

GEOGRAPHY, TECHNOLOGY, AND BRITISH NAVAL STRATEGY IN THE *DREADNOUGHT* ERA

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In *The Influence of Sea Power upon History, 1660–1783*, Alfred Thayer Mahan argued that the effective deployment of naval force had determined the outcomes of the great European wars of the eighteenth century. Many, if not most, readers believed that this historical survey was the basis of related major arguments that were applicable to the late nineteenth and twentieth centuries. The first was that naval supremacy was the prerequisite to economic prosperity and international political preeminence. The second was that naval supremacy could be achieved only through the possession of large numbers of battleships, which were always to be kept together in order to be able to contain or destroy enemy battleship fleets. The notion of the naval supremacy of a single country based upon battleships united in accordance with the principle of concentration of force thus be-

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came identified as the essence of Mahanian strategic theory. In effect, geopolitical and naval operational strategic lines of argument were conflated into a recipe for policy that was supposed to be universally valid.

Such an understanding of what were widely believed to be the two main components of Mahan's thinking, however, was seriously flawed. In the first place, Mahan actually believed that naval supremacy in his own time and in the future would be wielded by a transnational consortium of naval powers acting in defense of a global system of free trade to the mutual benefit of participating parties. Secondly, Mahan's treatment of the principle of concentration of force in his most popular book was heavily conditioned by the

particular geographical circumstances of Great Britain and its empire. Thus while the first proposition was addressed to the question of the nature of an international system, the second was to a very considerable degree concerned with the character of the naval security problem of a single state. Insofar as naval policy in the industrial age was concerned, the relationship between the two arguments was thus much weaker than has been supposed. As a general principle, concentration of force was of course relevant to the maintenance of naval supremacy by either a single power or a coalition. But salient aspects of Mahan's historical case study were specific to British imperial strategic geography.

Mahan's views on naval supremacy as a transnational phenomenon have been explained elsewhere and will not receive further consideration here.¹ His recommended strategy for using a limited number of ships to defend interests in widely dispersed seas, however, has escaped rigorous scrutiny.² The present article will analyze Mahan's historical exposition with respect to this issue in the last chapter of *The Influence of Sea Power upon History* and establish its relevance to Britain's naval circumstances in the late nineteenth and early twentieth centuries. It will then examine the thinking of Admiral Sir John Fisher, who as service chief of the Royal Navy was actually responsible for the formulation of British imperial naval defense policy between 1904 and 1910, and again from late 1914 to mid-1915. Mahan and Fisher held opposing views of capital-ship design and the utility of history as a practical guide to policy. On the other hand, the concentration of Britain's main naval strength in home waters as the best method of defending an empire with widely dispersed territories and trade routes seemed to constitute an important area of agreement. This article will demonstrate that Fisher's concept of the proper application of the principle of concentration of force to Britain's naval circumstances in the early twentieth century was diametrically the opposite of that of Mahan, in spite of strong appearances to the contrary. It will argue, moreover, that Fisher thought this way because he believed that advances in technology had radically altered the effect of geography on strategy.

The main event of Mahan's *The Influence of Sea Power upon History* was the American Revolution. Mahan believed that this conflict was a "purely maritime war"—that is, a dispute between two roughly equal sides over territories that were for the most part remote from Europe. These conditions were unique in the record of fighting between European great states in what had been the modern period—every other war from the coming of Louis XIV to the fall of Napoleon was about continental extension in one way or another, with military affairs thus playing a major if not decisive role. In the American Revolution, the outcomes of land campaigns on colonial territories depended completely upon control of contiguous waters and ocean lines of communication. These circumstances

seemed particularly relevant to the likely conditions of major conflict in the late nineteenth century, a time of great-power rivalry over extra-European colonies and maritime commerce.

In Mahan's account of the American Revolution, the principals were the belligerent great powers, namely, Britain, France, and Spain. The American colonists and the Dutch had large interests at stake but lacked the naval strength to play significant roles at sea. Britain's primary strategic goal was to maintain its colonial empire intact, that of France and Spain to weaken Britain through the facilitation of the American rebellion and the capture of important colonial territory for their own use. Britain, therefore, stood on the strategic defensive, and it did so with a navy that was not large enough to control with assurance all major theaters of operations, which included not only European waters but distant seas off North America and India. Britain responded to these circumstances by dividing its fleet in a way that produced naval forces both at home and abroad that were on occasion weaker than those of its opponents. At Yorktown, the result was a British military disaster, one that ultimately prompted the peace negotiations that led to American independence. In the Indian Ocean, French tactical successes were insufficient to overthrow the British position but were large enough to demonstrate the great potential of naval force when used with intelligent aggressiveness. In the end, British losses and French and Spanish gains, while considerable, were not decisive—that is, Britain retained its naval and mercantile predominance. But if the American Revolution did not change the European balance of power, it did offer Mahan an opportunity to explore the application of the principle of concentration of force to an important and difficult case.

