

THE EFFECT OF THE MONITOR AND MERRIMACK ON NAVAL WARFARE

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On March 9th, 1862, in a largely uneventful and inconclusive battle near Hampton Roads, Virginia, the course of naval warfare throughout the world was forever changed. It was during this Civil War battle that the world's first two iron ships, the USS Monitor and the CSS Virginia (or Merrimack), engaged one another. During the course of this engagement, neither ship was able to sink or even heavily damage the other. The battle as a whole did not have a clear victor, and it did not heavily impact the course of the Civil War. Despite its seeming insignificance, the Battle of Hampton Roads carried tremendous historical weight. The indestructibility and effective offense of the iron ships, which was the main cause of the battle's uneventful nature, immediately altered the paradigm of naval warfare by proving the iron ship's indisputable superiority over traditional wooden ships.

From a short-term reference frame consisting only of the war itself, the Battle of Hampton Roads was fairly minor in scope. Though the damage done and number of lives lost were not insignificant, progress was not made by either the Union or the Confederacy, and the battle as a whole did not have a clear champion. In a sense, the battle resulted in something of an inconclusive draw, as both belligerents were able to accomplish some portion of their objectives. For the Union, these objectives were destroying the Merrimack and ensuring the survival of the Union fleet blockading Hampton Roads, which was keeping the Confederate fleet from attacking Federal coastal cities. The Confederates' objectives were to break the Union blockade, protect Richmond, and possibly continue along to attack Washington D.C. and other large coastal cities.<sup>1</sup> Because the Union was able to temporarily disable the Merrimack and prevent the complete destruction of the blockading fleet, but still allowed the Confederates to stall their attack on

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<sup>1</sup> Anna Gibson Holloway, "A new kind of Naval Warfare," *America's Civil War* 25, no. 1 (March 2012): 34-37, Military & Government Collection, EBSCOhost, accessed April 15, 2016.

Richmond and destroy a number of federal ships, the battle is historically considered to have been a stalemate. Given the inconclusive nature of the battle, both the Union and the Confederacy claimed victory over the other. The New York Daily Tribune in the north heartily relayed the news of how “the Monitor and her brave commander” had single-handedly driven back the Merrimack and two additional gunboats.<sup>2</sup> In contrast, the Augusta Chronicle in the south described the battle as “resulting in a great and glorious victory for the marine iron battery Virginia.”<sup>3</sup> These contrasting descriptions of the battle between the Monitor and the Merrimack are not surprising, considering how truly uneventful the skirmish between the two ships actually was.

Although the event may have been subject to dramatization by newspaper publishers looking to boost the morale and invigorate the nationalism of their respective populaces, the fight between the Merrimack and the Monitor was not particularly captivating. According to the Albany Evening Journal, the battle lasted for four hours, with no damage being taken by either ship until the Monitor eventually was able to shoot a fairly small hole in the Merrimack, at which point the battle ended and the Merrimack retreated.<sup>4</sup> The casualties of this four-hour battle were very minor, with only two deaths<sup>5</sup> and some minor injuries sustained by officers on the boats.<sup>6</sup> Given the lackluster nature of the exchange, it might seem that the battle would be quickly forgotten, leaving no lasting impact on the war or the outside world. However, one primary

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<sup>2</sup> “The Latest War News,” New York Daily Tribune, March 10, 1862, accessed April 15, 2016, NewsBank.

<sup>3</sup> “Further Particulars Of The Naval Battle At Newport News.” *Augusta Chronicle*, March 10, 1862. Accessed March 23, 2016. NewsBank.

<sup>4</sup> “The Description of the Merrimac. Alarm Sounded at Fortress Monroe The Merrimac and Cumberland Engaged,” Albany Evening Journal, March 10, 1862, accessed March 23, 2016, NewsBank.

<sup>5</sup> “Further Particulars Of The Naval Battle At Newport News.”

<sup>6</sup> “From Fortress Monroe: The Fight with the Merrimac,” Hartford Daily Courant, March 11, 1862, accessed April 15, 2016, NewsBank.

reason for the battle's bland conclusion was what ultimately altered the course of naval warfare for good.

The fact that the iron ships were impervious to almost every shot taken at them made them a revolutionary naval invention. The day before being pulled into battle with the Monitor, the Merrimack was able to withstand fire from two ships whose combined gun count outmatched its own seven times over without being notably damaged at all.<sup>7</sup> Although the impregnable iron plating covering the ships led to an eventual stalemate in their inevitable standoff, it was in fact one of the most exciting and dramatic leaps in naval history.

While the iron armor protecting the ships was perhaps the most significant advancement touted by the ironclad ships, it is by no means the only one. The Monitor was radically different from any ship that had been constructed before her.<sup>8</sup> She was designed to be almost entirely submerged in water, and her hull was angled so that any shot fired at the hull would be considerably slowed by the water and would strike at a very indirect angle. She was also very difficult to board by enemies, as the only entrance was atop the gun turret and was too small for more than one man to enter the vessel at a time.<sup>9</sup> The gun turret itself was a marvelous departure from the standard broadside cannons mounted on wooden ships at that time. The first rotating gun to ever be mounted on a warship, it could fire in nearly any direction, and was impervious to fire from the cannons of other ships.<sup>10</sup> Although the Merrimack was more similar to standard wooden ships of that time (it was originally a wooden Union frigate that was recycled and plated with iron),<sup>11</sup> she still made use of a weapon not used in most ships for centuries: the ram. In

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<sup>7</sup> Joel K. Bourne, Jr., "Iron vs. Oak," *National Geographic* 209, no. 3 (March 2006): 136-147, Academic Search Elite, EBSCOhost, accessed April 25, 2016.

