Journal of Interdisciplinary Undergraduate Research

Volume 12 Article 6

2020

# The Ironclad Economy

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History Research Methods

HIST-497-A

Dr. Lisa Clark-Diller

February 26, 2020

The innovations of the Civil War brought the United States and the world into the era of modern warfare. The invention of the gatling gun, torpedos, and even submarines played a role in deciding the victor in the American Civil War. Most often the Civil War is remembered because of its numerous battlefields with hundreds to thousands of soldiers lost. However, the Civil War was not only fought on the battlefield, but also in the bays and rivers. There was a race to gain superiority on the waters that surrounded the coastal cities. The Union had a head start on the Confederacy by having a greater number of ships and an organized navy to manage the fleet. The South had to create a navy that could defend its waters from the Union and continue to protect the trade of goods in and out of the South. The South was striving to build a navy that could compete with or overpower the Union's navy. This could only be accomplished with the construction of armored ships capable of taking on multiple Union ships. These ironclad ships needed to have a formidable offense and be able to defend themselves. The South set this goal while in the midst of many other problems associated with war.[1]

The Union set up a blockade of the Southern coastline to stop the flow of goods in and out of the South. This strategy was very effective and slowed the Southern economy to a crawl. Although their economy was drained, the Confederate Navy continued to build and produce ironclad vessels to protect and defend what little was left of the South.

When taking a look at the broad story of the American Civil War, it is easy to forget that both the North and the South were fighting on the water. One of the struggles the Confederacy faced was an urgent need to build a navy. The majority of the South's economic

[1] I would like to thank Dr. Lisa Clark-Diller for all the help in refining my paper down to a workable topic and for being a great support during my writing process. I would also like to thank my parents for reading my paper multiple times through.

success up to that point was fueled from the sale of cotton through marine trade.[2] This trade network needed protection from enemy ships and the coastal blockade. The South needed the navy to continue the rebellion to fund all fronts of the war by protecting their most precious resource - cotton, along with other natural resources- in order to continue funding the rebellion. The South was so far behind the North, however, in the size and strength of their navy that they needed superior ships to contest the North's already established navy. This led to the South's decision to build ironclad ships to float in their navy. Their vision of an ironclad navy was not without setbacks and failures, however. New Orleans was considered the perfect place to build the two largest Confederate ironclads, but their attempt to do so failed because of the economic instability of the South, which resulted in the value of these ironclads being underestimated.

This paper will look at the economic significance of the ironclad warships used by the Confederate Navy, as indicated by research compiled from the official records of the Confederate Navy along with letters and memoirs of the men involved in the construction of the ironclads. It is important to take note of the unintended consequences and successes that arose for the South from the decisions and actions of the naval department.

**The Birth of a Navy**

At the start of the war the South lacked proper facilities to build up its navy. They did not have any shipyards large enough to build ships that were worthwhile to the war effort.[3] The assumption that Stephen Mallory, the secretary of the Confederate Navy, and other

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[2] Raimondo Luraghi, *A History of the Confederate Navy* (Annapolis, MD: Naval Institute Press, 1996), 2 20.
Luraghi is also a leading scholar in the field of American naval history. He argues that the Union blockade was not the only aim of the Confederate Navy and that it was not a complete lost to the South.
[3] R. Thomas Campbell, *Confederate Ironclads at War* (Jefferson, North Carolina: McFarland & 3 Company, Inc., Publishers, 2019), 1.

Confederate leaders made was that they needed to purchase existing vessels to jump-start their navy.[4] [5] Mallory knew that this was only a short-term option in the first stages of the Confederate Navy. The Confederate Congress appointed $1,100,000 in 1861 so agents could purchase vessels and arms that could be used in the navy. Mallory sent agents to England, France, Canada, and even the North to find ships that were for sale and potentially beneficial to the war effort.[6] The agents were sent out in secrecy to prevent news of their actions from being leaked to the Union.[7] Confederate leaders were not only hoping to purchase ships in foreign countries, but also to use shipyards in England to build these vessels as little emphasis had been put on shipbuilding in the South up until that time.[8]

Apparently, the Confederate agents had the monetary resources to supply a down payment on the ships as the South had begun to print their own money based on gold they had.[9] Mallory, however, needed the Confederate Congress to continue to fund his operations beyond the first initial payment. This would level the playing field on the seas as the North would have to expand their navy over more territory beyond the American shores to fight Confederate ships in English waters. However, Mallory knew that the Confederacy needed to start constructing

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[4]Luraghi, *A History of the Confederate Navy*, 32.

[5] Mallory was born in 1813 in Trinidad British West Indies, and he lived the majority of his life in Key West Florida. As he grew up in Key West, he began to find his life pulling him towards naval involvement. He volunteered as a naval commander in the Seminole War during the mid-1800s, giving him some experience in a navy. Mallory survived the war and became the judge of the Monroe County in Florida in which he served as a customs collector.