In Mahan's view, Britain's strategy had been fundamentally flawed. By sending large contingents to extra-European waters while necessarily keeping a substantial fleet at home to prevent invasion and protect converging trade routes, Britain exposed its navy to defeat in detail. The chosen policy, he argued,

to be effective, calls for superior numbers, because the different divisions are too far apart for mutual support. Each must therefore be equal to any probable combination against it, which implies superiority everywhere to the force of the enemy actually opposed, as the latter may be unexpectedly reinforced. How impossible and dangerous such a defensive strategy is, when not superior in force, is shown by the frequent inferiority of the English abroad, as well as in Europe, despite the effort to be everywhere equal.³

The proper course given the near parity in battleship strength of the two sides, Mahan counseled, was for Britain to have deployed a preponderant fleet in Europe, whose job was the containment or destruction of the main French and Spanish naval forces. These should have been watched “under all the difficulties

of the situation, not with the vain hope of preventing every raid, or intercepting every convoy, but with the expectation of frustrating the greater combinations, and of following close at the heels of any large fleet that escaped.”⁴ In addition, “the lines of communication abroad should not have been needlessly extended, so as to increase beyond the strictest necessity the detachments to guard them.”⁵ In other words, Mahan’s strategic prescription for a Britain faced by a hostile European naval coalition and burdened with the need to defend vital interests at home and valuable possessions abroad was to maximize strength at the center and minimize strength at the periphery.⁶

Mahan was aware that forfeiting contests abroad in the hope of achieving decisive success at home, as opposed to distributing substantial strength around the globe, could result in large losses of colonial territory and trade. “It has been attempted to show the weakness of the one policy,” he conceded, “while admitting the difficulties and dangers of the other.”⁷ The problem of defending a global empire while keeping home territory secure posed a predicament. In-

Thus in the end the views of both the master of strategic theory and that of practice were confounded by the course of events.

toning concentration of force as a principle was one thing; applying it to the naval strategic circumstances of Great Britain in the late nineteenth and early twentieth

centuries was quite another when the consequences of such action could be the loss of Egypt, South Africa, India, and Australia, and the destruction of the lucrative China trade. Faced with the prospect of war against France and Russia in combination, Britain responded from 1889 with enormous building programs that were intended to support a strategy of being strong around the world. In 1902, Britain was compelled to ally itself with Japan in order to overmatch the growth of French and Russian naval forces in Far Eastern waters. Better relations with France and the destruction of the Russian navy by the Japanese in 1904 and 1905 enabled Britain to reduce its naval strength in distant seas without compromising imperial security, in order to facilitate reforms in manning and maintenance and to save money. The effect was a concentration of the main strength of the Royal Navy at home, which was also convenient given the growing naval strength of Germany.

The buildup of the British battle fleet in home waters through the withdrawal of heavy units in distant seas seemed to follow Mahan’s recommendations in the last chapter of *The Influence of Sea Power upon History*. Admiral Sir John Fisher, the First Sea Lord from 1904 to 1910 and also from late 1914 to the middle of 1915, was the instigator of the redeployment of the Royal Navy. Fisher’s hostility to naval history as a guide to policy is notorious. In June 1909, his dismissal of the practical utility of history outraged Captain Herbert Richmond. Fisher, Richmond

wrote in his diary, had stated that the “teachings of the past are ‘the record of exploded ideas’” and that “the present needs no guide, it is self-sufficient.”⁸ But Fisher excepted Mahan from his general strictures. The two men had met and corresponded while delegates to the Hague Peace Conference in June 1899.⁹ Mahan seems to have made a good impression, because Fisher’s first known references to the American’s writing came not long after. The “‘teachings of history’ have no value for us,” he wrote to Joseph Chamberlain in November 1900, “with the one great exception so eloquently described by Captain Mahan, Vol. II, page 118 (I know the place by heart, so can quote it!) that sea power governs the world: ‘Nelson’s far distant storm-beaten ships, upon which the Grand Army never looked, stood between it and the dominion of the world.’”¹⁰ Fisher’s familiarity with Mahan was not restricted to the American author’s most famous phrase. Fisher quoted at length Mahan’s observations on the human element in war, the disposition of navies, and much of the text surrounding the extract cited in his letter to Chamberlain as well, in printed memoranda circulated in the Mediterranean Fleet while he was its commander in chief, from 1899 to 1902.¹¹

