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The Submarine *H. L. Hunley*

Confederate Innovation and Southern Icon

ON A CRISP, CLOUDLESS SUNDOWN in mid-February 1864, a long, thin, iron watercraft cleared Breach Inlet, South Carolina, and entered the open sea.* Less than three miles dead ahead lay its objective, the Union sloop-of-war USS *Housatonic,* at anchor, but with a full head of steam. On board, the *Housatonic*'s crew was alert, keeping an eye out for a rumored Confederate torpedo boat seeking targets among the Union fleet blockading Charleston. In fact, the iron vessel bearing down on them was the *H. L. Hunley,* a true submarine and a glimmering example of the South's innovative attempts to overcome the might of the Federal navy.

About nine that evening, months of experimentation, failure, and re-experimentation came to an end. Yankee sailors aboard the *Housatonic* spotted the approaching dark shape some yards away and, while blazing away with rifles and pistols, attempted to bring to bear their larger guns. With the *Housatonic*'s confused crew watching, the *Hunley* rammed its spar-mounted torpedo into the Union ship's side and backed away. There was a jarring explosion. The *Housatonic* quickly rolled to port and settled in 30 feet of water, its men seeking safety in the rigging. The era of submarine warfare had begun. The *Hunley* was the first submarine to sink an enemy vessel in combat (Kloeppel 1992:59–81; Ragan 1995:132–140: Schafer 1996:113–125). But for what would eventually become a weapon of shock and deadly efficiency in World Wars I and II, it was an unassuming dawn, for the *Hunley* failed to return to port (Ragan 1995:141).

The mystery of the *Hunley*'s fate has been the subject of debate by military historians, wreck salvors, and professional archaeologists practically since its

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loss. In early May 1995 the *Hunley* controversy radically changed when the submarine was discovered (Hall and Wilbanks 1995). Overnight, dispute concerning the *Hunley*'s fate was secondary to quarrels respecting its discovery, ownership, and future. These wrangles soon broadened to higher philosophical questions of states' rights and, ultimately, the vessel's ideological meaning. Now the *Hunley* is serious business, embroiling private citizens and citizens' groups, state governments, the U.S. Congress, the U.S. Navy, the media, and the literary elite in a struggle for control over its destiny and especially its meaning. Although its archaeological significance is first on everyone's lips, it often seems from the clamor, alas, to be last in the struggle for its control. This essay examines the *Hunley*'s past as a unique example of Confederate innovation, its discovery and recent assessment by the National Park Service and the South Carolina Institute of Archaeology and Anthropology, and its future as an icon of Southern culture. The *Hunley* is no mere historic underwater artifact, and its multilayered symbolism continues to grow as government agencies attempt to raise and display it.

Confederate Innovation

In creating an entirely new navy to challenge the Union, Confederate secretary of the navy Stephen Russell Mallory faced a daunting and ultimately insurmountable task. The South was rural and agrarian, while the North had a strong industrial infrastructure. Although there was a "Southern industry," it served the agricultural community and hardly could be described as diverse. In terms of capital alone, Northern industrial investment was nearly eight times as large as the South's (Genovese 1965; Luraghi 1996:34). Among Mallory's immediate industrial needs were shipyards. At the beginning of the war, the U.S. Navy had eight shipyards, while the Confederacy had captured only a small yard in Pensacola, Florida, and the prominent yard in Norfolk, Virginia. Both sides had numerous small private yards, but, overall, the South was decidedly at a disadvantage. Indeed, the South had no navy to begin with, while the U.S. fleet was 90 strong; and if most Federal vessels were old and aging, a few were among the most modern steamers in the world. The rest could be repaired or at least used as floating batteries (Luraghi 1996:32). In his classic study of the Confederate navy, French admiral Lepotier summed up the situation by noting that the Civil War was probably the only occasion in history when, as two ocean-facing nations prepared for conflict, one had total dominion of the seas (Luraghi 1996:61).

Essentially, Mallory had to build a navy from the keel up, while the North only had to rig for war. The Confederacy faced numerous challenges, but four stand out as decisive. The first was a decided lack of raw materials. Specifically, the South lacked pig iron. William Still has stated that it "is nearly impossible to exaggerate the effect of iron production on the entire Confederate war effort" (Still 1987:47). Lacking both iron reserves and iron ore at the beginning of the war, the Confederacy could not even get started building an iron fleet. Second, while the South had abundant timber for wooden ship construction, there was no way to get the timber to its naval yards. Its transportation infrastructure was wholly inadequate—there were only a few railroads and dirt roads—and there was no means for rapid improvement of the situation. The critical demand for iron actually worked against the need to build up the transportation system as operational railroads were raided for their iron rails to construct armored

vessels (Still 1987:50–510). The third critical need was skilled labor. The South had genius at the level of invention, but invention has to be engineered and such skills were scarce south of the Mason-Dixon Line. As Confederate naval historian Raimondo Luraghi noted, the South's lack of mechanics, technicians, and engineers—or the existence of a true industrial machine—was the basic reason for the South's defeat (Luraghi 1996:346). Finally, the Confederacy lacked time. The time to build a transportation system, cut timber, forge iron, and construct a Confederate navy was simply not available (Still 1987:80–81).

Mallory did his best to meet these challenges. As he worked desperately to build a navy, he looked for any advantage. There were a few. First, there was hope that the Confederacy could purchase part of its navy from European powers. Second, there were its timber resources, both wood and resin products such as tar and pitch. If it could get these resources to its naval yards, wooden ship production could be sustained. Third was private investment. Southern patriotic fervor and the possibility of profit motivated Southern venture capitalists to invest in privateering and blockade running. The former was largely ineffective, the latter quite successful (Wise 1988). The Confederacy primed this investment fever with loans, giving the government some control over the required new industries and what they would produce (Luraghi 1996:39). Most critically, private investment provided the Confederacy with the fuel to sail its one ship of hope—the hope of technical innovation. Free from bureaucratic restraints faced by the Federal navy (Wills 1998:23) and spurred by men of genius, Mallory looked to novel technological inventions to float the Confederate navy.

