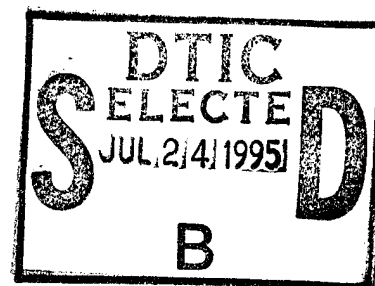


NAVAL POSTGRADUATE SCHOOL MONTEREY, CALIFORNIA



THESIS

**INFLUENCING THE LAND CAMPAIGN
...FROM THE SEA:
THE INTERACTION OF ARMIES AND NAVIES
IN THE AMERICAN REVOLUTIONARY WAR**

by

Harry P. Bolich

March, 1995

Thesis Advisor:

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IN THE AMERICAN REVOLUTIONARY WAR**

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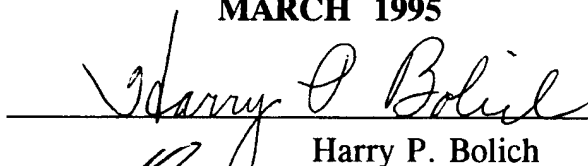
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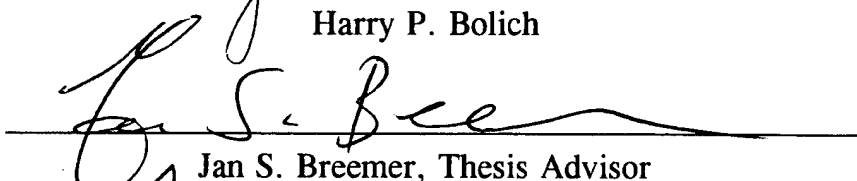
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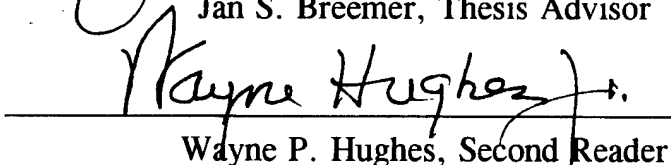
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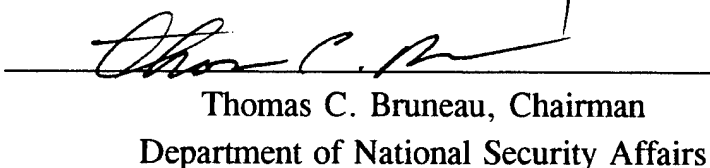
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ABSTRACT

This thesis contends that in wars between nations, there is a link between developments at sea and the character of the land campaign. When war occurs in the littoral area, command of the sea offers advantages to the military commander ashore. Specific advantages include: mobility of troops and logistics, operational initiative, improved geographic access, and surprise. Naval superiority alone does not guarantee these advantages. The superior naval force must first concentrate and win command of the sea before that command can be exercised. It is only in the exercise of command of the sea that these advantages are realized.

Background for supporting these contentions is provided by defining pertinent concepts such as maritime power, sea power, naval power, sea force, and littoral warfare. Next, the American Revolutionary War is analyzed with a focus on the interaction of land and sea forces. An attempt is made to associate changes in the character of the land campaign with changes in the naval condition between belligerents.

Linkage is established between events at sea and ashore, and the conclusion is that the character of the land campaign can be influenced...*From the Sea.*

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EXECUTIVE SUMMARY

During the American Revolutionary War, Great Britain was the world's foremost military and naval power. The dominant position of Great Britain in the world community, however, was challenged in distant war by a rebellious group of loosely organized colonies in the New World. Initially, there seemed little chance that this challenge would survive a full campaign season by the British forces. While they delighted in Britain's preoccupation with the nuisance in the Americas, her traditional European enemies balked at openly supporting the Rebellion because the odds of success seemed very slim. It would require a demonstration of Colonial military competence in the field against British regulars to precipitate open support from France. The capture of General Burgoyne's Army at Saratoga provided just such a demonstration.

It is true that the Colonists required allied support to overcome British military power and eventually prevail in the conflict. The question remains, however, "How did the Continental Army, largely raw and tactically unsophisticated, come to capture a British Army, then win the war?"

The primary motivation for answering this question is that the United States finds itself in a situation similar to the one faced by Britain two hundred years ago. Today, the United States is the dominant military and naval power in the world. Uses of expeditionary forces by the United States since the collapse of the Soviet Union has been in disorganized and relatively primitive political areas such as Somalia and Haiti. These areas are similar to the political/military situation in the Colonies in 1775. The motivation then, for explaining Britain's defeat at the

hands of the Colonists, is to keep the United States from repeating the same mistakes.

To that end, this thesis conducts an analysis of certain military aspects of the American Revolutionary War. The specific focus is to consider the impact that changes in the naval situation have on developments ashore. The contention is that command of the littoral sea grants to the shore commander certain advantages, such as: mobility for troops and logistics, the ability to concentrate, improved geographic access, and surprise. The admonition is that unless command of the sea is actively exercised, then those advantages are lost.

The events of the war support both the contention and the admonition. Campaigns for the Lake Champlain waterway, Boston, New York, Philadelphia, and Yorktown are all considered in light of the interactions of armies and navies. Lessons from each of the campaigns indicate that the character of the land campaign is indeed influenced by developments at sea. Yorktown conclusively demonstrates the importance of joint operations. Without allied command of the sea, as provided by the French Navy, the British Army could likely have avoided a war-ending defeat by the Continental Army almost indefinitely.

I. INTRODUCTION

A. THESIS CONTENTIONS

1. In war between nations, there is a link between developments at sea and the character of the land campaign. That link is more direct and observable in littoral warfare than it is in other types of naval warfare, notably "blue water" operations.

2. Command of the littoral sea and its proper exercise increase military options for commanders ashore in prosecuting the land campaign. These options equate to advantages that can be used to increase the efficiency of the land campaign.

3. Specific advantages available to the military commander that result from command of the littoral sea are: mobility, initiative, access, and surprise. Having secured command of the littoral sea, failure to exercise it negates the associated advantages and is equivalent to a condition of command in dispute. Naval superiority does not necessarily equate to command of the sea, and command of the sea by no means equates to the effective exercise of that command.

B. PURPOSE

The purpose of this thesis is to develop guidelines for the employment of naval power in the littoral that produce advantages to forces ashore in prosecuting the land campaign. Such guidelines are useful for the U.S. Navy today as it shifts mission emphasis from operations on the high seas to littoral warfare.

C. METHOD

1. Overview

The method consists of reviewing a war characterized by two things: first, major changes in the character of the land campaign; second, the shifting of naval superiority between belligerents in the littoral area. For the purposes of analysis, major changes in the land campaign are considered the *dependent variable*, while shifts in naval superiority between belligerents are the *independent variable*. A cause-effect relationship is argued between the two variables and examples of their interaction are examined to determine the nature of that relationship.

The objective is met when the nature of the relationship is sufficiently well-understood so that the desired effect can be attained by manipulating the cause. That is, a specific advantage can be made available to the land campaigners by varying a naval condition. A summary of the method follows.

2. Step-By-Step Process

a. Case Selection

The case selected for detailed examination is the American Revolutionary War. The rationale for selection of this particular historical event appears below.

b. Identify the Variables

(1) *Dependent Variables*. The dependent variables in this analysis consist of instances during the land war in which major changes in military objectives occurred. Examples of such changes include but are not limited to: initiation of an entirely new military campaign, perhaps in a different geographic area, or a significant change of military objectives within an existing campaign.

These changes in direction are hereafter referred to as "departure points".

(2) Independent Variables. The independent variables in this analysis consist of instances during the war in which shifts in the naval condition between belligerents occurred. Examples include shifts in: naval superiority, command of the sea, and the manner in which command is exercised. Another independent variable to be considered is use of a sea commanded by the enemy.

c. Identify Causes of Departure Points

Changes in the naval condition between belligerents are not the only factors that affect the character of the land campaign. An honest effort must be made to identify all the factors that may have contributed to the existence of a departure point. In addition to changes in the naval condition, other factors that may contribute to the existence of departure points include: newly appointed commanders in the field; policy changes at home, intelligence updates, weather, logistics, tactical innovation, new technology, etc. All these factors and more are capable of precipitating a departure point. It is possible for these factors to mask or skew the pertinent data, which is the impact of naval developments on the existence of a departure point. To minimize this possibility, an attempt is made to account for the impact of each factor on the existence of a departure point.

d. Distill the Meaningful Data; Analyze

The overall objective is to determine the manner in which naval power can be employed to provide advantages in prosecuting the land campaign. To this point in the methodology, an association has been made between a departure point and the many factors that may have caused it. The next step is to isolate the naval factor from the

others, and analyze its influence. Episodes in which naval power is the dominant factor in precipitating change in a land campaign are emphasized. This process establishes the basis of a cause-effect relationship between land and sea forces. Understanding this relationship is a critical step toward the overall objective of effectively employing naval power to enhance the prosecution of the land campaign.

e. Draw Conclusions and Update Accordingly

Once the pertinent information has been isolated and analyzed, conclusions are drawn with respect to the relationship that existed between land and sea forces for the period examined. Based on this relationship, a set of principles for optimizing the use of naval force in influencing the prosecution of the land campaign is advanced.

D. RELEVANCE

1. General Relevance

As stated, the overall objective is to establish guidelines for the effective employment of naval forces in the littoral seas to positively influence the prosecution of the land campaign. This objective is made relevant by the content of the U.S. Navy's most recent statement of organizational vision: *Forward...From the Sea*¹. This document indicates that joint warfare in the littoral will be the main feature of naval operations through the end of this century. Joint warfare cannot be separated from littoral warfare. Thus, a study of the relationship between

¹Secretary of the Navy John H. Dalton, *Forward...From the Sea*: (Washington, D.C.: U.S. Government Printing Office [U.S. GPO], 1994), p. 1.

land and sea forces in the littoral is a relevant topic because it pertains to current policy directives of the U.S. Navy.

2. Case Relevance

The American Revolutionary War is considered a relevant candidate for analysis for the reasons listed below:

a. Naval Mismatch

The Revolutionary War matched the world's leading naval power against a nation with virtually no navy at the outbreak of hostilities. This situation has modern application in that the naval forces of the U.S. are far stronger than those of any regional power today.

b. An Abundance of Variables

The character of the land campaigns of both belligerents changed several times during the course of the war, as did command of the sea. This provides several opportunities to trace possible linkages between the two events.

c. Operations Characterized by Littoral Warfare

Due to the geography of North America and the as yet undeveloped inland transportation infrastructure, much of the action in the Revolutionary War necessarily occurred in the littoral and along inland waterways. This has modern application as the U.S. Navy shifts emphasis away from operations on the sea to operations ...*From the Sea*.

d. An Abundance of Joint Interaction

Because the littoral area is the common between land and sea forces, there is a strong association between littoral warfare and joint warfare. Since Revolutionary War operations were largely confined to the littoral, this conflict provides several excellent examples for the study of joint operations which, in turn, provide opportunities to study the interaction between land and sea forces.

e. Readily Observable Linkage

The Revolutionary War contains several episodes in which dramatic changes ashore *for both belligerents* can be traced to shifts in the naval condition.

f. Exemplary Joint Leadership

The responsibility for coordinating Colonial land and sea forces fell to a single commander, General George Washington. He proved himself a most able commander in both arenas and, more importantly, a master of blending them into joint operations. His mastery of the disciplines of both general and admiral have implications for today's armed forces which are increasingly characterized by highly specialized skills and frequently wasteful interservice rivalry.

E. ORGANIZATION

The remainder of this thesis is divided into four chapters:

Chapter II	Background
Chapter III	Historical Narrative
Chapter IV	Discussion
Chapter V	Conclusions

Chapter II introduces concepts related to littoral warfare and the interaction of land/sea forces. It covers a broad spectrum of maritime thought, and is intended to introduce and clarify the language of analysis used in subsequent chapters. The remaining chapter titles are self-explanatory.