Mahan both criticized and praised in print Fisher’s actions as service chief. In 1906 Mahan condemned on financial, technical, strategic, and tactical grounds increases in battleship size, criticism that in effect amounted to an attack on the Admiralty’s decision to build *Dreadnought*, a battleship that was larger, faster, and more powerfully armed than any other.¹² In 1907, on the other hand, Mahan noted that Britain had taken steps that would soon result in the concentration of nearly nine-tenths of its battleship strength in home waters.¹³ Fisher was incensed by the former piece, which lent powerful support to critics of his judgment with respect to capital-ship design;¹⁴ he was gratified, however, by the latter, which shielded him from charges that his agreement to the Liberal government’s substantial reductions in naval expenditure had significantly weakened Britain’s ability to deal with the German battle fleet in the event of war.¹⁵ Mahan’s punditry, in short, worked to Fisher’s political advantage as well as disadvantage. Fisher was still willing to quote Mahan with approval in 1907, even after the appearance of the latter’s public criticism of large battleships.¹⁶

But the shift in the deployment of the Royal Navy was a short-term response to fortuitous circumstances and immediate fiscal incentives, not a realignment of naval strength in conformity with the recommendations of classic naval strategic theory. The Admiralty could not rule out the possibility of a hostile three-power naval coalition of France, Russia, and Germany, capable of threatening Britain in European and extra-European seas simultaneously.¹⁷ Indeed, Fisher’s administration was confronted by this very contingency at the start of his tenure as First Sea Lord. In 1904, relations between Russia and Germany improved dramatically, and there was reason to believe that a British declaration of war

against Russia in support of Japan would provoke France to join Russia in spite of its growing friendship with Britain. Then, in October 1904, the Russian Baltic Fleet fired upon British trawlers in the North Sea in the belief that they were Japanese torpedo craft. This event very nearly brought Britain and Russia to blows, which would almost certainly have precipitated a general European war that would have pitted Britain, aided only by Japan, against three continental great powers.¹⁸ Under such circumstances, an outnumbered Royal Navy would have been charged with the tasks of preventing seaborne invasion of the home terri-

The replacement of general sea control by battleships with local sea denial by submarines and distant sea control by highly mobile battle cruisers reversed the Mahanian formula.

tory while seeing to the security of far-flung trade routes and distant colonies. Fisher, who took office only three days after the North Sea incident, seems to have been confident of the Royal Navy's

ability to do both jobs.¹⁹ Within four years, however, the combination of deep cuts in naval spending imposed by a Liberal government bent on economy and social reform, a sharp increase in German naval construction, and signs of a Russian naval recovery had created the prospect in the not too distant future of a Royal Navy that would be incapable of defending the center and the periphery simultaneously against a hostile combination of European fleets.

But although the fiscal situation was unfavorable and the state of international affairs uncertain, Fisher believed that strategic deliverance might soon be at hand in the form of radical technological change. In 1908, the first battle cruisers—vessels with the heavy armament of a battleship but the high speed and long endurance of a cruiser—demonstrated that they could steam great distances at high speed without breakdown. In the same year, the Royal Navy received its first submarine capable of operating effectively for long periods of time. These events were of significance to Fisher, because in his mind battle cruisers and submarines were going to be the basis of a fundamental change in the British approach to imperial defense. Fisher was convinced that in the restricted seas surrounding the British Isles submarines deployed in large numbers would be capable of acting as a barrier to invasion, because they would be capable of inflicting heavy losses upon even heavily escorted convoys of troopships. This form of operations was known as “flotilla defense.” On open seas or in distant waters around colonial territory, where submarines could not be concentrated in large numbers in good time, Fisher counted upon battle cruiser squadrons deployed by wireless instructions from the Admiralty to deal with enemy cruisers or battleships.