Mallory's initial vision was "based on a four-fold technical surprise: armored ships, rifled naval guns, commerce destroying, and submarine weapons" (Luraghi 1996:69). It is important to understand that reliance on technical innovation was not simply a side issue in Mallory's overall strategy; rather, it was at its core. Mallory was well versed in the recent progress in maritime technology and, according to one contemporary, was responsible for the initiation of Confederate submarine warfare (Luraghi 1996:236). "To hold that this evolution influenced his strategy understates the case. In reality, technology affected Confederate naval strategy in its very bases and ground rules, in the cardinal point upon which the talented secretary built it: technology would be the tool that appeared to offer a breath of hope in facing a war that otherwise would be hopeless or lost before it began" (Luraghi 1996:61).

Although submarine weapons were one of Mallory's fourfold elements in his hope of technical surprise, his intentions lay with the development of torpedoes (or mines, as we call them today) rather than with submersible boats. Clearly, Southern innovation is no better illustrated than in its development of torpedo warfare, through which these examples of "Rebel barbarity" were forged into a "formidable strategy" (Schafer 1996:3,180). Even when they didn't cause havoc with vessel destruction, they caused the Union fleets to proceed with caution. In the end, torpedoes were remarkably successful, causing more destruction to Union vessels than did Confederate warships (Schafer 1996:12). But mines are largely passive instruments, drifting ambuscades. To wrest control of the seas, the Confederacy had to take the offensive, and this meant either self-propelled torpedoes in the modern sense or the delivery of the torpedo by a submersible vessel. The Confederacy worked to develop both.

The Union made the first attempt at a submarine, and although it developed the famed submersible the Intelligent Whale, Northern submarine development was thwarted by an indifference to underwater warfare induced by its domination of the surface (Luraghi 1996:251). Submarines were left to the South, and the South went at it at the Tredegar Iron Works in Richmond, Virginia, the Leed's Foundry in New Orleans, Louisiana, the Park and Lyon's Machine Shops in Mobile, Alabama, and the Confederate naval facilities at Selma, Alabama (Wills 1998:24).

The *Hunley* was the product of two earlier prototypes, the *Pioneer* and the *American Diver,* built by a team of machinists and businessmen who began their efforts at Leed's Yard in New Orleans, perhaps as early as August 1861. The machinists were Baxter Watson and James McClintock. These practical men were joined by entrepreneurs Horace L. Hunley, John K. Scott, Robert Ruffin Barrow, and Henry J. Leovy. The core of this group was McClintock and Hunley. They kept the dream of a fully submersible submarine alive after numerous failures. Their first attempt, the *Pioneer,* was made of quarter-inch iron plate, about 34 ft long, 4 ft at the beam, and 4 ft in depth. Shaped somewhat like a cigar, the main body, where four men propelled the vessel with a hand crank, was about 10 ft in length. From this 10-ft central section the vessel tapered to a conical bow and stern (Ragan 1995:20). The *Pioneer* gained notoriety and a Letter of Marque by successfully sinking a schooner and two target barges using a towed torpedo in Lake Pontchartrain in February 1862 (Wills 1998:24). Its potentially deadly future was cut short when New Orleans fell to the North and the vessel had to be abandoned. McClintock, Watson, and Hunley made their way to Mobile, Alabama. At Thomas Park and Thomas Lyons's machine shop, they met Lieutenant William Alexander, who was instructed by the Confederate army to assist them in their next venture.

The second effort at a submersible was funded entirely by Horace Hunley. Using the success of the *Pioneer* as a starting point, the machinist innovators experimented with the propulsion system in the form of, amazingly, an electromagnetic engine. Though this engine did not work, it gives us a measure of their advanced thinking (Ragan 1995:22). Next they tried steam. Historian Mark Ragan points out that although many others criticized their attempts at steam propulsion in a submersible craft, these machinists were steam-gauge manufactures by civilian trade and must have known something about their chances of success. Though their steam-propulsion effort failed, they were eventually vindicated by the French, who successfully operated a steam submarine after the Civil War (Ragan 1995:24). Finally, the team settled on a hand-cranked propeller turned by four men. The vessel, known as either *Pioneer II* or the *American Diver,* was about 36–40 ft in length, 3.5 ft in the beam and 4 ft in depth (Wills 1998:25). This vessel had two major problems. First, four men could not crank hard enough to gain sufficient speed to maneuver against an enemy vessel. Second, its armament consisted of a towed torpedo similar to that of the *Pioneer.* The sub had to dive under an enemy vessel, its crew hoping that the towed torpedo would hit its victim. Before the inventors could find solutions to these problems, the *Pioneer* sunk in Mobile Bay and could not be recovered.

Undaunted (or at least only slightly daunted), the team looked for more funds for another attempt. At this time, Mobile, Alabama, saw the formation

of a group of entrepreneurs seeking to take advantage of the Confederate government's offer of 50 percent of the value of all Federal vessels destroyed to the privateers who sank the vessels. The leader of this group was E. C. Singer, whose uncle was the inventor of the Singer sewing machine and who himself was the innovator of the Singer underwater contact mine (Ragan 1995:26). The Singer Submarine Corps invested in the McClintock team's next adventure, with Hunley once again adding funds. The new vessel would eventually be named after its financier and champion, Horace Hunley.

