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‘The fiery focus’: An Analysis of the Union Ironclad Repulse at Charleston, 7 April 1863

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It was a vicious circle of strategic, tactical and political misconception. DuPont, increasingly sceptical of the defensive, let alone offensive capabilities of the monitors against fortifications, was nonetheless obliged ‘to take Charleston’. The pressure was far too great to back down; there was national as well as private professional reputation at stake.

“The opportunity to punish their infamy”

On the morning of April 7 1863, a small but powerful squadron of Union ironclads waited impatiently inside the bar of Charleston harbour to begin the long–expected attack against Fort Sumter—if not also against the city beyond. Here was where the great ‘Rebellion’ began. Two years earlier South Carolina was the first American state to declare its secession from the Union. Moreover, the Civil War itself (1861–1865) was precipitated by the surrender of this Federal installation in the middle of the outer harbour, following a three day bombardment from the surrounding Confederate batteries.^[1] As a result Fort Sumter became the most potent symbol of both Southern *and* Northern patriotism—in a ‘peoples war’ where morale was everything and the ‘will to fight’ was becoming more and more a target in itself.^[2]

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Active Union preparations to retake the fort and humble Charleston began shortly after the famous though inconclusive ironclad duel between the U.S.S. *Monitor* and the Confederate *Virginia*, or ‘*Merrimac*’, on March 9, 1862, which seemed to establish the limitless potential of these ‘wonder weapons’ of the Industrial Age.^[3] Pressure went from top to bottom in the Navy’s chain of command and only increased as the Union Army of the Potomac under General George B. McClellan was finally driven out of the Peninsula by Robert E. Lee’s Army of Northern Virginia, in the summer of 1862. The North was in fact desperate for a sensational victory to boost public support for the war and demonstrate to increasingly sceptical, increasingly dangerous European Powers tempted to intervene that the United States of America could take care of itself after all.^[4] If the Army suffered reverses, the Navy simply had to provide convincing proof of inevitable Union triumph, as it had with Flag–Officer David G. Farragut’s daring capture of New Orleans on April 25, 1862.^[5]

Thus, two days after Lee began his counter–invasion of the North the Assistant Secretary of the Navy, Gustavus Vasa Fox, complained to his wife that “[Secretary of State William H. Seward] was here just now to get us to attack Charleston, his remedy for all evils...”^[6] Eight days after Lee’s strategic repulse at Antietam (September 17, 1862), and three days after President Abraham Lincoln’s politically risky decision to issue the Emancipation Proclamation, Fox again relayed the Government’s sense of urgency to the General Inspector of Ironclads, Chief Engineer Alban Stimers, reminding him that “when

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Congress adjourned last session, we promised them Charleston on assembling. I am afraid the Monitors will be behind hand.”^[7]

True enough, it was not until late March 1863 that Senator Charles Sumner, the Chairman of the Senate Foreign Relations Committee, could write to his English friend Richard Cobden that the fleet destined to attack Charleston was finally ready. “The delay has been caused by the extent of the preparations,” he explained, for “the rebels are confident there,” but “so also is our Navy Department.”^[8] This was reflected by Captain Thomas Turner of the broadside–ironclad U.S.S. *New Ironsides*, who confirmed to the Chairman of the Union League Defense Committee that the officers and crew of the fleet “detest the conduct of the South from the bottom of our hearts, and pine for the opportunity to punish their infamy—and this feeling especially towards this place steels our hearts...”^[9] But the Secretary of the Navy, Gideon Welles, meanwhile had his doubts, particularly with the leadership of the expedition under Rear–Admiral Samuel Francis DuPont. In his diary he confided “Du Pont is getting as prudent as McClellan, is very careful; all dash, energy, and force are softened under the great responsibility. He has a reputation to preserve instead of one to make.”^[10]

“To crush his vessels and repel his attack”

It was not until noon of April 7th that the *New Ironsides*, the flagship of the Union squadron, finally hoisted the signal to weigh anchor and proceed with DuPont’s pre–arranged order of battle: line–ahead, with the monitors *Weehawken*, *Passaic*, *Montauk*, and *Patapsco*; *New Ironsides* at the middle of the formation (to better facilitate signalling during the action); followed by the monitors *Catskill*, *Nantucket*, and *Nahant*; with the experimental, twin ‘fixed–turret’–ram U.S.S. *Keokuk* bringing up the rear.^[11] The ships were to navigate between forts Sumter and Moultrie, firing “when within easy range”, to a position “six...to eight hundred yards” off Sumter’s *northwest* face. “After the reduction of Fort Sumter,” the plan concluded somewhat vaguely, “it is probable that the next point of attack will be the batteries on Morris island.”^[12]

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All of the new ironclads were fairly ponderous and unwieldy, taking the better part of an hour just to jostle into formation. The ships' local pilots carried perhaps the greatest responsibility of all, steering through treacherous shoals in unfamiliar and novel vessels from crowded armoured pilot houses. It was their decision to wait for the morning mists to clear and the timing of an ebb tide. Running aground here and now could prove fatal; for a squadron in line—ahead it would be worse. The lead monitor *Weehawken*, commanded by Captain John Rodgers, ran into further problems. Specially fitted with a large armoured raft at her bow intended to destroy channel obstructions, *Weehawken's* anchor became entangled with one of the grappling chains which dangled below the raft. It was not until 1:15 that she was ready again and slowly steamed up the main ship channel towards the right of Fort Sumter. Time dragged on, as did the ironclads. Their hulls already encumbered with marine growth and “grass”, with engines never intended for high speed, they made no more than 4 knots' with difficulty against the flowing tide and a notorious current.^[13]

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A Confederate circular of Instructions from over three months before the attack, specified that:

As the enemy approaches, let the distance he will be in passing be accurately estimated by the distance buoys, and the elevation made to correspond, making it too little rather than too great for direct fire...

In the case of wooden vessels, the object will be to hit them near the water line, just abaft the smokestack. In the case of ironclad vessels, to hit the deck or the turrets at the intersection with the deck, and especially to let all the shots strike at once...

The guns of Beauregard battery, Fort Moultrie, Battery Bee, and the eastern, northeastern, and northwestern faces of Fort Sumter will be used to form the first circle of fire to which the enemy must be subjected, the center being a little to the eastward of a line between the forts and midway. Every effort must be made to crush his vessels and repel his attack within this circle, and especially while he is entangled in the obstructions...^[14]

At ten minutes past two, as the *Weehawken* slowly approached a point directly between forts Sumter and Moultrie, Rodgers saw “rows of casks very near together...and there

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was more than one line of them.” Their appearance “was so formidable”, he later reported, “that, upon deliberate judgement I thought it right not to entangle the vessel in the obstructions which I did not think we could have passed through, and in which we should have been caught.”^[15] Before the obstructions *Weehawken* now hesitated—next to a pre-placed Confederate ranging buoy, “No. 3”, in the middle of the channel. Moultrie then opened fire. Ranges in the various reports are conflicting but probably stood at 900 yards. *Weehawken* responded with both her heavy guns directed against Fort Sumter.

Many accounts have described what happened next. Immediately, guns from Sumter joined the action, in addition to more distant fire from batteries Bee, Beauregard, Cumming’s Point, Wagner, and Fort Johnson. It was a sight “that no one who witnessed it will ever forget,” wrote C. Raymond P. Rodgers, DuPont’s chief of staff. “Sublime, infernal, it seemed as if the fires of hell were turned upon the fleet. The air seemed full of shot, and as they flew they could be seen as plainly as a base-ball in one of our games.”^[16] Soon the *Weehawken* “was so enveloped in spray from the shot showered at her as to be completely invisible and people thought we had gone down,” John Rodgers later explained to his wife.^[17] Turning to starboard, the *Weehawken* threw the rest of the squadron into confusion as the *Passaic* and the rest of the ironclads bunched forward to receive similar treatment.^[18] *New Ironsides*, even more unwieldy in the tide and current than the monitors, and burdened by her deep draft, was obliged to anchor out of effective range.^[19] She managed only a single broadside that day, while the rest of the Union ironclads, huddled before the obstructions, could only return a fraction of the enemy’s concentrated fire. Indeed, by 4:30 many of the monitors had suffered breakdowns, while the *Keokuk* herself was riddled by hits which penetrated her weaker armour protection.^[20] The signal to withdraw was made, and the battered and beaten Union squadron returned to its original anchorage inside the bar to lick its wounds and perhaps renew the attack the following day.

