Clerk of Eldin and the Royal Navy's Offensive Line

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Abstract

The British Royal Navy underwent a period of tactical stagnation in the eighteenth century; the line-of-battle-ahead that had carried the day in three wars with the Dutch during the previous century gave way to stalemate after stalemate as more European powers adopted the tactic. Toward the end of the American of Revolution, John Clerk of Eldin began examining inconclusive naval battles of the (then) recent past and offered alternatives to the line-ahead that might result in more decisive victory. With suggested tactics such as isolating and overpowering the rear of the enemy fleet or breaking the enemy's line entirely, Clerk's writing titillated naval commanders enough to consider breaking with accepted doctrine of the day. This paper examines the origins of the line-ahead, inconclusive battles that inspired the writing of Clerk's *Essay on Naval Tactics*, and the application and critical reception of Clerk's writing in both Britain and the United States.

Keywords: Clerk of Eldin, naval tactics, line-of-battle, Anglo-Dutch Wars, American Revolution, French Revolution, Napoleonic Wars, naval warfare, Royal Navy

Secretario de Eldin y la línea ofensiva de la Royal Navy

Resumen

La Royal Navy británica atravesó un período de estancamiento táctico en el siglo XVIII; la línea de batalla que había triunfado en tres guerras con los holandeses durante el siglo anterior dio paso a un punto muerto tras otro a medida que más potencias europeas adoptaron la táctica. Hacia el final de la Revolución de las Trece Colonias, John Clerk de Eldin comenzó a examinar las batallas navales inconclusas del pasado (entonces) reciente y ofreció alternativas a la línea de avance que podrían resultar en una victoria más decisiva. Con tácticas sugeridas como aislar y dominar la retaguar-

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dia de la flota enemiga o romper la línea enemiga por completo, el escrito de Clerk excitó a los comandantes navales lo suficiente como para considerar romper con la doctrina aceptada del día. Este artículo examina los orígenes de las batallas inconclusas que inspiraron la redacción del Ensayo sobre tácticas navales de Clerk, y la aplicación y recepción crítica de los escritos de Clerk tanto en Gran Bretaña como en Estados Unidos.

Palabras clave: Secretario de Eldin, tácticas navales, línea de batalla, guerras anglo-holandesas, Revolición de las Trece Colonias, Revolución Francesa, guerras napoleónicas, guerra naval, Royal Navy

克拉克·奥法·埃尔丁和皇家海军的进攻线

摘要

英国皇家海军在18世纪经历了一次战术停滞时期；皇家海军的战斗纵队曾在17世纪与荷兰的3次交战中取得胜利，但却在更多欧洲强国采纳该战术后与其陷入数次僵局。美国大革命结束之前，约翰·克拉克·奥法·埃尔丁开始分析当时不分胜负的海战，并为纵队提出一系列可能导致更具决定性的胜利的替代方案。通过提出例如孤立或压制敌军舰队后部或整个击溃敌军队形等战术，克拉克撰写的方案成功让海军司令官考虑放弃当时所认可的战术原则。本文分析了纵队的起源、启发克拉克撰写《海军战术论》（Essay on Naval Tactics）的僵持战斗、以及英国和美国对该著作的应用及批判性接受。

关键词：克拉克·奥法·埃尔丁，海军战术，战斗队形，英荷战争，美国大革命，法国大革命，拿破仑战争，海战，皇家海军

During the mid-seventeenth century, Britannia did not "rule the waves" as it would by the pinnacle of Horatio Nelson's career. Faced with an effective and tenacious enemy, the navy of the English Commonwealth adopted the tactic of the line-of-battle-ahead so their ships could more effectively combat those of the Dutch Republic. Unfortunately, the line-ahead offered very little offensive potential and by nature limited

the initiative that could be shown by individual captains, leading to numerous indecisive naval actions toward the end of the eighteenth century. With his 1790-1792 *Essay on Naval Tactics*, John Clerk proposed new methods of attack, including breaking the enemy's line, to end the tendency toward stalemate and bring Great Britain more decisive naval superiority. While the effectiveness of Clerk's tactics and the overall impact of his writing has been debated both by Napoleonic-era naval officers and modern historians, Royal Navy officers were fascinated enough by Clerk's ideas to occasionally depart from the accepted doctrine of the day.

