denbigh *site at low water today.*

INA investigators first became interested in *Denbigh*'s tale when a historian from Charleston visited Galveston, looking for clues to the blockade runner's whereabouts. Using Civil War-era charts of the entrance to Galveston Bay, they identified a likely search area, but were not able to pinpoint the precise spot. The break came in early 1997 when a team member, working on a different project, discovered the 1880 Corps of Engineers map. By measuring off the distance and direction from the Bolivar Lighthouse, the investigators were able to narrow the search area enough to justify a survey of the area by boat.

*Denbigh* lies today in shallow water on the north side of Bolivar Roads. The wreck is not far from Fort Travis, a post-Civil War fortification that is now a county park. The wreck is ordinarily underwater, but on some rare occasions when the tide is extremely low, the upper parts of the sidewheels and some machinery are visible (fig. 4).

*Denbigh* is a protected archaeological site. The remains of the blockade runner lie in state waters and so come under the stewardship of the Texas Historical Commission (THC). The THC has issued INA the appropriate permits and authorizations to conduct site surveys and testing. Sport diving or exploration of the site is discouraged, and disturbance of this archaeological site is a violation of state historic preservation laws.

### Sonar Surveys

On April 27–28, 1998, *Denbigh* Project staff conducted a side scan sonar survey of the wreck site. The purpose of the survey was to determine how much of the wreck extended above the sand. This information was important for planning the diving survey of the wreck. The side scan sonar survey was successfully accomplished. This showed that the only significant wreckage exposed above the sand was the central portion of the ship's machinery area (fig. 5). The two sidewheels, each consisting of a pair of frames, show up clearly. Between them lies the machinery that connected the wheels to piston rods from the engines, which presumably are buried under the sand. A large dark shape on the image is metal trunking over the ship's boilers. No wreckage extended above the surface of the water.

During June, in an effort to help determine the extent and condition of the blockade runner's iron hull buried in the mud, *Denbigh* Project Principal Investigator J. Barto Arnold III arranged for a sub-bottom sonar profile to be conducted at the wreck site. The actual survey was completed by Roger Caron of EdgeTech and Alan Craig of

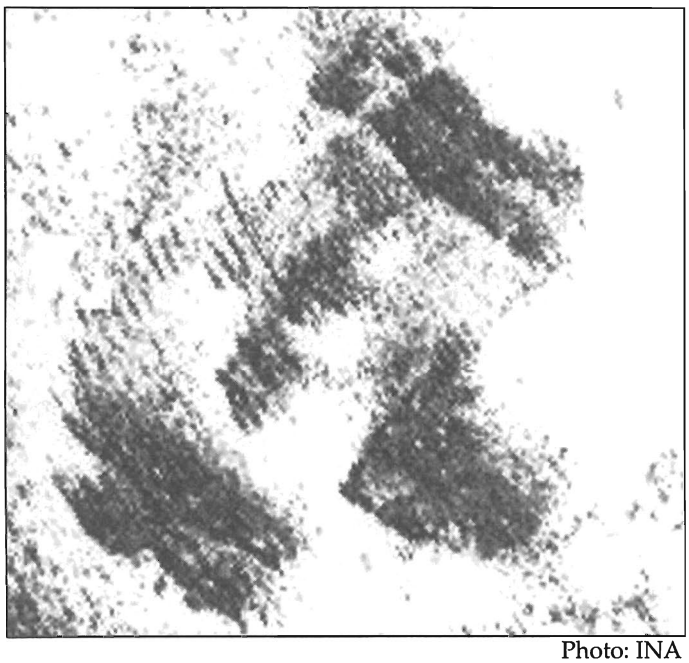


Photo: INA

Fig. 5. *This side-scan sonar image revealed the paddlewheels and machinery of* Denbigh.

Survey Equipment Services. Their Houston companies also provided all equipment used during the work.

The sub-bottom profiling sonar, known as a "chirp" sonar for the high-pitched clicking sound of its transmitter, penetrated the mud to a depth of about two meters, and recorded indications of buried ship remains. Full analysis of the data is pending.

On July 9, Arnold conducted a fathometer survey of the *Denbigh* wreck site in conjunction with Captain Scott Hickman of Circle H Outfitters. The fathometer data showed that *Denbigh* lies on a very flat bottom, sloping gradually to the south.

**Diving Surveys**

The first major fieldwork on the *Denbigh* wreck was scheduled for May 7–10, 1998. The project investigators were fortunate to be able to secure the assistance of Detachment 111 of the U.S. Naval Reserve's Mobile Diving and Salvage Unit One (MDSU1, or "Mud-zoo One"), Inshore Boat Unit One Four, and the Aids to Navigation Team at U.S. Coast Guard Base Galveston (fig. 6). The *Denbigh* Project provided MDSU1 a training opportunity to document a wreck site near its drill station at Galveston. Although the water is very shallow, the Navy divers used full equipment, including surface air supply and communications gear, for training purposes.

The initial familiarization dives on the wreck marked locations for several prospective trilateration stations. One diver placed the bottom of the range rod on the spot to be surveyed while another on the surface helped the boat crew hold the range rod vertical. Five locations on the wreck were surveyed providing X–Y–Z coordinates that were accurate to 1 cm. These points allowed mapping with great accuracy. The team also began measuring and drawing paddlewheel frames and complex machinery spaces between the paddlewheels. Each paddlewheel had an inner and an outer frame that supported the paddles between them. The buried remains of the site are covered by about 0.5 m of soft mud. Just less than half of each paddle wheel was exposed above the bottom.