[6] Official Records of the Union and Confederate Navies in the War of the Rebellion, Ser. 2, Vol.1, 790. (hereinafter cited as ORN)

[7] William N. Still Jr, "Confederate Naval Strategy: The Ironclad," *The Journal of Southern History* 27, no. 3 (1961): 331.

[8] Frank J. Meril, *Great Britain and The Confederate Navy* 1861-1865 (Bloomington: Indiana University Press, 1970), 3.

This one single action could have played a much greater role in the naval interactions between the North and the South as the Union had to deal with their own blockade of sorts from English ports.

[9] Emory Q. Hawk, *Economic History of the South* (New York: Prentice-Hall, Inc., 1934), 280.

naval vessels within their borders to maintain the flow of trade goods and the defense of their coasts.[10]

Shipbuilding was of little importance to the majority of the Southern states before the Civil War and many of the ships used in the South were built in the North.[11] The South focused on agricultural goods and the trade revolving around those goods, instead of dealing with final products. They had some product industries, but the majority of the Southern states were heavily invested in raw materials such as timber, cotton, iron, and coal.[12] The South was fortunate enough to have these resources available, but they needed to be extracted and refined into workable materials. In spite of abundant resources, these resources were being used for other war-related efforts, and the South did not have the time to collect materials to start the construction of ships.

Mallory knew that the South could not fight the Union with the same kind of wooden ships that had been used for centuries past. He said:

> I regard the possession of an iron-armored ship as a matter of the first necessity. Such vessel at this time could traverse the entire coast of the United States, prevent all blockades, and encounter, with a fair prospect of success, their entire navy. If we cope with them upon the sea we follow their example and build wooden ships, we shall have to construct several at one time; for one or two ships would fall an easy prey to her comparatively numerous steam frigates. But inequality of numbers may be compensated by invulnerability; and thus not only does economy but naval success dictate the wisdom and expediency of fighting with iron against wood, without regard to first cost.[13]

Because the Confederacy did not have industrial capabilities to compete with the Union, Confederate ships needed to be built with new fighting technology to even have a chance at

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[10] *ORN*, Ser. 2, Vol.1, 752.
[11] Hawk, *Economic History*, 280.
[12] Luraghi, *A History of the Confederate Navy*, 37.
[13] ORN, Ser. 2, Vol.1, 742. 13

success, and someone had to design and construct these ships. Mallory needed smart inventors and architects to achieve his ideas for a Confederate Navy. He called on the help of three men: John L. Porter, Lieutenant John M. Brooke, and William P. Williamson, who was appointed the Chief Navy Engineer at the beginning of the war. These men understood the importance of building up a navy to secure the ports of trade.[14] Williamson said early in the war, "I did not think from the beginning of the War that the Confederacy could succeed if the Federal Government chose to prosecute the War. It was a new government against an old one… we had no navy to keep our ports open."[15] The navy was needed to protect the existing Confederate economy. These men were tasked with designing the machines that would accomplish that goal.

Porter drafted many of the first ironclad designs to be used as the main template for all of the ironclads.[16] Brooke, on the other hand, was thinking about how the Confederacy could use what they already had. The *U.S.S. Merrimack* had been captured in Virginia at the Norfolk shipyard and was soon to become a Confederate ironclad. Mallory described Brooke's task in a report given to the whole Confederate Naval Department in 1862: "I have the honor to report that on the 10th day of June, 1861, Lieutenant John M. Brooke, Confederate States Navy, was directed to aid the department in designing an ironclad war vessel, and framing the necessary specifications." All three men would work on the *Merrimack*'s conversion planning, but according to Mallory's letter, Brooke was spearheading the project.[17] Both Brooke and

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[14] Saxon T. Bisbee, *Engines of Rebellion : Confederate Ironclads and Steam Engineering in the American 14 Civil War* (Tuscaloosa, Alabama: The University of Alabama Press, 2018), 42.
There were other individuals involved, but these three men were the most important of the designers of the ironclads.
[15] Ibid., 43.
[16] Luraghi, *A History of the Confederate Navy*, 36.
[17] *ORN*, Vol. 2 Ser. 2, 174. 17
Mallory wrote in this letter that Brooke was the one set in charge of the construction. This, however, is a controversial topic as Porter had been credited with the planning and designing of the ship.
Look at "How the 'Merrimack' Was Built." *American Heritage* 54, no. 6 (December 2003): 16.

Williamson wanted to use the engines and shafts of the *Merrimack* because of the costs and time restraints to make new components.[18]

Williamson was the chief engineer of the ironclad program. He answered directly to Mallory.[19] Williamson was involved in the design of the ironclads by making sure that the machinery inside the ship would have enough airflow and space to properly run. He did this by finding boilers and machinery that would fit into the burned remains of the *Merrimack*.[20] He was concerned that the ironclad would not have enough power to maneuver through the water at a fast enough pace to avoid constant enemy gunfire.

