

CHAPTER 1

Introduction

From 1923 to 1940 the U.S. Navy held twenty-one major exercises, known as “Fleet Problems.” While only a part of annual fleet training, these exercises differed from routine maneuvers and gunnery exercises. All available ships of the U.S. fleet would be assigned to one or more opposing naval forces, which were designated by a color (black, orange, blue, etc). The chief of naval operations would provide general guidance on the objectives of the exercise to the commander-in-chief, U.S. fleet. “CINCUS,” as he was called, would then blend the CNO’s training objectives with his own desires and provide the exercise fleet commanders specific strategic problems to be solved.¹ Fleet staffs would develop appropriate plans to address the requirements of the exercise and articulate their commanders’ intentions in a strategic plan known as the “Estimate of the Situation.” Subsequent operations orders would be developed for subordinate units participating in the exercise. At the conclusion of the operational portion of the exercise, representatives from all participating units and staffs would gather for a postexercise critique.

Normally held in a large auditorium to accommodate as many officers as possible, the critique provided the opportunity for all to see events in their entirety, as well as offering a forum for senior commanders to discuss their perspectives and lessons learned.

Seven of the fleet problems dealt with Caribbean security and the defense of the Panama Canal. Aspects of War Plan Orange, the navy's vision of war in the Pacific against Japan, were tested in ten of the problems. Exercises additionally tested the capabilities of submarines, the use of carrier aircraft, and combined operations with the Marine Expeditionary Force (later changed to Fleet Marine Force) and U.S. Army in the seizure and defense of advanced bases.² In essence the fleet problems were simulated wars. They provided the only opportunity during the fleet's annual training cycle for flag and general officers to apply strategic thinking in an operational setting.³ The aggregation of ships, submarines, aircraft, and marines provided an excellent opportunity for staffs and unit commanders to work through the problems of coordination and interoperability. Operational units experienced firsthand the perspectives of the navy's senior leaders.

The magnitude and scope of the exercises suggest that the interwar years were a dynamic period in the history of the U.S. Navy. Historical interpretations, however, have cast the period as little more than a proving ground for Mahanian notions of sea power.⁴ The navy was tradition-bound and overly conservative. Its reluctance to break from a doctrine centered on decisive engagements between battleship-centered fleets squandered two decades of peace. Naval officers as a consequence spent their time doing little more than re-fighting the great World War I naval battle of Jutland, when they could have been determining how Jutland might be fought with submarines and aircraft carriers, or not fought at all for that matter.⁵ This is not to say that the literature is fundamentally flawed. Elting Morison concluded that the navy's reluctance to adopt steam propulsion in the 1860s and continuous-aim gunnery at the turn of the century demonstrated a strain of unhealthy conservatism within its organizational ethos.⁶ The dominant literature, however, has represented the interwar navy as little more than backward-looking or fanatically Mahanian, a military organization preparing for warfare in the twentieth century with eighteenth-century thinking.

What were naval officers trying to accomplish in their fleet problems? Were they, like Barbara Tuchman's generals in World War I, simply fighting the last war? The answer that the navy used the interwar exercises to resist reform is too simplistic. There is no question that much of the navy's thinking on doctrine and strategy was informed by lectures and books written by

Alfred Thayer Mahan in the late nineteenth century. The fleet problems were developed, and lessons were learned, within the broad contours of Mahan's principles of naval warfare. But unlike Mahan, whose ideas were deduced from the age of sail, twentieth-century naval officers could not completely ignore the implications of modern weapons. Limited experience during World War I only accentuated the gap between doctrine and technology. They had to reconcile principles drawn from battles between sailing ships to naval warfare fought with battleships, airplanes, submarines, and even marines.