A circle search of a thirty-meter area forward of the boiler revealed no exposed wreckage. Probing followed the starboard edge of the intact hull remains abaft the paddlewheel for 2–3 m. This was difficult forward of the port paddlewheel due to jumbled wreckage in that area.

Profile views of all four paddlewheel frames were completed. In addition, Tom Oertling made good progress on drawing the machinery between the paddlewheels. Illustrations like these, made by divers, help to document the parts of *Denbigh* that remain exposed above the sand.

Between July 10–12, Arnold and Andrew Hall, assisted by Southwest Underwater Archaeological Society members Austin and Sue Taylor, Winton Roberds, and John Melko, continued mapping the central portion of the site, particularly in the area around the exposed boiler casing and sidewheel frames. The crew experienced significant difficulties in obtaining accurate measurements due to high winds that created a significant chop on the surface of the water, and a continual swell below. Water visibility was estimated to be 15 cm or less.

Photo: J. B. Arnold

Fig. 6. *The U.S. Naval Reserve divers of MSDU1 preparing to survey* Denbigh.

From October 18–30, 1998, the team returned to the diving survey of *Denbigh*. Visibility on the site continued to be poor. Dr. Cheryl Ward of the Maritime Studies Program at Texas A&M University—Galveston had been hopeful that a field school could be held at the site in the summer of 1999, but the diving conditions forced the team to plan otherwise. Two artifacts—a piece of pipe from the steam plant and a socket from the feathering paddlewheel—were recovered for conservation assessment at the TAMU–G laboratory (figs. 7–8). This will provide guidance for the preservation of more substantial artifacts to be raised later. Probing suggests that at least one engine, several iron support beams for the deck, and a substantial portion of the midships hull remain remarkably intact. Nothing appears above the surface of the mud aft of the paddlewheels, although much remains buried.

Unlike most wrecks surveyed by INA, the iron hull of *Denbigh* prevents the use of magnetic compasses for measurements on the site. Because of this and the poor visibility, special adjustments to the standard excavation techniques are required. The October trip allowed experiments with the WEB computer-mapping program. Buoys were placed at the estimated bow and stern locations, allowing the measurement of the orientation of the wreck from a location away from the magnetic interference. *Denbigh* appears to be resting on a heading of 70°–75°.

The *Denbigh* team spent the winter preparing their data for publication in a paper for the Society for Historical Archaeology. In June 1999, they began a summer field season with team members from the United States, United Kingdom, and France. The summer was to be dedicated to completeing the mapping process, identifying key features of the structure of the vessel, and conducting test excavations to determinine how well *Denbigh*'s fittings, machinery and cargo have been preserved. Look for an update in a forthcoming *Quarterly*.

### *Denbigh* Primary Source Documents

Historical research being done on the *Denbigh* Project has revealed a growing volume of original documents that relate to the ship and her career. These documents, which range from the Laird, Sons & Co. builder's ledger to a Federal naval officer's dispatch reporting her destruction on Bird Key, offer detailed and valuable glimpses into *Denbigh's* remarkable career. The *Denbigh* Web site (http://nautarch.tamu.edu/projects/denbigh/denbigh.html) has links to a sampling of these documents, as well as a selection of interesting pictures relating to *Denbigh*. The site will also have the latest news on the Project.

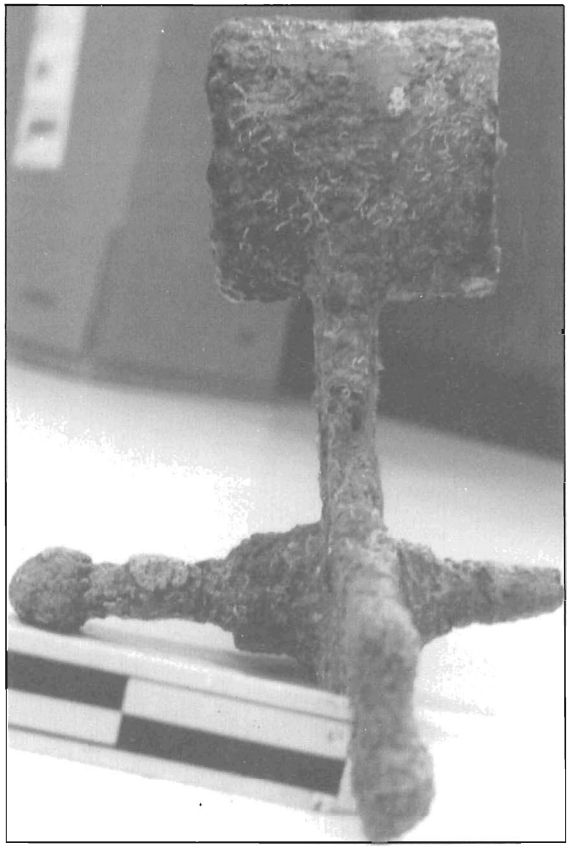
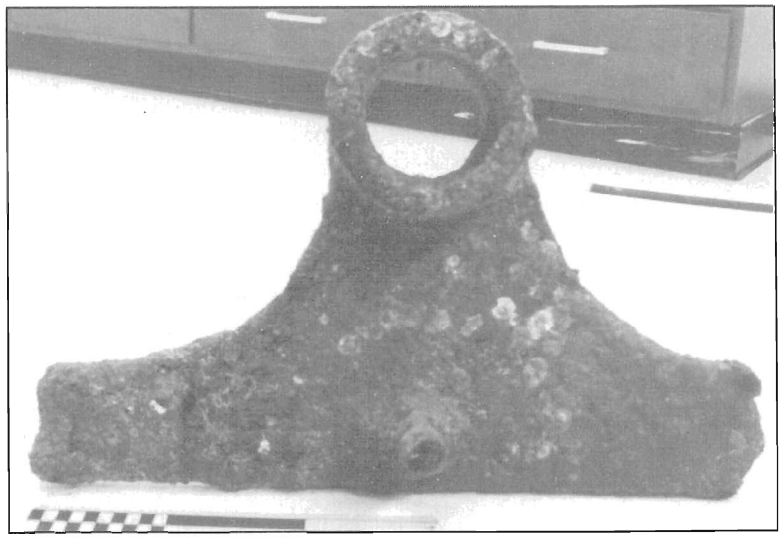