Mallory asked the Confederacy to build ships that required parts to be machined and milled, which the South had little capability for producing. The Southern infrastructure transitioned from an agricultural society into one with factories and mills to create the needed parts for these iron-armored ships. The Confederacy would soon become the place where iron would float, but not without drastic changes to its infrastructure and economy.

**Reorientation of the Economy**

The South's economy was not originally built to produce war machines. The economy was built on a few foundational elements that originated with the first settlers and inhabitants of the area. As seen in the 1860 census, the South's main economic venture was in agricultural business, including tobacco, cotton, and other raw natural goods.[21] Of these "staple

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This article is short but gives a good overview of the issue of who created the plans for the most famous ironclad in Confederate history. All the men were involved in the planning process but some claim that credit was not distributed correctly.

[18] Virgil Carrington Jones, *The Civil War at Sea* (New York: Holt, Rinehart, and Winston, 1960), 157.

[19] Bisbee, *Engines of Rebellion*, 25.

[20] *ORN*, Vol. 2 Ser. 2, 175.

[21] Hawk, *The Economic History*, 385.

crops" cotton was by far the largest, and distribution of cotton throughout the different avenues of trade was primarily on the waterways.[22]

The South had little interest in the industry and machinery that the North found so useful before and during the war. The profits from cotton were bountiful and kept the South entrenched in its production.[23] However, as the war began, Southern leaders realized that they needed to build up their manufacturing and distribution infrastructure to match the Union's ability to supply its army and navy.

Several factors prevented the South's economy from growing as fast as the Confederates needed it too. First, was the Union's blockade that kept goods from leaving and entering the South. The blockade started in Virginia and spanned all the way to the Texas coastline to ensure that the South could not receive foreign trade or aid.[24] This took some time to achieve, but by 1861 the South felt the effects of the blockade, which had shut their trade down.

Jefferson Davis, the President of the Confederate States, was convinced that the demand for cotton would ensure help from European nations for the Southern cause.[25] The Confederates considered their ability to set the price of cotton as a strategic maneuver that would require Europe to aid the Confederacy.[26] This hope, however, was never realized.

As the Union continued to implement their blockade, the South's 'King Cotton' economy deteriorated. The South could no longer rely on the trades with foreign nations to

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[22] Ibid., 318.
Before the Civil War, the people who colonized the Southern states built their towns and cities near rivers and bodies of water because it was easy for supplies and materials to be moved by ship.
[23] Luraghi, *A History of the Confederate Navy*, 19.
[24] J. Russell Soley, *The Blockade and the Cruisers* (New York: Jack Brussel, 1959), 27.
[25] Francis M. Carroll, "Diplomats and the Civil War at Sea," *Canadian Review of American Studies* 40, 25 no. 1 (March 2010): 118.
[26] David G. Surdam, "The Confederate Naval Buildup," *Naval War College Review* 54, no. 1 (2001): 118

supply their needs for food, clothes, and luxury goods. The South needed to become self-sufficient in its agriculture and economy.[27] Confederates were still trying to figure out how to keep trade open to England and other nations, since the market for cotton in Britain was huge.[28] The navy department knew that having ironclad ships would help alleviate some of the blockade pressure put on merchants trying to move goods to Europe.

The primary naval goal was to protect the national maritime trade— if there were no cotton exports, there would be no incoming money, which meant there would be no new ships to help protect the economy.[29] But the funds for these ships were not yet available, and more cotton needed to be sold. James D. Bulloch, a Confederate commander who was sent to England to figure out arrangements to build or purchase ironclads, wrote in 1862 from Liverpool a letter to Mallory explaining his troubles with the Confederacy's monetary issues:

> I think the sum necessary to complete the three ironclad ships might be realized by the sale of cotton; but the requirements of the home Government, through its various officers and agents in Europe, are for a very large amount of money, and people seem afraid to risk their money upon so uncertain a speculation as buying an article shut up by a blockading fleet and subject to the casualties of war. The cotton certificates given out by Mr. Mason for Sinclair's ship do not appear to have been a sale, strictly speaking, because no money has been paid, and the contractors will always have the ship as a security for the money expended. Our necessities require cash to be actually paid in hand, for the certificates of cotton ownership on the other side of the Atlantic, and I am very fearful that we can not realize the amount we desire, because of the wants of others which must be provided for at the same time.[30]

Bulloch described to Mallory how the English were fearful of using the promise of cotton sales as payment for the ironclad ships. They feared that the Union blockade would restrict the amount

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[27] Lerner, *Money, Prices*, 20.
[28] Jesse A. Heitz, "British Reaction to American Civil War Ironclads," *Vulcan: Journal of the Social 28 History of Military Technology* 1 (February 2013): 57. Britain consumed about half the world's raw cotton in 1860 for their textile industry.
[29] Luraghi, *History of Confederate Navy*, 20
[30] *ORN*, Ser. 2, Vol. 2, 312.

of cotton exported from the Confederacy and were uncertain that they would get any cotton at all.