It was during these fleet problems that the navy experienced the implications of modern technology on its doctrine. The exercises additionally proved to be an important medium through which naval officers used operational experiences to modify aspects of their conceptions of naval warfare. One of the reasons they learned so much is that the exercises took the form of sophisticated warfare simulation. The documents from the fleet problems reveal that naval officers attempted to create the conditions that they thought would arise in a future war. First, the exercise scenarios all had strategic relevance. In other words, the entire chain of command actively participated in the exercise. A second related condition was that the scenarios were written so as to inhibit a fleet commander from relying on "canned" solutions to a problem. The final condition of modern simulation is that participating units were employed in the environmental conditions that approximated actual operations.⁷

Given the navy's limited operational experiences, the fleet problem scenarios represented an amalgam of assumptions on geopolitics, technology, national defense, and naval warfare. As a consequence the exercises were inexact representations of reality. They were given the look and feel of what naval officers perceived to be real. But there was no guarantee that simulation would completely validate Mahan, even though many officers believed that would be the case.

Despite its limitations, warfare simulation exposed naval officers to what a modern war at sea might look like. The fleet problems helped to shape the navy's strategic vision of a future war. Naval officers learned how to integrate new technology. The exercises placed humans and machines as close to actual combat conditions as possible. Naval officers experienced the problems of coordinating three dimensions of naval warfare in an operational setting. Concepts such as dive bombing, independent submarine operations, anti-submarine warfare, and amphibious operations were explored in a medium that stressed not only machines and people but also the thinking of naval officers as to how best to employ them.

Perhaps an apt metaphor, and one that will resonate throughout the book, is that the interwar navy existed as if it had been placed inside a bottle. The bottle itself was molded by factors outside the navy's control. Diplomats used disarmament conferences during the period to contain the offensive capabilities of navies. The Harding, Coolidge, and Hoover administrations additionally envisioned naval disarmament as a way to relieve a strained U.S. economy and more conducive to a foreign policy of conditional engagement.⁸ To the diplomats and politicians were added officers of the U.S. Army. Some of them sought to restrain the navy for fear of their own service's future. Others believed that the airpower revolution had made navies obsolete. Within the bottle, however, naval officers were left to validate their own sense of reality. Much of their effort was spent reinforcing a belief that the navy's purpose in war was to achieve *sea control*. The concept, which emphasized fleet action by capital ships to prevent an enemy's use of the sea, was first articulated in the lectures and narratives of Alfred Thayer Mahan. The problem facing naval officers, however, was validating that concept in peacetime with new tools of naval warfare, and few operational experiences. Consequently, not every issue raised through simulation was resolved. As Carl von Clausewitz noted, the only "lubricant" to the "abrasion" of friction was combat experience.⁹ But the exercises served an important purpose to the interwar navy. Naval officers learned how to fight with modern technology.

An examination of the fleet problems serves to intervene in the established literature by revealing a different perspective on the interwar naval officer corps. Historians have crafted a particular image of the naval "culture" as committed to the most stringent interpretation of Mahanian sea-control doctrine. Airplanes, submarines, marines, and destroyers were not excluded from the naval hierarchy but were deemed of secondary importance to the battleship. To challenge the battleship's preeminence was heresy. To suggest alternatives to the decisive engagement was "defensive-minded." This interpretation represents the navy as a monolithic and hidebound culture, which seems an oversimplification. Mahan's vision of sea control was the wellspring from which the navy drew its strategic thinking. The canon resonated well after Mahan's death in December 1914. But American naval officers were not all catechismal throwbacks. Through simulation they developed a good, though incomplete, understanding of the new tools of naval warfare and a reasonable strategic scheme for applying them. The exercises also suggest that "the fleet" was somewhere between a monolith and a group of rival constituencies, each bargaining to enhance its position, and in some cases, its survival.¹⁰