II. BACKGROUND

A. PURPOSE

The purpose of this chapter is to introduce the concepts related to both littoral warfare and the interaction of land and sea forces. These concepts include maritime power, sea power, naval power, naval warfare, and littoral warfare itself. Comparing and contrasting these concepts highlight their relationship, and facilitate understanding of intended meanings as they are used in analysis that follows. These concepts are developed with an emphasis on those aspects that relate to the interaction of land and sea forces.

Clarification of these terms and concepts is necessary because historians have used them to describe different phenomena over the course of many centuries. In so doing, wide variations in time, technology, and circumstance have resulted in substantial variation in definitions and terminology. To eliminate the resultant confusion, this chapter develops precise definitions so that intended meanings are clear.

B. OVERVIEW

1. The U.S. Navy in Transition

A review of the foundations of sea power with the objective of identifying lessons for the future is made timely by the fact that the U.S. Navy has recently shifted mission emphasis from open-ocean operations to littoral operations¹. This shift is fundamental and impacts on all

¹Secretary of the Navy, *...From the Sea: Preparing the Naval Service for the 21st Century* (Washington, D.C.: U.S. Government Printing Office [U.S. GPO], 1992, p. 2.

aspects of maritime affairs from procurement and logistics to policy and doctrine. Because of this broad impact, a thorough understanding of littoral warfare requires illumination of closely related concepts that directly affect it. These concepts are developed in detail in this chapter.

2. Reasons for the Transition

The demise of the Soviet Union was the political development that marked the end of a bipolar international system dominated by the two superpowers. Since that time, regional powers have emerged and the international order has changed its bipolar character to a more multi-polar orientation. The nature of the challenge for U.S. naval forces has shifted in a manner that reflects the change in the international system. The Soviet fleet no longer challenges U.S. naval dominance around the globe, and the Soviet Union is no longer viewed as the sole enemy. In fact, there is currently no open-ocean challenge to U.S. naval dominance. Along with the political redistribution of power, the naval threat has taken on a regional character and is more diffuse than during the Cold War era.

With unchallenged dominance of the world's oceans, the U.S. Navy is in a position to support other than "blue water" national policy objectives. Naval planners have decided that support of land operations in the littoral is the current best use of naval assets in achieving those policy objectives. ...*From the Sea* was written to explain and direct this shift from global, open-ocean operations to regional, littoral operations².

²Edward A. Smith, Capt., USN, "What '*...From the Sea*' Didn't Say," *Naval War College Review*, Volume XLVIII, Number 1 (Winter 1995): 9-34.

A changing international environment precipitated the shift, but several major concepts must be understood to firmly establish the relationship between the Soviet collapse and the subsequent shift of American naval power toward the littoral. The concepts that link and explain these events include: maritime power, sea power, naval power, naval warfare, and finally littoral warfare. Each is considered below.

C. MAHAN AND CORBETT

1. Overview

A discussion of the roots of modern, Western sea power is incomplete if it is not based on the theories of Alfred Thayer Mahan and Julian S. Corbett. Their books³ codify the very foundations of Western naval theory, and are referred to extensively by more recent authors in the field. In addition to the importance of their books, Mahan and Corbett are further pertinent to this discussion because of the emphasis placed by each man on the proper use of naval power. The position of each man corresponds roughly to the poles that define the transition of the U.S. Navy today. Mahan was a confirmed navalist who emphasized open-ocean operations and decisive fleet engagements. This emphasis is analogous to the war-fighting scenarios of the two superpowers during the Cold War. For his part, Corbett recognized that mode of employment for navies as well, but he allowed for alternate uses of naval power that include

³Major works of A.T. Mahan include: *The Influence of Sea Power Upon History, 1660-1783*; *The Major Operations of the Navies in the War of American Independence*; *The Influence of Sea Power Upon the French Revolution and Empire, 1783-1812*; *The Relations of Sea Power to the War of 1812*; and *Naval Strategy*. Major works of Sir Julian S. Corbett include: *Some Principles of Maritime Strategy*; *Drake and the Tudor Navy*; *England in the Mediterranean*; *England in the Seven Years War*; and *The Campaign of Trafalgar*.

littoral warfare. A discussion of the transition from open-ocean to littoral operations therefore lends itself well to a consideration of the writings of Mahan and Corbett. Brief biographical summaries accompany the major naval theories of each man in the following paragraphs.

2. Alfred Thayer Mahan (1840-1914)

a. Biographical Overview

Mahan was born in 1840 in West Point, New York, where his father, a career Army officer, was an instructor. There was no indication until late in his naval career that Mahan would be recognized as one of the world's leading naval thinkers. As a lieutenant commander in 1866, Mahan reported to the steam sloop *IROQUOIS* on an Asiatic cruise. It was during this three year period that Mahan began the systematic perusal of history which was to be a lifelong habit.⁴

Mahan's career as a naval thinker began in earnest in 1884 with the founding of the U.S. Naval War College for the advanced study of naval matters and international law. Commodore Luce, with whom Mahan had served aboard ship in the early 1860s, was the first president of the War College and asked him to join the teaching staff to direct work in strategy, tactics, and history. In 1886, Mahan succeeded Luce as president of the college. From this office, Mahan evolved his concept of sea power and its influence on the development of nations. He used the classroom to refine his ideas and the lecture notes were eventually combined into a manuscript and published in 1890 under the title, *The Influence of Sea Power Upon History, 1660-1783*.⁵

⁴William E. Livezey, *Mahan on Sea Power* (Norman: University of Oklahoma Press, 1947), p. 8-9.

⁵ibid.

b. Pertinent Concepts

Interpreting Mahan has been a preoccupation for legions of naval theorists in many nations for more than a hundred years. Concepts codified by Mahan that are pertinent to a discussion of interactions between land and sea forces, and littoral warfare, are considered below.

(1) Sea Power and History. *The Influence of Sea Power Upon History* is Mahan's best known work, and it continues to spark controversy. In this book, Mahan articulates the theme that forms the theoretical basis for the American shift away from isolationist continentalism and a defensive naval strategy to one that was politically imperialistic and strategically offensive. His work was extremely influential with many powerful Americans such as Henry Cabot Lodge and Theodore Roosevelt.⁶

The following citation goes to the heart of Mahan's theme:

In these three things: production⁷, with the necessity of exchanging products; shipping, whereby the exchange is carried on; and colonies, which facilitate and enlarge the operations of shipping and tend to protect it by multiplying the points of safety--is to be found the key to much of the history, as well as of the policy, of nations bordering upon the sea.⁸

In this citation, Mahan links the production of goods to commerce as a means of exchanging those goods.

⁶ibid., p. 47.

⁷NOTE: Production implies both manufactured goods and raw materials. With England as the manufacturing center of the empire, shipping raw materials was as economically important as the subsequent transport of finished products.

⁸Alfred Thayer Mahan, *The Influence of Seapower Upon History 1660-1783* (Boston: Little, Brown, and Co., 1890), p. 28.

Surplus goods are of questionable value unless they can be exchanged. He then includes overseas bases as a facilitator of commerce, making trade more convenient and providing points of safety. The interaction of production, commerce, and overseas bases is then identified as a key to history for states bordering the sea.

More than the thoughts of a simple sailor, Mahan's theory served as a rationalization for governments seeking to justify the colonial expansion of the 18th and 19th centuries. More importantly, it served as a guiding beacon to governments charting the course of great nations throughout the twentieth century. Not only the United States, but Germany, Japan, Italy, the Soviet Union, and Britain referred to the theories of Mahan in developing modern navies and maritime policy. His thought is reflected in the behavior of all great naval powers of this century.

That so many nations were quick to adopt Mahan's theories and apply them to their own situation represents a misreading of the lessons of sea power. The period on which he focused in *The Influence of Sea Power Upon History* was 1660-1783. Not only was the period limited, but the analysis centered on Great Britain and was aimed at explaining her rise to great nation status within the international community. Britain's circumstances of geography, population, and government were unique and the lessons drawn from the study are best applied to that specific situation. Despite this fact, Mahan came to exert great personal influence across the globe because his theories were popularly accepted and applied. His message was particularly seductive to nations that aspire to greatness, especially Wilhelminian Germany.

The citation above is also relevant because it links activity ashore to activity on the oceans. The

oceans of the world are a medium of transport for manufactured goods and raw materials. To varying degrees, the economic vitality and standard of living of a nation depends upon its ability to transport goods. This connection between national interests and free movement of shipping is critical to the central contentions of this thesis.

(2) Navalism. Since the free flow of goods is a national interest, it is but a short leap to accept the proposition that protection is one of the primary missions of fighting ships. Naval power⁹ in modern times had as its original purpose the protection of threatened commerce:

Protection in time of war must be extended by armed shipping. The necessity of a navy...springs...from the existence of a peaceful shipping, and disappears with it.¹⁰

Seapower, in its military sense, is the offspring, not the parent of commerce.¹¹

These citations summarize Mahan's thinking on the role of naval power with respect to commerce early in his writing career. They clearly express the opinion that it was in the interest of protecting transports (commercial or military) that war vessels found their *raison d'etre*.

Mahan's views on the relationship between commerce and naval power changed in later years. By the time he published *Naval Strategy* in 1897, Mahan believed

⁹NOTE: Naval power is the sea-based component of seaforce. Seaforce is the overall capability of a nation to control passage upon the sea through the threat or use of force.

¹⁰Mahan, *The Influence of Sea Power Upon History*, pp. 26-27.

¹¹ibid.

that naval forces had an independent role, separate and distinct from the protection of shipping.

The proponent in 1890 of naval power as a creature of commerce, had in a few years, become an imperialist for whom naval strength had an autonomous political importance.¹²

"Autonomous political importance" is a key phrase in this citation. Mahan's changing views paralleled the development of an American strategy of offensive sea control with a rapidly expanding navy as its executor. In this aggressive strategic culture, the role of the navy was forward power projection and the protection of commerce was an ancillary use of the navy.¹³

Admiral Luce, the first president of the U.S. Naval War College, noted the shift in Mahan's thought and reemphasized that fighting ships were meant to defend shipping. Building on this theme, Luce stated that naval power is significant in the protection of shipping and thereafter only so far as it influences events on land.¹⁴

This disagreement between Luce and Mahan contained the seeds for arguments that continue to confound perceptions about the proper use of naval power to this day. Mahan's shift toward navalism set a tone that was enthusiastically taken up by naval planners throughout the world. Educating officers about alternatives to "pure

¹²George W. Baer, "Under the Influence: A Hundred Years and Around the World." in John B. Hattendorf, ed., *The Influence of History on Mahan: The Proceedings of a Conference Marking the Centenary of Alfred Thayer Mahan's 'The Influence of Sea Power Upon History, 1660-1783'* (Newport: Naval War College Press, 1991) p. 203.

¹³ibid., p. 205.

¹⁴ibid.

navalist theory" is one of the challenges facing the leadership of the U.S. Navy today. The Navy's transition from blue water operations appears inconsistent with many of the tenets espoused by Mahan. Those who rely on Mahanian theory as a reference framework are forced to adopt a new view of maritime affairs. The international scene differs dramatically from Mahan's day and the uses of naval power must reflect this change. The United States faces no real contenders for naval dominance today. Decisive, purely naval engagements are not the primary concern in the 1990s. The main objective on the high seas is maintenance of the international status quo, a mission that differs significantly from the imperialist aspirations of the previous century. Other useful employment must be found for naval assets in light of the diminished challenge on the high seas. Navalism has too narrow a focus to address the challenge of regionalism that characterizes the distribution of world power today.

A broader view of naval power and its uses is supplied by the writings of Sir Julian Corbett. His theories are considered in the following paragraphs.