Many sailors risked their ships, cargo, and their lives to keep trade flowing; these sailor merchants were known as blockade runners. The blockade runners showed that it was possible to keep trade open during the war amidst the Union's blockade. The Confederacy's idea was that if they could keep the flow of trade open and continue to export raw cotton to Europe, the effectiveness of the Union blockade would be diminished. This would demonstrate to the Europeans that the blockade was not a serious issue.[31] Blockade runners, however, did not risk their lives or their ships at an affordable price. Many blockade runners would charge extreme amounts for their services.[32] Since Mallory could not rely on blockade runners, he needed ironclad warships to break through the blockade. Because there was no efficient way to get the crops out of the South, the price of cotton in the South dropped significantly.[33]

The second factor that limited the Southern economy was the South's lack of useful industry; it was difficult for their factories to produce goods that were formerly imported into the South.[34] Mallory knew this and went forward with the decision to build ships within the Confederate states.[35] Construction was viable with the raw materials present in the South, but there was a lack of skilled labor and capable facilities suited for the project. The economy and infrastructure were not established for this type of construction.[36]

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[31] Surdam, "The Confederate Naval Buildup," 119.
[32] Surdam, "The Union Navy's Blockade Reconsidered," *Naval War College Review* 51, no. 4 32 (1998): 100.
[33] Lerner, *Money, Prices*, 27.
[34] Ibid., 28. 34
[35] Still, *Iron Afloat*, 228
[36] Fletcher Pratt, *Civil War on Western Waters* (New York: Henry Holt and Company, 1956), 39.

The third factor was that, the South also had problems revolving around currency and funding projects. During the Civil War each Southern state started printing their own currency to fund the projects they needed.[37] The main reason states printed their own money was to purchase supplies, but the states also raised taxes and sold bonds to help fund their projects.[38] The simple act of printing more money when the state needed it caused prices to inflate and the real value of wages to drop considerably. The Confederate Congress passed an act in March 1863 to help alleviate all the excess bills created by the states by passing a special tax for the collection of these old bills.[39] This compulsory act of funding was in line with the South's main concern around establishing a central form of currency. The treasury department had been working on this since the beginning of the war, but this was a minor issue for many Southern citizens; life in the South had become hard and unbearable.[40] This, however, did not stop the Confederate government from collecting taxes in many different ways.

Taxation became typical for Southern families. The Confederate government established a new war tax of 50 cents for every $100 of property whether it be land, slaves, merchandise, bank stocks, or even fine goods like gold and pianos.[41] This tax excluded families who had less than $500 of the total property. There were other taxes on top of the war tax, such as an additional 8 cent land tax per acre and even a tiered profession tax. The Southern people were not only feeling the pressure of being at war in their physical locations, but they were also feeling it in their wallets as well.[42] Because the South was not in a position to build and produce

[37] Hawk, *Economic History*, 417.
[38] Lerner, *Money, Prices*, 20.
[39] Hawk, *Economic History*, 408.
[40] Ibid., 407.
[41] Ibid., 410.
[42] Ibid., 411.

war vessels capable of defending its economy, it was extremely difficult for the naval department to build a navy. The Confederate government had to resort to writing loans and issuing new taxes to keep up with the demands of production for the war effort and to build the navy that Mallory needed.[43] Mallory said in 1862:

> The United States have a constructed Navy; we have a Navy to construct, and as we can not hope to compete with them in the number of their ships—the results of threequarters of a century— wisdom and policy require us to build our ships in reference to those of the enemy, and that we should, in their construction, compensate by their offensive and defensive power for the inequality of numbers.[44]

The knowledge that the Union had a viable navy was a clear reminder to the South that they only had a short time to get an ironclad ship into the water to defend their shores from the Union.

This was first accomplished through the conversion of old ships into new ironclad vessels.[45] The Enoch Train, a tugboat along with other boats were purchased for $100,000, and the conversion process began.[46] The first fully constructed ironclad was the *C.S.S. Manassas*, which was a conversion build. These ships were cut and modified heavily to prepare them for their new life as an ironclad. Many different parts and pieces were needed to make the ironclads effective in battle. Iron was used for the armor plating and rams which made the ironclad unique, but iron was not the only component needed for ironclad construction.

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[43] Ibid., 402.
[44] *ORN*, Ser. 2, Vol. 2, 151. 44 Mallory said this particular statement in 1862, but he held this view before 1862. He wrote a letter in 1861 to C.M. Conrad, the chairman of the Naval Committee of the Confederate States, saying that the Confederacy needed to construct a navy made up of iron armored ships that could hold against the many Union ships.
[45] Still, *Facilities*, 290.
[46] Campbell, *Confederate Ironclads at War*, 5.