The effectiveness of such a centralized system of command and control depended upon information collected and analyzed by a sophisticated intelligence

and communications organization known as the “War Room System.” British battle cruisers were to be capable of defeating foreign battleships because the former would be equipped with a new kind of fire control system that would enable them to hit their opponents before they could be hit in return, which supposedly would make their lack of heavy armor inconsequential. The replacement of general sea control by battleships with local sea denial by submarines and distant sea control by highly mobile battle cruisers reversed the Mahanian formula for maintaining British naval security at home and abroad when numbers of capital ships were insufficient to be able to deploy superior force everywhere: surface heavy units were to be concentrated on the periphery rather than at the center.²⁰

In theory, a force of submarines that was strong enough to prevent the invasion of Britain would cost much less than a large fleet of battleships and supporting warships capable of accomplishing the same task. The great attraction of Fisher’s vision, therefore, was that it offered an alternative to both the strategy of fielding surface fleets that were more powerful than those of an enemy coalition in all seas, which was fiscally out of reach, and the strategy of concentrating the surface fleet in home waters, which exposed maritime lines of communication to disruption and overseas territories to seizure. Fisher was captivated by enthusiasm for the potentially transformative effects of new technology, but the adoption of his vision depended to a great extent upon fiscal and strategic necessity forcing the hand of naval policy. In the event, however, neither factor played out as Fisher had anticipated. In 1909, fear of German naval expansion compelled the Liberal government to authorize an enormous increase in capital-ship building. When units ordered by the Pacific dominions were added to the British total, the effect was a program that was five times larger than the previous year. To pay for a larger navy and an ambitious scheme of social reform, the government implemented changes in taxation that in combination with an economic upturn increased revenue substantially. Over the next three years, capital-ship programs were smaller than in 1909 but still more than twice the size of 1908. This surge of new construction was enough to make credible plans to maintain powerful fleets both at home and abroad in the event of war.

The fiscal viability of building large armored ships in the numbers required to implement a strategy of global numerical superiority weakened the case for the replacement of the battleship by a combination of battle cruisers and submarines. In addition, the delays in the development of gunnery instruments that were supposed to give the Royal Navy a monopoly on long-range hitting undercut the argument that British battle cruisers would be able to defeat enemy battleships in spite of their lack of heavy armor. This factor may have contributed to the Admiralty’s rejection of Fisher’s call for all the capital ships of the 1909 program to

be battle cruisers. As it turned out, only four of the big ships ordered were battle cruisers, with the balance of six being battleships. By this time, Fisher's effectiveness as First Sea Lord had been compromised by political conflict and controversy. He resigned as First Sea Lord in early 1910, and the programs of that year and 1911 contained only one battle cruiser as opposed to four battleships. In October 1911, however, Winston Churchill became First Lord of the Admiralty (that is, the civilian superior of the First Sea Lord, a naval officer). Fisher had impressed Churchill in 1907, at which time he seems to have explained his ideas about battle cruisers and submarines.²¹ The new First Lord began an intense correspondence with Fisher upon assuming office, and for several months the retired admiral had good reason to believe that his radical vision was upon the brink of implementation. By the end of 1911, Fisher was convinced that Churchill had been persuaded to suspend the construction of battleships in favor of battle cruisers in the forthcoming year and to adopt his proposals for building submarines in large numbers.

Fisher's apparent capture of Churchill was the basis for what may have been an explicit dismissal of the relevance of Mahanian thought to British naval strategy. "I am in continuous and very close correspondence with Winston," Fisher wrote to Gerard Fiennes, a journalist, on 8 February 1912, "so I am precluded from saying all that I desire, but so far every step he contemplates is good, *and he is brave, which is everything! Napoleonic in audacity, Cromwellian in thoroughness.*"²² Although Churchill's ability to act was restricted by the opposition of his more cautious Admiralty advisers, Fisher was confident that submarines "have made our supremacy more supreme than ever."²³ Here Fisher apparently—but arguably only apparently—meant something other than flotilla defense. By 1912, the fact that the latest British submarines had much longer operating ranges than their predecessors had given him grounds to savor the possibility of sending such vessels to distant seas to protect colonies or other strategically important territory. In his letter to Fiennes, Mahan was "an extinct volcano," because "our new submarines with over 6,000 miles radius of action, two 12-pdrs. [pounders], and Whitehead torpedoes on the broadside, and seakeeping for over two months, unattended and unfueled and self-sustaining, have woken up vast dormant possibilities."²⁴ Fisher did not go on to discuss the ability of submarines to prevent an invasion of Britain, which had been a major subject of his discussions with Churchill.²⁵ Disclosing the First Lord's agreement to flotilla defense to even a trusted journalist, however, would have been unwise, if not foolhardy, to say nothing of illegal. Speculation about a future possibility from which certain inferences about flotilla defense might be drawn, on the other hand, offered at least a fig leaf of discretion. Fisher's opening caveat to his

correspondent was probably a warning that his approach to the submarine question was not exactly what it seemed.