The line-of-battle-ahead, or simply line-ahead, is a naval tactic in which warships form a single column, one behind the other. Such a formation allows a fleet to present their broadsides to an enemy and concentrate their firepower without having their guns obscured by friendly vessels. A fleet typically sailed with an interval of 300 feet between ships (a large fleet arranged in line-ahead could easily be several nautical miles in length) and did so close-hauled, or as far against the wind as a vessel would go. As summarized by Michael Palmer, "against ships so arranged, an opposing fleet could not gain an upwind position, although it might have begun the battle with one."[1]

The line-ahead was formally codified in the *Instructions for the better ordering of the fleet in fighting* issued in March 1653; the instructions stated this was so the English ships could "take the best advantage they can to engage with the enemy," and in the event that a ship became disabled, "the ships of the fleet . . . are to endeavor to keep up in a line as close as they can betwixt him and the enemy, having always one eye to defend him."[2] Palmer asserted that the line-ahead was adopted by the English in direct response to the aggressive tactics of the Dutch, who preferred to defeat enemy vessels by boarding and capturing them. Naval battles of the First Anglo-Dutch War were characterized by groups of ships "charging their enemies like cavalrymen, and firing guns at opposing ships arrayed to both port and starboard."[3] The line-ahead, on the other hand, allowed the English to concentrate their fire on an enemy fleet and hopefully sink it before a fleet action could degenerate into a general melee.

The defensive potential of the line-ahead made the tactic a success almost immediately. Well known for their preference for melee actions, Dutch fleets faced a massive disadvantage in closing with an English line: the Dutch could only bring their few bow weapons to bear as they approached, but withstood disproportionally large amounts of fire from multiple English broadsides simultaneously. Thus, it was rare for Dutch vessels to get close enough to grapple with and board English vessels or even get into a position where they could fire their own broadsides with effect. In fact, during the Second Anglo-Dutch War of 1665-1667, the only fleet engagement the English lost was the only one in which they did not fight in line-ahead, but the Dutch did.[4] Soon it became apparent that the best way to counteract an enemy's line was

to fight on one of your own. While there remains some doubt as to whether the line-ahead was originally developed by the Dutch or the English,[5] the tactic had spread to most major European navies by the time the eighteenth century was well underway.

Unfortunately, the line-ahead worked much better defensively than it did offensively. The often-spectacular naval victories of the first two Anglo-Dutch Wars gave way to an eighteenth and early nineteenth century peppered with indecisive naval actions in which parallel lines-of-battle blasted away at one another to little effect. Into this sea of stagnation sailed John Clerk, laird of Eldin. Following the indecisive performance of the British Royal Navy at the 1778 Battle of Ushant and the subsequent courts-martial, Clerk began theorizing that the common British tactics of a fleet advancing on an enemy in line-ahead from the windward position were lacking. While Clerk had almost no sailing experience, he attacked the problem rationally, and examined recent naval battles through what firsthand accounts he could collect, detailed diagrams of over a dozen recent naval battles, and frequently used small model ships to illustrate his theories.[6]

In 1782, Clerk printed fifty copies of *An Inquiry into Naval Tactics*, discussing his criticisms of current British tactics, which he shared among close friends and prominent naval officers. By 1790, he had expanded this into the first part of *An Essay on Naval Tactics*, with parts two through four (on attacking from the leeward, a history of naval tactics to that point, and an examination of naval battles of 1782) being released in 1792. At the root of Clerk's writing was the idea that an enemy fleet in the leeward position that did not want to give pitched battle (as was often the case with the French navy in the mid- to late-1700s) could not be forced to do so by a British fleet attacking in line-ahead from the windward. Reflecting on repeated British failures to overcome a leeward fleet, Clerk asked if the Royal Navy might "have persisted in following some old method, or instructions, which, from later improvement, ought to have been rejected?"[7]