<sup>8</sup> *Ibid.*

<sup>9</sup> "The Ericsson Floating Battery Monitor," *New York Daily Tribune*, March 11, 1862, accessed April 15, 2016, NewsBank.

<sup>10</sup> Bourne, "Iron vs. Oak."

<sup>11</sup> *Ibid.*

addition to the ship's guns, the Merrimack was able to effortlessly sink enemy wooden ships simply by steaming forward and ramming large holes in their hull, an ability that she proved in battle against the USS Cumberland.<sup>12</sup>

Technological innovations made in the construction of the Merrimack and the Monitor heavily influenced warship design for decades, and certain features of modern warships are direct descendants of those first utilized by the ironclads. The ram donned by the Merrimack re-emerged as a powerful weapon of naval warfare during the Civil War, and was very heavily used for decades until technological advances in naval artillery and torpedoes finally caught up to the ironclad's defensive capabilities.<sup>13</sup> The improvements inspired by the Monitor were slightly more long-lasting. Variations of the rotating turret and sloped hull that the Monitor pioneered were incorporated into battleships during World War II, and to a degree are still incorporated today.<sup>14</sup> In fact, the Monitor led to the creation of the Monitor class warship, whose design was based heavily on the original Monitor ironclad.<sup>15</sup> While these innovations have had a great historical impact on warship design, in the end, it was still the iron plating armor that truly made traditional wooden ships obsolete.

The notion that iron plated ships would be superior to wooden ships did not require a precedent to be widely understood. The Monitor herself was commissioned based on the assumption that without a comparable iron ship, the ironclad Merrimack would be capable of singlehandedly destroying the wooden Union fleet.<sup>16</sup> This assumption was proven to be correct on March 8<sup>th</sup>, the day before the Monitor and the Merrimack actually fought, when the

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<sup>12</sup> "The Description of the Merrimac."

<sup>13</sup> W. Johnson, "Ship-ramming after 1859," *International Journal of Impact Engineering*, Volume 13, Issue 2, 1993, Pages 385-402, ISSN 0734-743X, [http://dx.doi.org/10.1016/0734-743X\(93\)90103-E](http://dx.doi.org/10.1016/0734-743X(93)90103-E).

<sup>14</sup> Bourne, "Iron vs. Oak."

<sup>15</sup> Anna Gibson Holloway, "A new kind of Naval Warfare."

<sup>16</sup> *Ibid.*

Merrimack wreaked havoc upon the Union fleet blockading at Hampton Roads. The USS Cumberland, a pillar of naval prowess, was her first target. The Cumberland carried the most technologically advanced guns available to the Union, and her crew was confident in their ability to destroy the iron ship. Their confidence was sorely misplaced. The shots fired from the Cumberland pitifully bounced off of the Merrimack's hull, even as the Merrimack rammed into the ship and the shots were being fired at nearly point-blank range. The powerful Cumberland was utterly destroyed by the Merrimack in a mere 30 minutes without making so much as a dent in her merciless foe.<sup>17</sup> A similar fate awaited the USS Congress, which was first riddled with holes by the Merrimack's guns and forced to surrender, and then set on fire by ammunition heated in the Merrimack's furnace.<sup>18</sup> All of this transpired as the crew and land batteries on shore fired helplessly on the seemingly invincible ironclad. The utter defeat of the wooden ships by the Rebels' metal superweapon proved beyond doubt that wooden warships had been dethroned as kings of the sea.

The technological advancements showcased at the Battle of Hampton Roads completely altered the standard design of warships around the world. However, the battle was also the father of a significant alteration to the generally accepted rules of naval battles. Until Hampton Roads, sea battles were generally fought with crews exposed on the decks, firing weapons across the waters at their foes while cannons below deck fired into the hulls of opposing ships. The ironclad ships, whose interiors were entirely shielded from enemy fire and whose decks served no utility signaled a departure from this convention: from that point forward, naval battles would be fought from the relative safety of the ship's protected interior.<sup>19</sup>

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<sup>17</sup> Bourne, "Iron vs. Oak."

<sup>18</sup> Ibid.

<sup>19</sup> Ibid.

The revolutionary nature of the battle between the ironclads was immediately recognized around the nation. In a letter to the New York Evening Post, an engineer named George Schutler wrote, “A shot-proof vessel like the Merrimac or Monitor thus becomes the most formidable mode of attack up the water, passing unharmed the largest forts, and attacking without injury ships of any size.”<sup>20</sup> Even less technically experienced or educated individuals were well aware of the ramifications of the battle. A woman named Anna Ferris wrote in her diary about the battle, “...This experience will prove a new era in naval warfare & the ‘walls of oak’ will no longer be the ‘bulwarks of the deep.’”<sup>21</sup>

The Battle of Hampton Roads proved to be one of the most influential naval battles in history. This was not because of the result of the battle in the context of the Civil War, but because of its monumental impact on the development and utilization of navies around the world. From the grandiose improvements made to the lethality and impenetrability of warships to the subtle but important transition in battle strategy, the Battle of Hampton Roads contributed a colossal amount to the progression of naval warfare. Historians point to the battle as a turning point in naval warfare, and rightly so. As the effective proving grounds of the iron warship, the Battle of Hampton Roads forever changed the way the world would construct their navies.

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<sup>20</sup> “Ironclad Ships: Their Efficiency in Naval Warfare,” Evening Post (New York), March 12, 1862, accessed April 15, 2016, NewsBank.

<sup>21</sup> Anna M. Ferris, *The Civil War Diaries of Anna M. Ferris, 1862*, North American Women’s Letters and Diaries, University of Chicago, Last Modified 2016, <http://solomon.nwld.alexanderstreet.com/cgi-bin/asp/phil/nwld/getdoc.pl?S321-D004>.

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