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Keokuk could be barely kept afloat that night, and on the following morning finally sank in shallow water, her two towers just above the surface of the water at low tide—her guns later salvaged by the Confederates under DuPont’s nose. At the longest range involved, though representing a far larger and often stationary target, *New Ironsides* was struck at least 95 times. One of these ripped off an external iron port shutter, four inches thick, and several penetrated into her unarmoured wooden ends, but caused no serious injury.^[21]

“A failure into a disaster”

Damage sustained by the monitors in this contest between forts and ironclads proved to be much more historically controversial, if not ‘critical’. According to John Rodgers’s report several heavy shots struck the *Weehawken*’s 5-inch laminated side armour near the same place, shattering it enough to expose the wood backing; *Passaic* was hit by two successive shots near the base of her turret “which bulged in its plate and beams, and, forcing together the rails on which the XI-inch carriage worked, rendered it wholly useless for the remainder of the action.” More serious damage occurred when “a very heavy rifle shot struck the upper edge of the turret, broke all of its eleven plates, and then glancing upward took the pilot house, yet with such force as to make an indentation of 2½ inches, extending nearly the whole length of the shot.” The damage to *Nahant*’s pilot house was also severe; the monitor itself was pounded 36 times including six on the pilot house and nine on the turret, with an alarming number of bolts loosened, broke, and even found lying outside on the deck. As with *Weehawken*, a chance heavy shot or two at the vulnerable juncture between pilot house and turret proved sufficient to disable its rotation.^[22] *Nantucket* had her 15-inch gunport stopper jammed, being struck a total of

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“fifty–one times, besides a number of dents by fragments of shells”. Though some were bent, none of the turret plates were broken. The executive officer assured his commander “the ship is tight and can, if necessary, go into another fight at once, but to do so would, in my opinion, greatly endanger the ship, unless considerable

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repairs are first given her, there being several places too much weakened to resist a second blow.” On the other hand, Captain John Worden, the hero of the original *Monitor*, acknowledged 14 hits on the *Montauk* with “no material damage”; *Catskill* “was struck some twenty times but without any serious injury except one shot upon the forward part of the deck, which broke both plates, the deck planking, and drove down the iron stanchion sustaining this beam about 1 inch, causing the deck to leak”; while the *Patapsco*’s commander, Daniel Ammen, reported “47 perceptible blows”, but, as with *Montauk* and *Catskill*, “no damage was done which disabled her”.^[23]

The next morning Chief Engineer Stimers, assigned to the ironclad squadron with a corps of specialized mechanics, examined the vessels. Having witnessed the action, he “expected to find...at least an approach to the destructive results which had been obtained by the Chief of the Bureau of Ordnance in his experiments against iron targets in the ordnance yard at Washington.” Instead he was “agreeably disappointed” that none of the monitors were actually penetrated, despite the vigorous hammering they received, and reported to Secretary Welles his “firm opinion that the obstructions can be readily passed with the means already provided,” but never used, “and that the monitor vessels still retain sufficient enduring powers to enable them to pass all the forts and batteries which may reasonably be expected.”^[24] This infuriated DuPont, who shortly afterwards called for Stimers’ court-martial. Stimers was later exonerated after five months of testimonies and cross-examinations. In closing his defense he accused the charges made against him as an attempt to “justify a failure by Rear-Admiral DuPont, which had attracted the observation of the world, by condemning as inadequate the instruments which a liberal government had placed in his hands.” This referred specifically to the armoured rafts intended to blast through the obstructions armed with a torpedo, which the none of the monitors’ officers were willing to use, John Rodgers concluding that “folly would rise into crime which should carry torpedoes in a rapid tide-way in a somewhat narrow channel, without known buoys, under fire, and with the attention divided amongst a friendly fleet.” As for the monitors’ condition after their abortive attack on April 7, 1863 Stimers regarded their trial as one of vindication.^[25] Probably the most significant statistic was the number of casualties on board the monitors as a result of their ordeal: 1 dead and 6 wounded, all from the *Nahant*—and these were attributed by her commander to the inferior quality of iron used for the armour bolts, since “the other vessels were most of them struck quite as frequently on the turret, and some of them much more so than the *Nahant*, and yet their loss of bolts has been trifling in comparison...”^[26] For Rodgers’ wife Anne *this* was the critical factor, nevermind the controversy. “Hurrah for the ironclads! Hurrah for the ironclads!” she wrote on receiving the news from Charleston. “I have always had strong faith in the Monitors, but I had not dared to hope they would prove so entirely invulnerable.”^[27]

Yet while their powers of resistance were almost unbelievable against Charleston harbour’s outer network of forts, their offensive powers were extremely limited. Official Confederate records list 76 heavy guns that fired a total of 2,209 rounds, which in the

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opinion of one of the batteries' commanding officers was perhaps "a little too rapid, but I have no doubt that in the end it [served] a good purpose. The storm of shot and bolts which fell around the enemy confused, if it did not appall him."^[28] The Union squadron replied with 139 rounds—eight of these from *New Ironsides*' only broadside and three from the *Keokuk*. The 14 guns of the seven *Passaic*-class monitors therefore managed only 128 discharges.^[29] Accuracy was equivalent:

About 19% of the fort[s'] rounds hit (520), while the Union forces had a 50% rate of hitting, though their target [Fort Sumter] was certainly larger than the individual ships. The Confederates were helped by preplaced range markers, since normal gunnery percentages for hits would have been closer to 10% than the 19% achieved.^[30]

The damage to Fort Sumter's 5-foot thick brick casemates was largely superficial, with only five men wounded. As against the monitors, continued hits in the same areas might have produced more serious breaches. "The greatest penetration in good, sound masonry was 3 feet," recalled one of Sumter's captains of artillery, "but everything around was cracked and



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started more or less. The most severe blow, I think, was about 3 or 4 feet below the crest of the parapet, where two or three balls struck and just loosened everything clear through for a space of about 6 feet in length.”^[31] But fearing the effect of plunging shot striking the moderately armoured decks of his ironclads, DuPont directed their fire against the fort’s upper barbettes (where much of it overshot) rather than at the base, where repeated blasts from 15–inch calibre shells, each weighing 330–pounds, might have brought down an entire wall.^[32]

At any rate, the various reports made to the Union admiral from the monitor captains on the evening of April 7 convinced him not to renew a strictly naval attack which, as he expressed in a letter to the Secretary of the Navy the following day, “would have converted a failure into a disaster”.^[33] The withdrawal from action officially became a repulse. This news travelled slowly back to Washington, where Gideon Welles felt “a yearning, craving desire for tidings from Charleston.” Army and Navy operations in the west against Vicksburg were stalled, bitterness over the new national draft and emancipation was feeding a growing ‘Peace Party’ of Democrats in the North, and the prospect of a war with England loomed larger than ever. “For months my confidence has not increased, and now that the conflict is upon us my disquietude is greater still,” he wrote in his diary. “I do not believe the monitors are impregnable, as [Fox] does, under the concentrated fire and immense weight of metal that can be thrown upon them, but it can hardly be otherwise than that some, probably most of them, will pass Sumter. What man can do, our brave fellows will accomplish, but impossibilities cannot be overcome.”^[34]

“The people who are to use their tests & inventions”

Was a Union naval victory at Charleston ‘impossible’? Certainly to the ‘brave fellows’ in the fleet, or at least the commanding officers, the harbour defences could *not* be challenged by the means at their disposal—particularly by the monitor–ironclads. Individual weight of shell mattered little when a rapid and overwhelming ‘suppressing’ fire was needed to subdue forts. It was a question of *matériel*.^[35] Then again, dashing through the extended gauntlet of the main ship channel, up to the wharves of Charleston, was not DuPont’s intention, despite the popular expectation that this was precisely what he, like Farragut, would do. Nearly a year before, he warned Fox to “think coolly and dispassionately on the *main object*,” for unlike the lower Mississippi river approach to New Orleans, or even Mobile Bay, Charleston harbour was a *cul-de-sac*.^[36] There would be no shelter for the ironclads from start to finish. In the absence of a methodical joint Army–Navy siege, a strictly naval incursion would be all or nothing, all at once. Neither the War Department or the White House had the resources or patience to spare for yet another siege, and Welles was willing to accept heavy losses if the coveted Rebel city was nevertheless brought to heel.^[37] In that respect it was a question of *tactics*.