Historical sources regarding the *Hunley*'s design are vague, but from what is known, it was the next logical step in the designs used previously but incorporated new innovations based on experiences with the two prototypes. Memories of the *Hunley* indicate that it was from 30 to 40 ft in length, between 4 and 3.5 ft at the beam, and between 4 and 5 ft in depth (Wills 1998:29). The 1996 assessment expedition found that it is 39 ft, 5 in, in length; 3 ft, 10 in, at the beam; and 4 ft, 3 in, in depth. Unlike the previous two subs, the *Hunley* was built from a cylindrical steam boiler rather than plate metal. The inventors cut the boiler longitudinally, inserting two 12-in boiler-iron strips in her sides. Both bow and stern tapered smoothly to wedge-shaped ends. Near each end, a bulkhead formed water-ballast tanks to raise and sink the vessel. The tanks operated by opening seacocks that flooded them for diving. A force pump ejected the water for surfacing. Movement up and down was performed by lateral diving planes, which pivoted like airplane flaps to direct the submerged vessel.

Propulsion, still a problem, was partially solved by a larger crew of eight, who still hand-cranked an ordinary propeller. Men sat on the port side and cranked the shaft bracketed to the opposite wall. There was so little room inside that it was impossible to pass from fore to aft, so half the crew entered from a forward hatch and the other half from the rear. Outside, the propeller connection to the shaft was guarded by a wrought-iron ring. The commander sat in the forward hatch, navigated using a compass, controlled the diving planes and rudder, and watched a mercury gauge that gave some general indication of depth below the surface. Just behind the fore hatch was a snorkel box, to allow some air from the surface while running submerged (Ragan 1995:26).

The team initially experimented with a towed torpedo, as this system had been somewhat successful in Mobile Bay. But in rough waters the torpedo became as dangerous to the *Hunley* as it was to its prey, so a new system was devised. Exactly how the new system worked is not known. A boom with a socket torpedo was used, however, and attached somewhere on the bow (Wills 1998:30). With this configuration, the *Hunley* would ram, securing the torpedo in its victim, and then back away. The attached torpedo was detonated by a lanyard.

The shallow waters of Mobile Bay were less than ideal hunting grounds for the *Hunley* and permission was secured to move the vessel to Charleston, where Confederate general Pierre Gustave Toutant Beauregard welcomed its arrival on August 12, 1863 (Ragan 1995:35). At Charleston it underwent further testing. The history of the *Hunley* in Charleston is as fascinating and incredible as any human adventure. Twice during trials the vessel sunk. In the first instance, five crew members were lost, and the second claimed the life of Horace Hunley and many of the experienced mechanics who had been with the team in Mobile (Wills 1998:32). Since by this time the Confederate army had full control of the *Hunley,*

the new team was led by Lieutenant George Dixon, who would command the *Hunley* on its historic mission. Under Dixon's command, a new crew began a rigorous training program on Sullivan's Island, South Carolina, which was in fact the first submariner's school in the world (Luraghi 1996:256). The crew endured a physical training regime and long hours in the sub. Once, the crew survived a 2-hour-and-25-minute submersion at the bottom of Back Bay, South Carolina (Ragan 1995:120–122). By December 1863 they were ready, and General Beauregard issued orders for them to begin operations against the Federal fleet.

Discovery

Exactly what happened that night of February 17, 1864, is clouded in speculation as documentary sources are contradictory, most being later reminiscences rather than contemporary records. The sheer genius of this vessel continues to be better appreciated as historians and archaeologists search tenaciously for new documents. The murky interpretations resulting from these documents could be clarified by the incontrovertible facts of archaeological excavation, as the *Hunley* has been found.

In May 1995 the *Hunley* was discovered, but controversy will probably continue as long as it exists. Several groups and individuals searched for the *Hunley* after its loss. The Union fleet dragged for it during the war while assessing the damage to the *Housatonic* (Ragan 1995:156). Again in 1872 and 1873, the U.S. government searched the area. Exactly who was the first in modern times to search for and discover the *Hunley* is one of many controversial issues that continue to be debated. One individual claims to have found it and/or the *Housatonic* in 1970 and filed for their discovery in Federal court (Ragan 1995:204–203). Another claims to have started his search in 1974 (*Hunley* Project web page 1997). Fiction author Clive Cussler and the South Carolina Institute of Archaeology and Anthropology (SCIAA) jointly and unsuccessfully searched for it in 1980–1981 and again in 1994. This set the stage for its confirmed discovery in 1995 by the National Underwater and Marine Agency (NUMA), Cussler's nonprofit foundation, which searches for shipwrecks (Hall and Wilbanks 1996). Inevitably, with such intense interest by salvors, archaeologists, and adventurers, the sensational underwater discovery soon created a storm of charges and countercharges, which the media happily devoured.

During these exchanges, the SCIAA, the state agency responsible for South Carolina's underwater antiquities, was a highly visible target of much of the acrimony. Although often frustrating and sometimes amusing for its staff, the professional and legal responsibilities that kept the institute from entering the fray were played out in the press, on the Internet, and in various popular publications. The archaeological community was not always unaffected by this rancor either. In the confusing days immediately after the discovery, the institute attempted to organize a committee of experts into a "*Hunley* Project Working Group," its duties being to advise the institute regarding the vessel's protection and preservation. While some colleagues were genuinely concerned with the *Hunley* and were enthusiastic and helpful, others were hesitant and dissembling when asked to join the group. It was obvious that they did not wish to commit themselves until it was clear where the institute would emerge in the perceived political power struggle among various public and private factions.

Frankly, the SCIAA was momentarily caught flatfooted by the worldwide attention resulting from the announcement and the deep rancor developing among the various parties competing for discovery credit. The initial and immediate problem was determining legal responsibility, and that depended on the vessel's location, which was not known because Cussler refused to turn over coordinates to the institute. If the vessel was located in state waters as suspected, the underfunded institute was now the manager of what the media were calling the nation's most important underwater find of the decade, a find demanding the utmost in continual protection from rediscovery by looters.