3. Sir Julian Corbett (1854-1922)

a. Biographical Overview

Julian Corbett was educated in law at Cambridge, but thanks to comfortable private circumstances, never had to practice seriously, preferring to travel widely and concentrate on the writing of naval history. His first published work, *Drake and the Tudor Navy*, appeared in 1890. He wrote several historical accounts of the British navy before his best known work, *Some Principles of Maritime Strategy*, was published in 1911. The influence of Corbett in naval circles in England was enhanced through his ten year lecture series at the Royal Naval War College and his

close association with Admiral Sir John Fisher, the architect of the ships and strategy with which Britain faced the German naval challenge in 1914.¹⁵

b. Pertinent Concept

Beyond the decisive battle. Corbett's historical studies were aimed at bringing to light the permanent characteristics of seapower and the specific nature of its contribution to national strategy, including capabilities and limitations. His investigations convinced him that there was far more to naval warfare than the seeking and destroying the enemy's fleet.¹⁶

According to one of Corbett's interpreters:

The Campaign of Trafalgar (1910) had emphasized that not even that most decisive sea victory had prevented Napoleon becoming the master of Europe. The navy must learn to use its wide range of capabilities to bring pressures to bear on the enemy which would assist the work of the army and further the political objectives for which the war was being fought. He stressed the importance of combined operations as being the most effective way for Britain to use her sea power in a European war.¹⁷

It is his recognition of alternate uses for the navy, especially in combined operations, that Corbett's thoughts have current utility for the U.S. Navy. He did not down-play the importance of command of the sea per se, but rather emphasized alternate uses of naval power while a superior fleet was unable to bring its enemy counterpart to

¹⁵Bryan Ranft, "Sir Julian Corbett," in Geoffrey Till, ed., *Maritime Strategy and the Nuclear Age*, 2d ed., (New York: St. Martin's Press, 1982), p. 39.

¹⁶ibid., p. 40.

¹⁷ibid.

battle. He felt that the inherent mobility of naval forces permitted dispersal and engagement in other war-related activities until the enemy sortied for the decisive engagement.¹⁸

The inability of the British fleet to bring the French and Spanish fleets to battle over the course of previous wars led Corbett to his contention that a great fleet cannot stand idle because the enemy can not be drawn into battle. Corbett sought other uses of naval power that could, in the interim, support the work of the army in pursuit of national objectives.

Great Britain well understood the meaning of Corbett's writing on uses of the fleet, but they were unable to act upon it during World War I. The German surface fleet opted for the role of the "fleet-in-being" and refused to sortie for the decisive naval engagement against the British Fleet. The circumstances of geography and distance however, required the British fleet to remain in the immediate vicinity of England to meet any German sortie. The Grand Fleet was thereby preempted from pursuit of alternate missions by the threat of the German fleet-in-being. In this way, an inferior German fleet occupied a numerically superior British fleet as they waited for the opportunity to engage.¹⁹

4. Summary

For more than a century, Mahan's principles have been central to the culture of the U.S. Navy. Although the tools of naval warfare have changed dramatically since Mahan, the

¹⁸ibid., p.41.

¹⁹ibid., p. 42.

essence of the service culture has continued to center on "fleet-action". The most advanced ship of its kind in the world, the AEGIS class cruiser embodies this style of naval warfare. It was designed and built to provide force protection through early detection and simultaneous engagement of regimental-size raids of Soviet attack aircraft. Its sensors and weapons are optimized for the open-ocean environment; conversely, the advantages it offers are diminished significantly in near-land regions. Similarly, the effectiveness of the Navy's anti-submarine warfare equipment is also diminished in the shallows of the littoral. The aircraft carrier, the centerpiece of U.S. Naval operations since World War II, goes beyond fleet engagement to the power projection role. As will be seen in later chapters however, power projection and littoral warfare have important distinctions that relate to the interactions of land and sea forces. Taken as a whole, the platforms and equipment named above, acquired at substantial investment in time and opportunity cost, are evidence of the Mahanian culture which has characterized U.S. Naval policy for many decades. They have achieved their objective; but new thinking as well as new equipment are necessary to effectively transition to the littoral.

In considering the littoral area, the writings of Corbett are more useful than those of Mahan. Command of the sea and decisive naval engagements are priorities shared by both men, but once the issue of command is settled, Corbett's theories come to the fore. Whereas Mahan attempted to link history and sea power, Corbett set out to identify, elucidate, and expand concepts relating to *maritime war*. Corbett's thinking goes beyond the problem of securing command and devises uses for navies when command is not the central issue. Corbett articulated this point in

the following citation:

The object of naval warfare must always be directly or indirectly to secure the command of the sea or to prevent the enemy from securing it. Once the object...has been achieved, purely naval strategy is at an end, because one side is able to exercise control of the use of the sea. Subsequent naval operations are directed towards some other object, such as an invasion of enemy territory.²⁰

In this citation, Corbett considers the transition in mission emphasis that a navy must make after securing the command of the sea. The Mahanian emphasis on the destruction of the enemy's naval weaponry must be redirected to the shore. As the open-ocean threat diminishes, it becomes increasingly important to link naval power and politico-military objectives ashore. Decisive engagement between battle fleets is too narrow a focus in today's international environment. Alternative uses of naval power as suggested by Corbett, especially joint operations, must come to the fore.

Corbett also emphasizes the importance of coordinated land and sea forces as well as the limitations of naval power with respect to influencing political objectives in the following citation:

For it scarcely needs saying that it is almost impossible that a war can be decided by naval action alone. Unaided, naval pressure can only work by a process of exhaustion. Since men live upon the land and not upon the sea, great issues between nations at war have always been decided--except in the rarest cases--either by what your army can do against your enemy's territory and national life, or else by the fear of what the fleet makes it possible for your army to do.²¹

²⁰Sir Julian S. Corbett, *Some Principles of Maritime Strategy* (London: Longmans, Green and Co., 1911), p. 18.

²¹*ibid.*, pp. 11-12.

D. RELATED TERMS AND CONCEPTS

Several concepts and terms are used repeatedly in later chapters in a discussion of the interaction of land and sea power in the littoral. A clear understanding of these concepts is a prerequisite to meaningful discussion. They are clarified below.

1. Maritime Power

a. Definition

*Maritime power is the ability of the state to optimize the interaction of the constituent parts of maritime power with the object of securing economic advantage through trade in peacetime.*²²

Constituent parts of maritime power are:

1. a surplus/deficiency of commodities/raw materials
2. an incentive (profit) to transport commodities/raw materials by sea
3. overseas access to trading partners
4. merchant shipping
5. freedom of passage

b. Discussion

Simply stated, the components of maritime power include: a reason to trade; a reason to use the sea rather than land or air transport; a partner with whom to trade; the means to transport goods upon the sea; and safety from armed attack. Coordinating and optimizing this array of components is a challenge that involves many aspects of a society far removed from the sea. More so than any of the

²²NOTE: Maritime power continues to exist and function in wartime but the object of economic advantage is subordinated to military objectives and naval power takes-on exaggerated significance.

other concepts to be discussed, maritime power concerns itself with diverse, land-based organizations within the state during peacetime.

The components of maritime power form an overarching system whose parts are linked across a broad spectrum of land and sea-based institutions at the national level. Maritime power is generated initially by economic factors within a state that produce either a commodity surplus for export or a requirement to import raw materials. This necessarily involves institutions that produce a commodity or supply raw materials. An institution involved in either of these activities generates a demand for cheap transportation, which largely equates to transport by sea. In turn, seaborne trade generates its own set of national requirements which include: financing, insurance, merchants, brokers, shipbuilding, ship repair, port facilities, etc. for its operation. A nation's ability and inclination to respond to these demands is a direct reflection of its maritime power.²³

It is the creation of a need for seaborne trade that generates the impetus for maritime power. Its institutions are diverse and, other than the transport of commodities by ship, many of the essential institutions for maritime power have little direct relation to the sea. Rear Admiral J.R. Hill states simply that, "Maritime power is the ability to use the sea."²⁴ This definition is succinct and actually illuminating in light of the preceding discussion. Considered alone however, it leaves much for the reader to

²³William Reitzel, "Mahan On the Use of the Sea," *Naval War College Review*, Vol. 25, No.5, (May-June 1973), pp. 73-82.

²⁴J.R. Hill, *Maritime Strategy for Medium Powers* (Annapolis: Naval Institute Press, 1986), p. 48.

fill in. Other writers address the gaps left by Hill in defining maritime power, as indicated in the following citations. These citations are used in this thesis to build a definition of maritime power, and reflect each of the constituent parts mentioned:

Maritime powers of the world have always been those which have incurred responsibilities and developed interests over seas. As traders, they have built themselves merchant fleets which carried their goods at a greater mutual benefit than those of other nations. For security of this commerce and colonies they have needed fighting forces.²⁵

The components of maritime power are: trade and access; shipbuilding; exploitation of natural resources; and military power at sea.²⁶

c. Conditions Affecting Maritime Power

Mahan also takes on the issue of maritime power and delineates six conditions that affect it. But he associates these conditions with sea power rather than maritime power. This is a case of well-respected authors writing on closely related concepts without the benefit of commonly defined terms. Mahan's description of *sea power* has much in common with the definition of *maritime power* already presented in this chapter, especially the last two conditions. For that reason, they are grouped under the heading of maritime power.

Mahan's principal conditions affecting the sea power of nations are as follows:

1. *Geographic Position.* ...If a nation be so situated that it is neither forced to defend itself by land nor induced to seek extension of its territory by way of the land, it has...its aim

²⁵Admiral Sir Herbert Richmond, *Sea Power in the Modern World* (New York: Reynal & Hitchcock, 1934) p. 161.

²⁶Hill, *Maritime Strategy for Medium Powers*, p. 30.

directed upon the sea, an advantage as compared with a people whose boundaries is continental.

2. *Physical Conformation.* ...The seaboard of a country is one of its frontiers; and the easier the access offered by the frontier to the region beyond, ...the greater will be the tendency of a people toward intercourse with the rest of the world by it. If a country be imagined having a long seaboard, but entirely without a harbor, such a country can have no sea trade of its own, no shipping, no navy.

3. *Extent of Territory.* As regards the development of sea power, it is not the total number of square miles which a country contains, but the length of its coast-line and the character of its harbors that are to be considered. The extent of sea-coast is a source of strength or weakness according as the population is large or small. A country is like a fortress; the garrison must be proportioned to the enceinte.

4. *Number of Population.* ...and so in the case of population, it is not only the grand total, but the number following the sea, or at least readily available for the employment on ship-board and for the creation of naval material, that must be counted.

5. *National Character.* If sea power be really based upon a peaceful and extensive commerce, aptitude for commercial pursuits must be a distinguishing feature of the nations that have at one time or another been great upon the sea. The tendency to trade, involving of necessity the production of something to trade with, is the national characteristic most important to the development of sea power.

6. *Character of the Government.* ...Nevertheless, it must be noted that particular forms of government with their accompanying institutions, and the character of rulers at one time or another, have exercised a very marked influence upon the development of sea power.²⁷

²⁷Mahan, *The Influence of Sea Power Upon History*, pp. 20-53.

Mahan has a great deal more to say on the manner in which these conditions affect the development of maritime power, but the passages above capture its essence. They emphasize the broad, overarching character of maritime power and the participation of many sectors of society in its exercise and growth. Note, that although they are key components of maritime power, far more than commercial and military ships alone are involved.

2. Sea Power

a. Definition

Sea power is the measure of a state's ability to use the sea in support of national objectives under conditions of both peace and war; and to deny its use to enemies during hostilities. The two major components of sea power are commercial shipping and sea force²⁸.

b. Discussion

Sea power is concerned with that part of maritime power that relates directly to transport and security on the world's waterways. In attempting to define sea power, it was again found that there exists little consensus even among the great navalist writers as to its true nature. The definition that appears in paragraph (a) was build by identifying the most important elements of sea power as defined by several authoritative sources. The citations that follow were used in this process.