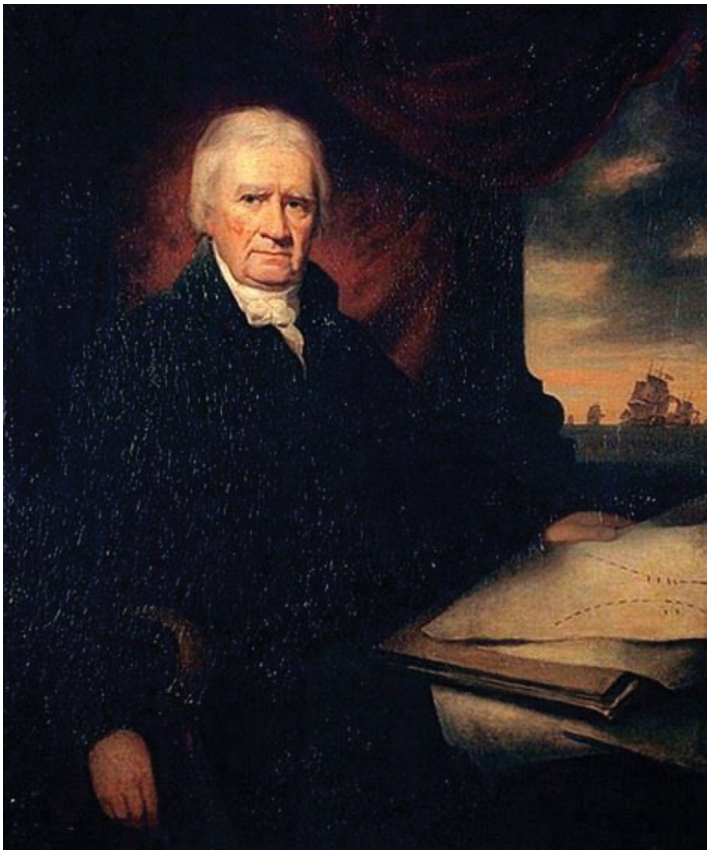
Clerk saw four major disadvantages for a fleet in line-ahead attacking from the windward. First: in order to close to effective attack range, the windward fleet would have to turn their bows toward the enemy, taking far more fire in the process than they could give in return. Second: as the wind heeled both fleets over, the leeward fleet would have their guns elevated and their range increased while the windward fleet's guns would be depressed by the same effect. Third: as the windward fleet approached, their van (forward-most ships) would be vulnerable to fire from the whole of the leeward line, and damage sustained by the van could disorder or slow the remainder of the windward fleet. Fourth: the leeward fleet would have a greater ability to withdraw at leisure as the windward fleet moved to support any of their own vessels disabled during an attack.[8] These disadvantages, especially the fourth, were often exacerbated by the French tendency to target sails and rigging while the British

preferred to fire into the hulls of enemy vessels.[9] The French could simply wait for the British to make their inevitable windward attack and disable their rigging, allowing the French to break off the action with impunity.

Clerk's criticism of contemporary British naval tactics was epitomized by the Battle of the Capes. On 5 September 1781, a British fleet under the command of Vice Admiral Thomas Graves faced a larger French fleet under Vice Admiral Comte de Grasse. After forming in line-ahead, Graves ordered his fleet to bear down on the French and eventually to engage the enemy close, leaving him vulnerable to disproportionate amounts of enemy fire (Clerk's first disadvantage). An action of several hours resulted in no ships being captured or destroyed by either side, but the British van sustained such heavy damage from the French van and center (Clerk's third disadvantage) that they were unable to prevent the French fleet from bearing farther away to leeward to support their own damaged ships (Clerk's fourth disadvantage).[10] The situation was exacerbated by Graves leaving the signal for line-ahead flying as the fleet bore down, obligating each ship to follow directly behind the ship ahead. As a result, the British rear swung progressively farther away from the enemy even as the van drew closer. Seven ships of the British rear under the command of Rear Admiral Samuel Hood were unable to join the action at all, a situation which Hood would later criticize vocally.[11] While the Battle of the Capes was tactically indecisive, the British failure to drive the French fleet from the Chesapeake Bay was a direct cause of General Cornwallis's surrender at Yorktown six weeks later.