To the institute at least, their responsibilities were clear, if widely misunderstood. Under national antiquity law, the vessel belonged to the U.S. government, specifically the General Services Administration. The Abandoned Shipwreck Act and the National Historic Preservation Act placed local responsibility with the State Historic Preservation Office (SHPO). In South Carolina, active management of underwater resources rested at that time with the institute, with SHPO oversight and cooperation as defined by the state's underwater act and a memorandum of agreement between the SHPO and the institute. Immediately after the announced discovery, the institute contacted the Naval Historical Center and began a collegial dialogue, including development of a draft memorandum for the vessel's security and possible recovery. Informed of the pending agreement, South Carolina's attorney general ordered the institute to cease negotiations with the navy and also cease any further discussions with Cussler. Only 10 days after the discovery, state representatives introduced a concurrent resolution in the state legislature to create the South Carolina *Hunley* Commission, which would seek state ownership from the federal government and—critically for the institute—the commission was to become the ultimate state authority over the *Hunley.* When the bill passed later that month, it left both the institute and the State Historic Preservation Office in a perplexing situation. Did a state resolution legally absolve state agencies with federal oversight of their federal preservation responsibilities? Amid this great excitement and rapidly changing events, the subtle changes in authority were not clear to the stimulated public and concerned professional colleagues, who demanded action from the institute. Despite demands, all through the following year the commission's authority solidified, and the institute's duties became clearly defined when the state attorney general issued an informal opinion that the institute's role was *only* that which it was assigned by the commission (Cook 1996).

Throughout 1995 and into 1996, interest in the future of the *Hunley* continued to intensify. The state commission, with the assistance of South Carolina's national congressional representatives, vigorously sought ownership, and bills were introduced in the U.S. House and Senate to convey title to the state. Representatives from Alabama also sought to have the vessel displayed, when eventually raised, in Mobile (Neyland and Amer 1998:8). As federal interests were arranged, the Naval Historical Center became the lead organization acting on behalf of the General Services Administration. Naturally, they sought advice from an oversight committee consisting of the Advisory Council for Historic Preservation, the National Park Service, the National Oceanic and Atmospheric Administration, and the Smithsonian. Although the summer of 1995 saw negotiations breaking down between South Carolina and the federal government, the

fall brought increased cooperation. In October, Cussler released the coordinates of his find to the Naval Historical Center.

With the location now known, in November 1995 the Commission and the Naval Historical Center decided to jointly oversee an expedition to verify the discovery and assess the vessel's condition. This project was jointly led by the institute on behalf of the state commission and the Submerged Cultural Resources Unit of the National Park Service on behalf of the federal government. One year after its discovery, the institute and the Park Service made the first scientific assessment of it (Murphy et al. 1998). The expedition partially uncovered the *Hunley,* providing an initial look at this long-sought artifact. One important finding was recognition of its advanced hydrodynamic design. Drawings of the *Hunley* indicated a rather blocky, blunt, crude design, but the expedition revealed a sleek, thin, tubular vessel designed for submerged running. Hatch portholes were found only on the port side and deadlights ran along the top between the hatches. The only damage seen was to the forward hatch; a hole was found where there should have been a forward-facing viewport. The ragged hole adds fuel to the continuing debate about the *Hunley*'s demise.

Cooperation between the National Park Service and the institute in the field, with joint oversight by the state commission and the U.S. Navy, resulted in a successful expedition in spite of intense media scrutiny and vocal naysayers. This effort went a long way toward ironing out misunderstandings between federal and state interests. Eventually, in August 1996 the commission and the navy signed a Programmatic Memorandum of Agreement (PMOA), giving title to the federal government, while the state had control over the *Hunley*'s fate, including its future interpretation (Memorandum 1996). The final PMOA was remarkably similar in overall content to that initially drafted by the institute and the navy.

Confederate Icon

Control of the *Hunley*'s future now rests in the hands of South Carolina's *Hunley* Commission and the federal government's Naval Historical Center. These two agencies, but especially the commission, exert a powerful control over the vessel's recovery, conservation, and display. The navy's mission is clear—to make sure that recovery and conservation are done correctly. The commission shares that responsibility and desire, but it has another concern that goes far beyond the *Hunley* as an archaeological artifact. Indeed, the controversy surrounding the *Hunley*'s discovery and the commission's actions must be understood in a much broader sense. The *Hunley* is no mere sensational archaeological find. Yes, it is a unique example of military engineering and an invaluable artifact of naval history and military technology. It is apparently in excellent condition—literally a time capsule encased in shell and sand—and our knowledge of submarine history will be greatly enhanced by its conservation and display. These facts alone make it a national treasure. But while significant, these facts may be secondary to its meaning to the modern South and the struggle for the *Hunley*'s interpretation. This struggle will bring to practical application all realms of political and philosophical discourse concerning who owns and who controls the past, since the *Hunley* may become the new icon of southern heritage.

The historiography of Southern history is as fascinating as the history of the South. Through each generation, historians of the South have sought to define