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Even assuming some of the ironclads managed to reach the city—with constant motion and the smoke of Confederate gun fire perhaps working to their advantage—they would face a *morale*, if not moral, dilemma. Less than two months before the attack Fox wrote to DuPont “it seems to me very clear that our course is to go in and demand a surrender of the Forts or the alternative of destruction to their city.”^[38] But there was no guarantee Charleston *would* surrender easily, let alone quickly; and the monitors only carried reserves of ammunition proportionate to their size, if a general bombardment followed a gunfight with the city’s waterfront batteries.^[39] Perhaps sensing this, Lincoln telegraphed to Welles on April 9th an extract from the Richmond *Whig*, which stated “at last the hour of trial has come for Charleston. The hour of deliverance or destruction, for no one believes the other alternative, surrender... We predict a Saragossa defense, and that if Charleston is taken it will be only a heap of ruins.”^[40] Examples throughout the Civil War are mixed on this point of conjecture. General Pierre Gustave Beauregard, in charge of the city’s defence, stated he planned to fight “street by street, and house by house” in the event of a landing.^[41] Few Federal troops were on hand to actually take possession and hold the city, let alone the forts, against any major counterattack, so the ironclads might have resorted to setting defiant Charleston on fire, before turning to run the long gauntlet back out again: a Pyrrhic raid, not a propaganda victory.^[42] It was therefore in the dubious hope that the good citizens of Charleston would acknowledge defeat—if only a few monitors proved impenetrable enough to reach them—that the Lincoln administration was willing to decimate the nation’s only coastal ironclad force.^[43]

It was a vicious circle of strategic, tactical and political misconception. DuPont, increasingly sceptical of the defensive, let alone offensive capabilities of the monitors against fortifications, was nonetheless obliged ‘to take Charleston’. The pressure was far too great to back down; there was national as well as private professional reputation at stake. To minimise this sense of risk the Union admiral therefore delayed action until every possible resource was placed at his disposal. The Department of the Navy was willing to comply, at the cost of depriving every other theatre of operation of the armoured means of taking more realistic and strategically-valuable prizes—in addition to exposing other vital areas to attack from new Confederate rams. “You will see that threatened at all points and at all points continual disaster, all of which is laid solely at the door of the Secretary,” Fox reminded DuPont before the attack, “yet he has given you every vessel except *Sangamon*, which against three Iron Clads of the enemy, guards Hampton Roads, the waters of the Chesapeake & Washington itself.”^[44] But this was based in turn on the understanding that the iron-plated squadron would be used more as a battering ram than a siege train against Charleston. For the Department it was the quickest, cleanest tactical method of satisfying a multitude of strategic and political commitments. Somewhere in the intervening months, between Washington’s belief that ironclad-monitors could run even the gauntlet of Charleston harbour—that a sensational coup would logically follow this ‘sublime’ Yankee demonstration of superior technology and morale resolve—and the growing opinion amongst the professional officers

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themselves that such an enterprise was doomed, even dangerous, victory did in fact become impossible.

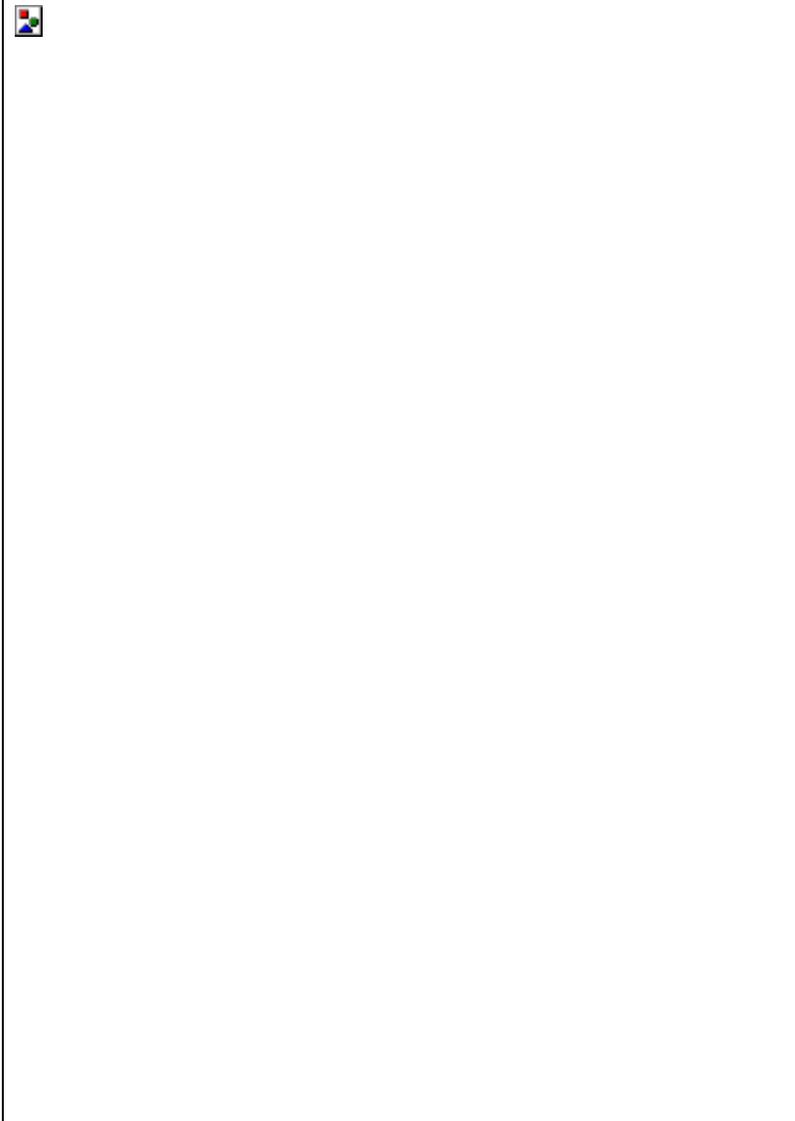
First, by dismissing the idea, but never quite an order, of charging straight up to Charleston the monitors were automatically relegated to a stand-up fight against forts, which some experience already suggested would be in favour of the latter.^[45] Yet it was this obvious weakness, amongst others, which made the prospect of an even more daring and extensive test of the monitors' ultimate potential seem ridiculous. Secondly, DuPont's alternative of reducing Fort Sumter, even if the obstructions could be negotiated first, played into Confederate hands perfectly. If Charleston would not surrender directly under the guns of Union ironclads, how would the destruction of a single fort be any more decisive? If the entire outer harbour's defences were to be conquered one at a time before making a drive upon the city, why start at the *middle* of a multiple crossfire everyone knew existed?

Finally, the War Department was unwilling to divert significant numbers of troops away from Mississippi, Tennessee or Virginia for an extensive and strictly 'political' campaign against Charleston, South Carolina. 12,500 Union soldiers at Port Royal were available for combined operations with the Navy; but bickering amongst the local generals frustrated the development of any plan to establish a beachhead that could be protected by the fleet and begin a long-range bombardment against the outer forts by land. DuPont knew he had no practical alternative left but to run the gauntlet after all. But instead of making optimistic preparations to fulfil the Department's wishes he initiated an ulterior strategy which would minimise the risk to *his* ships even at the cost of *their* reputation. This included an unwillingness to seriously employ the torpedo rafts the Department furnished for clearing obstructions.

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Indeed, the issue of both the obstructions and the monitors dominated the sensational public controversy in the aftermath of the Union naval repulse of April 7th. The former laid stress upon the poor tactics chosen by DuPont. “The ironclads stood very well...[against]...the slave-mongers at Charleston,” wrote Charles Sumner to another English Radical, and advocate of the Union cause, John Bright. “*The difficulty was in the obstruction of the harbor*, which kept the vessels in the fiery focus. Had these been removed they could have

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pushed forward.”^[46] Fox more or less agreed. “He is of a wooden-age, eminent in that, but in an engineering one, behind the times.”^[47] DuPont, on the other hand, focused attention on the tools at his disposal. “I think these Monitors are wonderful conceptions,” he wrote before the attack, “but oh! the errors of details, which would have been corrected if these men of genius could be induced to pay attention to the people who are to use their tests & inventions.”^[48] If another attempt was made, DuPont and the monitor captains later argued, the ironclads might be destroyed, or even worse, be captured by the Rebels and used to sweep away the Federal blockade of the eastern seaboard. Foreign intervention would soon follow.^[49] Defeat by this reasoning was nicely converted into something more important than victory. Implied here, moreover, was a condemnation by seamen of their civilian Government’s huge investment in ironclad-monitors—a naive faith in ‘engineers’ and ‘inventors’. What troubled *Scientific American*, however, was “the spirit, if not the exact letter, of the accounts furnished” by the officers of the ironclad squadron.^[50] *Harper’s Weekly* solemnly reflected that:

Each person draws his own inferences and forms his own opinion of the affair, according to his hopes and views, and the temper of his mind. The most obvious of all inferences is that it insures an indefinite prolongation of the war. Had we destroyed Fort Sumter and occupied Charleston there would have been good ground for expecting the early collapse of the rebellion. As it is, the rebels will of course be encouraged to persevere in their rebellion, while we shall merely renew our preparations for another and possibly a more successful attack...To a nation fixed and resolute in its purpose as this is, failure is impossible.^[51]

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Not surprisingly, an antagonistic London *Times* preferred DuPont's analysis of the repulse, and carried it to a different logical extreme:

Hopes reversed, designs baffled, all efforts made in vain—is there no lesson for the North in this stern teaching of events, if passion could read them rightly, or if reason were allowed a voice? This naval campaign was to retrieve all previous disasters and to avenge them. It has ended in a catastrophe more signal than any reverse the North has yet sustained. Continual failures are not mere accidents. The object of the North is impossible.^[52]

When DuPont insisted that the Navy Department publish his official reports to answer criticism of his actions from the *Baltimore American*—based, he maintained, on information supplied from Chief Engineer Stimers—Welles crisply replied “What public benefit, let me ask, could be derived from its publicity[?]”^[53] As historian James McPherson writes, the monitors “had been repulsed in a manner that gave the Union navy a black eye.”^[54] Now the commanding officer responsible seemed determined to add insult to injury.