**Transportation and Raw Materials**

The use of roads and waterways in the South has always been at the center of its economic growth and movement. Towns and cities were built near rivers and bodies of water so that watercraft could serve as a main mode of transportation. This was because it was easy to travel and trade using the rivers to move goods, especially since there were so few railroads built in the South before the war.[47] As the South's economy and infrastructure grew, protecting the rivers was a primary goal for the Confederate Navy. Water transit was still the most cost effective and fastest way to move tons of materials like iron or timber. Mallory knew that the larger ships could not enter the shallow rivers and maneuver properly, but he wanted the ironclads to be able to patrol the rivers to protect the trade and movement of resources from mills and factories.

One of the many issues the South faced in the construction of ironclads was getting the raw materials they needed to build the ships. Many of the rebelling states had an abundance of natural resources such as timber, iron deposits, and other metals they could use for building ships or arms, but these resources were often still in their raw form and unusable at the beginning of the Civil War.[48] There were a few facilities that could produce iron thick enough for the armor on the ironclads. These facilities were located in Atlanta and Richmond, which meant that the iron plates had to be transported to the shipyards. Other facilities, located in Tennessee and Virginia, could manufacture marine machinery like engines and shafts that were needed to propel

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[47] Hawk, *Economic History*, 318. 47
Without protection from the navy, movement of raw materials and goods were limited to locomotives. Trains in the South were a relatively new thing, only first being established in the 1830s. Many of these railroad lines were short and had different gauged tracks, which meant that the materials had to be transferred to another train to continue further. However, by 1860, over $325 million had been spent on building railroads.
[48] Still, *Facilities*, 294.

the ships.[49] Building these vessels required a vast amount of iron and machinery, which were typically located long distances from the job-sites and needed to be transported to the shipyards by rail. Transportation logistics played a huge role in the production of ironclads for the Confederacy.[50] Not only were the resources a long way away, these raw materials were of no use in the final production of the ship unless they were refined first.[51] The lack of iron refineries slowed the production of the ironclads significantly, and the ships were left defenseless without the iron-plated armor. By the spring of 1862, four out of five ships that were constructed in the Confederacy were ironclad vessels.[52] The ships required iron, the machinery required iron, and the transportation system required iron to build more railroads; iron was the bottleneck that slowed the navy's shipbuilding program to a crawl.[53]

Iron was not the only critical component needed to build an ironclad; milled lumber was also an essential resource that the South had to gather.[54] Before the war the South had over six hundred million acres of forest, which the Confederacy tapped into for their growing economy and shipbuilding program.[55] The majority of these forests were live oak, which is one of the best trees to use for shipbuilding. However, lumber from these oak trees needed to be seasoned for a few years to be used in shipbuilding.[56] A non-native species of yellow pine trees were introduced in the South to speed up the process of curing timber for shipbuilding. These

[49] Ibid., 287.
[50] Still, *Facilities*, 291.
[51] Still, *Iron Afloat*, 228.
[52] Still, *Facilities*, 294.
[53] Ibid.
[54] Ibid., 280.
[55] Ibid., 20.
[56] Hawk, *Economic History*, 278.

pine trees were known as "green timber," which was used in ships when there was not enough time to cure the oak timber, as was the case with the ironclads constructed in New Orleans.[57]

**Ironclad Construction in New Orleans**

As the South continued to expand its small but growing navy through taxation and other monetary means, Confederate leaders understood that there was a desperate need for an ironclad that could stand up to the majority of the Union's navy. The construction of these armored vessels took a substantial amount of time, money, labor, and commitment, all of which were in short supply during the first few years of the Confederacy's life.[58] Money was particularly difficult for Mallory to get in a timely manner. The naval department had to apply for funds to pay their workers through the treasury department, which at times took forty days to be fulfilled. Mallory felt limited by the treasury department and he made that clear in a letter to the department: "An army disbursing agent at New Orleans has been furnished with a large amount in small treasury notes, $100,000, as is there stated, while none is supplied to this department. This greatly embarrasses most of them, and inconveniences arising from it are daily brought to my notice."[59] The inability of the naval department to pay its workers was causing issues for the laborers there. Mallory was frustrated that the army disbursing agent could receive funds when the naval department could not.

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[57] Still, *Confederate Shipbuilding*, 59.
This kind of timber worked fine for the first few years of a ship's life, but would start to warp after a few years. This warping was very damaging to the ship's hull.
[58] *ORN*, Ser. 2, Vol. 2, 151. 58
[59] *ORN*, Ser. 2, Vol. 1, 733.
Mallory applied for $100,000 in December 1861, and it wasn't until the end of January 1862 that he received that amount.

The navy department knew that they had to take advantage of the private sector of shipbuilding, which had already been established before the war with the construction of small steamships and river craft.[60] The process of building military ships had not been explored by the South before the war, and there were few shipyards capable of producing more than just small steamships.[61] Contracts were signed for ironclads to be constructed in private shipyards. These shipyards were under direct control of naval agents. Most contractors had to follow the already designed plans for the ironclads (although the "contractors" of the Mississippi did not).[62] Many of these designs were drawn up by different naval engineers working for the naval department, but John M. Brooke was known for designing some of the first ironclads.[63] Since the navy was so heavily involved with the construction of each ironclad, agents were sent to all the different shipyards to make sure contractors were following the designs. The agents were not there to help the shipbuilders build or obtain the needed materials to finish construction; they were there to make sure that the contractors were meeting the deadlines set by the navy.