and explain southern history and, by extension, its ultimate expression in the Confederacy. The question of how we interpret the South and the interrelated question of how we interpret the Civil War have been at the core of historical scholarship since 1865. The changing responses to these questions go far in defining each succeeding generation (Pressly 1965). Even the appellations used for the war of 1861–1865 are demonstrative of these changing meanings. The war of the rebellion, the War between the States, the needless war, the irrepressible war, and now, most often, the Civil War—all these epithets offer sometimes subtle but more often distinctly different interpretations of the "late unpleasantness." Today it is safe to say that the dominant paradigm, in academia at least, emphasizes the issues of slavery and race. Today the Civil War is interpreted as the war to end slavery, a perspective supported by noted historians such as James McPherson, Richard H. Sewell, David M. Potter, and William J. Copper (Toplin 1996:29). Indeed, regardless of initial causes, it cannot be debated that from the moment of Lincoln's Emancipation Proclamation, the war became the war to end slavery in America (Smith 1994:5). This perspective was not always dominant but gained strength as the civil rights movement informed political and social change beginning in the 1950s. Today in academia, the slavery issue and the African American experience are manifest in almost all aspects of historical and social study disciplines. In archaeology this focus is expressed in studies of slave life, plantations, and the whole issue now being labeled as the African Diaspora (see McDavid and Babson 1997). Based on paper and symposium titles from the 1998 Society for Historical Archaeology annual meeting, for instance, 85 of the 396 papers presented, or 21 percent, dealt with African Americans, Diaspora, race, or slavery. The effect of this focus is, naturally, a decided avoidance of any aspects defined as traditional Southern culture, and of things Confederate. Back in 1969, Frank E. Vandiver wrote, "Currently the tide of historical interpretation is running against the Confederacy," pointing to scholars' avoidance of defending the Confederacy and especially its position on the institution of slavery. Vandiver added that "even Southern historians have shied away from a positive approach" (Vandiver 1969:148). Certainly this is even more apropos today.

Today academe seeks to project its paradigms into the public arena. Regarding the current paradigm, it does so by revising educational materials, by controlling government-sponsored research through revision of the requirements of grants-in-aid, by revising national historical contexts, and by revising the focus of federal and state park battlefield interpretation. Curiously, while there are numerous examples of academe's success, there is also a public countermovement diverging from academe's interpretations of the past. The war, as Shelby Foote has so well stated, is for Americans at "the crossroads of our being" (Cullen 1995:2), and with its multilayered complexity, it is difficult for the public's interest to be completely channeled. Spurred by Ken Burns's monumental film, public interest in the Civil War is at a peak not seen since the centennial. This interest seems—at least in South Carolina and, I would venture, throughout the South—focused on the war itself rather than on its ideological causes and effects. Contrary to academe, this perspective largely avoids divisive racial issues. Public interest is focused on the fate of the common man, both black and white, during the Civil War. The most visible manifestation of this interest is the rapid

growth of black and white reenactor organizations. It is heartening to see black and white men and women work side by side to preserve a "memory" of the war that acknowledges but does not exploit or focus on the race issue. This public does not deny slavery or the horrors of racism but rather appears to want to focus on understanding what happened to *people,* not their underlying hatreds. The result is a healing and an interaction worthy of encouragement. There are other manifestations of this movement that can be easily gleaned on the Internet from an increasing number of institutions focusing on the Civil War, such as the United States Civil War center at Louisiana State University, which proclaims a "pro-truth, anti-agenda" philosophy (http://www.cwc.lsu.edu). Further, Civil War magazines, roundtables, and discussion groups are stronger than ever. This renewed interest has also strengthened an undercurrent of renewed defense of southern cultural traditions, again both black and white, and within the latter, strongly figures the Confederate traditions of honor and chivalry. Evidence of this is seen in the sustaining of Southern fraternal organizations such as the Sons and Daughters of Confederate Veterans.

Public interest in the war and its military aspects also runs counter to academe's growing bias against military history. The study of military history has "always been something of a pariah in U.S. Universities," and it faces an increasingly "hostile environment" (Lynn 1997:777–778). From a peak around 1970, interest in academic military history continues to drop, and "two major universities—Michigan and Wisconsin—have recently virtually abandoned the field" (Coffman 1997:775). This attitude "ignore[s] a literate lay audience that consistently has manifested an interest in the Civil War" (Gallagher 1996:42). Yet military aspects of the war (especially in the experiences of the common soldier) continue to attract the public, and again the interest extends into studies of the Confederate army. It would be wrong to state that this interest is totally ignored by universities. University presses today actively compete for and publish new works on the Civil War, especially diaries and war reminiscences. But when the Confederacy is discussed, it is usually about its military aspects. Also, as often as not, the authors of these works are outside academe. Regardless of source, these books are rapidly and avidly purchased by the public. It is virtually impossible to keep up with the literature as one pursues specialty book catalogs. Recent works on the *Hunley* or works including chapters on the *Hunley* are perfect examples of this trend (Campbell 1996; Kloeppel 1992; Ragan 1995; Schafer 1996).

It is within this context of divergent interests that the *Hunley*'s interpretation will be debated and its iconography will be established in the future, for the *Hunley* has been found at a unique period in South Carolina's history. It is widely known that South Carolina has the distinction of flying the Confederate battle flag over its statehouse. The public—stirred by media, politicians, and academics—is increasingly divided about its symbolism and meaning, some seeing it as a symbol of racism, others seeing it as a symbol honoring Confederate dead. The pro-flag forces, many of whom are active in Civil War reenactments, are decidedly in the minority and at a disadvantage on this ideological battlefield. Tagged with a flag whose former noble symbolism has been superseded by a history of Jim Crow and KKK hatred, the flag came down in July 2000. In war, the battleground must be chosen to one's advantage, and this battleground is an indefensible position.

Upon this scene of tension and ideological conflict comes the *Hunley.* The *Hunley* represents some of the few positive aspects of the Confederacy that can be proudly touted in a world dominated by a growing dogmatic, decidedly anti-Confederate, intelligentsia. The *Hunley* represents the underdog against a formidable foe. It represents Confederate innovation and invention. It represents youthful independent American ingenuity against the old-established order of Northeastern industrialism. Indeed, it *is* a shining example of human bravery in the face of overwhelming odds. No matter what one's ideological stripe, one has to stand in awe of the courage it took to enter a tiny 3-ft-10-in-by-4-ft iron tube—a tube that had already cost the lives of at least 13 people—and sail out on an open sea with little hope of return. The *Hunley* is an icon of the Confederacy that the battle flag can no longer be. Those defending the flag, the South, and the Confederacy need the *Hunley.* The *Hunley* Commission, made up mostly of Sons of Confederate Veterans, understands its importance. For this reason, they have repeatedly made it clear that they want total control over the interpretive displays for the *Hunley.* What they fear most is a Smithsonian revision of the Confederacy reminiscent of recent controversies surrounding the *Enola Gay* display (Harwit 1996; Minutes, October 11, South Carolina *Hunley* Commission).