Precious weeks passed. DuPont refused to back down in his defensive, increasingly political attack upon his superiors, or to venture any more Navy action against Charleston. Rebellion occurred within his own ranks, however, when Percival Drayton, the most outspoken of the monitor captains critical of their own vessels, realised there were more careers at stake than DuPont's.^[55] On a visit to Washington he tactfully regretted the Rear-Admiral's “over-

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Rear-Admiral Samuel Francis DuPont

Secretary of the Navy Gideon Welles



sensitive nature” to the Secretary, suggesting his “morbid infirmity was aggravated by his long continuance on shipboard”. As a crowning touch he offered that the monitors, even despite their crawling pace, “would have passed the batteries and reached the wharves of Charleston but for submerged obstructions”.^[56] Though DuPont was rallying powerful connections, Welles finally relieved him of command on June 3rd, to be replaced by Rear-Admiral Andrew H. Foote. There was little left to be said: “the Government is unwilling to relinquish all further efforts upon a place that has been so conspicuous in this rebellion, and which continues to stimulate treason and resistance to the Union and Government...”^[57]

“Time to get in earnest”

Even so, political opponents of Lincoln’s administration were bound to exploit another apparent misconduct of the war. The resulting Congressional inquiry led to the largest ever Report of the Secretary of the Navy—“in Relation to Armored Vessels”. The big question was “What were these monitors good for?”^[58] The answer began with what the monitors were *designed* for. John Ericsson, the brilliant Swedish-American engineer-inventor, believed science would prove more decisive in modern warfare than

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“numbers”. “By a proper application of mechanical devices alone,” he wrote to President Lincoln, “will you be able with absolute certainty to destroy the enemies of the Union.”^[59] The original *Monitor*, according to her inventor, was intended to “admonish the leaders of the Southern Rebellion that the batteries on the banks of their rivers will no longer present barriers to the entrance of Union forces.” This suggested barriers to be *passed through* towards a set objective. Ericsson also referred, perhaps crucially, to ‘Monitoring’ the activities of “Downing Street”, and was unable to resist the opportunity of piquing an old acquaintance, the British Admiralty, by “suggesting doubts as to the propriety” of their ironclads which, if nothing else, cost more than his own.^[60] The next-generation monitors of the *Passaic*-class were to fulfil the same roles as the original but on a more ambitious level. They would be armed with even greater guns, themselves protected by even thicker turret armour, making them perfect ‘weapons platforms’.^[61] As such, the nature of the monitors’ armament should have been self-explanatory to contemporaries: these were ironclad-killing machines.^[62] Against armour plate, calibre was ultimately more decisive than numbers. For that matter, the wounds inflicted upon the ironclads at Charleston might have been mortal ones if fewer though heavier guns were employed. The only ironclad that was *penetrated* on April 7 1863, the *Keokuk*, was the only ironclad sunk.^[63]

Here, therefore, lay the roots of another fateful misconception. As early as September 1862, the man behind the monitors wrote to Fox, their biggest advocate, how he “strongly urged Mr. Stimers...to impress you with the fact that the number of 15 inch guns rather than the number of vessel will decide your success against the Stone forts,”^[64] and just *before* news reached him in New York of the great ironclad repulse, Ericsson confessed:

...I cannot share in your confidence relative to the capture of Charleston. I am so much in the habit of estimating force and resistance that I cannot feel sanguine of success. If you do succeed, it will not be a mechanical consequence of your ‘marvellous’ vessels, but because you are marvellously fortunate. The most I dare hope is that the contest will end without the loss of that prestige which your Iron Clads have conferred on the Nation abroad...A single shot will sink a Ship while a hundred rounds cannot silence a fort.^[65]

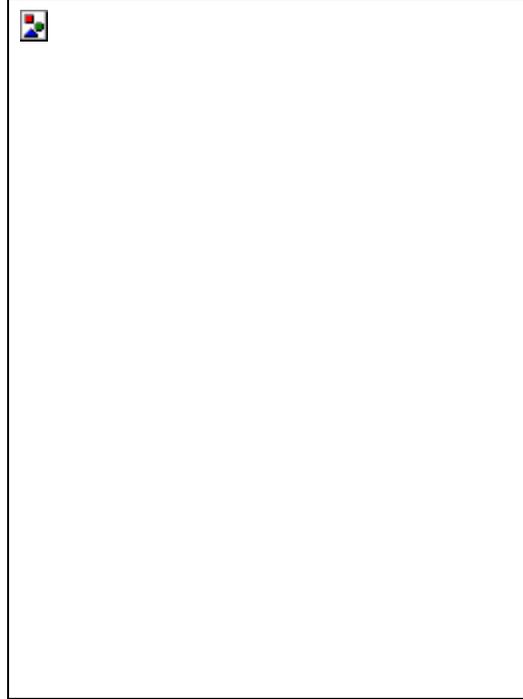
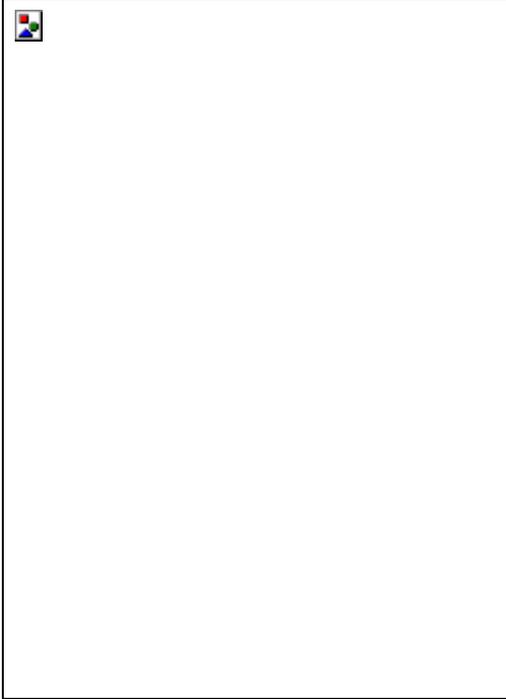
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Assistant Secretary Gustavus Vasa Fox

John Ericsson



But this sentiment did not necessarily conflict with Fox’s original hope for a strictly naval victory, one that would magnify the importance of the Navy to Congress; free up the large blockading fleet before Charleston for operations elsewhere; including the pursuit of British–built Confederate commerce raiders that were busy wrecking the North’s merchant marine (angering powerful New England interests); and impress foreign powers.^[66] Indeed, for the Assistant Secretary there was more:

Being myself responsible that some twenty [monitors] are now underway, and knowing that the exigencies of the public service did not permit experiments with the details, I have personally considerable at stake in the matter. It is a stake of reputation which is the greatest one that can be imposed. It is briefly whether I shall be considered an Ass or a very sensible man.^[67]

It was not surprising then that John Ericsson referred to the damage reports of the monitors as “trifling”, remarking “it has...given me pain to think that our fighting machines were intrusted [sic] to officers who know nothing of mechanics and therefore have no confidence in their vessels.”^[68] A week before the attack, he wrote to Welles that the monitor captains should be reminded by the Department that “they have entered on a new era, that they are now handling not ships, but floating fighting machines, and

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that however eminent their seamanship, they cannot afford to disregard the advice of the Engineer.”^[69] It took another twenty years before Drayton’s successor in command of the *Passaic*, Edward Simpson acknowledged that perhaps things—the monitors—were not as they hopeless seemed at the time. “Of course I took the liberty of criticising, and sometimes when one is suffering from the trials of confinement and war annoyances one may criticise rather roughly.”^[70]

Whatever ‘deterrence value’ the Union Navy’s ironclad–monitors carried in terms of its international relations, their importance in sustaining the blockade from within, against Confederate ironclad–rams was unquestionable. John Rodgers’ feelings towards the new men–of–war tended to vary over time as well. He was surprised and then confident in the seagoing qualities of the *Weehawken* on her maiden voyage south, weathering a Cape Hatteras gale while his tow sought shelter. A week before the attack on Charleston he proudly wrote to his wife he was “very well pleased with the *Weehawken* compared with the other monitors”:

All of our 12 engines work to a charm. Did I ever tell you we have 12 engines[?] .^[71]

This love affair between the Captain and his Ship promptly soured when ‘*she*’ betrayed ‘*him*’ before Charleston’s outer defences; and by the beginning of May Rodgers was writing to his wife how John Ericsson, “a charlatan”, “has not made as far as I know a single good engine,” and was “suffered to spend millions of public money without experiment to test the soundness of his ideas...”^[72]

Things changed again, however on June 17, 1863. Encouraged by jubilant Charleston reports of ‘feeble monitors’, and the gloominess of the Northern press, the Confederacy despatched its best ironclad–ram, the *Atlanta*, to recapture Port Royal and scatter the Union blockade.