The Confederacy decided to build ships in New Orleans to protect the Mississippi River and the states neighboring it.[64] The dry docks in New Orleans were some of the biggest in the South (next to the one in Norfolk, Virginia) which made New Orleans a perfect place to work on the super weapon: ironclads. It was far enough away from the potential invasion of Union troops and was near a main avenue of trade for the Confederacy, the Mississippi River.[65] Mallory

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[60] Still, *Iron Afloat*, 9.
[61] Still, *Facilities*, 286
[62] Luraghi, *A History of the Confederate Navy*, 35. 62
More detail on this information can be found on page 18 and 19 of this paper.
[63] George M. Brooke Jr., John M. Brooke: Naval Scientist and Educator, (Charlottesville: University Press 63
of Virginia, 1980), 253.
[64] Joseph Thomas Durkin, *Stephen R. Mallory* (Chapel Hill, NC: The University of North Carolina Press, 64
1954), 155.
[65] Still, *Iron Afloat*, 42,43.

knew that both 66 characteristics of New Orleans would be beneficial to the completion of their much needed ironclads as he and the Confederate Congress approved the construction of five ironclad ships. The Confederacy would have a group of gunships if they acted quickly before the Union blockade was set. New Orleans, however, had never built any military vessels in its docks before the Civil War, this meant new methods of naval construction had to be set up. The process of changing the dry docks to accommodate the construction of ironclads took time and money.[66]

> In September the department determined to build ironclad vessels in the Confederate States, and on the 9th of that month requested the President to authorize the transfer of the amount of that appropriation, $2,000,000, to another appropriation under act of Congress No. 124, May 14, 1861, which was done, and the construction of a large ironclad gunboat commenced in New Orleans under the supervision of … Tift, [and] agents of the department. Three hundred and seventy-five thousand dollars have been expended up to this time. This vessel will be finished, it is hoped, in about forty days, and the cost will not exceed $800,000. These gentlemen have also commenced the construction of two smaller ironclad vessels; they will cost about $150,000 each.[67]

The naval department was planning for the construction of the ironclads in New Orleans to last about forty days, but that estimate was significantly shorter than reality. One major reason construction took longer than expected was due to the unavailability of the resources needed in the unstable Confederate economy.[68] Finding skilled workers also became a task that took more time than expected.[69] Mallory was complaining that the flow of money to build these ships was too slow to fulfill the needs of the Confederacy and that more money would be needed.[70] The lack of resources, labor, and money pushed back the completion date, but Mallory continued to

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[66] James M. Merrill, "Confederate Shipbuilding at New Orleans," *The Journal of Southern History* 28, no. 65 1 (1962) 87.
The only ships that were ever built in New Orleans prior to 1860 were river steamships and private vessels.
[67] *ORN*, Ser. 2, Vol. 2, 122.
[68] Still, *Facilities*, 294. 68
Iron and timber were the two main components that were difficult for the Confederacy to obtain.
[69] Lerner, *Money, Prices*, 31.
[70] *ORN*, Ser. 2, Vol. 2, 169. 70
At this time Mallory is telling Mr. Bulloch that there are just no more funds to purchase any ironclads.
The Treasury cannot afford the requests from England.

put his faith into the ironclads. This would make or break the Confederacy's ability to compete in the war.[71]

One of the main ironclads under construction in New Orleans was the *C.S.S Mississippi*; this ironclad was built under the supervision of the Tift brothers. The *Mississippi* was designed by the Tifts and was 206 feet long and 58 feet wide with a draft of 15 feet. This design made the *Mississippi* the largest ship ever to be built at that time. The ship would weigh in at over 1400 tons and the materials were estimated to cost almost $400,000. It was estimated that the Mississippi would be capable of reaching 14 knots.[72] This ironclad was to be a formidable force for guarding the Mississippi River, which was crucial to the Confederacy because many supplies from Texas and other areas west of the river would be cut off if access to the river was lost.[73]

Building the *Mississippi* was not a simple task for the Tift brothers— neither one of them had any experience building ships before. Mallory sent the brothers a letter with seven procedures they were to follow as, "agents of the naval department."[74] The brothers' designs were looked over by Brooke and Porter with a few minor changes to the original plans.[75] Construction on the *Mississippi* started late in September of 1861 after all the plans had been