The *Hunley*'s iconography is much broader than Confederate innovation and bravery, and includes just about all aspects of Confederate dialectic. Foremost is the issue of states' rights. During the yearlong negotiations with the federal government, this issue was at the heart of negotiations over the question of *Hunley* ownership. At one point, a commission member stated in a semiserious tone that South Carolina had once before gone to war over the issue, and would do so again. Although the senator's statement was taken as the humorous *bon mot* that was intended, the senator was wrong. South Carolina twice has gone to "war" over the issue. The second time was in April 1961 during the commemoration of the Civil War centennial at Fort Sumter in Charleston, South Carolina. The U.S. Civil War Centennial Commission, established by Congress, arranged a ceremony at Fort Sumter. Among the "national assembly" was an African American representative from New Jersey, who reported that she was denied a room at a Charleston hotel. State commissions from several Northern states said they would not take part in the ceremonies in protest of this treatment, and the president of the United States announced that the ceremonies would take place at the nonsegregated U.S. Naval Yard. On cue, the South Carolina Centennial Commission seceded from the national commission, and Charleston became the host of two centennial meetings (Pressly 1964:8). With regard to the *Hunley,* it is extremely doubtful that South Carolina would actually secede. It was clear from the negotiations, however, that the situation was serious, and both U.S. senators and at least one U.S. representative worked behind the scenes to ensure that the state and the commission became a full partner with the Naval Historical Center in shaping the *Hunley*'s future.

Beyond states' rights and Confederate symbols, the *Hunley* will continue to swirl in controversial waters. As this is being written, archaeologists working for the commission and the navy are diving on the 6.67-ton *Hunley* in preparation for its raising. By the time this essay is read, the *Hunley* may be in its conservation tank, awash in a mixture of chemicals designed to preserve it forever. If so, the commission and the navy are to be congratulated. They would be the first

to raise a whole Civil War vessel successfully, and their efforts would go a long way toward erasing the memory of the broken *Cairo,* a gunboat that collapsed during its raising from the Mississippi River (Bearss 1980). Another issue is the *Hunley*'s contents. It is possible that it contains not only valuable archaeological information but also human remains. The *Hunley* is a war grave. Reburial and repatriation concerns have not been at the forefront of the debate, but they are an undercurrent that could add to the tension surrounding the vessel's future.

Still another problem will be keeping public interest in the project while conservation drags on. The conservation process is estimated to take up to ten years. This brings us back to the control of the *Hunley*'s meaning. Can the commission keep the *Hunley*'s iconography alive long enough for its second raising—the one that will take it out of the conservation tank and to the display room? Will they be able to control its interpretation in a world increasingly hostile to all things Confederate? What is the future of Confederate history? Luraghi, in his exhaustive study of the Confederate navy, concluded that "the Confederates showed an outstanding sagacity not only in creating new war tools but in using them in exceptional and creative ways so as to transform them from technical curiosities into tested elements that would change radically and forever the conduct of war at sea" (Luraghi 1996:346). This much can be said of the commission: it too has the sagacity displayed by the Confederate naval program and the tools to succeed in raising and conserving the vessel. But the ultimate question is how will their *Hunley* be remembered? Can a submarine become what a battle flag cannot—the icon of southern heritage?

15 Years Later

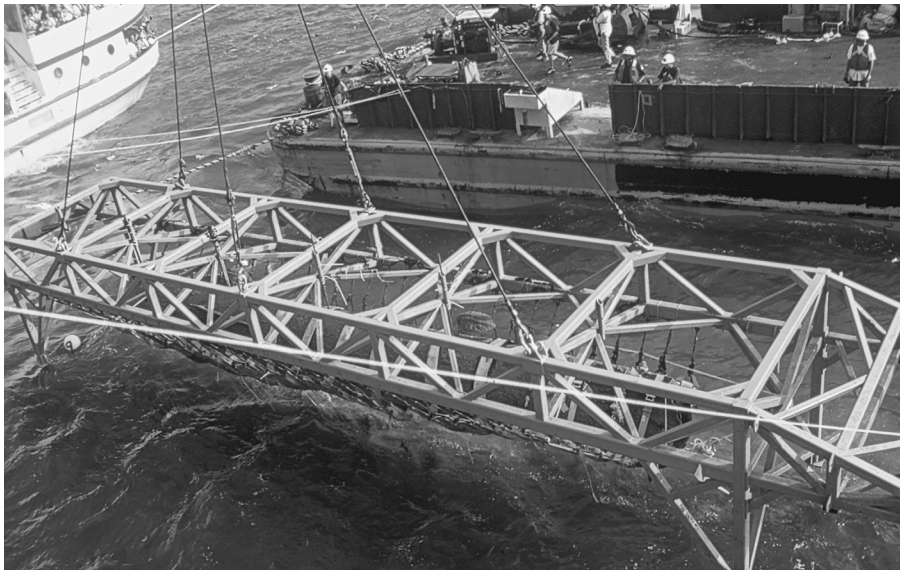
The essay above was written a little over 15 years ago amid swirling controversy and uncertainty as to the *Hunley*'s fate as a Civil War artifact. Much of the fiery rhetoric expressed by *Hunley* champions and naysayers at the time of the vessel's discovery has thankfully abated, but currents still run under a calm surface. If I may be permitted to continue the sea metaphor: like a surfer staring at a shark fin I find it reasonable to anticipate that the *Hunley* will continue to incite controversy amid the present five-year run of sesquicentennial events commemorating (or revising and refighting) the Civil War (2011–2015). As I seek here to update the past 10 years of *Hunley* research and its continuing iconography, it remains clear that the *Hunley* is still a vessel at war.