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Waiting for her outside Savannah, in Wassaw Sound, were the monitors *Weehawken* and *Nahant*.^[73] Four hits and fifteen minutes after the battle started it was over, and so was the *Atlanta*. *Weehawken* did all the shooting before *Nahant* could even get in on the kill. The first hit, a 15-inch cored-shot weighing 400-pounds, blasted through the *Atlanta*'s 30-degree casemate armour at an angle of fifty degrees in line with the keel.^[74]

The captain of the *Weehawken* was more than pleasantly surprised. "Every long lane has a turning," he pondered, "the rebels treated me badly at Fort Darling, and did their best to sink my vessel at Charleston, but here on the 17th, the Anniversary of Bunker Hill, I took the strongest iron clad in the Confederacy in the opinion of the officers of the *Atlanta*, so easily that we scarcely had time to get in earnest."^[75] Gideon Welles knew exactly how to take it, however. The Navy, if not the entire nation, holding its breath for too long, could now breathe a small sigh of relief. By positively "demonstrating the offensive power of the new and improved monitors armed with guns of XV-inch caliber," he explained to Rodgers, the Union's ironclad policy, based on the lessons of the original *Monitor*-*Merrimac* action, was proven sensible after all:

To your heroic daring and persistent moral courage, beyond that of any other individual, is the country indebted for the development, under trying and varied circumstances, on the ocean, under enormous batteries on land, and in successful encounter with a formidable floating antagonist, of the capabilities and qualities of attack and resistance of the monitor

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class of vessels and their heavy armament. For these heroic and serviceable acts I have presented your name to the President, requesting him to recommend that Congress give you a vote of thanks in order that you may be advanced to the grade of commodore in the American Navy.^[76]

Conclusion

Ironically, it was the sailors' obsession with the monitors' lack of offensive power which placed them in a defensive role at Charleston on April 7, 1863 guaranteed to magnify this very weakness; while the engineers' fixation with their impregnability advocated a bold offensive thrust through the heart of the enemy's defences. Their inventor, John Ericsson, never intended them to act as 'fort-killers'. They might be employed to run gauntlets, and given their peculiar defensive powers, were better fit to risk such a manoeuvre than large broadside-ironclads simply on a point of evading rather than overpowering enemy fire. What happened after that was more problematic, but not necessarily impossible. A large degree of their efficacy was psychological. An irresistible 'infernal machine' appearing off the shore and wielding 'monster' guns could be a source of fear and wonder. At times this was enough, and this is what Fox had in mind for Charleston: the enemy's will to fight, crushed without even firing a shot. But on April 7, 1863 nearly the reverse happened. 'Moral Courage' meant conviction during the Civil War, a do or die conflict where every available mental and material resource frequently tested the calibre of fellow Americans, North and South.

^[1] If armed conflict with the Confederate states proved inevitable the new U.S. President, Abraham Lincoln, preferred the South to strike the first blow. The bombardment at Charleston began at 4:30am, April 12, 1861, with the fort surrendering (after 33 hours under fire) on April 14. The following day Lincoln issued his famous Proclamation calling for 75,000 volunteers to suppress 'national insurrection'. See James McPherson, *Battle Cry of Freedom: The Civil War Era* (New York: Ballantine Books, 1988), 273-4; also James McPherson, *Abraham Lincoln and the Second American Revolution* (New York: Oxford University Press, 1990), 65-6; 119-20, on the issue of how voluntarily evacuating Fort Sumter would imply a crucial legitimacy to the new Confederate government.

^[2] See Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (Bloomington: Indiana University Press, 1973), 92-152.

^[3] "Hail to victory without the gaud/Of glory; zeal that needs no fans/Of banners; plain mechanic power/Plied cogently in War now placed—/Where War belongs—/Among the trades and artisans", Herman Melville, "A Utilitarian's View of the Monitor's Fight", *Battle-Pieces and Aspects of the War* (first published in 1866), quoted from Leo B. Levy,

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“Hawthorne, Melville, and the Monitor”, *American Literature*, Vol. 37, Issue 1 (March, 1965), 36; see also David A. Mindell’s thought-provoking analysis in *War, Technology and Experience aboard the USS Monitor* (Baltimore: John Hopkins University Press, 2000), especially 123–34; and James P. Delgado, “A Symbol of the People: Assessing the Significance of the U.S.S. Monitor”, in J. Lee Cox, Jr. and Michael A. Jehle (eds.), *Ironclad Intruder: U.S.S. Monitor* (Philadelphia: Philadelphia Maritime Museum, 1988), 34–40.

^[4] The *New York Herald* criticized Secretary of War Edward Stanton in comparison with Secretary of the Navy Gideon Welles, who, in putting “the right man in the right place” (John Ericsson), was at least fashioning an “impregnable fleet”. “The rebels are growing weaker every day; the Union feeling is spreading, and we will be ready to defy all the maritime Powers of Europe combined in less than two months. Napoleon in Mexico may then look out,” 26–6–1862, “Our Iron-Clad Navy”.

^[5] After which Farragut was awarded the new rank of Rear-Admiral of the U.S. Navy, by Act of Congress, July 17, 1862; see *Congressional Globe*, 37th Congress, 2nd Session, Series No. 192, 2–7–1862, 3063–71; and *Congressional Globe*, 37th Congress, 3rd Session, *Appendix, Report of the Secretary of the Navy*, 1–12–1862, 19–20.

^[6] 6–9–1862, Fox to his wife, Virginia L. Woodbury Fox, Gustavus Vasa Fox Papers, New York Historical Society Library Manuscripts, New York, NY, Box 2. Seward understood that in the absence of real sympathy, only naval, if not military U.S. victories would ultimately affect European policy towards the American Civil War; hence the *London Times*’ editorial of 27–12–1862 that “the integrity of the American Empire, or Union, was a magnificent vision, but events are proving that it was a vision only. Are we to be reviled because we make light of the result?” See also *Punch*, 30–8–1862, which quipped “*A Real Blockade*” as “that which is keeping patriots in America,” and “*A Paper Blockade*” as “that which is keeping truths out of America.”

^[7] 25–9–1862, Fox to Stimers, Fox Papers, Box 4, “Letters to Gustavus Vasa Fox, 1862, L – W”. Howard Jones has convincingly argued that the issuing of the Emancipation Proclamation led to the most critical period of Anglo-American relations since the *Trent* Affair of November 1861–January 1862, as it was interpreted by key members of the British cabinet as an act of political and military desperation on the part of the Lincoln administration; see *Union in Peril: The Crisis over British Intervention in the Civil War* (Chapel Hill and London: University of North Carolina Press, 1992), and his essay “History and Mythology: The Crisis over British Intervention in the Civil War”, in Robert E. May (ed.), *The Union, the Confederacy, and the Atlantic Rim* (West Lafayette, IN: Purdue University Press, 1995), 29–67.

^[8] Letter dated 24–3–1863, from Beverly Wilson Palmer (ed.), *The Selected Letters of Charles Sumner*, 2 vols., (Boston: Northeastern University Press, 1990), 2: 152–3. British authorities were already well informed of both Charleston’s defences and likely Union naval forces being prepared against them; 27–12–1862, Lord Lyons to Vice-Admiral Alexander Milne (commander-in-chief of the British West Indian and North American Station), Milne Papers Collection, National Maritime Museum, Greenwich, MLN/116/1a (“Semi-Official and Private Letters”); Public Record Office, Kew, London

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(“P.R.O.”), W.O. 33/11, 1–8–1862, Confidential Report, 26–50; P.R.O., ADM 1/5791 (report dated 8–11–1862); and the various reports found in ADM/1/5819; see also Regis A. Courtemanche, *No Need of Glory: The British Navy in American Waters 1860–1864* (Annapolis: Naval Institute Press, 1977), 112–19; and the *Illustrated London News*, issues 28–2–1863 and 4–4–1863.