In the short term, Fisher was to be disappointed. Royal Navy submarine procurement was disrupted by disagreements within the Admiralty over design and manufacturing. Churchill reconsidered his promise to build only battle cruisers and in the end compromised by agreeing to the construction of higher-speed battleships that were still considerably slower and much more expensive than the kind of warship called for by Fisher. Also, British efforts to develop a naval long-range gunnery system that was significantly superior to that of any foreign power finally collapsed in 1912, which destroyed the technical premises of Fisher's tactical concept of the battle cruiser.²⁶ In the longer term, however, adoption of the flotilla defense component of Fisher's radical strategy was favored by two factors. In the first place, the construction of dreadnought battleships by potentially hostile naval powers in the Mediterranean meant that Britain could no longer count upon using its older battleships in that area. Replacing them with dreadnoughts, however, would require increases in new construction and much higher manning and maintenance costs that Britain could not afford. In the second place, fleet maneuvers revealed that submarines were both mechanically reliable and militarily effective, which convinced many senior naval officers of the Royal Navy that flotilla defense of the British Isles was practicable, which in turn would free the surface fleet—albeit made up of battleships rather than battle cruisers—for deployment outside of home waters. For these reasons, the Admiralty in early 1914 made secret arrangements to reduce the construction of battleships and increase the construction of submarines. These actions were expected to reduce naval spending to within the limits demanded by the Treasury. Fisher was recalled to the Admiralty as First Sea Lord in October 1914, not long after the outbreak of war. He immediately increased orders for submarines and, in spite of a cabinet prohibition of large-warship construction, won approval for the construction of five battle cruisers of unprecedented speed and gun power.²⁷

War gave Fisher the opportunity to implement the strategic revolution that he had sought in peace. The strategic circumstances of the hostilities that had begun in August 1914, however, were not those for which Fisher had planned. His great concern—which had also been that of Mahan in the last chapter of *The Influence of Sea Power upon History*—was a maritime war in which a more or less isolated Britain had to contend with a coalition of continental naval powers possessing naval forces that were numerically equal or even superior to those of the island nation. From the outbreak of a war the main focus of which was on land, Britain enjoyed the support of three great maritime powers—France, Russia, and Japan—against Germany and Austria-Hungary. Britain lacked the large numbers of submarines that were required to implement a sea-denial strategy in

home waters, on account of the prewar disruption of design and production mentioned previously, but it did not need to do so, because allied fleets were strong enough to control distant seas with minimal assistance from the Royal Navy. This meant that Britain was able to concentrate its battle fleet in home waters in overwhelming strength. While the Royal Navy did not have to deal with both major threats in home waters and distant seas with inadequate forces, it did have to be kept strong enough to be ready to meet a German foray in strength at any time, an exhausting task that demanded a large numerical margin of safety.

Fisher was thus alarmed in the spring of 1915 by the dispatch of substantial naval forces to the eastern Mediterranean in support of the assault on the Dardanelles, where losses of ships and men were heavy. In April 1915 he informed Admiral Sir John Jellicoe, commander in chief of the battle fleet in the

North Sea, that he would soon be sending him “a bit from Mahan so apropos” to their mutual concern that strength at the vital strategic

Admiral Sir John Fisher’s hostility to naval history as a guide to policy is notorious.

center would be compromised by large detachments to a distant and therefore secondary theater.²⁸ There is no record of Jellicoe actually receiving the Mahanian passage in question, but it is perhaps not a coincidence that he subsequently seems to have read Mahan’s *The Influence of Sea Power upon History* for the first time.²⁹

Mahan died shortly after the outbreak of war. Fisher left office in mid-1915 in protest over the Dardanelles and never again exercised control of the Royal Navy. It is ironic that in his last tenure as service chief, his efforts to create the material means of executing a strategy that concentrated heavy ships in distant seas rather than at home were juxtaposed to a commitment to maintaining the integrity of battle fleet concentration in the British Isles, and that his resignation over the latter ended his ability to implement the former. Moreover, although Fisher had championed the submarine as a solution to the problem of British imperial defense, the use of submarines against merchant shipping during the First World War nearly resulted in Britain’s defeat. Finally, the advent of a vastly more effective method of commerce raiding in the form of the submarine raised serious doubts about the validity of Mahan’s argument that *guerre de course* was incapable of producing decisive success.³⁰ Thus in the end the views of both the master of strategic theory and that of practice were confounded by the course of events.