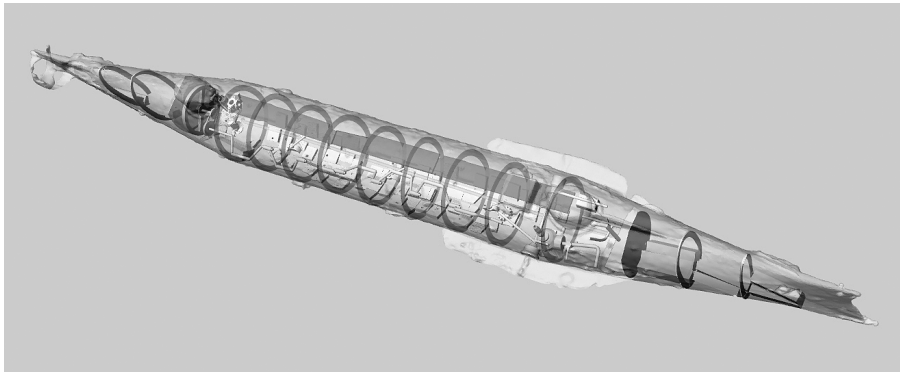
First, the *Hunley* Commission's amazing success must be acknowledged. Against high political odds and incredible logistical challenges, the *Hunley* came home in August 2000. The commission created a 501(c)(3), the Friends of the *Hunley,* Inc. (http://www.hunley.org/), to assist in fundraising for the recovery, conservation, and ultimate exhibition of this historic vessel. With a host of collaborators, divers, and engineers, the commission turned to Oceaneering International, Inc., to raise the *Hunley.* Oceaneering constructed a cradle, raised the *Hunley,* and brought it to shore amid the cheers of thousands of enthusiastic boaters and sightseers lined along Charleston Harbor (Chaffin 2008:221–222) (Figure 1). Today the *Hunley* resides safely at the Warren Lasch Conservation Center in North Charleston (Figure 2). The *Hunley*'s interior was found to be filled with sediment, which has been painstakingly excavated through the last twelve years (Figure 3). The remains of its eight crew members, found in an excellent state of

Figure 1. (top) The *Hunley* breaks the surface again after 136 years. Courtesy of the South Carolina Institute of Archaeology and Anthropology.

Figure 2. A computer-generated illustration of the inside of the Hunley after excavation. Courtesy of Friends of the *Hunley.*

Figure 3. The *Hunley* in its cradle and being sprayed during transport to land. Courtesy of the South Carolina Institute of Archaeology and Anthropology.





preservation, were reburied in 2004 with full military honors, next to previous *Hunley* crews. Some 30,000–40,000 people attended various memorial events during the week in which the remains were laid to rest (Jacobsen et al. 2005:14). Meanwhile, conservation of the vessel continues. Archaeologists and conservators have learned as much about conservation techniques as they have about the *Hunley.* Indeed, the conservation technology used has been cutting edge, thanks to a combination of private donations and federal and state support.

It was the latter source of funding that saw another *Hunley* battle. In 2006 the *State* newspaper in Columbia ran a series of articles questioning the cost of the *Hunley*'s recovery and conservation to South Carolina taxpayers. State Senator Glenn McConnell, chair of the *Hunley* Commission, defended the expenses in the *State,* and the story soon lost traction. At least part of the reason was the support McConnell has provided the state senate's black caucus and a promise to secure state lottery funds for South Carolina's historically black colleges (Chaffin 2008:252–253; *Journal of Blacks in Higher Education* 2006:35). In any case, state support is only a small part of the overall effort contributing to the *Hunley*'s successful recovery and conservation. A large part is the result of a wise effort by *Hunley* organizers to draw together a diverse coalition of contributors, including the Department of Defense, the Legacy Resource Management Program, the National Park Service, the National Geographic Society, the Naval Historical Center, the Smithsonian Institution, the South Carolina Department of Archives and History, the South Carolina Institute of Archaeology and Anthropology, Clemson University, the College of Charleston, Coastal Carolina University, Texas A&M University, the University of Tennessee, and the Charleston Museum, to name just a few (*Blue Light* 2011a:8). Some institutions are providing funds, but many are providing matching services in the form of expertise and equipment use, such as the MRI- and CT-scanning services provided by the Medical University of South Carolina. Less recognized but no less critical are the multiple private and corporate donations that fund the daily expenses of conserving the *Hunley* at the Lasch center. The *Hunley* conservation work is an example of a successful public-private cooperative effort.

In my 2000 essay I expressed doubt about keeping the public's interest during the long process of excavation and conservation. I was wrong; that has not been as serious problem. At this point there seems to be exactly the right amount of public interest. Public tours of the conservation facility to see the conservation in progress continue to be popular with the public and are part of Charleston's tourism attractions. Some 500,000 visitors have visited the Warren Lasch Conservation Center to view the *Hunley.* This visitation rivals many well-known museums in the United States and is testimony to the public's support (*Blue Light* 2010a:7). School groups regularly tour the *Hunley,* and study units about the *Hunley* are available on the web for teachers. South Carolinians who are seriously interested in the *Hunley* can purchase state license plates to show their support. They can join the Friends of the *Hunley* and receive newsletters and updates (*Blue Light*). At the same time, the *Hunley* is no longer the focus of constant media attention. The news, when the *Hunley* is news, is generally positive.