^[9] 30–3–1863, Turner to Hamilton Fish, Hamilton Fish Papers, Library of Congress (“L.O.C.”) Manuscript Division, Washington, D.C.

^[10] Entry dated 12–3–1863; Howard K. Beale (ed.), *Diary of Gideon Welles: Secretary of the Navy under Lincoln and Johnson*, 3 vols. (New York: W. W. Norton & Company, Inc., 1960), 1: 247.

^[11] Each *Passaic*-class monitor mounted only two guns behind 11-inches of curved, built-up (or “laminated”) turret armour; one 15-inch and one 11-inch Dahlgren smoothbore; the *Patapsco* carried one 15-inch Dahlgren and one 150-pounder Parrott rifled gun; Donald L. Canney, *The Old Steam Navy, Volume Two: The Ironclads, 1842–1885* (Annapolis, Maryland: Naval Institute Press, 1993), 75–8; *Monitors of the U.S. Navy 1861–1937* (U.S. Navy Department, Navy History Division, 1969), 10–13. The 15-incher was the heaviest piece of naval ordnance carried in any navy, but was also very slow in firing despite many ingenious mechanical contrivances for servicing it. Only a centreline-mounted turret vessel could in fact carry such a weapon during the Civil War. *Keokuk*, however, was armed with only one 11-inch Dahlgren in each of her fixed turrets, had a significantly higher freeboard than the monitors, and was much more lightly armoured both on deck and on her towers. *New Ironsides* boasted fourteen 11-inch Dahlgrens and two 150-pounder rifles behind 4½-inch slabs of armour on 18 inches of white oak, but, drawing 16 feet of water, proved operationally less flexible in shoal waters than the monitors at 11 feet six inches; William H. Roberts, *USS New Ironsides in the Civil War* (Annapolis, Maryland: Naval Institute Press, 1999), 11–16, 21.

^[12] “Order of battle and plan of attack upon Charleston, South Carolina”, in *Report of the Secretary of the Navy in Relation to Armored Vessels* (Washington: Government Printing Office: 1864), 60–1.

^[13] “These iron bottomed vessels foul in a very remarkable degree. Copper bottomed ones do also,” wrote John Rodgers to his wife Anne, “Grass on the Wabash is I hear a foot long—what must be our condition[?]” 2–6–1863, Rodgers to Anne H. Rodgers, Box 22, Rodgers Family Papers, Naval Historical Foundation collection, L.O.C., Manuscript Division, Washington, D.C.

^[14] “Circular of instructions from the commanding general at Charleston, S.C.”, 26–12–1862, *Official Records of the Union and Confederate Navies in the War of the Rebellion* (“O.R.N.”), 30 vols. (Washington: G.P.O., 1894–1922), Series 1, Volume 14, 102–5.

^[15] “Report of Captain John Rodgers, commanding United States iron-clad *Weehawken*, April 8, 1863”, *Report of the Secretary of the Navy*, 63–4.

^[16] Rear-Admiral C. R. P. Rodgers, “Du Pont’s Attack at Charleston”, in Robert Underwood Johnson and Clarence Clough Buel (eds.), *Battles and Leaders of the Civil War*, 4 vols. (New York: Castle Books, 1887; 1956 reprint), 4: 37. See also the depiction offered by Major John Johnson, Confederate Engineer-in-charge at Ft. Sumter, quoted in

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Jack Greene and Allesandro Massignani, *Ironclads at War: The Origin and Development of the Armored Warship, 1854–1891* (Conshohocken, Pennsylvania: Combined Publishing, 1998), 140–1.

^[17] 13–4–1863, Rodgers to Anne H. Rodgers, Rodgers Family Papers, Box 22.

^[18] Henry Kloeppel, serving aboard the monitor U.S.S. *Patapsco*, described how his vessel “stood up [towards the forts] under a most fearful fire[,] the shot & shell fall close and plentiful all around us,” and that shot and shell “fell so closely around us as to bury us in the Spray of water, flying up like so many waterspouts, as to spoil their aim and range,” April 7, 1863–entry, Diary of H. Henry Kloeppel, L.O.C., Manuscript Division, Washington, D.C. See also the detailed account in Alvah F. Hunter (Craig L. Symonds, ed.), *A Year on a Monitor and the Destruction of Fort Sumter* (Columbia, South Carolina: University of South Carolina Press, 1987), 47–61.

^[19] At one point she anchored above an electrically–fired Confederate mine filled with 3,000 pounds of gunpowder. “For ten minutes,” Captain Langdon Cheves of the Confederate Army later wrote, “I could not have placed the *Ironsides* more directly over it if I had been allowed to, but the confounded thing, as is usual, would not go off,” Roberts, *USS New Ironsides*, 54.

^[20] *Keokuk* passed in front of the monitor *Nahant* to within 550 yards of Fort Moultrie, where she quickly drew the attention of most of the Confederate gunners. Her “career”, as Donald Canney expresses, “was entirely Hobbesian: short and violent,” *The Old Steam Navy*, 73.

^[21] “My impression is,” Captain Turner later wrote to DuPont, “had you been able to get this ship into close position, where her broadside would have been brought to bear, that not one port–shutter would have been left under the fire of such enormous projectiles as were thrown from the enemy’s works, multiplied on every side of us,” “Report of Captain T. Turner”, 10–4–1863, *Report of the Secretary of the Navy*, 76.

^[22] *Nahant* temporarily lost control of her pilot house wheel and drifted towards the obstructions under the returning flood tide until a secondary apparatus was engaged. The *Passaic*–class monitors were fitted with three steering wheels, “in case the pilot house should be destroyed in action,” 26–11–1862, John Ericsson to Fox, John Ericsson Papers, L.O.C., Manuscript Division, Washington, D.C.

^[23] See the individual battle/damage reports in *O.R.N.*, Series 1, Volume 14, 10–24. The most serious damage to the ironclads was inflicted by the four 10–inch smoothbore Columbiads and two 7–inch Brooke heavy rifled guns of Fort Sumter and the five 10–inch Columbiads of Battery Bee, near Fort Moultrie; see “Return of guns and mortars at forts and batteries in Charleston Harbor, engaged April 7, 1863”, *O.R.N.*, Series 1, Volume 14, 83.

^[24] 14–4–1863, “Report of Chief Engineer Stimers, U.S. Navy”, *O.R.N.*, Series 1, Volume 14, 41–2.

^[25] See “Enclosure No. 2.—Despatch No. 208, 1863”, dated 20–4–1863, Rodgers to DuPont, in *Report of the Secretary of the Navy*, 94–6; for Stimers’ court–martial see pages 114–70; also Frank M. Bennett, *The Steam Navy of the United States: A History of*

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the Growth of the Steam Vessel of War in the U.S. Navy, and of the Naval Engineer Corps (Wesport: Greenwood Press, 1896), 403–22.

^[26] “Report of Commander Downes, U.S. Navy, commanding U.S.S. *Nahant*, regarding the inferior quality of bolts used in the construction of that vessel”, 29–4–1863, *O.R.N.*, Series 1, Volume 14, 51. Henry Kloeppe agreed, noting in his journal entry of April 7, 1863 that “*Nahant* was also very much [sic] injured but not so as to make her unfit for service, her injuries as mostly owing to poor construction, not being put together as strong as the rest of the Monitors. Her bolts in the Turret flying outward, she resembled more a Hedgehog than anything I ever saw,” Kloeppe Diary, L.O.C.

^[27] 12–4–1863, Anne to John Rodgers, Rodgers Family Papers, Box 22.

^[28] “Report of the commanding officer of the batteries on Sullivan’s Island”, 13–4–1863, *O.R.N.*, Series 1, Volume 14, 101.

^[29] *Report of the Secretary of the Navy*, 75.

^[30] Greene and Massignani, *Ironclads in Action*, 143.

^[31] “Copy of a letter found on the C.S.S. *Atlanta*”, 26–4–1863, addressed F. H. Harleston to Lieutenant Thurston, Confederate States Marine Corps, C.S.S. *Atlanta*, *O.R.N.*, Series 1, Volume 14, 111.

^[32] *Civil War Naval Ordnance* (Naval History Division, Navy Department, 1969), 10. See also Warren Ripley, *Artillery and Ammunition of the Civil War* (New York: Van Nostrand Reinhold, 1970), 97–100, 255–7, 370. For damage to Fort Sumter see “Report of Major Echols, C. S. Army”, 9–4–1863, *O.R.N.*, Series 1, Volume 14, 85–95, 95–8; also Rowena Reed, *Combined Operations in the Civil War* (Annapolis: Naval Institute Press, 1978), 294.

