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SHIFTING TARGETS

We must reconsider our strategic perspective and organizational culture amid an emerging naval revolution.

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U.S. MARINE CORPS (BRANDON RODRIGUEZ)

Naval support for the wars in Afghanistan and Iraq has been critical for a decade, but the Navy has been unable to focus on sea control and naval warfare at the same time. Marines and sailors with Regimental Combat Team 8 conducted Operation Eastern Seal in Helmand province in November 2011.

Today's U.S. Navy faces trying times in every dimension. Accelerating technological trends are stressing naval development and adaptability, while the Army and Marine Corps contend with costly rebuilding after the long wars in southwest Asia. Yet domestic economic and infrastructure demands and the growing national deficit are cutting into defense resources. After a half-century of U.S. maritime dominance, rival naval powers are emerging. While technological developments threaten accelerated depreciation of the Navy's capital assets, growing international competition, rising costs, and declining resources all pose severe challenges.

The rules of the game are changing in fundamental ways. Is the Navy organizationally and culturally prepared? Specifically, will the systems currently under development help expand or reduce the range of scenarios in which the service can be effective? What balance should be struck between investing in legacy systems rather than emerging technologies? These are questions we should be investigating.

Where We Stand (and Sail)

During the past ten years, naval support for the land wars in Afghanistan and Iraq has been substantial and critical, even if largely unnoticed by the American public and political leadership. But this effort has come with a cost: the Navy has been unable to concentrate on its broader missions of sea control and naval warfare. Future strategic perspective will have to shift from one of small wars to the full range of naval warfare.

In this process, history can play a productive role. Scholars believe history helps us empathize with the past and see it on its own terms, while decision-makers often look to it for lessons that shape solutions to real-time problems. Even though that approach runs the risk of superficial and inappropriate analogies, properly conducted case studies can broaden perspectives, illuminate issues, and structure questions that are key to informed and creative problem-solving.

In this way, a consideration of the Royal Navy in the early 20th century can clarify key issues that we must address today. We can learn from Edwardian naval planning—the problems the British faced, what they tried to do, where they succeeded, and where they failed.

At the dawn of the 20th century, Britain was witnessing a relative national decline as other powers caught up to the industrial revolution. New rivals with large navies posed tough strategic choices. Competition for fiscal resources was intense, as the demand for social initiatives battled with the needs of national defense. Tax increases were politically untenable and not seriously considered. Compounding these factors was continuing and significant technological change. To the degree that Britain led the world technologically, it could master change. Yet the breadth, depth, and speed of change were significant. The legacy systems upon which Britain's naval mastery had long been based were rapidly becoming obsolete.

Sir John Fisher's Naval Revolution

By the late 19th century, the general outlines of the steam, steel, and rifled-gun revolution were becoming clear.[1] With a more settled technological landscape, a global renaissance in naval thought ensued. The world's navies turned from considering what to build to what to do with viable production systems. Competing industrial powers, particularly