Mahan and Fisher disagreed about capital-ship design and the utility of history as a guide to formulating naval policy, but the main difference between their ways of thinking about strategy was over the best means of defending the British empire in a maritime war. Both dealt with the same geographical dilemma,

which was the need to dominate home waters and distant seas with a navy that was not large enough to be sufficiently strong in both places at once. Mahan believed that the geographical facts of life in the industrial era were the same as in the age of sail, namely, that distance mattered because it prevented fleets in disparate seas from being mutually supporting; this being the case, Britain had no choice but to keep its main naval strength at home to defend vital interests while minimizing deployments abroad. Fisher, on the other hand, was convinced that the advent of new technology would enable Britain to finesse what had previously seemed to be an unchangeable geographic reality—that distance did not matter in the same way it had, because flotilla defense at home would free all Britain's surface warships for service abroad, where they could be deployed efficiently by the "War Room System" and wireless communications to defend interests that were, if not vital, still extremely important. In short, where Mahan called for concentration at the center, Fisher contended that it could be achieved at the periphery.

This fundamental difference in strategic approach was never debated in public, because important information about critical technological issues—such as naval gunnery, new methods of command and control, and submarine design—was kept secret. Moreover, the highly visible course of Anglo-German naval antagonism and subsequent confrontation in the North Sea during the First World War made it easy to assume that Fisher was concerned with the balance of naval power in home waters to the exclusion of all else, which was not the case. Until the internal policy making of the Admiralty was laid bare by recent scholarship, sound consideration of how Mahan's thinking on geography and strategy as rendered in the last chapter of *The Influence of Sea Power upon History* was affected by technological change in his own time was impossible.³¹ Even then, inattentiveness to detail and analytical nuance in Mahan's text precluded proper handling of the question. Mahan's treatment of the subject of concentration of force was not so much an enunciation of a general principle as an examination of its application to a difficult case. Indeed, the story Mahan told in the finale of his most famous book was a cautionary tale with a counterfactual speculative conclusion, not an account of success caused by right conduct that proved a rule. His main purpose was to engage a strategic quandary, not purvey strategic bromides. The power of his conclusions in his own time was attributable to the fact that the essential characteristics of the historical situation investigated had remained applicable to Britain and could easily be transposed to address America's need to defend two widely separated coastlines.³² In the last chapter of *The Influence of Sea Power upon History*, as in so much of Mahan's other writing, comprehension of his strategic argument depended upon coming to precise terms with his historical narrative.

Mahan's recommendation that Britain concentrate its battle fleet in home waters when confronted by a hostile coalition with naval strength numerically equal to or greater than its own was logically compelling within the realm of operational theory, but from a larger practicable point of view as shaped by politics and economics it was highly unpalatable. The negative consequences of exposing valuable peripheral interests to enemy attack were so great that Fisher resorted to a radical technological alternative, which was supposed to have allowed Britain to concentrate its main strength at the periphery without jeopardizing vital interests at the center. As it turned out, the implementation of

The main event of Mahan's The Influence of Sea Power upon History was the American Revolution. Mahan believed that this conflict was a "purely maritime war."

Fisher's scheme was delayed by technical difficulties and service opposition and made irrelevant by the actual course of events in the short run; over the longer term one of its main components, the submarine, was transformed into

a dire threat to British trade routes. Fisher's recipe for imperial naval defense at a cost that Britain could afford, therefore, while plausible, was difficult to put in place, inappropriate to changed circumstances, and encouraged the development of new technology that became highly dangerous.

Readers interested in the national security dilemmas of the present day may learn something of value from considering certain salient features of the just-told story. First, any attempt to apply classical strategic theory to current defense issues should take into account the specific intent of the author, especially with regard to the historical context of supporting argument and the effects of qualifying and contingent suppositions. Second, the applicability, if not the validity, of even "immutable principles of strategy" may be affected critically by technological change. Third, the complexity, difficulty, and above all, inconsistency of strategic problems are likely to upset plans based upon either adherence to sanctified principles or the creation of technological panaceas.³³ And lastly, it is in the nature of things that in the real world, even the best efforts of the best may be tried and found wanting.