^[33] 8–4–1863, DuPont to Welles, *Official Dispatches and Letters of Rear Admiral Du Pont, U.S. Navy 1846–48, 1861–63* (Wilmington: Ferris Bros., 1883), 441–2. Irritation with their own vessels was manifest even before the attack, George E. Belknap of the *New Ironsides* recalling “it is no discredit to the monitor captains who came on board for final instructions...to say that their encounter with the grease [the flagship was covered with an inch of tallow as well as sandbags and “raw green hides” to help protect the decks and sides], as they climbed up the ship’s side by means of Jacob’s ladder and man-ropes, did not conduce to amiability of temper or choiceness of diction. As they landed on deck, the hides ‘smelt to Heaven,’ and were slippery under their feet, and something new in naval experience dawned on their astonished vision, albeit of not an agreeable character...[the monitor captains] perhaps brought on their hands and clothing a fair sample of their own tallow,” George E. Belknap, “Reminiscent of the ‘New Ironsides’ off Charleston”, *United Service Journal*, January 1879, 63–82, taken from the “Civil War Pamphlets” collection, Volume 5, U.S. Naval Historical Center Archives, Washington Navy Yard, D.C.

^[34] Entry dated 9–4–1863, Beale, *Diary of Gideon Welles*, 1: 264–5. John A. Dahlgren, the Chief of the Bureau of Ordnance, likewise described Lincoln on February 14 as “restless about Charleston,” Madeleine Vinton Dahlgren (ed.), *Memoir of John A. Dahlgren, Rear-Admiral United States Navy* (Boston: James R. Osgood and Co., 1882), 388. For the domestic circumstances of the Civil War at this time see McPherson, *Battle*

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Cry of Freedom, 591–611, 625; also Reed, *Combined Operations*, 280–1. Charles Francis Adams, the American Minister to Britain, was meanwhile writing to his son in the Union army that “the American question excites more fever than ever. The collisions that inevitably take place on the ocean in the effort to stop all the scandalous voyages to help the rebels, that are made from this island, necessarily created much bad feelings...My endeavor will be to prevent things from coming to a rupture here, not from any particular goodwill to the English, but from a conviction that quarrelling with them just now is doing service to the rebels,” 24–4–1863, Worthington Chauncey Ford (ed.), *A Cycle of Adams Letters, 1861–1865*, 2 vols. (Boston: Houghton Mifflin Company, 1920), 1: 276–7. On April 13, 1863, the British Minister to the United States, Lord Lyons, wrote to Foreign Secretary Lord Russell that he thought “the state of things here, as far as peace with us is concerned, more alarming than it has been since the *Trent* affair...I would rather the quarrel came, if come it must, upon some better ground for us than the question of the ships fitted out for the Confederates,” from Lord Newton, *Lord Lyons: A Record of British Diplomacy*, 2 vols. (London: Edward Arnold, 1913) 1: 101.

^[35] See “Statement of commanding officers of ironclads which participated in the attack on Fort Sumter, in response to newspaper accounts”, 24–4–1863, *O.R.N.*, Series 1, Volume 14, 45–8.

^[36] Described by DuPont as “a porcupine’s hide and quills turned outside in and sewed up at one end,” from Reed, *Combined Operations*, 268, ff. 14; Robert Erwin Johnson, “Ships Against Forts: Charleston, April 7 1863”, *American Neptune*, Volume 57, No. 2, Spring 1997, 124–5; 31–5–1862, DuPont to Fox, from Robert Means Thompson and Richard Wainwright (eds.), *Confidential Correspondence of Gustavus Vasa Fox, Assistant Secretary of the Navy 1861–1865*, 2 vols. (New York: Books for Libraries Press, 1972), 1: 122–3.

^[37] See Welles’ journal entries dated the 8th and 10th of April, 1863 in Beale, *Diary of Gideon Welles*, 1: 264, 266; also 16–2–1863, Fox to DuPont, *Confidential Correspondence*, 1: 179–80. There were other strategic reasons for a swift capture of Charleston: it would free blockading vessels for service elsewhere; see 31–1–1863, Welles to DuPont, U.S. National Archives (“N.A.”), Record Group 45, Office of the Secretary of the Navy, 1776–1913; General Records, 1798–1910, Entry 15, “Confidential Letters to the Secretary of War and to the Officers of the Army, the Navy, and the Marine Corps, Nov. 1861–Sept. 1875,” Volume I.

^[38] Fox, *Ibid.*... This echoed Gideon Welles’ order to DuPont, dated 6–1–1863, to “enter the harbor of Charleston and demand the surrender of all its defenses or suffer the consequences of a refusal,” *O.R.N.*, Series 1, Volume 13, 503.

^[39] 3–2–1863, Downes to Captain John A. Dahlgren, N.A., Record Group 74, Records of the Bureau of Ordnance, Entry 22, “Miscellaneous Letters Received—Ironclads”, Box No. 1, Volume 1, October 1862 – February 1863.

^[40] 9–4–1862, Lincoln to Welles, telegraph, *O.R.N.*, Series 1, Volume 14, 37. ‘Saragossa’ refers to the famous defence of the Spanish city during the Peninsula War against French troops, in a protracted siege from 1808–9.

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^[41] E. Milby Burton, *The Siege of Charleston 1861–1865* (Columbia: University of South Carolina Press, 1970), 144–5. Southerners refused to surrender Fort Sumter five months later, even when it was battered into rubble, and proved willing to set their own city ablaze on February 18, 1865 as they evacuated before the landward approach of Union General William T. Sherman.

^[42] See Reed, *Combined Operations*, 284–5. Acting Assistant Paymaster Daniel Angell Smith of the U.S.S. *Nahant* promised his sister “we shall burn the city if we cannot capture it,” having already listed the Moultrie House Hotel for destruction, 21–10–1863, Daniel Angell Smith Papers, L.O.C., Manuscript Division, Washington, D.C.

^[43] On the other hand, some reports coming to Union commanders even after the April 7 repulse tended to sustain their belief that putting Charleston under their guns would force a surrender; see for example the “Examination of [Confederate deserter] George L. Shipp”, *O.R.N.*, Series 1, Volume 15, 233.

^[44] 11–3–1863, Fox to DuPont, *Confidential Correspondence*, 1: 192.

^[45] “Du Pont had command of the whole expedition, army and navy,—never was directed even to attack Charleston, but everything was left to his judgement and discretion,” 27–2–1864, Fox to Ericsson, Ericsson Papers, L.O.C.

^[46] 12–4–1863, Sumner to Bright, Palmer, *The Selected Letters of Charles Sumner*, 2: 156. Though the British Admiralty, Parliament, and press condemned “Yankee” ironclad-monitors at every opportunity during the American Civil War, the efficacy of obstructions and mines demonstrated at Charleston led to a 20–7–1863 memo on *Defence of Harbours—Floating Mines and Obstructions* from Sir John F. Burgoyne, the leading British authority on national defences, leading in turn to the establishment of a co-Army–Navy committee of inquiry; 8–9–1863, Edward Lugard to Rear-Admiral Wellesley, Somerset Papers Collection, Aylesbury, Buckinghamshire Record Office, D/RA/A/2A/270, “Assorted Admiralty Office papers: 1863–64”.

^[47] 27–2–1864, Fox to Ericsson, Ericsson Papers, L.O.C.

^[48] 19–3–1863, DuPont to Fox, *Confidential Correspondence*, 1: 194–5.

^[49] A notion possibly originating with Captain Percival Drayton, who wrote “I told our admiral the day before the attack, that I did not believe we could do anything that it would make it worth while running the risk of some of our iron clads getting into the enemy’s hands,” 15–4–1863, Drayton to Alex Hamilton, Jr., *Naval Letters from Captain Percival Drayton, 1861–1865* (New York: New York Public Library, 1906), 35; 8–4–1863, DuPont to Major General D. Hunter, *Official Dispatches*, 439–40; 15–4–1863, DuPont to Welles, *O.R.N.*, Series 1, Volume 14, 7; 26–4– and 2–5–1863, Rodgers to Anne H. Rodgers, Rodgers Family Papers, Box 22; Johnson, “Ships Against Forts”, 133–4. By early summer, however, DuPont was apparently willing to dismiss this threat by instead condemning the monitors as “not sea-going or sea-keeping vessels”; their slow speed making them “unfit to chase,” while in heavy weather they “could not keep themselves from going ashore,” 3–6–1863, DuPont to Welles, *Official Dispatches*, 492–4.

^[50] 30–5–1863, “The Iron-Clads at Fort Sumter”, *Scientific American*, Vol. VIII, No. 22, 346.