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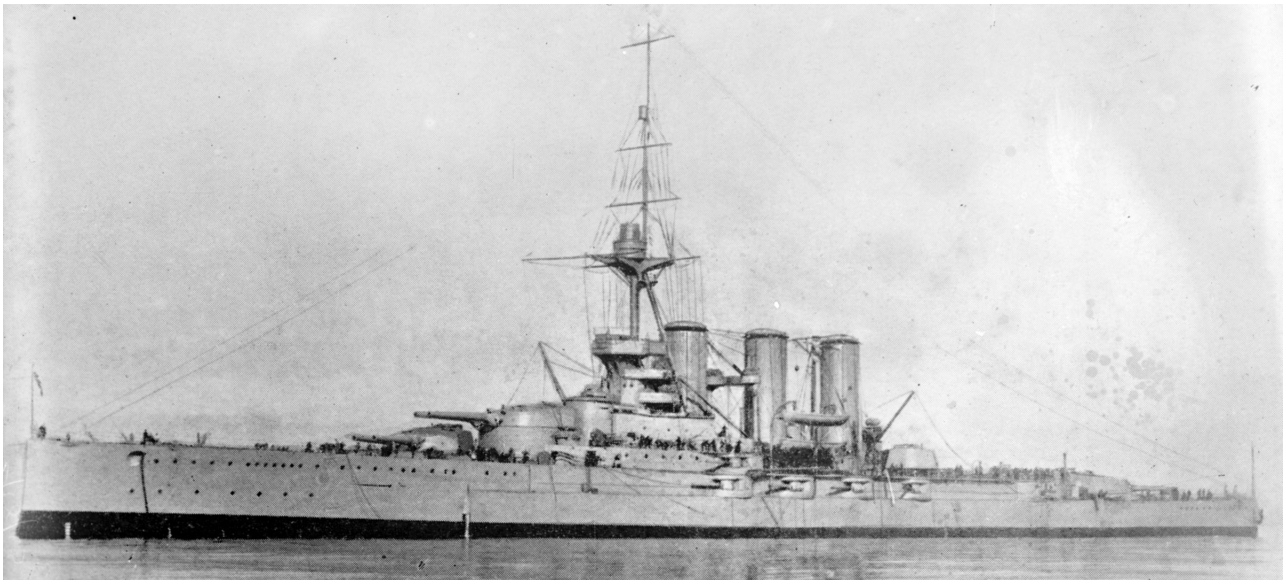
History can help elucidate contemporary issues. In the early 20th century, the Royal Navy's Admiral John Fisher managed a naval revolution in geopolitical and social conditions much like those today in the United States.



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Among Fisher's innovations was the development of a super-armored cruiser, the battlecruiser, whose big guns outranged conventional battleships and whose speed exceeded those of cruisers. HMS *Tiger*, launched in 1913, survived the May 1916 Battle of Jutland and was scrapped in 1932.

the United States and Germany, but also France and Russia, began challenging Britain's economic dominance. Even minor powers such as Japan had an impact on naval-warfare trends. That country's use of wireless telegraphy, torpedoes, mines, speed and maneuver of steam ships, concentration of fire, and logistics in the 1904–05 Russo-Japanese War presaged these advances in naval warfare.[2]

A new imperialism added fuel to the fire of maritime competition. A naval arms race emerged, in the midst of which Britain sought to maintain its increasingly uncertain grasp on dominance. Costs skyrocketed as ever-larger and more complex ships were built to match or defeat competitors. By 1904 Britain had tough decisions to make. It could no longer sustain the naval expenditures being driven by changing strategic conditions.[3]

That year, Sir John "Jackie" Fisher was brought in as First Sea Lord to solve the Royal Navy's financial problem. A tumultuous six years followed, as he tried to meet the double challenge of containing the threat posed by major naval rivals and the need for large fiscal reductions.

Fisher's vexing strategic situation was defined by the need to defend a far-flung empire and connecting trade routes while also protecting the home islands. He faced a potentially dangerous European maritime coalition in Russia and France. By 1905, concern emerged with a rapidly arming Germany—initially as a potential addition to the French-Russian coalition, ultimately in its own right. Fisher had to deal with rising costs, reduced naval spending, increasing demands on skilled manpower, and retention problems.

The latter were particularly challenging. Not only could he not afford to reduce expenditure on promising technologies (what we would today call research and development), he really couldn't even afford to focus his efforts in one area or system. Development of parallel technologies promised enhanced battleship capability while simultaneously threatening its viability.

Only a radical approach seemed to offer a chance of reconciling the conflicting demands. Fisher developed a two-pronged concept. He proposed defending the empire with a new type of ship: the super-armored cruiser (battlecruiser), equipped with big guns that could outrange conventional battleships or catch and overwhelm any cruiser. By sacrificing armor for range and speed, it could be deployed in small and, therefore, maneuverable squadrons. Pressing the latest technology to his purposes, Fisher envisioned swiftly concentrating these ships around the world by relying on global wireless communications and a revolutionary worldwide naval-intelligence system.