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[71] Still, *Confederate Shipbuilding*, 11.
[72] ORN, Ser. 2, Vol. 1, 260. 72
14 knots is just over 16 miles per hour.
[73] *The War of the Rebellion*, Ser. 4 Vol.1, 355. 73
Supplies such as beef and cattle from Texas were feeding the Confederate armies. The loss of the Mississippi River would be felt by all the departments of the Confederation.
[74] *ORN*, Ser. 2, Vol. 1, 602. 74
Mallory called the Tift brothers "agents of the naval department," this gave them great autonomy to make decisions they thought would be cost effective. Normally they would have been considered contractors under a written contract. Mallory did not want their ideas to be limited by a contract.
[75] Pratt, *Civil War on Western Waters*, 39. 75
No one really knows what the minor changes were, it was just noted that there were changes made to the plans drawn up by the brothers.

worked out by both the Tifts and the naval department. The Tifts had no official contract limiting their ability to impose their own financial limits and this allowed them to pay whatever was needed to get the materials and labor to finish the *Mississippi*.[76] Tift said that the naval agents never supplied them with any of the materials or labor.[77] The agents were there solely to make sure that proper procedures were being followed. All the bills and workers were paid on time; according to a Tift interview during the investigation by the naval department in 1863. "On our arrival in New Orleans, my brother and myself determined to pay [the men] every Saturday night, and continued to do so for several weeks…"[78] The Tifts were very attentive to their workers. There was a high demand to get these vessels completed and ready to defend the harbors for the support of other Confederate agencies. Mallory sent a telegram to the Tifts stating, "Work night and day to get your ship done without regard to expense, strain every nerve to finish ship. Expend money to encourage mechanics if essential to speed up completion."[79] The Confederacy needed this ironclad in the water so it could defend the city against the pressing Union fleet. The ship was launched early because of the rising water levels in the dock. The thought was that the work could be finished while the ship floated in place.[80] The ship was never finished because the city of New Orleans was taken by the Union in April 1862. The last shipment of iron arrived just twenty-four hours before the city fell.[81]

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[76] Ibid., 41.
[77] *ORN*, Ser. 2, Vol. 1, 763.
[78] Ibid.
[79] Ibid., 604-605.
There is a series of telegrams sent from the Tifts and Mallory. Mallory is pleading with the Tifts to finish as quickly as they can. He told them to disregard expenses and finish.
[80] Maurice Melton, *The Confederate Ironclads* (Cranbury, NJ: Thomas Yoseloff Ltd, 1968), 86.
[81] Still, *Confederate Shipbuilding*, 77.

However, the *Mississippi* was not the only ironclad meant to defend New Orleans.[82] The other major ironclad constructed in New Orleans was the *C.S.S Louisiana*. The *Louisiana* was estimated to cost $196,000, and the price would go up $98 every day it was finished early and drop $98 for every day it was finished late.[83] E.C. Murray was in charge of seeing the *Louisiana* finished and in working order. The work on the *Louisiana* started in October 1861, right around the same time as the *Mississippi*. "The *Louisiana* was 264 feet long and had a 62 foot beam [width]. The *Louisiana* had a heavy shield and house in her… [and] the *Louisiana* had about 1,700,000 feet of lumber."[84] This ironclad weighed 1400 tons and it had 84 four engines to power it. It was also armed with sixteen guns.[85] Murray had similar issues as the Tifts in procuring supplies and skilled laborers to continue work. Work on the *Louisiana* halted for two weeks because there was a shortage of iron due to a misunderstanding of who was receiving the iron that arrived for the *Louisiana.* Murray said in an interview with the naval department in 1863, that he could have finished the *Louisiana* in less than six weeks, but that the lack of resources and pressure from the blockade made that impossible.[86]

**Labor Issues**

Because the construction of ironclads was new to the workers and people around the construction areas, the public had conflicting sentiments towards the usefulness of these vessels in the navy. The partial victory from the shores of Hampton Roads of the ironclad

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[82] Merrill, *Confederate Shipbuilding at New Orleans*, 93.
[83] Melton, *The Confederate Ironclads*, 64.
[84] *ORN*, Ser. 2, Vol. 1, 759.
[85] Ibid., 258.
[86] Ibid., 758.
Murray said that it was impossible to finish the ships in that time due to the other needs within the city of New Orleans— other ships and projects taking the valuable resources and labor from their yards.

Virginia taking on the Union blockade helped boost the morale of the people towards ironclads.[87] Some southerners wanted to see more iron floating down the rivers as it meant that their shores were being protected. Not everyone, however, saw the navy as being something to invest in. General George E. Pickett said that no one should be reassigned to go work on any of the navy's ships because it was a waste of manpower.[88] These men were needed in other positions in the army, which also required laborers.

Another serious issue faces by the Navy was the lack of labor within its ranks. There was a huge shortage of skilled laborers who could complete the tasks involving mechanics and more technical jobs.[89] Before the war, there were over 4500 mechanics and 500 ship carpenters who were skilled laborers.[90] But with the inscription and drafting in the army, many of these skilled workers were sent to the battlefields to carry a gun instead of a hammer. Mallory said in a letter in 1862, "All efforts at construction, whether by contractors or by the department, have been crippled by the want of mechanics…Every applicant willing and able to work upon our vessels has been employed and at wages nearly double those given 12 months ago."[91] The whole department was feeling the pain of having no one available to work, along with the financial burden of keeping the workers satisfied with their wages.