Fig. 7 (left) *A piece of pipe from Denbigh's steam plant.*

Fig. 8 (below) *A socket from one of the feathering paddlewheels.*

Photos: A. Hall



*Acknowledgments*: The *Denbigh* Project is an effort of the Institute of Nautical Archaeology (INA) at Texas A&M University (TAMU) in College Station. The Principal Investigator is J. Barto Arnold III (Fig. 9), INA. Co-Principal Investigators are Thomas Oertling, Andrew Hall, and Rebecca Hall, all of Galveston, Texas. TAMU Nautical Archaeology Program graduate student Oscar Blassingame is also assisting. Cheryl Ward of the nautical archaeology faculty at TAMU–Galveston (TAMU–G) and students, faculty, and staff of the scientific diving program at TAMU–G are also taking part.

Personnel participating in the initial site survey included investigators Arnold and Oertling; Jimmy Reynolds and Alan Craig of Survey Equipment Services, Houston; Roger Caron of EdgeTech, Houston; Tom Lauersdorf, U.S. Naval Reserve; Sean Welch and Winton Robards, both of Galveston. Equipment provided for this effort included side scan sonar instruments from Survey Equipment Services and EdgeTech, and boats provided by Sean Welch and Winton Roberds.

Capt. Scott Hickman of Circle H Outfitters provided the initial survey vessel at a concessionary price. The October survey used a boat provided by the Texas General Land Office. Equipment provided for the fieldwork included a survey grade Trimble Navigation GPS by Jack Howell of Easy Drive Instruments, Austin. Additional boats and support were provided by Andrew Johnson, Doug Nowell, Winton Roberds, Sue and Austin Taylor, and John Melko of the Southwest Underwater Archaeological Society. Additional dive gear was loaned by Janice Roseberry and Warren Roseberry of Tom's Dive and Ski, Austin.

*Denbigh* Project investigators would like to thank all those researchers who have provided access to materials related to *Denbigh*. Special thanks to Mr. John Erskine of Aurora, Colorado and Ms. Patricia Demler of Port Arthur, Texas, for their assistance in researching their ancestor, Robert Horlock. We would like to extend particular thanks to Dr. Stephen R. Wise, author of *Lifeline of the Confederacy*, and Robert Holcombe of the Civil War Naval Museum in Columbus, Georgia, for generously sharing their files on *Denbigh*.

Special thanks go to The Brown Foundation, Houston, Texas; Communities Foundation of Texas; (Bill's Fund of) The Hillcrest Foundation, founded by Mrs. W. W. Caruth, Sr.; The Horlock Foundation, Houston, Texas; Houston Endowment, Inc.; The Strake Foundation of Houston, Texas; The Trull Foundation of Palacios, Texas; Doug Nowell, Southwest Underwater Archaeological Society (SUAS); John Luce, SUAS; Larry Sanders, SUAS; Leslie Opperman, TAMU–G; Valerie Buford, TAMU; Charles Peery, Charleston, South Carolina; Edward Cotham, Houston; and Kevin Foster, U.S. National Park Service. A very special thank-you goes to Trimble Navigation Ltd., Compaq Computers, and International Car Care of Galveston.

The Aids to Navigation Team at U.S. Coast Guard Base Galveston provided U.S.C.G. Buoy Tender 643503 to serve as a dive platform and to support site survey operations. In addition, the team placed a block to secure a mooring buoy for future operations at the site. Inshore Boat Unit One Four, U.S. Naval Reserve, provided small utility boats both as dive platforms and for transporting personnel and equipment between the *Denbigh* wreck site, the Bolivar Peninsula landing, and Coast Guard Base Galveston.

Finally, the biggest "thank-you" of all for this effort goes to the members of Detachment 111 of Mobile Diving and Salvage Unit One (MDSU1) of the U.S. Naval Reserve. Nautical archaeological mapping is new to these folks, but they tackled it with both energy and attention to detail. This unit is deserving of the highest praise: they're "good people." ⚓