Protection of the home islands, on the other hand, would depend on mines, submarines, and destroyer flotillas backed by older but still serviceable battleships. Fisher believed submarines were rapidly making large, slow, and unwieldy formations of battleships irrelevant in narrow seas. This combination of assets promised a much cheaper, yet still highly effective form of naval warfare—one that would guarantee British naval dominance into the future.

The Political Realities

Opposition within the Royal Navy joined the popular view that naval power was defined by dreadnoughts.[4] So instead of negating foreign-battleship construction by his two-pronged (and more economical) strategy of flotilla defense and trade protection by battlecruisers, Fisher was forced to match overseas construction of battleships. He was able to cut total capital-ship construction from 1906 to 1908, but the keeping-up strategy ultimately led to the need for more larger, powerful, and expensive battleships.

A financially stressful naval arms race resulted, as of 1909. Fisher realized a modern navy was so interconnected that piecemeal reform would not work. He had to go after it all. His genius was to build the battlecruisers he wanted while also cutting expenditures and still giving Britain the battleships it demanded.

After 1908, the strategic situation changed as well. The menace of a global French-Russian naval coalition gave way to a rising Germany that was no longer willing to rely on Britain to secure its sea lines of communication. But although its growing industrial might allowed Germany to build a challenging fleet, its naval power, concentrated in Europe, was more easily contained in the North Sea. Thus the Royal Navy could concentrate its battle fleet (including the battlecruisers) at home, while relying on older ships to defend the empire against a minimal threat. And yet technical, tactical, and ultimately cultural ripples flowed from what Fisher had begun.

The battlecruiser concept relied on the ability to fire accurately at long range. British efforts to develop effective long-range fire control were shaped by evolving tactical thinking, technical challenges, high costs and the drive for the most efficient systems, bureaucratic politics, poor test and evaluation processes, individual egos, and pure luck. So instead of the gunnery equipment it needed, the Royal Navy selected a less-capable system that was cheaper and simpler to operate.

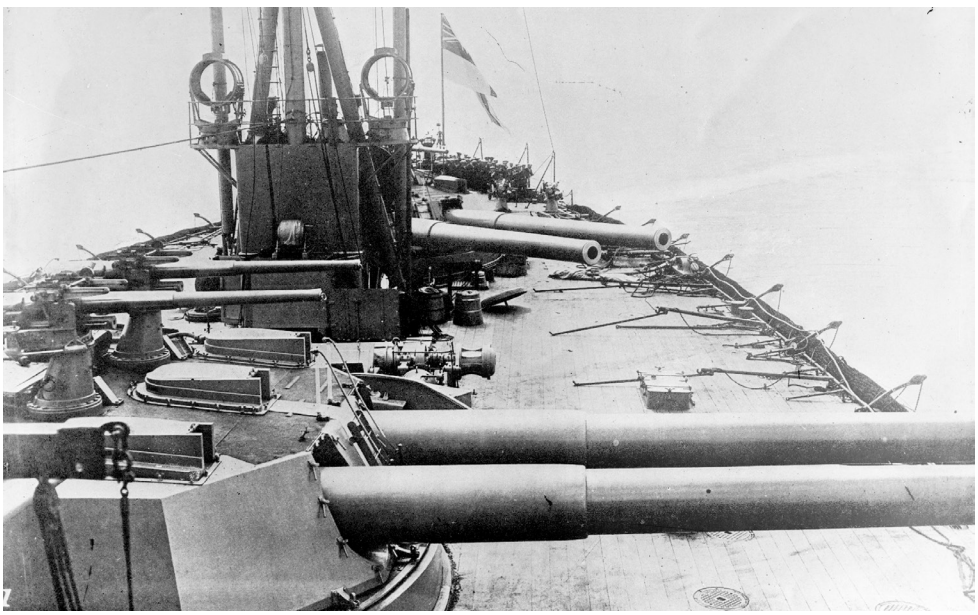
Known as the Dreyer system, it was limited in several ways, a failure compounded by poor testing. Limitations such as the need to fight on parallel and steady courses at medium range, suboptimal armor piercing shells, and narrow training constrained the British to a single tactical scenario. This was viewed as acceptable because British intelligence had confirmed that the Germans were planning to fight just that kind of battle. But the British misunderstood: The intended German tactics were in response to the perception that the British would implement a close blockade of the German coast on the outbreak of war. Instead, the British elected a distant blockade when war came in 1914, exactly because of the risk presented by the German battle fleet, flotilla, submarines, and mines.