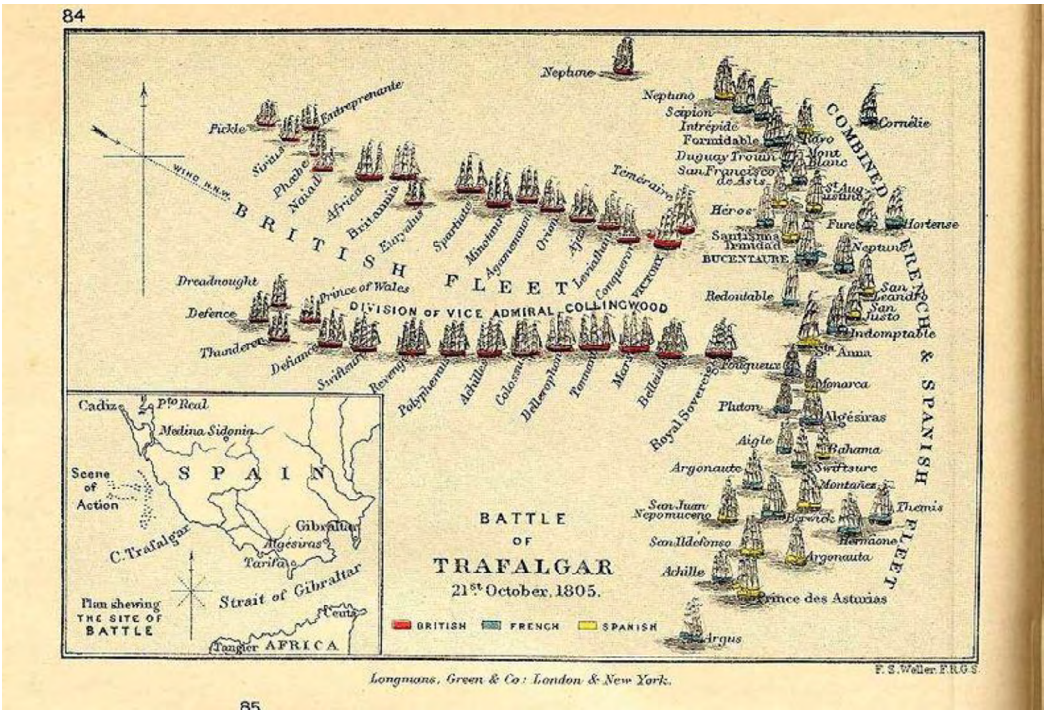
If strategic disasters such as the one at the Capes were to be prevented in the future, Clerk asserted that "it will be required to show whether any other mode may be devised, or put in practice, that will have a better effect."[12] Clerk's first suggestion was to do away with the Royal Navy's habit of facing an enemy fleet with each ship directly abreast of their counterpart in a parallel line-ahead. Instead, he proposed dividing the fleet into three divisions, the first of which would attack the enemy rear. The enemy then had the choice of abandoning its rear or having its center and van divisions come about to support them, in which case the British admiral maintaining the windward position could then deploy subsequent divisions to counteract the enemy.[13] Admiral John Jervis, Earl St. Vincent, wrote in 1806 that "Mr. Cl[e]rk is most correct in his statement of the advantages to be derived from being to leeward of the fleet of the enemy. His mode of attack in columns when to windward has its merit."[14] Merit notwithstanding, no British admiral seems to have employed Clerk's columned attack from the windward, though some of his other tactics would find occasional practice.