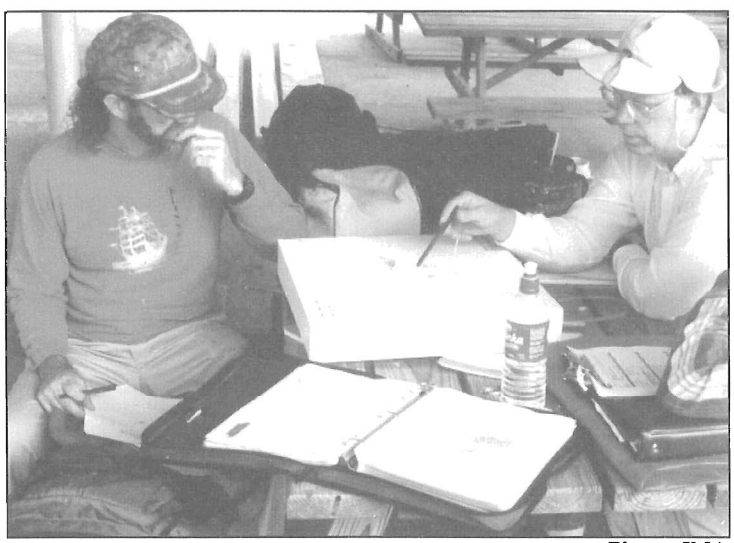


Photo: INA

Fig. 9. *Barto Arnold (right) discusses the excavation with an associate.*

## Schliemann and the Blockade-Runner

How in the world is Heinrich Schliemann, the discoverer of Troy, connected to the Civil War blockade-runner *Denbigh*? It is one of those bizarre connections that occasionally turns up in historical archaeology and provides the "Oh, wow!" experience that keeps us interested, inspired, and entertained.

As described in the accompanying article, *Denbigh* was one of the most successful and famous blockade-runners of the Civil War. Her exploits were near legendary in running between Havana, Cuba, and Mobile, Alabama and subsequently between Havana and Galveston, Texas. In dispatches, Admiral Farragut of the Union's Gulf Blockading Fleet frequently mentioned his unhappiness with her elusive ways.

One of the three owners of *Denbigh* was Schroders, a merchant banking firm still in business today. Schliemann began his spectacular business career with Schroders, starting off as a clerk in the company's Amsterdam office. He eventually became the firm's agent and later an independent merchant in St. Petersburg and Moscow, but was still associated with Schroders' network of trade. It was in this position that Schliemann made his fortune.

I was reading about Schroders in a history of the firm by Richard Roberts in hope of further illuminating the story of our shipwreck when I came across the following discussion of one of the banking family's patriarchs:

"There are few surviving records which offer insight into the personality of Johann Heinrich Schroder, but it is known that he was very hard-working, ambitious and highly self-disciplined, traits which go a long way in explaining his outstanding success as a businessman...He had rigorous standards and could turn stern if disappointed. 'You lack all knowledge of men and the world,' he reprimanded his youthful and recently appointed agent in St Petersburg, Heinrich Schliemann, in 1846, 'prattle too much, have too high expectations, and are infatuated with brainless chimeras...Take pains to become a sensible human being, acquire good, unassuming manners, don't dream of Spanish castles in the sky.' But he also was a shrewd judge of character and recognized ability, and his letter to Schliemann finished 'however, since I am confident that you will mature, I will give you another chance.'"

Schliemann was prone to share with others his dreams of finding Troy. I would almost be willing to speculate that such a "Spanish castle in the sky" prompted, in part, the stern letter from J. H. Shroder. As it turned out, Schliemann made his fortune trading indigo, tea, and briefly even the Confederate cotton in which Shroders was so deeply involved. Shroders helped float the cotton bonds that largely financed the South's war effort. In addition, the firm's ownership of a blockade-runner was an early and extremely profitable example of vertical integration.

Heeding Schroders' advice, Schliemann was well positioned to follow his dreams in later life, including his dreams of Troy.

J. Barto Arnold III

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1992 *Schroders: Merchants and Bankers.* McMillan Press, London, p. 33.

Scharf, J. Thomas
1996 *History of the Confederate States Navy.* New York: Gramercy Books (reprint of 1887 edition).

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1991 *Lifeline of the Confederacy: Blockade Running During the Civil War.* Columbia, SC: University of South Carolina Press.

# St. Michael and the Port Royal Weights

C. Wayne Smith, Assistant Professor and
Director of the Archaeological Preservation Research Laboratory

An Institute of Nautical Archaeology team under the leadership of Dr. Donny Hamilton conducted an underwater excavation of Port Royal, Jamaica between 1981 and 1990. Study of the artifacts still continues today and is a rich source of comparative data for historical archaeologists. The catastrophic earthquake that struck Port Royal on the morning of June 7th, 1692, has left a unique site for study. The process of liquefaction turning soil into quicksand during the earthquake allowed many of the brick and wooden structures to sink nearly vertically into the harbor. The range of artifacts encompasses all aspects of everyday life. Many of the items are complete and as such are an abundant source of unique data. The description "when time stood still" certainly encapsulates the situation exposed by the Port Royal excavation.

The lead, bronze, and composite weights that bear ciphers of English trade guilds, stamps of royal ascension, and owners' marks are proving to be extremely important in the reconstruction of everyday life in the late seventeenth century. Two weights from the current assemblage of ninety have been found to be unique. The distinctive weights bear an angel cipher commonly known as the Archangel Michael. The pail weights, so called because of their distinctive shape and their method of construction, stand out by virtue of their iconography. These symbols give us insight into the religious, economic, and political systems used by the monarchical order of the middle and late seventeenth century to unify and standardize weights and measures.

The regulation of metrology was started in earnest by William the Conqueror when he decreed that all weights were to be standardized and marked with his seal throughout his realm. William moved the standards for weights to the crypt of Edward the Confessor at Westminster Abbey, London, an extremely provocative and political maneuver. Private systems of weights and measures were owned and maintained by barons and merchants who made the movement towards a unified weight standard slow and difficult. This gradual adoption of a new system of measures was further influenced and complicated by political, social, and religious issues.