The German tactical plan was altered in response—to a longer-range, maneuverable, and quick-hitting doctrine that hoped to catch and defeat isolated detachments of the British fleet. Thus, as naval historian Jon Sumida succinctly puts it, "British misapprehension of German tactical intentions was the product of German misapprehension of British strategic intentions."[5] Disregarding the impact of strategic conditions on tactics, the British largely ignored the very real possibility that the Germans would not play by the script. By 1914, the Royal Navy could decisively win in only one type of battle, which the Germans steadfastly refused to give them.

In the years before World War I, the British battle fleet continued to grow. New dreadnoughts were steadily added at an increasing rate, armed with ever-more capable guns and powered by steam turbines. To scout and defend against enemy destroyers and submarines, increasing numbers of cruisers and destroyers were also added. Command and control was challenged by the growth of this combined-arms formation. It was eventually formalized as the Grand Fleet of Battle, or Grand Fleet. A great deal of tactical thinking took place, as one would expect in a period of substantial technological and geopolitical change.

To summarize the two principal tactical camps that emerged, one favored addressing the command-and-control problem through fighting by divisions, while the other believed decisive victory could only be achieved if the fleet fought as one concentrated unit. Tests were conducted in 1912 to determine the efficacy of both methods. These convinced the British Admiralty that the more decentralized system contained serious flaws and risked defeat of the fleet. The centralizers carried the day.

The need for economies drove system procurement decisions that limited fleet tactical options by 1914. Challenges to command and control led to a highly centralized tactical doctrine. These combined factors created a service culture that prized obedience, focused on highly efficient gunnery in a medium-range fight, downplayed the importance of individual initiative, and placed unduly heavy reliance on fragile communication systems, with the onus for decision-making entirely in the hands of commanders who might or might not have a clear picture of the tactical situation. If the enemy, weather, and sea state cooperated, the British system could be



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The common wisdom of the era held that naval power was defined by dreadnoughts (here the quarterdeck of HMS *Dreadnought*, which served as the Home Fleet's flagship from 1907 to 1912)—yet Fisher managed to also produce battlecruisers and cut expenses. Even so, in a naval culture that deemphasized initiative, by the time of the Battle of Jutland, well-established practices resulted in holding the Germans at bay but not routing them.

decisive. But if the battle unfolded differently, the system lacked the flexibility to adjust quickly and effectively.

Peacetime System in War

Sir John Jellicoe assumed command of the Grand Fleet at war's outbreak in 1914. A former director of naval ordnance, 3rd Sea Lord, 2nd Sea Lord, and de facto leader of the centralized faction, he was a brilliant and aggressive leader. Though most of his career as a flag officer had been spent in London at the Admiralty, Jellicoe was a true gunnery expert and had devoted his considerable efforts to devising the best systems possible to ensure the dominance of British naval gunnery in war.

He found upon assuming command that his vision for the fleet had not yet been realized. Jellicoe had to grapple with the challenges outlined previously as he prepared for war. He had to adapt to the realities at sea, take the hand he'd been dealt, and do the best possible.