At the culmination of the Battle of the Saintes on 12 April 1782, Admiral de Grasse was beaten and captured by a British fleet attacking from the leeward. Throughout the battle, Admiral George Brydges Rodney had kept the British fleet in the leeward position to prevent the French from escaping and

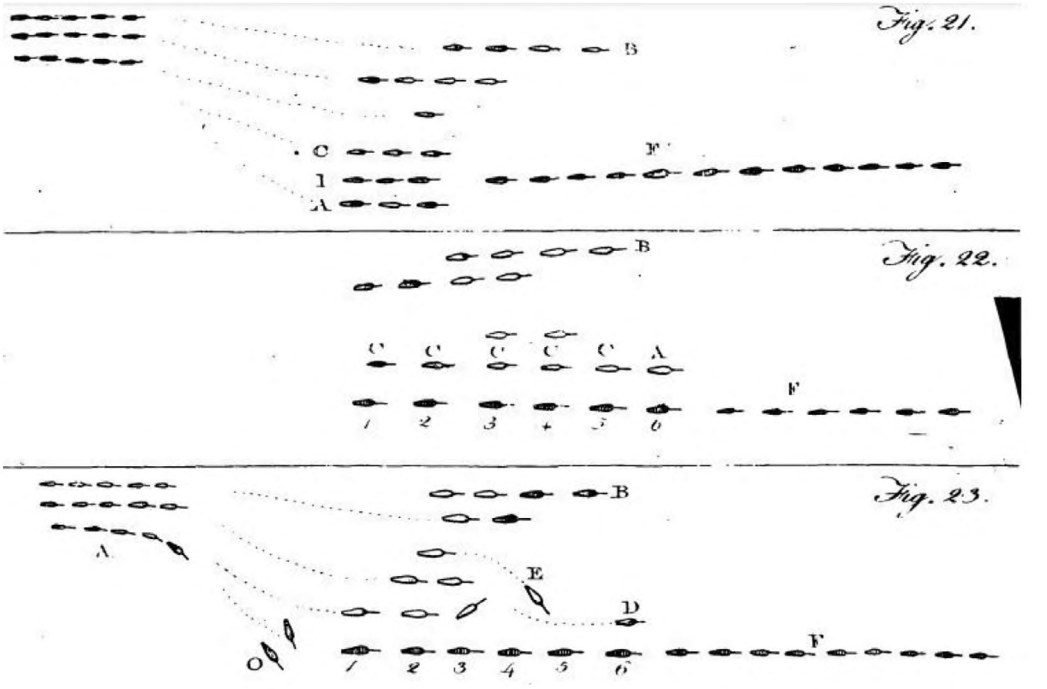


John Clerk of Eldin, portrait by James Saxon. Wikimedia Commons.

Battle of the Capes, 5 September 1781, by V. Zveg. Wikimedia Commons.



Plan of the Battle of Trafalgar, 21 October 1805. Wikimedia Commons.



Extracts from a plate included in Clerk's 1782 An Inquiry into Naval Tactics depicting a proposed attack from the windward wherein the attacker isolates the enemy's rear to draw them into a general action. Author's personal collection.

continuing with their planned invasion to Jamaica. A sudden change of wind caused the French ships to suddenly change tacks, throwing their rear into disorder from the unexpected maneuver. In providing commentary for Clerk in 1789, Rodney wrote:

> an opening appeared at the third ship astern of the enemy's Admiral, which gave an opportunity of breaking their line, and putting their rear in utmost confusion; when six of their ships falling onboard each other, in that condition the Admiral [Rodney] and division attacked them, tore them to pieces.[15]

Rodney was said to have broken de Grasse's line by accident,[16] though it could have easily inspired Clerk to espouse doing so intentionally in the second part of his *Essay* published in 1792.

According to Clerk, if a British fleet attacking from leeward passed directly in front of an enemy warship and broke the enemy line, this would "not only stop her course in the line, but will also throw the ships astern of her into disorder."[17] This was demonstrated quite decisively by Rodney at the Saintes. Clerk went on to assert that once the enemy's line had been broken, an attacking fleet should isolate and overwhelm the enemy ships that remained behind the break. After examining multiple possibilities of where to break the enemy's line, Clerk decided isolating the enemy's rear offered the greatest chance for success; the farther ahead the enemy line was broken, it became more difficult to achieve decisive isolation, as the enemy van had less distance to travel to support the rest of the fleet.[18]