The Archangel Michael was commonly known to Christian, Jewish, and Islamic writers as the Prince of the Heavenly Host. His name means "one who is like God." Michael drove Satan and his angels from heaven and still acts to protect humanity. St. Michael was recognized as Patron Saint of the church, both the living and the dead. Michael was believed to be the angel of death who brought a plague on Israel (2 Sam. 24:16). He was also with Joshua at Jericho (Josh. 5:13). Just as Gabriel appeared to Mary to announce the birth of Jesus, so Michael appeared to her to announce her death. By the seventeenth century, St. Michael had been adopted by the Church of England as the defender of good over evil. He was portrayed as holding a scale in his right hand and sword in his left. This symbol represented the virtues of compassion and victory over evil that the monarchy wished to associate with their rule.

The Archangel Michael was therefore an appropriate symbol to make the people comfortable with the new royal standards of measure. It was important to overcome the prestige of the older baronial standards. Since all the religions in Europe recognized Michael, this made the icon of the Archangel an ideal sign for the royal measures. Figure 1 shows the forces that the monarchy needed to bring together if it was to be successful with its new standards. Accordingly, the Plumbers Guild of London marked the new lead weights with the Michael cipher as well as a dagger to represent the City of London.

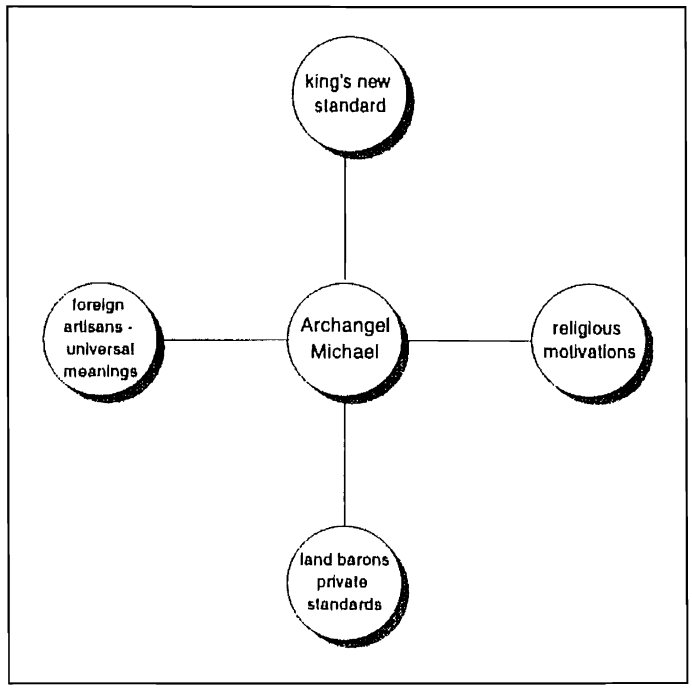


Fig. 1. *Forces essential to the adoption of the new standards.*

### Description of Pail Weights

The two weights recovered at Port Royal (PR 85 102612 and PR 85 102613) were formed by pouring molten lead into a cast iron pail. This pail formed the sides and bottom of the cylindrical weight. A U-shaped iron staple was placed on the top surface of the weight holding an iron ring handle. This handle could be used either for placing the weight onto a pan scale, or for hanging the weight

on a balance beam. The mass of the iron objects was taken into account when measuring the lead to be poured into the mold. After cooling, the lead was trimmed to bring it to the standard weight.

PR 85 102613 measures 8.35 cm across its top surface (fig. 2). Three marks appear on this weight (fig. 3). The first is a sword, probably the dagger of the Guildhall used to indicate an origin in the City of London. The second is a crowned "C," the mark of King Charles I. The third mark is the Archangel Michael, portrayed with his sword and scales. The iron casing of the weight has disintegrated. Its original thickness is indicated by the overhang at the top of the sides. A mold concretion allowed reconstruction of a small section of the iron ring handle, which has otherwise disappeared.

The upper surface is the logical location for both the handle and the seals. Unfortunately, the weight of the iron ring often distorts this surface. This is true of both examples from Port Royal, as can be seen in figure 3. This common phenomenon causes difficulties for researchers.

Photo: INA

Fig. 2. *Pail weight PR 85 1026-13.*

### Physical dimensions

The conserved masses of the two weights are very similar (table 1). Although PR 85 102613 is physically larger than PR 85 102612, both were probably fourteen-pound weights (commonly used during the seventeenth century for measuring wheat flour). This variability in the size of "standard" weights is not uncommon due to differences in the density of the lead and the presence of impurities. These objects were recovered in an area of Building Three that contained storage bottles, un-smoked pipes, and a variety of other weights and scale components. It therefore appears that this room was a vintner's shop and a dispensing area for wheat and flour.

Photo: INA

Fig. 3. *The top surface of pail weight PR 85 1026–13, showing part of the reconstructed staple and iron ring handle, the Michael cipher, the crown "C," and an indentation caused by the iron ring handle.*

### The Michael Figure

Artifacts from the Plumbers' Guild of London use two versions of the Archangel Michael figure. The most common form has the angel holding a sword in his left hand and scales in his right (fig. 3 and 4). This form has been connected to the Plumbers' Guild and the shop of Thomas Overing near the Royal Exchange in Bartholomew Lane, London. The less common form is less detailed, the Archangel has the scales in his left hand, and he does not have a sword (fig. 5) .