This was the case with the construction of the two ironclads in New Orleans. Construction of the *Mississippi* and the *Louisiana* were delayed due to labor disputes for wages.[92] These labor troubles were based on the lack of money and available materials to work

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[87] Still, *Strategy*, 342.
[88] Still, *Confederate Shipbuilding*, 64.
[89] *ORN*, Ser. 2, Vol. 2, 151.
[90] Still, *Confederate Shipbuilding*, 61.
[91] *ORN*, Ser. 2, Vol. 2, 151.
[92] Surdam, *The Confederate Naval Buildup*, 112.

with.[93] Both main contractors of the Mississippi and the Louisiana said that their men went on strike. Tift did his best to remedy the situation as he saw fit.

> There was a strike there of all the men in all the shipyards in and about New Orleans. The first intimation I had of the strike was, in making my usual visit to the yard, I found that all the men knocked off except the 20 from Richmond. I went immediately to Algiers and sought out the principal men in this organization.[94]

Tift knew that the men had to stay on task if they were to finish by the contract date.[95] The main reason for the strike was that the men felt they were underpaid. By the end of the strike week, most of the city of New Orleans was tired of the workers' strike. The people wanted these vessels built.[96] Tift did his best to quickly settle the wage issue by giving the workers $5 a day instead of the $4 they were receiving before. He was worried that the strike would drastically affect the navy's ability to produce the ironclads.[97] Time was of the essence. After the strike, the brothers forced the men to start working on Sundays and during the nights to make up for the time.[98] But having a steady stream of work to do was rare; there were times when they had a lot of work to do, then sometimes there was a lull in production due to an integral part of machinery still being in transit to the shipyard.[99]

**Conclusion**

The Confederate ironclad building program was seen as a failure because it never built a ship that was capable of breaking the Union blockade. The fact that the two largest ironclads in New Orleans were destroyed before they could defend the city makes it easy to see

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[93] Pratt, *Western Waters*, 39.
[94] *ORN*, Ser. 2, Vol. 1, 771.
[95] Pratt, *Western Waters*, 41.
[96]Melton, *The Confederate Ironclads*, 76.
The strike lasted six work days and it affected the workers on the Louisiana the same amount of time.
[97] *ORN*, Ser. 2, Vol. 1, 771.
[98] Surdam, *The Confederate Naval Buildup*, 112.
[99] *ORN*, Ser. 2, Vol. 1, 758.

that their construction at face value was not worth their effort. But this failure was caused by the harsh economy the Confederacy was dealing with, not the inability of the ironclads to perform the tasks they were being built to do. Both the Union and the Confederacy said that the *Mississippi* would have been capable of defending the New Orleans port by itself.[100] Mallory said in 1867 that he believed the *Mississippi*, if completed, could have lifted the entire blockade.[101] The Mississippi never got the opportunity to prove its worth because of the delays and problems that arose during construction. The loss of the *Mississippi* and the *Louisiana* did not stop Mallory or the naval department. In fact, Mallory continued to build ironclads and said, "…This is a heavy blow, but it serves but to nerve our people to greater resistance. Surrender or concession are not thought of, but on the contrary we are, if possible, more than ever resolved to conquer and maintain our independence."[102] Mallory took this loss not as a complete failure, but as an opportunity to improve his department's chances of completing ironclads in other locations. He hoped to revolutionize naval warfare by showing what could be done despite limited resources.[103]

The *Mississippi* or the *Louisiana* would have been formidable opponents for any Union vessel. The incredible feats of Mallory and the naval department to organize and build a navy that had not existed was a taste of success for the Confederate States. Although the Confederate Navy got an occasional victory, it still felt the burden of losing precious materials and labor due to the advancing Union armies. Mallory and his men knew that because of the fall of New Orleans they would have to work even harder to accomplish their goal of naval

[100] Durkin, *Stephen R. Mallory*, 188.
[101] Ibid., 170.
[102] *ORN*, Ser. 2, Vol. 2, 187.
[103] Merrill, *Confederate Shipbuilding at New Orleans*, 89.

superiority, and ironclad construction in the South looked bleaker as the Union armies marched closer to the South's precious shipyards.

Nevertheless, the efforts of Mallory and his staff were not a total loss. Their ability to establish a new sector of the economy in the South was a victory that many historians have overlooked. The construction of facilities that could produce the needed materials and the maintenance system of labor they created can been seen as a victory as well. Moving towards industrialization, during a time when the South was fighting to preserve the agricultural economy they had years before, helped them to become the New South. It opened up new labor opportunities for many Southerners and brought in new skilled trades and workers to the South. Even though the ships these men were building did not accomplish their intended goals, the South was forming a new economy that would shape the South of today.

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