Sea power was by no means synonymous with naval power; it included not only the military strength afloat that ruled the sea or any part of it by force of arms, but equally 'the peaceful commerce

²⁸Sea force is the term used to describe military systems that can affect control of passage through the use of force. Its major component is naval combatants and their associated weapons systems, but it also includes land-based systems such as shore batteries, surveillance and attack aircraft, etc.

and shipping from which alone a military fleet naturally and healthfully springs, and on which it securely rests'.²⁹

Sea power is the ability to use the seas and oceans for military or commercial purposes and to preclude an enemy from the same.³⁰

The elements of sea power are by no means limited to combat craft, weapons, and trained personnel but include the shore establishment, well-sited bases, commercial shipping, and advantageous international alignments.³¹

Sea power enables its possessor to send his troops and trade across those spaces of water which lie

between nations and the objectives of their desires and to prevent his opponent from doing so.³²

These citations formed the basis for the definition of seapower in paragraph (a). One point not brought out in that definition is the nature of the interaction between the components of sea power. This interaction is considered below.

c. Interaction Between Components of Sea Power

As stated in the definition, the components of sea power are commerce and sea force. The source and reward of sea power is the national wealth that accrues from oceanic trade. If the transport of goods could be more profitably

²⁹Mahan, *The Influence of Sea Power Upon History*, p. iii.

³⁰Colin Gray, *The Leverage of Sea Power: The Strategic Advantage of Navies in War* (New York: The Free Press, 1992), p. ix, citing Sir Herbert Richmond, *Statesmen and Sea Power* (Oxford: Clarendon Press, 1946).

³¹E.B. Potter, ed., *The United States and World Sea Power* (Englewood Cliffs, New Jersey: Prentice-Hall, 1955), p.13.

³²Geoffrey Till, *Maritime Strategy and the Nuclear Age* (New York: St. Martin's Press, 1984), p. 12-13.

conducted overland or through the air, then the importance of sea power would diminish commensurately.

In the absence of a threat, trade continues and the benefits of sea power accrue even without sea force. Sea force enhances the benefit of sea power only when protection of shipping is necessary. Mahan emphasizes this relationship when he stated:

Seapower, in its military sense, is the offspring, not the parent, of commerce. The necessity of a navy springs from the existence of a peaceful shipping and disappears with it.³³

Undoubtedly true when Mahan did his writing, the relationship between national commerce and sea force has evolved since then. Rather than limiting naval activity to the protection of national shipping, the U.S. Navy has assumed general responsibility for guaranteeing freedom of navigation where ever it may be threatened. To the extent that U.S. national interests are at stake, the U.S. Navy acts to promote safe passage and free trade across the globe. Examples include Gulf of Sidra operations in 1986 and the reflagging/escort of Kuwaiti tankers through the Straits of Hormuz in 1989.

Besides reshaping the use of naval force by extending this naval umbrella, the United States has developed new missions for its Navy beyond the protection of commerce. In support of ground forces and political objectives, power projection has emerged in this century as one of the primary functions of U.S. Naval forces. A discussion specific to the functions of naval forces crosses into the realm of naval power and is further developed below.

³³Mahan, *The Influence of Sea Power Upon History*, p. 26.

3. Naval Power

a. Definition

Naval power is the measure of a state's ability to: first, control passage upon the seas through the threat or use of force; second, project power ashore. Its principle components are naval ships, submarines, aircraft, and their associated weapons systems, to include guns, missiles, embarked airwings, and amphibious forces. It is the naval component of sea force.

b. Discussion

This definition encompasses both the traditional and modern objectives of naval power. In the traditional definition, the object of naval power is to control passage on the sea. This implies a condition of disputed command. If command of the sea is secured or a surplus of naval assets permits, the object of naval power can focus elsewhere. When absolute command is secured, safe passage of allies is assured, and the object of naval power shifts to support objectives ashore. In this situation, the traditional definition is inadequate and must be adjusted to allow for alternate objectives for the use of naval power. For that reason, the second objective, power projection, is included in the definition of naval power above.

In the definition of naval power provided above, two distinct objects of naval power are identified: control of passage and power projection. In distinguishing between these two objects, a now familiar theme re-emerges. The first object, control of passage, suggests an open-ocean, Mahanian-navalist perspective on the proper use of naval power. The second object, power projection, is more suggestive of Corbett's thinking in that it seeks useful employment for naval assets that are not preoccupied with controlling passage. Again, the significance of these two

men with respect to the U.S. Navy's shift in emphasis from open-ocean operations to littoral area operations asserts itself.

c. Objects of Naval Power

The following paragraphs define the phrases "control of passage" and "power projection".

(1) Control of Passage. Simply stated, controlling passage means that enemy transit of certain seas is denied while allies transit safely. A discussion of *control of passage* starts with *command of the sea*.

The object of naval warfare must always be directly or indirectly either to secure the command of the sea or to prevent the enemy from securing it.³⁴

In this citation, Corbett identifies *command of the sea* as the object of naval warfare. It is in his definition of *command of the sea* that *control of passage* emerges as the true object of naval warfare:

Command of the sea means nothing but the control of maritime communications, commercial and military. The object of naval warfare is the control of communications, and not, as in land warfare, the conquest of territory. The difference is fundamental... Stated more clearly, that which *command of the sea controls is the right of passage*.³⁵

From the citation above then, controlling passage means that the enemy is denied passage while allies pass safely. Control of the sea and passage however are rarely ensured completely, being most often contested. The following citation takes the issue of control and subdivides

³⁴Corbett, *Some Principles of Maritime Strategy*, p. 77.

³⁵*ibid.*, p. 80.

it into five categories that reflect varying degrees of control:³⁶

1. *Absolute control-command of the sea.* In this situation, one side has complete freedom to operate without any interruption. The other side cannot operate at all.
2. *Working control.* The dominant side can operate with a high degree of freedom and minimum risk. The enemy can operate only with a high degree of risk.
3. *Control in dispute.* Each side operates with considerable risk and must establish working control for limited intervals to achieve specific objectives. Historically, this situation prevails more than the others.
4. *Enemy working control.* This is the reverse of #2.
5. *Enemy absolute control.* This is the reverse of #1.

From the foregoing, several important items should be noted because they re-emerge in the discussion in subsequent chapters. First, absolute control has been a rare event in naval history. The luxury to operate freely while completely denying the enemy's ability to operate has not been frequently granted. Second, the most common situation is control in dispute. In this situation, temporary working control must be achieved to pursue specific military objectives. This situation was demonstrated hundreds of times in the Pacific during World War II as fierce naval battles for command of the sea were waged prior to the commitment of amphibious forces in island

³⁶B. Mitchell Simpson III, *The Development of Naval Thought: Essays by Herbert Rosinski* (Newport: Naval War College Press, 1977), p. xix.

assaults³⁷. Third, there are degrees of risk associated with each category. A bold or incompetent enemy may knowingly or unknowingly run these risks in the prosecution of a campaign. All three of these points reemerge in the consideration of the American Revolutionary War as command of the sea and degrees of control shift between belligerents. The manner in which control is exercised by each of the belligerents in that war is also salient.

(2) Power Projection. Geoffrey Till provides a basis for discussing a definition of power projection:

...power projection in conventional warfare connotes the Navy's ability to launch sea-based air and ground attacks against enemy targets onshore. It also involves naval gun bombardment of enemy naval forces at port and installations. It is meant to enhance the efforts of U.S. and Allied land-based forces in achieving their objectives.³⁸

The essential features of this definition are underlined and are four in number: first, air and ground attacks are *sea-based*; second, the targets are located *onshore*; third, *naval gun bombardment* is a form of power projection. The final point requires further discussion.

The fourth point is subject to debate largely because of developments that have shaded the definition since it was published in 1976. The fourth point contends that power projection is intended to enhance the efforts of U.S. and allied land-base forces in achieving their objectives. This requires that power projection be

³⁷Samuel Eliot Morison, *The Two-Ocean War: A Short History of the United States Navy in the Second World War* (Boston: Little, Brown and Company, 1963), pp. 275-555.

³⁸Geoffrey Till, *Maritime Strategy and the Nuclear Age*, p. 198, citing Washington Planning U.S. General Purpose Forces: The Navy. Congressional Budget Office, Dec. 1976, p. 1.

conducted as part of a joint or combined operation. It implies that naval power operating in isolation cannot project power. A case that argues against this requirement occurred recently in response to Iraqi violations of United Nations sanctions in the aftermath of the Gulf War. As ordered, the U.S. Navy retaliated by attacking targets in southern Iraq. There was no intent to enhance the efforts of land-based forces, yet it was a clear example of power projection by naval forces. The implied requirement that an operation has to enhance the effort of land-based forces does not apply. Naval forces alone are capable of projecting power.

This fourth point raises the issue of whether or not there is a distinction between power projection and littoral warfare. This writer contends that there is a difference, and that difference centers on the question of whether or not the operation supports land-based forces. If it does, the operation is simultaneously power projection and littoral warfare. If not, the operation is simply power projection.

Another operational consideration that helps distinguish between power projection and littoral warfare hinges on the difference between a target and an objective. A target need only be destroyed while an objective is generally seized and controlled. Power projection covers the full spectrum from destruction through control while littoral warfare places far heavier emphasis on control. A more detailed consideration of littoral warfare follows.

4. Littoral Warfare

a. One Perspective on Littoral Warfare

Littoral warfare exists along a continuum between the "pure" forms of warfare (navy vs. navy and army vs. army) that are its poles. The three forms taken together

form the warfare continuum. Through the projection of power, U.S. based military strength travels abroad to exert the political will of the United States in the target nation. First the sea, then the littoral area, and finally enemy territory must be controlled until the objective is realized or abandoned. Littoral warfare is just one part of this progression. It is the link that overlaps the "pure" forms and shares characteristics of both. Littoral warfare is the culmination of the naval war because its execution implies at least local command of the sea. Littoral warfare is also the enabler of the land campaign that leads to the desired effect.

b. Definition³⁹

Littoral warfare is a power projection operation intended to be of finite duration using expeditionary forces with the immediate aim of establishing battlespace dominance to enable broader, land-based objectives.

c. Discussion

The following characteristics are considered essential elements of littoral warfare which collectively define it:

- 1) power projection
 - seabased forces
 - targets located ashore
- 2) forces are expeditionary and joint
- 3) operation intended to be of finite duration
- 4) immediate objective is battlespace dominance

³⁹This definition of littoral warfare emphasizes the U.S. offensive culture of aggressive, forward operations. The target nation responds to U.S. initiatives in a more defensive form of littoral warfare that is not specifically addressed in this definition.

5) battlespace dominance enables follow-on forces to pursue broader, longer-term, land-based objectives.

Each of these elements of littoral warfare is discussed below in more detail.

(1) Power Projection. Little more needs to be added about power projection except to emphasize that it involves the use of the sea to launch an attack against the landmass. Power projection necessarily violates sovereign territory, and is offensive, forceful, and aggressive by nature. These attributes are more pronounced in littoral warfare because it specifically involves invasion and seeks to achieve more durable objectives than target destruction alone.

The requirement that the target be land-based is useful in distinguishing between warfare *in the littoral* and *littoral* warfare. An example of warfare in the littoral that is not littoral warfare is Admiral Horatio Nelson's confrontation with the French at the Battle of the Nile. For a number of reasons, the French commander, Vice Admiral Francois Brueys, decided to anchor and fight the British from a stationary position. Brueys selected a site under cover of shore batteries with shoals guarding his flank. He had calculated that the British would be reluctant to risk either the shoals or a withering fire from the fort. Brueys miscalculated on both accounts with devastating consequences for his fleet.⁴⁰

The outcome of the battle however, is not the issue. The objective of both belligerents was destruction of the enemy's fleet. The battle occurred in the littoral

⁴⁰Wayne P. Hughes Jr., *Fleet Tactics: Theory and Practice* (Annapolis: Naval Institute Press, 1986), p. 16-24.

but without an objective ashore, the event cannot properly be called littoral warfare.