Keeping the public's attention alive has been enhanced by the slow excavation of the vessel's interior, and with each spoonful of sediment, new discoveries have added to our knowledge of its innovative character. The submarine is 40 ft

long, with tapered ends and two cylindrical conning towers fore and aft, 16 ft, 3 in apart. The towers are equipped with glass viewing ports and hatch covers sealed with rubber gaskets. The submarine's navigation system consists of a long rod running from fore to aft to the rudder, connected to a vertical rod like a joystick. This turned the vessel port and starboard. Another lever operated two dive planes to raise and lower the vessel in the water.

As noted in the original essay, the vessel was armed with a single torpedo (bomb) mounted at the end of a 17-ft spar. Recovery of the vessel has revealed that the spar is made of iron, rather than wood, and connected to the submarine at the bottom of the bow. The idea was to ram the torpedo into an enemy vessel and then back off, leaving the torpedo attached to its target by a barbed tip. Once the *Hunley* was a safe distance away from the enemy ship, a line linking the torpedo to the submarine was pulled to detonate the torpedo.

The interior consists of three compartments, separated by iron bulkheads and consisting of a forward ballast tank, crew compartment, and aft ballast tank (*Blue Light* 2003:3). The ballast tanks have separate pumps, but they are also connected by a pipe allowing them to be filled simultaneously. Each tank has a seacock open to the sea and the vessel was submerged by filling the ballast tanks. To rise to the surface, the crew used hand pumps to empty the water in the tanks.

A bellows system, mounted on the hull, replenished the air in the vessel. It consisted of wood, leather, and rubber components, which have made conservation a challenge (Jacobsen et al. 2005:16). Along the bottom of the vessel's crew compartment, from the forward to the aft ballast tanks, were strewn some 100 loose pig-iron ballast blocks weighing 4,453 lbs (*Blue Light* 2010b:5; Jacobsen et al. 2005:15). These were probably placed as needed to trim the vessel. In the forward section where Lieutenant Dixon sat, archaeologists found a metal tube containing mercury, indicating its function as a depth gauge. The crew sat on one side of the vessel on a pine plank and cranked a shaft that ran the length of the crew compartment to propel the vessel forward.

There has been strong interest in the *Hunley*'s crew. Seven of the crew members' remains were found on the floor of the submarine, indicating that they died at their stations. Lieutenant Dixon's remains were found in the forward section below the forward hatch at his station; however, his remains were found trapped by mud and sitting slightly upright. Stable isotope analyses indicate that half the crew were born in the United States, but the other half were foreign born and probably from northern Europe (Jacobsen et al. 2005:9). Through a combination of historic and archaeological research, the remains of seven crew members have been matched to known individuals. The eighth crew member's name has not been confirmed. Facial reconstructions have been completed and are on display at the Warren Lasch Conservation Center. Personal artifacts found in the submarine include pocket knives, clothing remnants and buttons, eight canteens, shoes, and leather belts. Also found was the ID tag of Ezra Chamberlain, a private in the Seventh Connecticut. Research revealed that Chamberlain was killed in action on Morris Island, and the tag must have been a battlefield souvenir (http://hunley.org/main_index.asp?CONTENT=IDTAG).

One of the most exciting finds from the public's perspective was a $20 gold coin engraved with the words "Shiloh, April 6th, 1862, My life Preserver, G.E.D." in four lines. The coin had been warped by a blunt impact and confirms the story

that Dixon's life was saved when a bullet hit the coin in his pocket at the Battle of Shiloh. Indeed, forensic evidence of the bullet wound was found on Dixon's upper left femur (Jacobsen et al. 2005:9). Besides the coin, a compass, the depth gauge, wrenches, nuts and bolts, a whip staff, and tiller were found with Dixon (*Blue Light* 2011b:5).

Researchers still do not know what sank the *Hunley.* It is expected that more clues will be revealed as the exterior of the submarine is better exposed and conserved. Upon recovery, a large hole on the port side of the forward conning tower led to speculation that the *Hunley* had been hit by fire from the *Housatonic* or was damaged when the torpedo exploded. However, in 2003 divers found a nineteenth-century grappling hook that may have been used after the war in an attempt to find the *Hunley* (*Blue Light* 2009:8). The hook could have caused the hole in the tower. There are two more holes in the *Hunley,* one on the starboard side at the aft ballast tank and the other at the forward ballast tank on the same side (Jacobsen et al. 2012:3). Careful analyses, combining a geological study of the sediments inside the hull, the location of the holes, and experimental archaeology, indicate that the holes are actually the result of a combination of corrosion and the scouring of sand against the hull as a result of tidal currents. In other words, the holes were not the result of any battle-related damages (Jacobsen et al. 2012:9). Twelve years later, so much more is known about the *Hunley,* but there is still much to learn.

In 2000 I ended my *Hunley* essay with the question, "Can a submarine become what a battle flag cannot—the icon of southern heritage?" Within South Carolina, and especially around Charleston, I think the answer is: yes, it has already. Many South Carolinians are proud of the *Hunley* and the efforts of the commission. Those who still dissent on the basis of its recovery costs or its increasingly problematic Southern heritage should at least by now see it as an archaeological treasure in its own right.

Of course, the *Hunley* will never heal the deep wounds of the Civil War or mitigate the state's continuing flag controversy. At this moment, the divisions seem even deeper, and thus the *Hunley* remains a flash point. I have met few people since 2000 who are indifferent about the *Hunley.* This has been demonstratively brought home to me from the reactions to my original essay. It has been popularly received and lauded. But it has also evoked strong negative reactions from some in academe. This is understandable, given that one point of the essay was to illustrate modern trends in the teaching of the Civil War, how these trends continue to diverge from the public's interests in the war, and how this divergence is reflected in reactions to the *Hunley* then, now, and in the future. The *Hunley* will continue to play an important iconographic role, both positive and negative, in the ongoing reshaping of South Carolina history, just as the "late unpleasantness" continues to haunt us.

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