U.S. AIR FORCE (TIM CHACON)

As the Navy adjusts to fast-changing technology and uncertain times such as those typified by the war in Afghanistan (where this individual-augmentee lieutenant commander provides security for Kandahar Provincial Reconstruction Team engineers), smart, forward-thinking decisions will be essential for U.S. readiness. The Navy must reach a balance between new capabilities and doctrine that accounts for the realities of combat and an unpredictable enemy's thought process.

His best was very good. Adjusting to changing circumstances and the lessons of early battles, Jellicoe constantly evolved his tactical thinking. The hoped-for medium-range fight gradually faded into the background, to be replaced by the need to engage at long range. Recognition that the German fleet would likely not stand and fight should it be caught at sea led to analysis of running battles against a fleeing enemy. And Jellicoe still had to be prepared for a medium-range battle should the enemy turn and fight. Given the challenges of wartime, particularly logistics considerations, the mechanical wear and tear on his ships, battle damage and losses, and uneven capabilities, Jellicoe performed admirably in holding the Germans at bay and preserving intact Britain's only battle fleet.

Yet it was not enough. He was hampered by range-finders ill suited to gunnery beyond 9,000 yards, a fire-control system not designed for fluid and long-range battles of maneuver, and a long-standing reluctance to use more sophisticated fire-control techniques. Armor-piercing rounds failed when fired at long range. Maintenance and repair infrastructure was lacking in the north of Britain, forcing long absences from the fleet for routine maintenance and damage repair. Training, exercises, and experiments had been largely focused on the medium-range fight under the realistic assumption that training for all potential scenarios would significantly dilute gunnery skills, bringing mediocrity in all rather than mastery in at least one.

Finally, the culture of centralization placed boundaries on how far Jellicoe could innovate. He could not suddenly inculcate an understanding of war that had been neglected over the years, nor could he instantly remedy the "prevailing innocence of officers at sea to the requirements over and above the efficient operation of their own ships or squadrons."[6]

The various factors conditioning British tactical doctrine up to 1916 culminated in the Royal Navy's performance at the Battle of Jutland in May of that year. Though Jellicoe made the right decisions and fought an effective battle, he was unable to achieve the decisive result that his nature and his British countrymen demanded.[7] While the strategic effect of the battle was to contain the threat of Germany's High Seas Fleet, the tactical results were far less desirable.

As British naval historian Andrew Gordon concludes, Jellicoe fought the Battle of Jutland the only way he could have. Doctrine and tactics, signals, equipment, and culture had all been shaped for one narrow scenario, in large part by Jellicoe himself. The British failure was not on the day of battle; that took decades and was the result of the Royal Navy's system and failure to align decisions to the context and reality of war. The navy could only decisively win one kind of battle—which it could not bring the Germans to fight.[8]

Studying the Royal Navy between 1900 and 1914 suggests that technical decisions shaped by fiscal limitations impacted ship design and equipment. This spawned tactics and operational doctrine that significantly inhibited adaptation in war and created major operator-induced vulnerabilities. The Royal Navy was forced to fight a conservative

battle because it was technically, tactically, and culturally prevented from fighting the aggressive one it wanted. That the strategic outcome was in the end satisfactory does not reduce the importance of the operational and tactical flaws stemming from peacetime decisions.

> The Royal Navy's failure to acquire gunnery equipment appropriate to an action involving frequent changes of course and shooting at long range—which it might well have had—imposed serious operational limitations and created vulnerabilities, the price of which was paid at Jutland.[9]

The failure was not due to very smart British officers not working hard to solve tough problems. It was, in fact, that they *were* working so hard—through a flawed system. The prism was too limited, and this brought them up short. It was a case of *wrong* thinking by committed, intelligent, trained professionals; it was not a case of *no* thinking.