The Battle of Camperdown which took place on 11 October 1797 illustrated Clerk's tactics in action, though St. Vincent described the battle as "pell-mell without plan or system."[19] During the battle, Admiral Adam Duncan commanding fourteen British ships-of-the-line and four frigates defeated eleven Dutch ships-of-the-line and eight frigates under Vice Admiral Jan de Winter. Inexperienced compared with the British due to stagnating under a long blockade, de Winter had planned to engage Duncan in shallow waters near the Texel, where his shallower-drafted warships would be better able to navigate shoals.[20] After pursuing the Dutch fleet for several hours, Duncan signaled his own fleet to cut through the enemy's line and engage them to leeward, effectively placing themselves between the Dutch and the shallows. An accidental concentration (which nonetheless validates Clerk's tactics of breaking the enemy's line and isolating a portion of their fleet) on the Dutch rear ensued, who suffered seven ships-of-the-line and four frigates captured by the British.[21]

The Battle of Trafalgar on 21 October 1805 proved even more spectacular. In the face of fears that French forces were staging an invasion of Great Britain, Vice Admiral Horatio Nelson had chased a combined Franco-Spanish fleet under Admiral Pierre-Charles Villeneuve back and forth across the Atlantic Ocean. Nelson made plans from the beginning to defeat the enemy by breaking through their line. In

the memorandum he issued to his subordinate officers on 9 October, Nelson wrote, "The whole impression of the British [fleet] must be, to overpower from two or three Ships ahead of their Commander In Chief, supposed to be in the centre, to the Rear of their fleet."[22] Compared with Part Two of Clerk's *Essay*, Nelson's plan was particularly ambitious, cutting the enemy line much farther ahead than Clerk thought wise. According to Clerk, breaking an enemy's line ahead of the center would keep the fleets on a relatively equal footing, making a successful attack more doubtful.[23] At Trafalgar, Nelson had less than an equal footing to begin with; he engaged thirty-three ships of the line with only twenty-seven of his own. Nelson broke the combined Franco-Spanish line with two columns in line-ahead, though wind conditions at the start made it so his ships took an exceptionally long time to join the battle.

Once the two British columns met the enemy line, the time for organized tactics ended, and the battle degenerated into a hard melee.[24] Twenty-two French and Spanish ships were captured or destroyed before the day was done without the loss of a single British warship, though Nelson himself was killed in action. Trafalgar remains one of the most iconic British naval victories in history, and although it bears more resemblance to a pell-mell brawl than the organized lines-of-battle that permeated (albeit indecisively) the previous century of war, it is easy to spot possible influences of Clerk. Nelson's two-columned approach bears some resemblance to Clerk's three-division system, though Nelson used the tactic far more aggressively than simply isolating the enemy rear. Seeing Nelson's success at Trafalgar, it is also hard to argue with Clerk when it comes to breaking the enemy's line.

Even so, the tactics employed by Rodney, Duncan, and Nelson were very much in the minority, and the reason for this is clear. When Clerk asserted that a breaking of the enemy's line could be accomplished with "little additional danger,"[25] his lack of practical experience became apparent. Bearing down in a near-perpendicular course to the enemy as Nelson did at Trafalgar was profoundly risky; the first disadvantage Clerk lists for a fleet attacking from the windward illustrates the disproportionate amount of fire the attacking fleet must withstand, and in Nelson's case, the weakening winds only increased this vulnerable period.[26] Nearly one hundred years after the battle, Alfred Thayer Mahan wrote that "the practical effect of the mode of attack at Trafalgar . . . was to sacrifice the head of the columns in making two breaches in the enemy's line."[27] If Duncan or Nelson had faced more experienced and aggressive opponents at their respective battles, the British would surely have lost several ships if the attack hadn't failed entirely. Nelson was especially fortunate in that not only had the quality of the French and Spanish fleets degraded under incessant British blockade, but Revolutionary France had effectively excised most of the discipline and combat experience of her admiralty in favor of egalitarianism and blind patriotic fervor.[28]