(2) Joint and Expeditionary. Purely naval forces, such as AEGIS cruisers and LOS ANGELES class submarines, are *optimized* for open-ocean warfare. While it is true these units possess a capability to strike the land, the platform as a whole is best utilized in blue water (provided, of course, that the enemy is there as well). Similarly, purely land forces are optimized for continental campaigns. The nexus for these "pure" forces is in the littoral. Littoral warfare requires a blend of capabilities, equipment, training, doctrine, etc., drawn from the strengths of both land and sea forces. This creates a natural tendency for littoral operations to be strongly joint in character.

The expeditionary nature of littoral forces is similarly based on natural requirements. Movement from ship to shore requires a degree of mobility not found in the heavier units optimized for sustained land campaigns. Expeditionary forces are designed with an emphasis on mobility and surprise to facilitate local concentration. The objective is seized, consolidated, and turned-over to other forces. Expeditionary forces do not have the logistic infrastructure to support long-term occupation and control of territory. Their assault skills are sub-optimized in this role also.

(3) Operations of Finite Duration. Littoral warfare involves the use of sea-based forces against land-based objectives. This situation has great potential for force asymmetries between expeditionary forces and continental defenders, especially if the enemy is powerful or determined. The advantage to the defenders is eliminated when the attacker establishes continental forces of his own

on the land. One of the objectives of the littoral operation is to minimize the amount of time that expeditionary forces must fight against the more heavily equipped forces ashore. For this reason, littoral warfare is intended to be of finite duration. Littoral warfare ceases when heavier forces are established on the landmass and the conflict takes on a continental character. Littoral warfare is a transition period in which sea-based ground forces seek to enable other forces, larger and better-tailored to the task, to enforce the political will:

(4) Battlespace Dominance. Battlespace dominance brings two advantages in littoral warfare: first, it protects the expeditionary cadre and facilitates their efforts; second, it provides safe haven for ship-to-shore movement of heavier forces during the period in which they are most vulnerable.

The meaning of the term "battlespace dominance" derives from older concepts. It has historical roots in such phrases as: mastery of the sea; command of the sea; and sea control. Battlespace dominance is simply a multi-dimensional version of these terms. It moves the concept of control beyond water surfaces to include the ocean depths as well as the airspace over littoral areas, both land and sea. The following citations reveal the similarities between the concepts of sea control and battlespace dominance:

Battlespace dominance is the heart of naval warfare.⁴¹

⁴¹...*From the Sea: Preparing the Naval Service for the 21st Century*, p. 6.

The object of naval warfare must always be directly or indirectly either to secure the command of the sea or to prevent the enemy from securing it.⁴²

Communications dominate war. The power to insure these communications to one's self and to interrupt them for an adversary, affects the very root of a nation's vigor. This is the prerogative of the sea power.⁴³

The similarities between the words of Corbett and Mahan and those taken from ...*From the Sea* are striking: control or dominance remain the centerpiece of naval warfare. The only variation appears in the expanded dimensions of the problem due to the invention of the aircraft and the submarine.

(5) Enables Land-based Objectives. This characteristic of littoral warfare is an extension of issues previously discussed. Littoral warfare is not an end in itself. Instead, it enables broader objectives by providing protection for heavier forces as they are landed and organized for a continental campaign. It is the follow-on forces that will pursue the broader, land-based objectives whose attainment enforces the attacker's political will, which is the true objective of all warfare.

5. Summary

This chapter has introduced the terms and concepts that are used in later chapters to discuss the interaction of land and sea power. With respect to the American Revolutionary War, both belligerents were maritime powers in

⁴²Corbett, *Some Principles of Maritime Strategy*, p. 77.

⁴³Allan Westcott, ed., *Mahan on Naval Warfare: Selections From the Writings of Rear Admiral Alfred T. Mahan* (Boston: Little, Brown, and Co., 1918), pp. 77-78.

that they each had goods to trade, ships to carry those goods, partners willing to trade, and the shore-based institutions to organize and finance the trade.

In the realm of sea power however, inequalities between the belligerents were apparent. Whereas Great Britain had a symmetric development in both components of sea power (commerce and sea force), the Colonies had an asymmetric development with virtually no sea force when hostilities were joined in 1775. Without the capability to protect its commerce, Colonial sea-lines of communication were immediately vulnerable to attack by British men-of-war. In addition, all points in North America accessible from the sea or inland waterways were potential targets for power projection and assault by joint British forces.

The Colonies were able to dilute British naval superiority to some extent by commissioning privateers, but it was not until the arrival of French naval power that any real possibility existed for war resolution on terms favorable to the Colonists.

This overview demonstrates the use of the terms and concepts defined in this chapter. Subsequent narrative and discussion about the interaction of land and sea forces in the American Revolutionary War relies on them in a similar fashion.

III. HISTORICAL NARRATIVE

A. PURPOSE

The purpose of this chapter is to narrate segments of the American Revolutionary War in which naval developments influenced the conduct of the military campaign ashore. These segments will then be used as a basis for discussion about optimizing the uses of naval power in the littoral in support of ground forces.

B. OVERVIEW

The discussion in this chapter begins with a description of strategic conditions that faced each of the belligerents just prior to the start of hostilities in 1775. The discussion proceeds to an explanation of how these conditions shaped the initial war plans of each side. An understanding of each belligerent's initial war objectives provides a good basis for critical review of the manner in which each side subsequently used naval power to influence the land campaign.

Once hostilities are joined, the War is considered in segments. No attempt is made at a comprehensive review of all its aspects; the emphasis throughout is on the interaction between land and sea forces, and the segments were selected accordingly. The war segments selected for review are the events surrounding these battles: the Lake Champlain waterway; Boston; New York; Philadelphia; and Yorktown. Each is considered below.

C. THE STRATEGIC ENVIRONMENT IN 1775

1. The Unequal Naval Struggle

The Revolutionary War pitted the world's dominant naval power against a fledgling nation lacking any naval forces when the conflict started. However, the Colonies had established a strong maritime tradition by building a large merchant fleet that was active around the world.

Without a navy to protect them, Colonial supply lines and unarmed merchants were vulnerable to Britain's naval strength. This fact was an open invitation for the Royal Navy to establish a blockade of Colonial ports. If the flow of goods from Colonial shipping could be cut-off entirely, the Revolutionaries' prosecution of the land campaign would be nearly impossible. Nevertheless, despite an undisputed command of the sea early in the War, Britain did not employ her naval forces in this potentially war-winning strategy. Reasons for this failure are numerous and are discussed further below. For now, it is enough to note the distinctions between naval superiority, command of the sea, and effective exercise of that command. Great Britain possessed the first two items but negated their value through a faulty exercise of the third.

2. Geography as the Equalizer

Although there was a unit mismatch between the naval forces of the two belligerents, this discrepancy was partially equalized by natural geographic conditions, which equated to a form of naval *strength* for the colonies. These conditions included: extent of territory, distance, and interior communications.

a. Extent of Territory

The size of colonial America, both landmass and coastline, was quite large by European standards and presen-

ted a difficult challenge to British planners in spite of undisputed command of the sea. With respect to blockade, the number of vessels required is in direct proportion to the number of communications to be controlled. An extensive coastline with many natural harbors, such as the eastern seaboard of North America, required a correspondingly large investment in fleet assets for a blockade to be effective. British naval superiority notwithstanding, the colonists were able, in some cases, to use the sea in support of their war objectives. This situation was to repeat itself later in the 18th century when the French were able to use coastal seas despite blockade by the British¹.

Extent of territory however, was a double-edged sword that also worked against the Continental Army. One of the advantages that is produced by command of the sea is mobility of armies. Whereas the British were faced with the task of interdicting sea lines of communication along a great length of coastline, the colonists were faced with the challenge of defending that same coastline against invasion. Because armies marching overland in North America could never match the seaborne mobility of the British, defense of the coast was largely left to local forces. The results were predictable. British armies moved by sea and attacked major colonial cities at times and places of their choice, usually with success. In addition, British supply by sea was a relatively simple matter and armies could normally be withdrawn as quickly as they could be inserted. Command of the sea was a significant advantage for army commanders throughout the war.

¹Jan S. Breemer, *The Burden of Trafalgar: Decisive Battle and Naval Strategic Expectations on the Eve of the First World War* (Newport: Naval War College, 1993), p. 21.

b. Distance

Distance, in this case, refers to long lines of communication the British had to traverse in order to support their war effort. As distance increases, so does the number of ships required to supply the war effort. The protection of these transport ships from American privateers placed further demands on naval forces already overextended along the seaboard. The result was that fewer ships were available to exercise effective command of the sea.

c. Interior Communications

Rivers, bays, and lakes were of paramount importance as lines of communications because the North American continent was bereft of paved roads at the time of the Revolution.² The British fleet restricted the use of the waters along the Atlantic seaboard, and off-coast movement occurred only at great risk to the colonists. Turning inland, the few roads that existed were barely passable even under the best of weather conditions. The value of controlling the extensive network of inland waterways was quickly recognized by both belligerents, and the early years of the Revolutionary War are a chronicle of the efforts by both sides to win that control.

3. Defending the Empire

Already burdened by the requirements of prosecuting a war in North America, Britain's Navy was simultaneously tasked to defend the interests of the Empire around the world. The small skirmish that started in the Colonies eventually attained the character of a world war with Britain standing alone against the combined forces of many of the great powers of Europe. This acted to further

²E.B. Potter, ed., *Sea Power: A Naval History* (Annapolis: Naval Institute Press, 1981), p. 92.

diminish the naval power available to Britain to effectively exercise command of the sea and defeat the rebellious colonies.

4. Popular Loyalties

Both belligerents believed that the loyalty of the inhabitants could/should be exploited in support of war-winning strategies. Great Britain perceived the Massachusetts Colony to be the center of rebellion with the other colonies, especially those in the South, remaining predominantly loyal to the crown. For their part, the colonists believed that the population of Canada wanted only a spark to erupt in rebellion and join the revolution spreading from its more southerly neighbor. Both belligerents were incorrect in assessing the loyalties of the respective populations, and both miscalculations figured prominently in the opening moves of each side during the war. The false promise of loyalists in the south also figured prominently later in the war when Britain drained sorely-needed troops from New York to campaign from Charleston northward.

5. Strategic Objectives of the Belligerents

Washington's ultimate war objective was to remove the British armies from the colonies; no other military outcome was consistent with the political goal of independence. Given the relative strength of the Continental Army and the ultimate objective, Washington relied upon the possibility that a protracted struggle would result in ever-increasing political opposition in London that would force London's abandonment of the conflict.³

³Russel F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (Bloomington: Indiana University Press, 1973), p. 5.

Not surprisingly, the British war aims were diametrically opposed. They wanted a quick, decisive engagement that would eliminate the Continental Army as a military force, thereby bringing the conflict to an end.

D. THE LAKE CHAMPLAIN WATERWAY

1. Wartime Significance

The significance of Lake Champlain and its connecting waterways is well-expressed in the following:

In the days when the frontier severing Canada from New England and New York was a wilderness, the only easy avenue of communication was by way of Lake Champlain and the Richelieu River. With the exception of a few miles of rapids in the river, the whole distance from the St. Lawrence to the head of Lake Champlain was navigable, and as the shores were rough and densely wooded, the only practicable route was by water. This natural gateway was therefore of great military importance, and a struggle for its possession has marked every war involving Canada and the colonies or states to the south."⁴

When it became clear that open hostilities were unavoidable, the Lake Champlain waterway (LCW) quickly became the focus of military attention. For the colonists, control of the LCW had two advantages, both of which fueled the fires of political opposition in London. Through the LCW, the rebellion could be spread to Canada. Involving Canada not only enlarged the political and military dimensions of the problem, but it also facilitated mobility and logistics for the Continental Army.

Avoiding a decisive engagement was a critical consideration for the Continental Army, because the loss of

⁴Gardner W. Allen, *A Naval History of the American Revolution* (New York: Russell & Russell, 1962), p. 161.

that Army would end the war⁵. Mobility is the key to avoidance and successful maneuver warfare. With the Atlantic seaboard already commanded by the British navy, the inland waterways became the key to mobility in colonial America. Denying these waterways to the British was essential and their control by Colonial forces was important to revolutionary effort.