This study will also add to the discussion on how military organizations transform. I. B. Holley and John Morrow, for example, both examined the development of aviation during World War I. Holley argued that the U.S. Army's failure to think through the employment of the new weapon prior to its construction was a principal reason for the problems that plagued U.S. military aviation. Morrow took the opposite tack. Innovations arising from battlefield experience, he contended, outpaced attempts at an inductive process.¹¹ Other commentaries focus on catalysts of change. Barry Posen, for example, offers a neorealist argument that links organizational reform to international behavior. He contends that international competition drives military organizations to change, with cooperation with civilian authority as the key to effective innovation. Stephen Rosen, on the other hand, argues that reform is brought about by "dominant social structures" within the organization's country. Finally, some historians focus on the impediments to reform. Tami Biddle's comparative analysis of interwar strategic bombing doctrine in Britain and the United States illustrates that assumptions and expectations attached to unescorted, high-altitude, precision bombers stifled development of other critical dimensions of air power, most notably escort fighters. David Johnson makes a similar argument to explain the army's lackluster efforts to develop the tank. The service was culturally constrained to viewing ground war as the province of the infantryman. The crews that had to fight with lightly-armed-and-armored tanks discovered, much to their dismay, that Germans in Panther and Tiger tanks had not been hindered by such bias.¹²

The fleet problems are extremely useful to this discussion, not only because they offer a naval example to the debate, but more importantly because the exercises illustrate the problems of explaining historical events within strict theoretical frameworks. The fleet problems are not a perfect fit. The exercises were the principal operational media from which naval officers began to understand the proper employment of new technology. Simulation emphasized a doctrine that accentuated offensive operations against enemy warships but did not altogether reject defensive measures, such as convoy defense against submarines. It also crafted a geopolitical reality that conflicted with foreign policy. Diplomats used arms limitation to reduce the offensive capabilities of navies. U.S. Naval officers used their imaginations to circumvent the diplomats. Simulated ships, which navy planners termed "constructive," were added to their exercises to validate their belief that future war would surely include the proscribed vessels. The political-military divide did not entirely inhibit innovation. The fleet problems suggest that a military organization can transform itself, even with untested principles or an unproven technology.

This study will also contribute to discussion on the medium that lies between a military organization's assumptions and expectations and the doctrine it develops. Organizational learning is viewed by sociologists Barbara Levitt and James March as "routine-based, history-dependant, and target-oriented." Direct experience, they argue, can be a productive means for organizations, particularly craft-based groups, to learn how to adapt to changing circumstances, develop "organizational memory," and transfer tradition to new members, or members who did not participate in the experience.¹³

In the late nineteenth century the navy incorporated much of the Prussian model in its strategy-oriented training programs. According to Ronald Spector and Michael Vlahos, war games played at the Naval War College not only nurtured the intellectual facet of strategy making but also reinforced the cultural ethos of the officer corps. The Royal Navy, for example, became a consistent opponent in many games but not because civilian policy makers perceived the British as a credible threat to national defense. Rather, U.S. naval officers used the Royal Navy as a means of reinforcing the two officer corps as equals.¹⁴ But the difference between playing war *games* at Newport and solving fleet *problems* at sea was more than semantic. At-sea exercises provided a means of organizational learning through experience, or what historians of science refer to as tacit knowledge. The incorporation of technological "anomalies" such as aircraft and submarines and geographical features such as Pacific atolls tempered the temptation of commanders to resort to "canned solutions." Unlike Newport, failure in a fleet problem had to be explained to a much broader, and junior, audience.

The fleet problems were a collection of shared experiences that facilitated organizational learning. Navy and Marine Corps units, which normally trained alone or together in small groups, were assimilated into the larger fleet organization. At the conclusion of the exercise participants would gather to share their perceptions and learn from their seniors. Meaningful learning therefore relied on several important conditions of simulation. One was verisimilitude. Naval officers had to believe that the scenarios they were presented with, and the operating conditions they experienced, reasonably approached their expectations of what would happen in a future war. Secondly, the exercises had to convince participants that valid lessons could be gleaned from simulation. Finally, the fleet problems had to provide a medium that facilitated the transmission of lessons learned, nurtured organizational memory, and reinforced the navy's organizational ethos.