Implications for Today

From this brief sketch of a complex period, several insights emerge that can help inform today's naval decision-makers. Clearly, naval strategy and all that derives from it emerges from the various types of factors described in this article. The U.S. Navy must not assume that because technology has changed and continues to do so, the fundamental nature of warfare has altered to the point that history is not useful. Instead, it must somehow find a balance, as the British did not, between the "new" offered by technology and the "old" suggested by the one constant in warfare: the human element.

Engineering narrow technical solutions must be balanced with developing simple, strong, accepted tactical doctrine that accounts for combat realities: chaos, uncertainty, friction, fear, and exhaustion. Most important, the Navy needs to internalize the fact that our adversaries have a vote. They will act in their best interest. Those who are competent will do exactly what we do not want them to. The U.S. Navy must balance fiscal efficiency as well as tactical effectiveness. This will allow us to develop a realistic, affordable maritime strategy and the appropriate force for its execution. Finally, we need a service culture that encompasses both centralized control and the subordinate initiative that is so often essential in battle.

The example of British preparations for what became World War I suggest that today's decision-makers should consider the following points.

- Procurement decisions that can be made with maximum flexibility for uncertain futures
- Programs that by nature limit tactical options and can or should be dropped
- How the Navy might better use and integrate its considerable educational and wargaming capacity to ensure realistic concept development
- Processes that the Navy should use or improve to foster relevant and effective tactics development in the face of rapid and broad technological change and a dynamic geopolitical environment
- From the perspective of a long peace without naval adversaries, how the Navy can best revive its thinking on the full range of naval warfare under conditions of technological change and newly emerging rivals
- The extent to which spending on legacy systems s should be curtailed to free funds for new systems
- New technology that can be integrated into the existing Fleet, in both physical and doctrinal terms
- Recognizing that often systems built for one purpose are used for others over time (such as was the case with Britain's battlecruisers), how the Navy can manage the risks inherent in such a situation
- What to do if our adversaries don't play our game—how the Navy can act to insulate its decisions from unexpected behavior

Laced throughout these points for consideration is a more fundamental issue: How the Navy can best prepare its people for the coming era of naval competition. Should preparations be generalized, or focus on a single potential adversary, such as China? How much time and expense are required to shift course to a Navy with different characteristics, and when should that process begin? Are organizational, educational, training, and doctrinal steps needed to better equip naval professionals for what is coming?

In the British example, smart and dedicated professionals made choices while contending with significant challenges. Their decisions boxed them in, and years of resultant practices culminated in the disappointment of Jutland. With this in mind, the U.S. Navy should seriously ponder how it can use history to help ensure that its considerable efforts, talents, and decisions are the right ones for a future that can only be dimly perceived.

1. For information on this 1900–14 period, see the seminal works by Jon Tetsuro Sumida, *In Defence of Naval Supremacy: Finance, Technology, and British Naval Policy, 1889–1914* (London: Routledge, 1989); Andrew Gordon, *The Rules of the Game: Jutland and British Naval Command* (London: John Murray, 1996); and Nicholas A. Lambert, *Sir John Fisher's Naval Revolution* (Columbia: University of South Carolina Press, 1999).
2. David C. Evans and Mark R. Peattie, *Kaigun: Strategy, Tactics, and Technology in the Imperial Japanese Navy, 1887-1941* (Annapolis, MD: Naval Institute Press, 1997), 74-84.
3. Sumida, *Defence of Naval Supremacy*, 23.
4. Discussion with Nicholas Lambert, 16 October, 2011.
5. Jon Sumida, "A Matter of Timing: The Royal Navy and the Tactics of Decisive Battle, 1912-1916," *Journal of Military History*, January 2003, 123.
6. James Goldrick, *The King's Ships Were At Sea: The War in the North Sea, August 1914–February, 1915* (Annapolis, MD: Naval Institute Press, 1984), 314.
7. H. P. Willmott, *The Last Century of Sea Power,* Vol. 1 (Bloomington: Indiana University Press, 2009), 231.
8. Gordon, *Rules of the Game*, 565.
9. Sumida, "A Matter of Timing," 131.

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