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^[51] 25–4–1863, “Charleston”, *Harper’s Weekly*. See also the *New York Herald*, 11–4–1863, which regarded the initial reports—via Richmond newspapers—as suggestive the attack was “intended merely as a feeler of the enemy batteries...Places like Charleston and Vicksburg are not to be reduced in a day...[the government] must know no such words as fail, it must recognize no such phrase as impossible,” adding however, “let no military or naval operation be undertaken when there is reason to believe that our means are insufficient to insure the object aimed at. The prestige of frequent success is better than that of great victories alternated with reverses. With the resources we possess, even temporary defeat entails lasting disgrace and humiliation.”

^[52] 27–4–1863, *London Times*.

^[53] 22–4–1863, DuPont to Welles, *Official Dispatches*, 464–72; 15–5–1863, Welles to DuPont, Gideon Welles Papers, L.O.C., Manuscript Division, Washington, D.C. The transcripts of Chief Engineer Stimers’ court-martial would be later published in Northern papers at any rate—and duly forwarded by Lord Lyons in Washington to highly interested British officials in London; see 22–8–1863, Lyons to Russell, P.R.O., ADM 1/5851 (“From F.O., April – August, 1863”). See also “The Monitors—Their Conduct, Endurance, and Invulnerability”, 26–12–1863, *Army and Navy Journal*, 277.

^[54] McPherson, *Battle Cry of Freedom*, 646.

^[55] As his monitor, the *Passaic*, was also the first of her class, Drayton was also the first of the captains to criticize them; see for example his letters to Captain John A. Dahlgren, dated 16–11– and 21–11–1862, John Dahlgren Papers, L.O.C., Manuscript Division, Washington, D.C.

^[56] Beale, *Diary of Gideon Welles*, entry dated 8–5–1863; 1: 294–5; also 307, 312. As late as December 19, 1863 a letter to the *Army and Navy Journal* signed “Diving Bell” attested that “the taking of Charleston depends almost entirely upon the Navy, and that the Navy cannot operate without the obstructions are removed...The Navy cannot be blamed for not removing these obstructions. It is a civil engineering problem, and one which the necessities of warfare have never called upon them to study,” 259.

^[57] 3–6–1863, Welles to DuPont, Gideon Welles Papers, L.O.C.

^[58] *Not*, as Kenneth J. Hagan writes, “whether well-armed gunships could batter heavy forts into submission,” *This People’s Navy: The Making of American Sea Power* (New York: The Free Press, 1991), 170.

^[59] 2–8–1862, Ericsson to Lincoln, Abraham Lincoln Papers, L.O.C., Manuscript Division, Washington D.C. Lincoln took a keen personal interest in all ‘high-tech’ weapons of the Civil War, including the most sophisticated and expensive of all, the monitors. While undergoing minor repairs at the Washington Navy Yard, December 1862, Captain Percival Drayton wrote of Lincoln visiting the U.S.S. *Passaic* with Secretary of the Treasury Salmon P. Chase, “the former went everywhere[,] crawled into places that Gerald or Henry would scarce have ventured in, and gave us a funny story or two in illustration of the incidents of the occasion,” 9–12–1862, Drayton to Lydig. M. Hoyt, *Naval Letters*, 21. The President also visited the original *Monitor* during the height of the Peninsula Campaign; see William Marvel (ed.), *The Monitor Chronicles: One*

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Sailor's Account: Today's Campaign to Recover the Civil War Wreck (New York: Simon & Schuster, 2000), 62–4, 67.

^[60] Quoted from John Ericsson, *Contributions to the Centennial Exhibition* (New York: Nation Press, 1876), 465–6.

^[61] And perhaps more efficient men-of-war, as they required a crew of only 70 officers and men. “I have counted up the number required in these gun boats,” Stimers emphasised to Fox, “You want neither Master’s Mates nor Marines. They are an essential part of the crew of a large vessel where there are large bodies of men to be managed and watched, and when in time of action there are Tops to fire from and sails and rigging to look after, but they are not required in these gun boats. [Captain William N.] Jeffers said he had two unnecessary people on board the Monitor, the Captain’s clerk and the Master’s Mate, and as all unnecessary persons crowd and render uncomfortable the necessary ones, they are a nuisance,” 20–5–1862, Fox Papers, Box 4, “Letters to Gustavus Vasa Fox, 1862, L – W”.

^[62] “Both classes of vessels were incomparable in their own way, and both classes should have been equally tested; and while perhaps the enemy dreaded the approach of the ‘Ironsides’ more than the united efforts of half a dozen monitors, the latter, with their 15–inch guns, would probably have made short work of the frigate,” Belknap, “Reminiscent of the ‘New Ironsides’ off Charleston”, 79.

^[63] It is significant how initial local British naval intelligence reports could misinterpret the results of April 7, 1863; Vice–Admiral Milne writing to the First Lord of the Admiralty that “the Ironsides was disabled, and another, and the most *efficient* Iron Clad was sunk,” 19–4–1863, Milne to the Duke of Somerset, Somerset Papers, D/RA/A/2A/34, “Letters from Admiral Sir Alexander Milne, written from N. American and West Indian Station, 1861–5”, *emphasis mine*. Milne’s conception of the *Keokuk*’s strength probably stems from a report of Captain E. W. Vansittart, R.N., of H.M.S. *Ariadne*, who had opportunity to examine her under construction at New York; P.R.O., ADM 1/5819 (“From Admirals, P – Jamaica, 3–320, 1863”), 12–1–1863, No. 37, *Nile* at Bermuda, “U.S. Iron Clad Vessels: Captain Vansittart’s observations on, as well as on the defences of New York Harbor [sic]”, enclosed report dated 10–12–1862. See also Courtemanche, *No Need of Glory*, 159.

^[64] 30–8–1862, Ericsson to Fox, Ericsson Papers, L.O.C.

^[65] 10–4–1862, Ericsson to Fox, John Ericsson Papers, American Swedish Museum, Philadelphia, PA.

^[66] Fox well knew the value of obstructions against ironclads for protecting coastal cities—only they could hope to stop them, 22–11–1862, Fox to J. M. Forbes, Fox Papers. The effect of growing U.S. naval power, or superiority, as a stabilising element in Anglo–American relations during the Civil War was, however, double–edged, *Colburn’s United Service Magazine and Naval and Military Journal* (London: Hurst and Blackett, 1863) observing as early as January 1863 that “the rapid, and so far as this war is concerned, unnecessary, increase of the United States Navy is more than an empty boast,—it is a serious threat against the independence of our American Colonies and the naval supremacy of England,” Part 1, “The United States, Canada and England”, 17–18.

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[67] 16–12–1862, Fox to Ericsson, Fox Papers.

[68] 15–4–1863, Ericsson to Fox, Ericsson Papers, L.O.C.

[69] 29–3–1863, Ericsson to Welles, Ericsson Papers, L.O.C.

[70] 9–4–1880, Edward Simpson to Ericsson, Ericsson Papers, Philadelphia.

[71] 31–2–1863, Rodgers to Anne Rodgers, Rodgers Family Papers, Box 22.

[72] 9–5–1863, Rodgers to Anne H. Rodgers, Rodgers Family Papers, Box 22.

[73] *O.R.N.*, Series 1, Volume 14: 273–6.

[74] “Report of Captain Rodgers, U.S. Navy, commanding U.S.S. *Weehawken*”, 17–6–1863, *O.R.N.*, Series 1, Vol. 14, 265–6. This “compound angle” hit of 22 degrees, Ericsson later pointed out, “means that, independent of deflection, the shot must pass through nearly five feet of obstruction,—namely, eleven inches of iron and four feet of wood.” The significance of the *Weehawken*’s victory over the *Atlanta* to Ericsson (if not also to much of the nation), however, was that it “proved that the 4½-inch vertical plating of the magnificent *Warrior* of nine thousand tons—the pride of the British Admiralty—would be but slight protection against the 15-inch monitor guns,” Captain John Ericsson, “The Early Monitors”, in *Battles and Leaders of the Civil War*, 4: 30–1.

[75] 18–6–1863, Rodgers to Anne H. Rodgers, Rodgers Family Papers, Box 22.

[76] “Letter of commendation from the Secretary of the Navy to Captain Rodgers, U.S. Navy, commanding U.S.S. *Weehawken*”, 25–6–1863, *O.R.N.*, Series 1, Volume 14, 283–4.

She was the world's first seagoing ironclad--a warship built from wood, but whose hull was clad in a protective layer of iron plate. Britain, not to be outdone, launched her own ironclad the following year--HMS Warrior--which, when she entered service, became the most powerful warship in the world. The elegant but powerful Warrior embodied the technological advances of the early Victorian era, and the spirit of this new age of steam, iron, and firepower. Fully illustrated with detailed cutaway artwork, this book covers the British ironclad from its inception and emergence in 1860, to 1875, a watershed year which saw the building of a new generation of recognizably modern turreted battleships. Year: 2018. Edition: Paperback.