NOTES

An earlier version of this article was prepared for a conference, "Explorations in Strategy, Geography, and Technology," held at the Naval War College in March 2001.

1. See Jon Tetsuro Sumida, *Inventing Grand Strategy and Teaching Command: The Classic Works of Alfred Thayer Mahan Reconsidered* (Washington, D.C.: Woodrow Wilson Center

- Press/Johns Hopkins Univ. Press, 1997); "Alfred Thayer Mahan, Geopolitician," in *Geopolitics, Geography and Strategy*, ed. Colin S. Gray and Geoffrey Sloan (London: Frank Cass, 1999); and "New Insights from Old Books: The Case of Alfred Thayer Mahan," *Naval War College Review* 54, no. 3 (Summer 2001), pp. 100–11.
2. For a typical example of the tendency to state Mahan's position on concentration of force without reference to the historical exposition in *The Influence of Sea Power upon History*, see Arthur J. Marder, *From the Dreadnought to Scapa Flow: The Royal Navy in the Fisher Era 1904–1919* (London: Oxford Univ. Press, 1961–70), vol. 1, p. 9.
 3. Alfred Thayer Mahan, *The Influence of Sea Power upon History, 1660–1783* (Boston: Little, Brown, 1890), p. 534.
 4. *Ibid.*, p. 532.
 5. *Ibid.*, p. 529.
 6. This conclusion is supported by a leading modern authority, for which see David Syrett, *The Royal Navy in European Waters during the American Revolutionary War* (Columbia: Univ. of South Carolina Press, 1998), pp. 167–68.
 7. Mahan, *The Influence of Sea Power upon History*, p. 534.
 8. Arthur J. Marder, *Portrait of an Admiral: The Life and Papers of Sir Herbert Richmond* (Cambridge, Mass.: Harvard Univ. Press, 1952), p. 52.
 9. Mahan to Fisher, 21 June 1899, and Mahan to Fisher, 18 July 1899, in Robert Seager II and Doris D. Maguire, eds., *Letters and Papers of Alfred Thayer Mahan* (Annapolis, Md.: Naval Institute Press, 1975), vol. 2, pp. 639–41, 643–45.
 10. Fisher to Chamberlain, 10 November 1900, in Alfred J. Marder, ed., *Fear God and Dread Nought: The Correspondence of Admiral of the Fleet Lord Fisher of Kilverstone* (London: Cape, 1952), vol. 1, p. 165. See also Fisher to James Thursfield, 21 July 1902, in *ibid.*, vol. 1, p. 255; "Notes by Sir John Fisher on New Proposals for the Information of Committee of Seven" (14 May 1904), in P. K. Kemp, ed., *Papers of Sir John Fisher* (London: Navy Records Society, 1960–64), vol. 2, p. 18; and Lord Fisher, *Records* (New York: George H. Doran, 1920), p. 135.
 11. Admiral Sir John Fisher, "Extracts from Confidential Papers: Mediterranean Fleet, 1899–1902," pp. 14, 79–84, 99–100, Fisher Papers, FISR 8/1, F.P. 4702, Roskill Archive Centre, Churchill College, Cambridge. Also excerpts in Lord Fisher, *Records*, pp. 96–98. For the view that Fisher was heavily influenced by Mahan's writing, see Ruddock F. Mackay, *Fisher of Kilverstone* (Oxford, U.K.: Clarendon, 1973), pp. 263–66, 287.
 12. A. T. Mahan, "Retrospect upon the War between Japan and Russia," *National Review* (May 1906), reprinted in Mahan, *Naval Administration and Warfare: Some General Principles with Other Essays* (Boston: Little, Brown, 1908); and "Reflections, Historic and Others, Suggested by the Battle of the Sea of Japan," U.S. Naval Institute *Proceedings* 32 (June 1906), pp. 447–71.
 13. A. T. Mahan, "The True Significance of the Pacific Cruise," *Scientific American*, 7 December 1907, reprinted in Mahan, *Naval Administration and Warfare*, pp. 309–53.
 14. Fisher to Tweedmouth, 5 October 1906, in Marder, ed., *Fear God and Dread Nought*, vol. 2, pp. 96–97.
 15. Marginal note by Fisher on a copy of his letter to King Edward VII, 14 March 1908; Fisher to Arnold White, 30 August 1908; Fisher to Reginald McKenna, 31 March 1909; Fisher to Gerard Fiennes, 14 April 1910; Fisher to Viscount Esher, 15 July 1912; all in Marder, ed., *Fear God and Dread Nought*, vol. 2, pp. 168 note, 192, 240, 322, and 474, respectively. See also Lord Fisher, *Memories* (New York: George H. Doran, 1920), pp. 22–23, 50–51, 187, and 214.
 16. Fisher to John Leyland, 22 September 1907, in Marder, ed., *Fear God and Dread Nought*, vol. 2, p. 136. For Mahan's admiration, in a private letter, of Fisher's reforms as First Sea Lord, see Fisher to Arnold White, 13 November 1909, in *ibid.*, vol. 2, p. 278.
 17. Great Britain, Admiralty, *The Building Programme of the British Navy* (15 February 1906), pp. 8–9 and 37, FISR 8/8, F.P. 4715, Roskill Archive Centre, Churchill College, Cambridge. As late as in 1911, Fisher expressed adamant opposition to the close relations with France, for which see Fisher to J. A. Spender, 25 October 1911, in Marder, ed., *Fear God and Dread Nought*, vol. 2, p. 398.