In his conclusion to *British Admirals of the Eighteenth Century*, John Creswell calls Clerk's ideas "fanciful," and asserted that no British admiral had attempted to implement them.[29] If one wants to be literal, Creswell is correct; no one attacked the rear of a leeward fleet in three columns, and while admirals such as Duncan and Nelson did intentionally break their enemy's line they did so from the windward while Clerk wrote that this attack should be made from the leeward. (Rodney broke the enemy line from the leeward, but as has been mentioned previously, this was not intentional.) Nonetheless, Clerk's writing was valuable in that it encouraged a shake up in the status quo of British naval tactics. The decisive results at the Saintes, Camperdown, and Trafalgar nevertheless demonstrated that his ideas had merit. Clerk found himself "much flattered by the decided approbation of my Essay, by Lord Duncan and other naval officers at Portsmouth."[30] Horatio Nelson reputedly had his chaplain read him excerpts from Clerk's *Essay*.[31] Perhaps the greatest praise came from Admiral St. Vincent, who found Clerk's writing to be "worthy the study of all young and inexperienced Officers."[32]

Clerk's *Essay* was not without its flaws and critics, however. In 1830, Royal Navy Captain Thomas White published his *Naval Researches*, examining in detail several naval actions fought toward the end of the American Revolution and challenging Clerk's interpretation thereof. Captain White accused Clerk and more so Rear Admirals Charles Ekins (who published his own book praising Clerk in 1824) of intentionally cherry-picking from available sources to better support their conclusions. If Ekins especially had examined his sources more faithfully, White wrote, "it would have overturned the System of Tactics of which the gallant author and his *Magnus Apollo*, Mr. Clerk, appear to be so fond."[33] This practice was especially egregious in their treatment of the Battle of the Saintes, in which Clerk and Ekins asserted that a sudden change of wind led Admiral Rodney's fleet to split the French line in two. This ignored statements from several other participants (including the author himself) who wrote that both fleets were split into three divisions and their formations hopelessly disordered as a result.[34] Under such circumstances, attempting Clerk's proposed line-breaking from the leeward would have been extremely foolish. The disorder experienced by Rodney's fleet was, after all, at the root to prevailing objections against breaking an enemy's line.

White also suggested that as a layperson, Clerk didn't necessarily have access to other primary source materials such as logbooks regularly submitted by serving officers and held at the Admiralty, and that this lack prevented Clerk from thoroughly and accurately interpreting the battles he wrote about.[35] In addition, Clerk often failed to take into account how changes in wind and the tendency of cannon smoke to obscure signal flags frequently made naval battles more difficult for all concerned. With that in mind, White noted that "Mr. Clerk . . . seldom stopped to consider whether a proposition were practi-

cable or not."[36] It should be noted, however, that White's criticism was directed specifically at Clerk's research methods. About the actual tactics Clerk suggested, White wrote that "Mr. Clerk's work possesses much valuable matter, [and] displays much genius and persevering industry."[37]

Clerk's *Essay on Naval Tactics* eventually found a receptive audience in the United States as well. In 1840, Lieutenant William Fontaine Maury referenced Clerk heavily in the third of his "Scraps from the Lucky Bag," articles calling for widespread organizational and educational reform in the United States Navy. Maury referred to Oliver Hazard Perry breaking the British line with USS *Niagara* at Lake Erie in 1813 as a vindication of Clerk's principles after Perry's attempt at "preserving the line" in the traditional fashion nearly led to an American defeat. To Maury, the "secret" of Clerk's tactics "was nothing more than the introduction of the principle on the water . . . of attacking the enemy in his most vulnerable point, or of gaining the advantage by throwing him into confusion."[38] Maury also touted Clerk's writing as an example of the value to the naval profession to be found in book learning.

It is obvious that Clerk's writing inspired discussion on both sides of the Atlantic and that Napoleonic-era naval officers occasionally adapted his tactics in battle, even if they weren't followed to the letter. William Fontaine Maury used the successful actions of Rodney, Duncan, Nelson, and Perry as justification for calling Clerk's writing "the best system of naval tactics that is known at this day."[39] While certainly not perfect, John Clerk's *Essay on Naval Tactics* was repeatedly employed to great effect by naval officers determined to achieve decisive victory at a time when stalemates were all too common at sea.

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