British control of the LCW had other implications for the Colonists. It would facilitate a military campaign that could separate the rebellious colonies of New England from the more stable southern colonies, and then provide an attack route to New York City from the interior.⁶ The mobility advantage would go to the already superior British armies, and would result in their control of the resource-rich Hudson Valley, thereby outflanking the Continental Army in New York City.

2. Campaign Overview

The struggle for control of Lake Champlain was the campaign focus for both belligerents for the first two years of the Revolutionary War. This battle raged simultaneously ashore and on the waterways, and remains an excellent example of littoral warfare at the tactical level. Soldiers and sailors moved smoothly from ship to shore and back, performing duties as required by the situation. Ironically, although the colonists eventually prevailed in the area battle, it was the British who won and maintained control of Lake Champlain. British ships controlled communications on Lake Champlain until 1781, but were unable to extend that control into the surrounding wilderness.

⁵Russel Weigley, *The American Way of War*, p. 12.

⁶A.T. Mahan, *Major Operations of the Navies in the War of American Independence*, pp. 7-8.

3. Hostilities Commence

The British held the LCW with token forces in early 1775. After the exchanges at Lexington and Concord in April 1775, and before the British could respond officially from London, the colonists under the command of Ethan Allen seized an outpost at Fort Ticonderoga. This fort was located on Lake Champlain and was the key to controlling communications along the waterway.⁷

As mentioned, one of the objectives of colonial strategy at the start of the War was to overtax the British forces by spreading the rebellion into Canada. To that end, Benedict Arnold and Brigadier General Richard Montgomery took Montreal and besieged Quebec until the spring of 1776. At that time, British reinforcements were able to break through the ice on the St. Lawrence Seaway and relieve Quebec.⁸

In the face of overwhelming British numerical superiority arriving from the sea, Arnold led his small band down the Richelieu River and into Lake Champlain. Recognizing the military significance of the Lake, Arnold set immediately about defending its control which had been established by colonial forces in 1775. Arnold's soldiers soon found themselves engaged in the construction of naval vessels to maintain control of the Lake. Arnold himself, who had some nautical experience, was put in command in August 1776.⁹

⁷ibid., p. 33.

⁸E.B. Potter, *Sea Power: A Naval History*, p. 34.

⁹Gardner Allen, *A Naval History of the American Revolution*, p. 163.

Arnold and his soldiers worked feverishly to build a margin of naval superiority that would go unchallenged by the British. Appreciative of the advantages that control of the Lake provided however, the British were equal to the challenge. Utilizing the carpenters and mechanics of the Royal Navy, and to some extent, the shipbuilding facilities of Quebec, the British pursued the lone solution to their dilemma.¹⁰

4. Tactical Defeat Yields Strategic Victory

The Americans lost this shipbuilding contest on Lake Champlain and after several gallant battles, they also lost control of the Lake. A tactical naval defeat for the colonists, it was nonetheless a strategic military victory. Though the Continental flotilla was defeated and then destroyed by the British, it had served its objective well:

By the time the British had taken Crown Point the season was far advanced. This fact and the presence of a formidable American force (army) deterred them from at once attempting the capture of Ticonderoga. They withdrew to Canada for the winter, and their purpose of occupying the valley of the Hudson and separating New England from the other states was put off. They returned the next year...but the opportunity had passed.¹¹

The naval action in Lake Champlain delayed for three months the British advance toward the Hudson River. These three months caused a further delay due to the onset of winter. The delay permitted the Continental Army to regroup, resupply, and organize a military defense against the inevitable renewal of the British offensive in the

¹⁰Dudley W. Knox, *The Naval Genius of George Washington* (Boston: Houghton Mifflin Company, 1932), p. 26.

¹¹Gardner Allen, *A Naval History of the American Revolution*, pp. 178-79.

spring of 1777. The cooperation between land and sea (lake) forces in delaying the British and allowing for the preparation of a proper defense demonstrate a remarkable achievement in the execution of joint littoral warfare by the colonists.

As expected, the British pushed south from Canada under the command of General Burgoyne the next spring. In a heavily resisted campaign, the British pushed to within thirty miles of Albany, where General Howe's army had been expected to rendezvous after moving from New York, up the Hudson Valley, to the vicinity of Albany.¹² Howe had abandoned that plan and moved his army to Philadelphia and Burgoyne was fought to a stand-still by the reinforced army which the Americans had collected. Unable to advance or retreat, and desperately short of supplies, Burgoyne's Army laid down arms and surrendered at Saratoga on October 17, 1777.¹³

The military victory at Saratoga was made possible by the naval action on Lake Champlain the previous year. This feat was far more valuable than the thwarting of a single British military campaign. At the strategic level, Burgoyne's surrender was an indication of the will and capability of the colonies to defeat the combined strength of Britain's army and navy. Even more important, the victory at Saratoga gave Britain's traditional enemy, France, the impetus to openly ally itself with the Colonists. The French Navy entered the fray and corrected the gross imbalance in naval power between the two belligerents. With the outbreak of war between France and

¹²A.T. Mahan, *Major Operations of the Navies in the War of American Independence*, p. 28.

¹³ibid.

Britain in 1778, the scene of maritime interest in the Revolutionary War shifted to salt water, and there it remained until the dramatic conclusion at Yorktown.¹⁴

E. THE BATTLE FOR BOSTON

The spreading spirit of revolt in the thirteen colonies had been encouraged by the sight of the British army cooped up in the town, suffering from want of necessities, while the colonial army blockading it was able to maintain its position, because ships laden with stores for the one were captured, and the cargoes diverted to the use of the other.¹⁵

1. Overview

This citation provides a quick overview of the situation faced by the belligerents in Boston in 1776. Boston had been recognized as a center for rebellion since 1773 when, in reaction to the Coercive Acts, the Boston Tea Party occurred. Among other "indignities", the Coercive Acts closed the port of Boston and abolished certain liberties long enjoyed in Massachusetts, such as selecting their own Councils. Attempts by the British to enforce the Coercive Acts led to the shootings at Lexington and Concord in 1775 which galvanized many of the colonists against the British. The small British garrison in Boston soon found itself surrounded by 16,000 American militia, and the situation of the British defenders was perilous until the arrival by sea of Major General Sir William Howe with 10,000 troops.¹⁶

Although there were numerous skirmishes, the British and Colonial armies were soon stalemated in the Boston area

¹⁴ibid.

¹⁵ibid., p. 30.

¹⁶E.B. Potter, ed., *Sea Power: A Naval History*, p. 33.

due the disposition of forces and relative strengths. With little production capacity or means of efficient transport, the colonists were woefully short of the necessary powder and shot to continue prosecuting a stalemated war. In his first report to Congress after taking over the command of the Continental Army at Boston in July 1775, Washington noted:

We are so exceedingly destitute that our artillery will be of little use, without a supply both large and seasonable. What we have must be reserved for the small arms, and that managed with the utmost frugality.¹⁷

2. Breaking the Stalemate

The British forces in Boston lacked for nothing because ships arrived regularly, bringing munitions, provisions, and whatever else was needed. Washington's solution to his dilemma took account of both his lack of supply and the British abundance of seaborne supply. Washington's recognition of the solution anticipates Mahan by more than a century:

To secure free and ample communications for one's self, and to interrupt those of the opponent, are among the first requirements of war.¹⁸

Furthermore, Washington's insight epitomizes the application of naval power as a solution to a military problem. Its simplicity cloaks its genius. Washington decided to divert British shipping to fill the needs of the Continental army.¹⁹

¹⁷Dudley Knox, *The Naval Genius of George Washington*, p. 7.

¹⁸A.T. Mahan, *The Major Operations of the Navies in the War of American Independence*, p. 30.

¹⁹*ibid.*, p. 35.

Finding the Ministerial troops in Boston resolved to keep themselves close within their lines, and that it was judged impracticable to get at them, he began as early as September 2nd to fit out armed vessels with the design to pick up some of their storeships and transports.²⁰

The schooner *Hannah* was the first vessel commissioned by Washington. She sailed on 5 September, returning in two days with a prize. The most important capture was made by Captain Manley commanding the *Lee*²¹. The British brigantine *Nancy* had failed to arrive in Boston with her convoy and armed with that intelligence, Manley set out to locate the *Nancy*. When found, she surrendered without resistance.²²

Her cargo included 2000 muskets, thirty tons of musket shot, thirty thousand round shot, one hundred thousand flints, several barrels of powder, eleven mortar beds, and a thirteen-inch brass mortar. It was estimated that eighteen months would have been required for the Americans to manufacture such a quantity of ordnance as was brought in on *Nancy*.²³

By November, six armed vessels were operating in Washington's Navy, serving the double purpose of reducing the supplies to the besieged British in Boston and replenishing the poverty-stricken American Army. In its short existence, Washington's navy took 38 prizes²⁴. Of particular interest in this consideration of joint warfare,

²⁰Dudley Knox, *The Naval Genius of George Washington*, p. 8.

²¹John R. Spears, *The History of Our Navy From Its Origin to the Present Day: 1775-1897* (New York: Charles Scribner's Sons, 1897), 196.

²²Dudley Knox, *The Naval Genius of George Washington*, p. 8.

²³*ibid.*, p. 11.

²⁴E.B. Potter, ed., *Sea Power: A Naval History*, p. 35.

the original crews had been taken from the soldiers of the Army, which had been recruited wholly from the seafaring population of Massachusetts.²⁵

The creation of a naval force by this Army General was thoroughly justified by the necessities confronting his army and by the results achieved in giving indispensable assistance to his operations on shore.²⁶

3. The British Abandon Boston

The ease with the British Army withdrew from Boston provides another lesson in littoral warfare: The circumstances leading to that withdrawal include movement of cannon from Fort Ticonderoga. The cannon were placed in the Dorchester Heights overlooking the British position in Boston. This gave the Continental Army a military advantage and forced the British to choose between evacuation and bombardment. General Howe opted for the former and moved his army by sea to Halifax to await reinforcements and further orders. The withdrawal was unopposed and Washington was again reminded that as long as the British had free use of the sea, the Americans were helpless to prevent either the evacuation of a beaten army or seaborne forays along the coast.²⁷

F. THE BATTLE FOR NEW YORK

1. Wartime Significance

New York was critically situated because of its location at the ocean terminus of the Hudson River. The Hudson provided water communication with the important

²⁵Dudley Knox, *The Naval Genius of George Washington*, p. 10.

²⁶ibid., p. 11.

²⁷E.B. Potter, *Sea Power: A Naval History*, p. 35.

region of upstate New York from which large supplies of provisions for the Continental army had to be drawn. In addition, the Hudson Valley separated the northern and southern colonies, and provided communications with Canada. Centrally located on the Eastern sea-board, New York served as an excellent point of dispatch for troops and supplies to any point along the coast. With a good natural harbor, it was directly accessible from the ocean, and its port facilities were the best in North America.

The British had other reasons for securing New York. In a letter to the Admiralty, Admiral Howe said that:

Until His Majesty's troops can repossess some ports upon the coast of America, great difficulties will attend the execution of their orders; and that it will be impracticable in most parts of the winter season.

Having evacuated Boston the previous season, the British necessarily looked toward New York as the linchpin of their campaign. Each for their own reasons, both belligerents desired to control this port.²⁸

2. Use of the Enemy's Commanded Sea

In anticipation of British designs on New York, Washington dispatched six regiments there as soon as the evacuation of Boston had commenced. The whole of the Continental army was to follow in a few days.

The British, exercising command of the sea, were free to complete the journey from Boston to New York by sea. Alternately, using conventional logic with respect to the rules of war, the Americans should have marched the entire distance to New York and avoided risking the army at sea. They did not, opting instead to sail from New London to New York.

²⁸Dudley Knox, *The Naval Genius of George Washington*, p. 15.