The interwar navy provides an excellent venue for a historically based inquiry on the behavior of a military organization, the doctrine it develops, the organization's capacity for learning, and how it innovates. But if there is a central theme that ties the history and the theory together, it is the enduring legacy of Alfred Thayer Mahan. Phillips Payson O'Brien observes in his introduction to *Technology and Naval Combat in the Twentieth Century and Beyond* that the naval balance of power changed very little in the twentieth century.¹⁵ In 1907 Britannia ruled the waves, with the U.S. Navy in a respectable second place. Ninety-six years later the only change has been the elevation of the American navy. Both navies, O'Brien observed, successfully held off a slew of potential rivals. The Royal Navy dashed the hopes of the Spanish, Dutch, French, and Germans. The U.S. Navy foiled the aspirations of Karl Dönitz, Yamamoto Isoroku, and Sergei Gorshkov. Strong national economies, robust industries, and technological expertise were critical factors in the success of both organizations. But perhaps just as important was the consistent application of economic, industrial, and technological power to a coherent doctrine. Whether one views Mahan as a prophet or a popularizer, the interwar U.S. Navy cannot be properly understood outside the context of his ideas.

Since the fleet problems collectively have not been the subject of a scholarly study, primary source material has been used to the fullest extent possible. After declassification in 1975, documents specifically relating to the fleet problems were gathered from five series of records in three records groups and transferred onto microfilm. The document sources include: Office of the Secretary of the Navy Secret and Confidential Correspondence, 1919–26, and Confidential Correspondence, 1927–39; General Records of the Department of the Navy, Record Group 80, Division of Fleet Training Confidential Correspondence, 1927–41, and Confidential Reports, 1917–41; Records of the Office of the Chief of Naval Operations, Record Group 38, and Confidential Correspondence, 1939–40; and Records of Naval Operating Forces, Record Group 313.

Four additional sets of documentary sources provide important contextual information on the interwar navy. The *Annual Report of the Secretary of the Navy* and *Annual Report of the Chief of Naval Operations* are excellent resources on general operations and naval construction activity. The *Annual Reports of Fleets and Task Forces of the U.S. Navy, 1920–1941*, include the yearly status reports from the commander-in-chief, U.S. fleet, as well as his subordinate fleet commanders. These reports offer a variety of detailed information not found in the reports of the CNO and secretary of the navy, such as recom-

mendations on fleet requirements, personnel status, and detailed discussions on technical issues. Finally, *Proceedings and Hearings of the General Board of the U.S. Navy, 1900–1950* offers testimony from naval officers and marines on a variety of policy and technical issues.

The final areas of primary source material are the professional journals of the navy and Marine Corps and unofficial commentaries on naval policy. The Naval Institute's *Proceedings* and Marine Corps Association's *Marine Corps Gazette* have long been considered as the principal media for officers to discuss and debate policies affecting the sea services. Professional commentary outside of these journals includes authors such as airpower theorist Giulio Douhet, navy advocates such as Bradley Fiske, Hector C. Bywater, and Dudley W. Knox, USMC Commandant John A. Lejeune, Alfred Thayer Mahan, and American air-power advocate William "Billy" Mitchell.

If history is, as Edward Hallett Carr contends, an "unending dialogue between the present and the past," then the duty of the historian is to offer the past as a way of understanding the present.¹⁶ In January 2001 former Assistant Secretary of Defense Lawrence Korb criticized the Bush administration's plan to follow through on construction of DD-21, the navy's next-generation destroyer. The navy's intention to use stealth technology in its construction, Korb argued, would make these futuristic-looking ships twice as expensive as the existing *Spruance*-class destroyers and *Perry*-class frigates, which, like the proposed DD-21, "operate primarily on the high seas against another navy."¹⁷

Korb's remarks illustrate in one sense that the ghost of Mahan still walks among us. His observation that the purpose of a navy is an enemy's navy was Mahan's view over a century before. Just as important, Korb's comments demonstrate that the debate surrounding the weapons we ought to build, and how they should be used, is no less complicated now than in 1923. Whether to rely on the lessons of history, uncertain future enemies, technological innovations, or a combination of all to settle the debate requires a medium capable of testing the tools and the thinking of the people who operate them. In today's "net centric" navy, the computer offers an alluring temptation to use the microchip, rather than the sea, as the medium for simulation. Between 1923 and 1940 modern warfare simulation began with a more modest form: the U.S. Navy Fleet Problems.