The monarchy used the rich religious tradition associated with the Archangel Michael and the familiar iconography of the angel as a means of legitimating its new

Table 1. *Dimensions and markings on the Port Royal pail weights.*

| | **PR85 1026–12** | **PR85 1026–13** |
|---|---|---|
| Weight | 6.1 kilos (13.51 lbs.) | 6.136 kilos (13.53 lbs.) |
| Diameter at Top | 89 mm | 112.0 mm |
| Diameter at Bottom | 111.43 mm | 128.9 mm |
| Marks | crowned "C" | crowned "C" |
| | sword | sword |
| | Archangel Michael | Archangel Michael |

standard of measure. This is reflected in the cipher used by the Worshipful Company of Plumbers of the City of London found on the Port Royal weights. The monarchy and the Plumbers' Guild wisely sought to adopt the well known characteristics of Michael and applied them to their own project. The use of the Archangel symbol supported the royal effort to force local use of the new standards. This movement toward national standardization allowed England to take its place as an important trade partner with every other member of the European community.

Fig. 4 (left). *The most common form of the Michael cipher, found on the Port Royal pail weights.*

Fig. 5 (right). *The less common form of St. Michael.*

Drawings: INA

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# In the Field

### *Tektaş Burnu Excavation to begin*

George Bass plans to begin the excavation in the Turkish Aegean of a shipwreck that sank between 450 and 425 BCE, the Golden Age of Classical Greece (fig. 1). This is when Pericles, Socrates, Thucydides, and their comrades were alive, and the Parthenon was being built. The wreck was found south of Çeşme during a survey headed by Tufan Turanlı in 1996. The assistant director will be Deborah Carlson. In addition to the *Virazon*, the team will be using M/V *Saros*, a hundred-foot research ship, thanks to the help of the Turkish Institute of Nautical Archaeology (TINA) and INA Director Mustafa Koç.

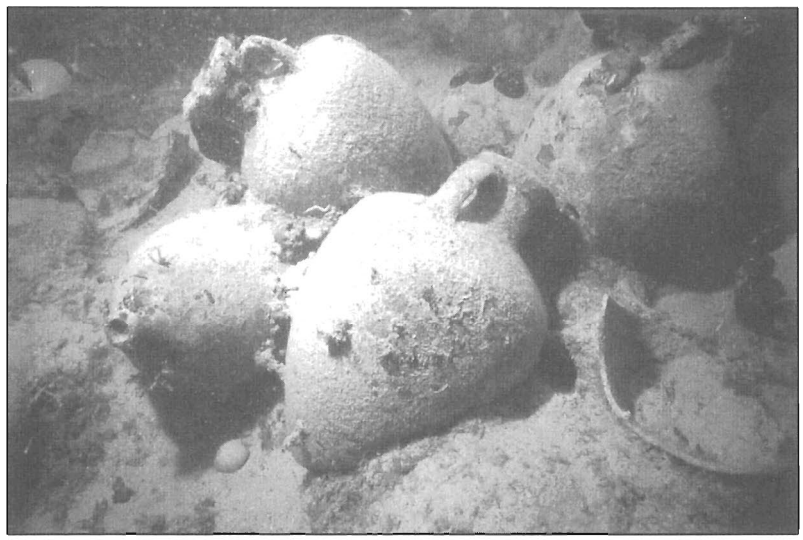


Fig. 1. *Amphoras from the Classical Period wreck at Tektaş Burnu.*

### *Black Sea Trade Project*

INA continues its exploration of the Black Sea this summer when Cheryl Ward and Texas A&M students Kathryn Willis, Ayşe Atauz, and Erkut Arcak join the Black Sea Trade Project based at Sinop, about midway on Turkey's northern coast. George Bass of INA and Robert Ballard of Wood's Hole and the Institute for Exploration signed an agreement to work together on the search for ancient shipwrecks and settlements in 1997 as part of a larger project under the direction of Frederik Hiebert of the University of Pennsylvania.

During July, the crew will use sidescan sonar and a magnetometer to identify targets in the 50-150 m depth range. ROVs carrying video cameras will then check the targets to provide further information about them. A week-long survey run by David Mindell and his students from MIT in June, 1998, resulted in more than 250 "hits," targets that will be checked.

The 1999 season provides the opportunity to collect new data on several likely shipwreck sites, including amphora carriers and at least one heavily armed historic ship. They will also begin testing a novel hypothesis about the flooding of the Black Sea approximately 7,400 years ago. Bill Ryan and Walter Pittman have suggested that a large number of communities existed around the fresh water, glacier-fed lake at that time, but that rising sea levels elsewhere eventually broke through at the Bosphorus and increased the water depth by 150 m within a year or two. This, they suggest is "Noah's flood." Although INA does not expect to find an ark, it does look forward to exploring the anoxic environment of the Black Sea's depths, where a lack of oxygen may foster the preservation of wooden ships and their cargoes.

### *Reconnaissance Expedition to Bulgaria's Black Sea Coast*

In June 1999, Kroum N. Batchvarov will lead a team from INA, working in conjunction with the Varna Museum of Archaeology, in a two-week reconnaissance of Bulgaria's nautical heritage. The team will examine inundated coastal settlements, including an Early Bronze Age settlement at Varna, as well as shipwrecks along the west coast of the Black Sea. This region's rich seafaring tradition and the promise of well-preserved organic remains make this a project with great promise for future work. Participants in the expedition from the INA will be Dr. Frederick Hocker, Dr. John McManamon, and graduate student Troy J. Nowak.

### *Moroccan Survey*

This summer, Brett Phaneuf will be working in Morocco with Athena Trakadas and Stefan Claesson (Nautical Archaeology Program graduates) from May 15 –August 5th. The team will be using INA Director George Robb's sixty foot research vessel *ROBO* for the survey of Tangier Bay, Cap Spartel, and other locations on the Atlantic coast and along the Straits of Gibraltar in Morocco. Mr. Robb will assist, along with his crew.