This maritime expedient, believed to be necessary for the sake of dispatch, was really very precarious in view of possible interference from British men-of-war. The course of the small American transports was fortunately close to a shore line indented with numerous harbors, where refuge could be taken and the troops landed in an emergency.²⁹

Despite the risk, Washington's troops arrived in New York ahead of the British, and set about preparing its defenses. This episode, taken together with the one already mentioned, points to the difficulty of exercising command of the sea by even a vastly superior fleet. A fledgling Continental naval force was permitted use of the sea for militarily significant troop movements, and continued to prey on crucial British supply ships bound for Boston. In these instances, British exercise of command of the sea failed to the detriment of their overall war effort.

Reasons for the British inability to effectively command the sea are provided by Rear Admiral W.M. James of the Royal Navy:

In recognition of the fact that... "No government, unless in dire straits, will risk troops afloat on an uncommanded sea without adequate protection. The Admiralty were called on to guarantee the safety of the British transports during their movements and the resultant drain on their resources was the direct outcome to the weakness of the North American fleet in the earlier years."³⁰

There can be little doubt that an encounter between belligerent naval fleets in the early years of the War would have gone badly for the Colonists. Without directly chal-

²⁹ibid., p. 16.

³⁰W.M. James, Rear-Admiral, R.N., *The British Navy in Adversity: A Study of the War of American Independence* (London: Longmans, Green and Co., 1933), p. 38.

lenging British naval supremacy however, the colonists were able to dilute that naval superiority by forcing it to be spread out over a broad area.

The Colonial navy forced the Admiralty to employ a large number of ships of the line on escorting duty, and the power of a well-handled mosquito fleet was never more clearly shown.³¹

The small number of privateers commissioned by Washington had implications out of all proportion to their cost. The sealines of communication from Britain to North America were vulnerable along their entire length. Protection of valuable shipping forced British men-of-war to be diverted from other duties. With British combatants preoccupied, the colonists were able to use the sea to support the land campaign. Transport and resupply of the Continental Army occurred on a sea ostensibly commanded by the British. This case makes clear the distinction made by Corbett between warfare on land and at sea. Control of territory is the objective of land war, while control of communications is the objective of sea warfare. If naval assets are not continuously applied to controlling passage on the sea, then passage on the sea is not controlled. By forcing the escort of transoceanic transports, American privateers loosened the British blockade of the Eastern seaboard and gained some freedom to move their armies in littoral waters. It must be noted that the movement of the Continental Army from New London to New York by sea was done at great risk.

3. With Mobility Comes Initiative

Having safely transported his troops by sea from New London to New York, the dilemmas faced by Washington in

³¹ibid.

light of British naval superiority were by no means overcome. The Continental Army was still vulnerable at two points: New York itself and further up the Hudson. A balance had to be struck between the number of troops in New York and the number needed up the Hudson River to reinforce the units protecting Lake Champlain. With the advantage of mobility by sea, the British could *concentrate their forces* against the colonists in either location. Washington lacked both the troop strength to divide his force, and the mobility to defend against both contingencies simultaneously.

It was a clear case of slow-moving armies on land being unable to match the mobility afforded by ships whose destination could only be guessed."³²

This dilemma highlights the issue of 'initiative' in war and demonstrates convincingly why it belongs to the belligerent that commands the sea. Not only was Washington faced with the possibility that the British army could be landed in New York or further up the Hudson Valley, but it was equally likely that it could be landed in Philadelphia or any other population center that was accessible from the sea. In addition, the British stepped up their efforts to deny vital American shipping and commenced harassing bombardment of coastal towns as well. The Americans were cast in the unenviable position of responding to British initiatives made possible by seaborne mobility.

4. The British Attack New York

Only when Admiral Howe received reinforcements and considered them adequate to the task, did he commence his attack on New York. Despite heavy opposition in the form of fireships, attempts to block, and attacks by shore

³²ibid., p.22.

artillery, the Hudson was boldly reconnoitered for 35 days to select the point of assault³³. On 22 August 1776, the British landed 15,000 men and 40 guns under the covering fire from frigates and bomb vessels. By the 27th, that army had increased to 25,000 troops, and Washington's army was in grave danger. The Americans now stood with their backs to a swift tidal stream, nearly a mile wide, with only a feeble line of works between them and an enemy more than double their number³⁴. It was then that the British permitted their opponents to escape, thereby losing an opportunity to strike a blow that may have ended the American Revolution. When an enemy is greatly outnumbered, his line of retreat should be watched. With the British exercising local command of the sea as they were, the failure of the navy to seal the army's imminent victory is an example of a breakdown in joint warfare. Washington escaped with his 10,000 man army and retreated into New Jersey.³⁵

New York fell to the British, who used it as a central base of joint operations for years to come. Its location and harbor facilities were of inestimable value in prosecuting the war for Britain. The battle for New York however is an example of missed opportunity for the British who permitted the trapped Continental Army to escape. The most notable characteristic of this missed opportunity was the failure to coordinate land and sea forces in an effective joint effort.

³³ibid., p. 46.

³⁴A.T. Mahan, *Major Operations of Navies in the War of American Independence*, p. 43.

³⁵ibid., p. 44.

G. THE BATTLE FOR PHILADELPHIA

1. Overview

The actions of the British during the Philadelphia campaign provide two lessons for joint warfare. The first lesson involves the manner in which Britain occupied that city, and the second involves the manner in which they left it. The British had already demonstrated the benefits of seaborne mobility in the relief of Quebec and the evacuation of Boston. The lesson in mobility was reemphasized in the campaign to take Philadelphia. During that campaign too, the British enjoyed command of the sea. This was to change while the British were in Philadelphia.

The British Army's departure from Philadelphia demonstrates the impact of a shift in naval conditions on the movement of armies. While the British held Philadelphia, French naval power came to the aid of the Americans with a telling affect on the conduct of the land war.

2. Command of the Sea Equals Options for Armies

After Washington and his colonial army had been forced to retreat from New York, they moved across New Jersey and on to Philadelphia. General Howe's forces gave chase, but the attempt was only half-hearted, so that the British were still in New Jersey when the lateness of the season caused the main British army to return to New York to winter. Lightly manned outposts were left behind in Trenton and Princeton.

This was a low-point for the Continental Army, and the prospects for victory never seemed dimmer. Both New York and Lake Champlain had been lost during the campaigns of 1776, and enthusiasm was fading. Washington's army had dwindled to 3,000 men, and a galvanizing victory was sorely needed to keep the spirit of the Revolution alive.

It was at this point that Washington make his dramatic Christmas night crossing of the Delaware River to surprise the Hessian garrison and occupy Trenton.³⁶ A series of attacks on other outposts followed, and control of the greater part of New Jersey was established by the Continental army. Washington completed this winter campaign by taking a position in the highlands in Morristown which was difficult to assail and had the further advantage of offering flanking lines of approach to both the Hudson Valley and Philadelphia.³⁷ This campaign provided renewed enthusiasm for the Revolution, so that the ranks of Washington's army began to grow again. This growing force in Morristown threatened to check British movements and stalemate the conflict.

The lessons of Bunker Hill remained with the British throughout the Revolutionary War. Assaulting entrenched forces on high ground was the least preferred method for General Howe to dislodge Washington's army from Morristown. As to bypassing the Continental army and marching to Philadelphia, "A tentative advance into New Jersey, and the consequent maneuvers of Washington, satisfied him that the enterprise by this route was too hazardous."³⁸

Howe concluded that he could best serve the British cause by destroying Washington's army, and that the surest way to draw Washington out of his highland fastness was to seize Philadelphia. To avoid another Trenton, Howe eschewed the overland approach and embarked his troops in transports.³⁹

³⁶E.B. Potter, *Sea Power: A Naval History*, p. 35.

³⁷*ibid.*

³⁸A.T. Mahan, *Major Operations of the Navies of the War of American Independence*, p. 52.

³⁹E.B. Potter, ed., *Sea Power: A Naval History*, p. 36.

It was possible however, for General Howe to entirely avoid both unattractive alternatives. Sea power gave him a third option. Howe was able to exploit Britain's command of the sea to by embarking his troops on transports and sailing to Philadelphia. Militarily checkmated by Washington's investment of Morristown, Howe turned the tables and was able to effectively choose the time and place of battle by moving by sea and hazarding an important objective.

Mobility through joint operations provided General Howe with the initiative to determine the time and place of battle.

The initiative enjoyed by General Howe was painfully absent on the Colonial side. It was by no means clear that the British were bound for Philadelphia. Coincident to this operation, General Burgoyne had renewed the British expedition down Lake Champlain toward the head waters of the Hudson River Valley. From the point of view of the colonists, that waterway was of equal or greater strategic value than Philadelphia. Washington suspected that General Howe's movement from New York was a grand feint and a return to New York was likely.⁴⁰

Not only was the mobility of the Continental army restricted to overland march, but the initiative to start the required marches was preempted by the British freedom to move by sea and concentrate a superior force at the site of their choosing. Washington was frozen in-place in Morristown until intelligence could confirm British intentions.

3. Using the Options: Selecting an Assault Route

The normal approach to Philadelphia by sea was along the Delaware River. Long an important seaport and

⁴⁰A.T. Mahan, *Major Operations of the Navies in the War of American Independence*, p. 52.

shipbuilding center for the colonies, the Delaware River was dotted with well-placed forts and battlements to protect Philadelphia from assault by sea. Realizing this, the British bypassed the Delaware River and sailed instead to the headwaters of the Chesapeake Bay in Maryland with the intention of marching the remaining distance to Philadelphia.⁴¹

Learning of the British landfall, Washington marched quickly from Morristown to interpose his army between the British and Philadelphia. The battles of Brandywine Creek and Germantown failed to halt the British advance, and they entered Philadelphia on 25 September 1777⁴². The lesson for joint operations in this portion of the narrative is the ease with which Howe moved his army, the manner in which he designated the time and place of battle, and the speed with which Washington was forced to react in order to defend Philadelphia, the capital of the colonies.

Having taken the city of Philadelphia, there remained one further move on the part of the British to complete this joint operation. The supply line for the British army was stretched from Elkton, Maryland overland to Philadelphia and, as such, was susceptible to interdiction by colonial forces.

Lord Howe, after hearing of the success at Brandywine Creek, decided to 'move the fleet round to a proper anchorage for preserving a free communication with the army', and sailed for the Delaware.⁴³

⁴¹W.M. James, *The British Navy in Adversity*, p. 64.

⁴²Alfred Hoyt Bill, *Valley Forge: The Making of an Army* (New York: Harper & Brothers, 1952), 113.

⁴³W.M. James, *The British Navy in Adversity*, p. 65.

Again, the value of commanding the sea is made evident by the ease with which the British were able to supply their expeditionary forces *along the seaboard*. The manner in which the British forced the Delaware River against fort and fireship is a study in joint operations. A series of coordinated movements between ship and shore, though ably contested at times by a gallant defense, was successful in clearing obstructions⁴⁴. The Delaware was secured for transport, and the British were ensconced in Philadelphia for the winter, while the colonists were exposed to the elements at Valley Forge.⁴⁵

4. Loss of Command Equals Loss of Options

If there is a war between France and Britain, which seems to be inevitable, Philadelphia is an ineligible situation for the Army under Sir William Howe.⁴⁶

The story of British withdrawal from Philadelphia is a short one when compared to the story of its occupation. The difficulty that attended establishment of supply lines for the British army in Philadelphia foretells the demise of that occupation. In all, the British spent less than nine months in Philadelphia despite the arduous effort made to occupy it. There was no battle to liberate Philadelphia. Instead, the mere threat of French naval power and its anticipated impact on British seaborne communications caused General Howe to abandon Philadelphia. This pattern repeated

⁴⁴John W. Jackson, *The Pennsylvania Navy: The Defense of the Delaware* (New Brunswick: Rutgers University Press, 1974), 120-280.

⁴⁵W.M. James, *The British Navy in Adversity*, p. 65.

⁴⁶Dudley Knox, *The Naval Genius of George Washington*, p. 42, citing correspondence between Washington and Jeremiah Powell, May 19, 1778.

itself in several critical operations during the Revolutionary War.