- For the uneasy relations of Britain and Russia throughout the period, see Keith Neilson, *Britain and the Last Tsar: British Policy and Russia, 1894–1917* (Oxford, U.K.: Clarendon, 1995).
18. G. W. Monger, *The End of Isolation: British Foreign Policy 1900–1907* (London: Thomas Nelson, 1963), pp. 164–75. See also Fisher to Lady Fisher, 1 November 1904, in Marder, ed., *Fear God and Dread Nought*, vol. 2, p. 47.
 19. Fisher to the Earl of Selborne, 29 October 1904, in Marder, ed., *Fear God and Dread Nought*, vol. 2, p. 46.
 20. See Jon Tetsuro Sumida, *In Defence of Naval Supremacy: Finance, Technology, and British Naval Policy, 1889–1914* (Boston: Unwin Hyman, 1989); Nicholas A. Lambert, *Sir John Fisher's Naval Revolution* (Columbia: Univ. of South Carolina Press, 1999), and "Strategic Command and Control for Maneuver Warfare: Creation of the Royal Navy's 'War Room' System, 1905–1915," *Journal of Military History* 69 (April 2005), pp. 361–410.
 21. Jon Sumida, "Churchill and British Sea Power, 1908–29," in *Winston Churchill: Studies in Statesmanship*, ed. R. A. C. Parker (London: Brassey's, 1995), p. 7.
 22. Fisher to Fiennes, 8 February 1912 [emphasis original], in Marder, ed., *Fear God and Dread Nought*, vol. 2, p. 430.
 23. *Ibid.*
 24. *Ibid.* For Fiennes's knowledge of the battle-cruiser aspect of Fisher's scheme, see Gerard Fiennes, *The Ocean Empire: Its Dangers and Defence* (London: A. Treherne, 1911).
 25. Lambert, *Fisher's Naval Revolution*, pp. 245–46.
 26. See Jon Tetsuro Sumida, *In Defence of Naval Supremacy*, pp. 220–35, and "A Matter of Timing: The Royal Navy and the Tactics of Decisive Battle, 1912–1916," *Journal of Military History* 67 (January 2003), pp. 85–136.
 27. Lambert, *Fisher's Naval Revolution*, pp. 245–46. See also Paul G. Halpern, *The Mediterranean Naval Situation 1908–1914* (Cambridge, Mass.: Harvard Univ. Press, 1971).
 28. Fisher to Jellicoe, 2 April 1915, in Marder, ed., *Fear God and Dread Nought*, vol. 3, p. 183.
 29. Richmond diary entry, 15 May 1917, in Marder, *Portrait of an Admiral*, p. 251.
 30. Mahan, *Influence of Sea Power upon History*, pp. 539–40.
 31. See Sumida, *In Defence of Naval Supremacy*, and Lambert, *Fisher's Naval Revolution*.
 32. Mahan, "The Value of the Pacific Cruise of the United States Fleet," in *Naval Administration and Warfare*, pp. 310, 319–20.
 33. See Jon Tetsuro Sumida, "Pitfalls and Prospects: The Misuses and Uses of Military History and Classical Military Theory in the 'Transformation' Era," in *Rethinking the Principles of War*, ed. Anthony D. McIvor (Annapolis, Md.: Naval Institute Press, 2005), pp. 127–40.