After finishing in Morocco, the team sails to Sardinia, Italy to work with Battelle Ocean Sciences as part of a resource monitoring campaign. The project will focus on biological, environmental, and cultural resources in the ocean. From Sardinia, the team will travel to Malta for a brief visit.

***Bodrum***

Matthew Harpster, Mr. and Mrs. Ray Siegried II Graduate Fellow, who has been in Turkey for several months, will continue his reseach on the Bozburun hull.

In September 1999, Troy J. Nowak, of Texas A&M University's Nautical Archaeology Program, will travel to Bodrum to begin his research on the construction of the Late Roman shipwreck at Yassıada.

Conservation of Uluburun and Bozburun artifacts will continue over the summer. This project requires constant attention. Throughout the summer, students from various international institutions will visit the Bodrum Conservation Laboratory to assist with ongoing projects. Interested students will obtain valuable experience that will enable them to pursue careers in this research field.

***Florida Coastal Nautical Archaeology Survey Project***

The summer of 1999 will be the inaugural season of the *Florida Coastal Nautical Archaeology Survey Project*. Graduate students Oscar T. Blasingame, Christopher Patlovany, Mark Feulner, and Valerie Buford will spearhead the investigations. They will be joined by graduate students Erich Heinold, Chris Sabick, local science teacher Steven Buchanan, and David McVean.

The project will begin June 1 with work on the Civil War steamer U.S.S. *Narcissus*, located off Mullet Key, Florida (figs. 2–3). Pre-season research has shown that *Narcissus*'s career included participation in the Battles of Mobile Bay and Sabine Pass. Furthermore, it is recorded as the first vessel to have survived a collision with a torpedo (mine).

The focus of the project will then shift to a second wreck off Egmont Key, Florida. The remains are believed to be of *A.A. Rowe*, a fishing schooner built by George Greenman & Co. of Mystic, Connecticut in 1859. The project goals for this vessel are as follows: relocating the site, establishing the identity of the vessel, and determining the feasibility of future investigations. If this is *A. A. Rowe*, it will be the only known remains of a vessel built by the shipyard which is now the site of the famed Mystic Seaport Museum. U.S.S. *Narcissus* and the *A. A. Rowe* will be the thesis topics of Mark Feulner and Christopher Patlovany, respectively.

The summer will also find the project participants in the Florida Keys. They will dive on the wrecks of known historic vessels such as those of the 1733 Spanish Plate Fleet. The purpose of the time in the Keys will be to explore the possibility of future study, introduce the staff to one of Florida's most active maritime regions, and instruct them in underwater photography and videography. In addition, Mason Miller will conduct archival research across the state for information leading to the wreck of a slave ship.

Photo: C. Patlovany

Fig. 2. *Captain Joe MacKenzie and Oscar Blasingame examine a pair of leg irons taken from the wreck of U.S.S.* Narcissus *by sport divers in the late 1970's.*

Fig. 3. *Leg irons from U.S.S.* Narcissus.

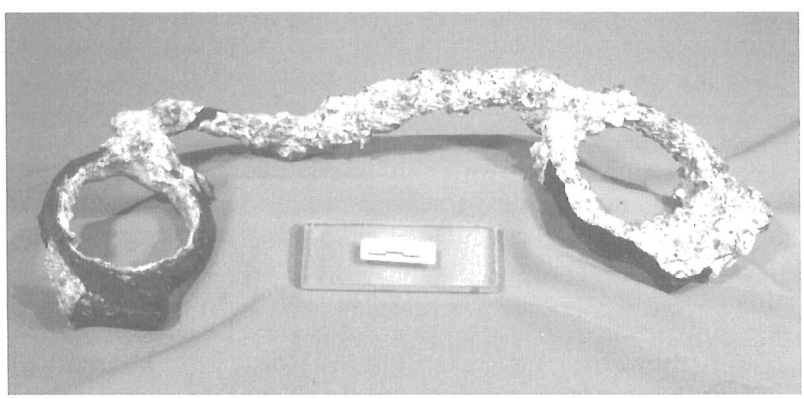
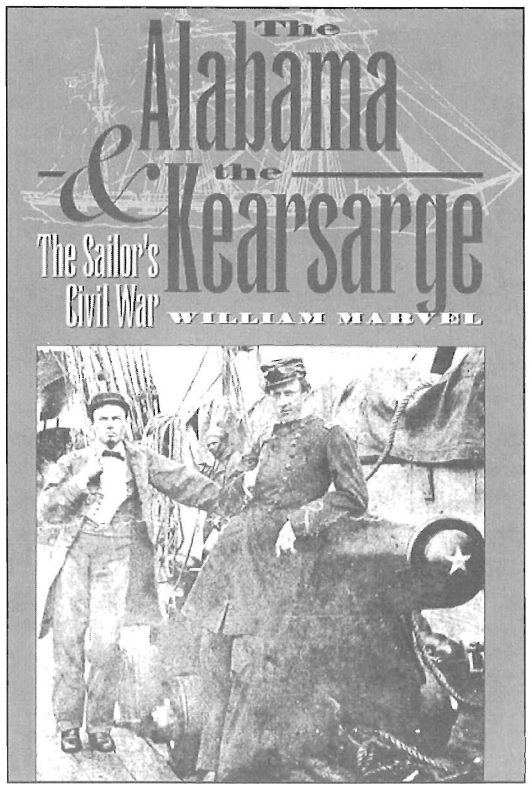


Photo: O. T. Blasingame

# Review

by Mark A. Feulner




*The Alabama and the Kearsarge: The Sailor's Civil War*
By William Marvel
Chapel Hill: University of North Carolina Press, 1996

ISBN: 0–8078–2294–9, x + 337 pages, 19 pages of b/w photographs, 3 maps, appendices, endnotes, bibliography, index, hard cover.

One of the most dramatic naval engagements of the American Civil War was the one between CSS *Alabama* and USS *Kearsarge*. This strategically insignificant battle near the French port of Cherbourg was a widely publicized event that garnered worldwide attention. With the book *The Alabama and the Kearsarge*, author William Marvel chronicles the events that led to this historic confrontation, while giving a colorful view of naval life in the late nineteenth century.

Marvel begins his book by introducing us to Commander Raphael Semmes during his cruise in the commerce raider CSS *Sumter*. The author then follows the events that led to the launching of *Alabama* from the Laird shipyard at Birkenhead (where *Denbigh* was built) and that placed Semmes in command. In a parallel narrative, Marvel relates the construction of the Union warship *Kearsarge* and the difficulties in putting her to sea. He then closely follows the stories of these two vessels as they converge, with the inglorious monotony of the Union vessel's voyage serving as counterpoint to the successful cruise of the Confederate commerce raider.

However, Marvel does not limit his book to merely recounting the roles that these two ships played in the Civil War. He also provides the reader with a vivid depiction of life at sea for those who served in the Union and Confederate navies. Marvel achieves this through the use of personal diaries, letters, and other surviving documents written by the sailors who served aboard the two vessels.

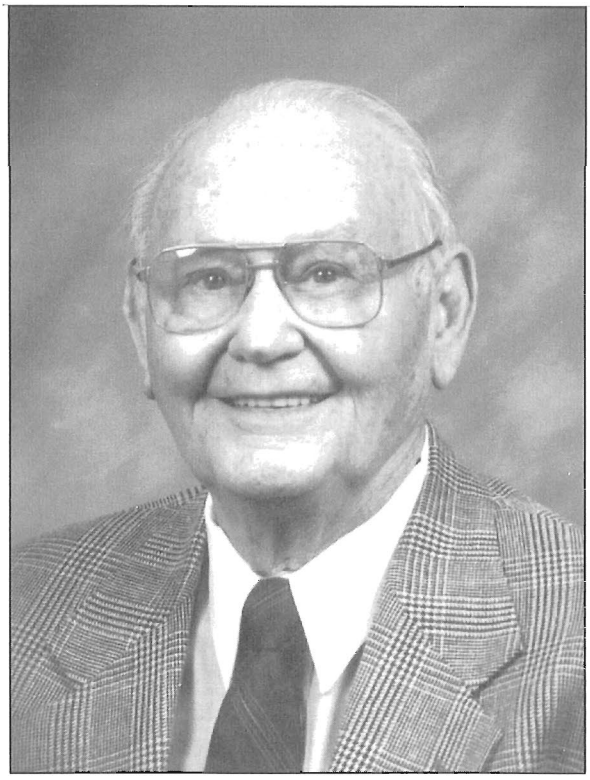
*The Alabama and the Kearsarge* is a well-written and enjoyable book. Marvel combines the showmanship of a storyteller with the attentiveness of a historian to bring this dramatic tale to life. Utilizing official reports, ships' logs, newspaper articles, and other first-hand accounts, the author weaves a colorful story based on events as eyewitnesses described them. Marvel is very thorough in his treatment, leaving out few details. He even dedicates an appendix to address a controversy over who gave *Kearsarge* her name, as well as another that lists the crewmen who served aboard each vessel. The maps presented within the text are wonderful aids to visualizing events. A glossary defines the naval terminology and a thorough index allows rapid access to specific items of information. Marvel further enhances his book by including significant photographs and sketches, as well as quoting nautical literature at the beginning of each chapter. One glaring omission is the author's disappointing failure to tell what became of USS *Kearsarge* after her triumphant return to Boston.

Still, Marvel provides an excellent chronicle of this event, telling not just the story of these ships, but also describing the courage and discipline needed to sail them. The battle between *Kearsarge* and *Alabama* was a turning point in naval history, since it was one of the last fought between wooden ships manned by iron men. By the twentieth century, navies around the world would be deploying great steel battleships to wage war at sea, and the age of wooden warships would end.

*Corrections:* In Vol 25.4 the cover photograph caption incorrectly identified the diver, who was actually Robin Piercy. On page 22, Glen Grieco was incorrectly identified as "Greg."

# IN MEMORIAM

## Charles Olin McWhirter



With sadness we note the passing on 21 August 1999 of former INA Director Charles McWhirter. Charlie, as we in INA better knew him, was born on 4 May 1920 in Greenville, Texas, and was a member of the Class of '42 at Texas A&M University. After serving in the U.S. Coast Guard during World War II, Charlie joined the General Electric Company as a sales executive in Dallas, and stayed with GE for 32 years. A loyal Aggie, he supported his University by helping with scholarships, and by contributing to the George Bush Presidential Library and the Cadet Corps. We in INA first got to know Charlie when he and his wife, Marjorie, came to Turkey with George and Sara Yamini and Bob and JoAnn Walker, whose names are well known to everyone in INA. He liked what he saw, and served on the INA Board for several years as a strong supporter, always ready to tell others about our work. In return, I found new friends, and always enjoyed being with him and Marge, whether at an INA function or a football game, impressed by his ability to cut directly through extraneous matters to get right to the heart of any issue I presented him with...for I did seek and respect his advice. Charlie had a son graduate from Texas A&M University, and a grandson is currently here majoring in Architecture.

George Bass

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