From Saratoga to Toulon, and on to Philadelphia, the threat of French naval power traveled much faster than the ships themselves, but the impact was the same. No longer able to stretch supply-lines along inland waterways with impunity, the British were forced to consolidate their operations and take account of an opposing naval threat. Philadelphia was abandoned without a fight. More to the point, the British abandoned Philadelphia to avoid a tactical fight with the French that may prove to carry unacceptable strategic consequences due to attrition of fleet units. The joint littoral options available to the British at the start of the Philadelphia campaign were eliminated by the French fleet.

For the actual evacuation of Philadelphia, the British preference would have been to go by water, but there were not enough transports to take the entire army and its equipment in a single trip⁴⁷. Time spent in making two trips gave the French fleet the opportunity to arrive in colonial waters. Accordingly, the decision was reached to march the army by land to New York, while the transports proceeded with the cannon, stores, and baggage by sea. The threat of intercept by the French fleet precluded transport of the army by sea due to the attendant risk. The British decision to minimize delay was well-taken, because the French arrived only days after the transports cleared the Delaware River bound for New York. The army's march overland to New York was uneventful.⁴⁸

⁴⁷David Syrett, *The Royal Navy in American Waters, 1775-1783* (Brookfield, Vermont: Gower Publishing Company, 1989), pp. 95-97.

⁴⁸*ibid.*, p. 42.

The events surrounding the arrival and departure of the British from Philadelphia are of interest because they highlight the impact of naval power can have on the conduct of land campaigns. The character of the entire war changed dramatically with the entry of French naval power. Although the Continental Army continued to move largely by land, it was now able to coordinate its movements with the French fleet, and seize the initiative. No longer doomed to simply respond to British initiatives, Washington could now go on the offensive. His aim became to surround a British Army by land and sea to force surrender. As shown in the following paragraphs, Washington very nearly accomplished this feat in New York subsequent to the developments in Philadelphia.

5. New York: Harbinger of Yorktown

Arriving too late to trap any British units up the Delaware, Comte d'Estaing, the French commander, sought battle by following the British to New York. The arrival of d'Estaing's vessels won at least temporary superiority over the British fleet which consisted of six sixty-fours⁴⁹, three fifties, and six frigates⁵⁰. The French fleet consisted of two eighties, six seventy-fours, three sixty-fours, one fifty-four, and six frigates.⁵¹

The British fleet anchored at New York to interpose itself between his majesty's army and any threat from the sea. Admiral Howe's ship dispositions were most

⁴⁹The numbers in this paragraph refer to cannon aboard each ship. An association exists between the number of cannon on a ship and its battle effectiveness resulting from concentration of fire. The numbers are provided to impart a rough estimate of the relative strengths of the belligerent fleets.

⁵⁰Frigates are vessels of less than 50 cannon.

⁵¹W.M. James, *The British Navy in Adversity*, p. 98.

advantageous but the French fleet was sufficiently superior to overcome these defenses.⁵²

If the French got alongside, there was little hope for the British; but it was impossible for the French to evade the primary necessity of undergoing a raking fire, without reply, from the extreme range of their enemies' cannon up to the moment of closing.⁵³

With the French pressing from seaward and Washington from the interior, the opportunity for a decisive joint victory presented itself to the allies. It was not to be, for the French were foiled in their approach by a sandbar that reportedly precluded transit by their heavier vessels. Perceiving that the sand-bar provided unassailable cover for the British fleet, d'Estaing left New York and eventually became involved in operations in Rhode Island. Subsequent fleet actions between the British and French were indecisive at the strategic level, and joint operations north of New York were of a similar nature. The French sailed for the West Indies on November 4, 1778 and the British fleet followed in early January 1779. Washington would have to wait for another opportunity to pinch the British army between his forces and the French fleet.⁵⁴

H. CAMPAIGN IN THE SOUTH

1. Savannah

One of the last movements of the British Army in 1778 was to detach an expeditionary force from New York under

⁵²David Syrett, *The Royal Navy in American Waters*, p. 98.

⁵³A.T. Mahan, *Major Operations of the Navies in the War of American Independence*, p. 67.

⁵⁴Dudley Knox, *The Naval Genius of George Washington*, p. 51.

Lieutenant Colonel Campbell, escorted by Admiral Hyde-Parker, to operate against the southern colonies. It was hoped that this campaign would release the latent loyalist sentiment believed to exist in abundance in that region. The first military objective of this expedition was Savannah and it fell to the British on 29 December 1778.⁵⁵

D'Estaing and the French fleet returned to North America from operations in the West Indies in September 1779. Unfortunately, his stay was short and militarily insignificant. He arrived with twenty ships of the line and 3,000 troops, but the fact that he was also in receipt of orders to return to France precluded any extended operations to support the colonial war effort.⁵⁶

Washington was again anxious to join forces and mount a joint assault on the British forces in New York, but d'Estaing had preferred to move on Savannah and took the fleet there. Communications were difficult between Washington and d'Estaing owing to distance, and coordination of forces suffered accordingly. D'Estaing was anxious to complete his business and return to France. At his urging, the French and Americans prematurely attacked Savannah on 9 October 1779 and the assault was repulsed. The French fleet subsequently departed for Europe leaving widespread disappointment in North America. The British continued to hold Savannah until the end of the war.⁵⁷

⁵⁵W.M. James, *The British Navy in Adversity*, p. 158.

⁵⁶E.B. Potter, *Sea Power: A Naval History*, p. 40.

⁵⁷*ibid.*

2. Charleston North to Yorktown

a. Advantages of Command

With the departure of the French fleet in late 1779, the British resumed command of the sea and all the advantages that attended it. Again, the British were free to use mobility and surprise to take the initiative. The senior British commander, General Clinton, grew confident that Washington's army lacked the strength to successfully assault the British army in New York without the aid of naval power. He accordingly decided to divide the defenders at New York, and sent 8,000 troops with General Cornwallis to make the southern colonies the area of his principal effort in 1780.⁵⁸ A correspondence from the British Minister of War to General Clinton, which had been captured by an American vessel, revealed that the general plan for the ensuing campaign was for Clinton to contain Washington's army in the northern quarter, while the British forces in the South would undertake the complete conquest of that region.⁵⁹

General Cornwallis took Charleston in early May 1780, and followed quickly by bringing all of South Carolina under British control and pushing into North Carolina.⁶⁰ Washington was powerless to interfere with British military excursions in the south, lacking both the manpower and mobility to affect timely support. Insight into the situation faced by the Americans can be gained from the following entry in Washington's diary:

⁵⁸ibid., p. 43.

⁵⁹Dudley Knox, *The Naval Genius of George Washington*, p. 83.

⁶⁰E.B. Potter, ed., *Sea Power: A Naval History*, p. 43.

Instead of having everything in readiness to take the field we have nothing; and instead of having the prospect of a glorious offensive campaign before us, we have a bewildered and gloomy defensive one, unless we should receive a powerful aid of ships, land troops, and money from our generous allies.⁶¹

Without naval power, the prospects for a decisive American victory in the coming campaign season were non-existent. The prospects for providing succor to General Greene in the southern colonies were equally grim. American Southern forces under General Nathaniel Greene fought back in the Carolinas and met with some success. Although defeated at Guiford Courthouse in North Carolina, Greene made it a costly victory for the British, and forced Cornwallis away from the interior to seek refuge and resupply from the fleet along the coast.⁶²

Again, the absence of French naval power provided options and advantages to the British that could be neither matched nor precluded by the Continental Army alone.

The British expeditionary force under Cornwallis moved from the costly victory at Guiford courthouse to Wilmington, N.C. on the Atlantic coast. After exchanging wounded for supplies and fresh troops, Cornwallis moved north from Wilmington into Virginia where he joined with a second British force, bringing his command to 7,000 soldiers.⁶³

⁶¹Dudley Knox, *The Naval Genius of George Washington*, p. 80-81.

⁶²ibid.

⁶³E.B. Potter, ed., *Sea Power: A Naval History*, p. 45.

b. The Role of Higher Authority

In addition to basic disagreements between Cornwallis in Virginia and Clinton in New York, a great deal of direction was sent from London which superseded the opinions of both generals. The debacle that would occur in Yorktown was largely due to the confusion caused by divergent opinion within the leadership hierarchy.

One American historian has called the British moves leading up to Yorktown 'a Study in Divided Command'. The British forces in America were now divided into three major groups that could not support one another if the British lost naval superiority in American coastal waters.⁶⁴

Smooth coordination within the leadership is a necessary pre-condition for close cooperation between land and sea forces. The British leadership failed to demonstrate this coordination at this stage of the Revolutionary War. Correspondance between Cornwallis and General Clinton in New York revealed a difference of opinion as to the proper disposition of British regulars within the colonies. The New York garrison had been weakened in order to support the campaign in the South which itself seemed no closer to a favorable conclusion for the British. With the return of the French fleet likely, Clinton wanted to strengthen the New York garrison, while Cornwallis preferred to pursue his southern campaign. These areas were too far apart to afford mutual support.

The British situation in America had become essentially false, by the concurring effect of insufficient force and ex-centric-double-operations. Sent to conquer, their numbers now were so divided that they could barely maintain the defensive. Cornwallis was therefore ordered to occupy a defensive position which should control an

⁶⁴David Syrett, *The Royal Navy in American Waters*, p. 172.

anchorage for ships of the line, and to strengthen himself in it. After some discussion, which revealed further disagreement, he placed himself at Yorktown, on the peninsula formed by the James and York Rivers.⁶⁵

The decision to keep the British troops in the Chesapeake Bay area was made by neither of the British theater commanders. Instead, the decision was made in London, and the result constitutes an admonition against directing complex operations from a great distance.

Upon reaching Portsmouth, however, Cornwallis found later instructions to keep his whole force in the South. Clinton had issued these in consequence of directions from London against withdrawing any troops from Virginia, as the future main campaign was to be an advance northward from there.⁶⁶

From London came the order which put in place the first piece of the Yorktown puzzle. A sizable British army was ordered to maintain a position from which communications from the sea could be challenged. The fact that both the design for the next campaign and orders detailing the disposition of troops emanated from London in no small way contributed to the disaster that befell the British in Yorktown.

It was an odd circumstance that officials in England, who could not possibly keep up with the American situation, should be responsible for detaining at Yorktown, where Cornwallis then went, an army of sufficient size to make its capture a decisive end to the whole war.⁶⁷

⁶⁵A.T. Mahan, *Major Operations of the Navies in the War of American Independence*, p. 175.

⁶⁶Dudley Knox, *The Naval Genius of George Washington*, p. 88.

⁶⁷*ibid.*, pp. 88-89.

c. Major Factors at the Battle of Yorktown

The first factor in the battle of Yorktown was the placement of a British Army in such a position that its communications could be threatened from the sea. From the perspective of the Colonists, there was a host of other factors that had to be precisely coordinated in order to take advantage of the exposed British position. The integration of these factors into a single force converging on Yorktown stands as a remarkable example of joint/combined/littoral warfare to this day: The process by which these forces were brought together is summarized below.

(1) General Lafayette's Army. Since its arrival in Virginia, Cornwallis's Army had been skirmishing with a Colonial force of 5,000 composed mostly of raw militia. When the British occupied Yorktown, the Colonists, under the command of General Lafayette, enclosed the British on the landward side and kept that force under observation. This prevented unobserved movement, it cut-off supply lines from the interior, it cut-off escape to the interior, and it forced supply from the sea.⁶⁸

(2) French Naval Forces. The movement of forces began in early August 1781 as the French fleet under Admiral de Grasse departed the West Indies to rejoin the war in North America. On 13 August, de Grasse departed the West Indies with twenty-seven ships of the line instead of the fourteen expected by British naval planners⁶⁹. De Grasse had been expected to divide his fleet and use fourteen of

⁶⁸E.B. Potter, ed., *Sea Power: A Naval History*, p. 45.

⁶⁹Charles Lee Lewis, *Admiral De Grasse and American Independence* (Annapolis: United States Naval Institute, 1945), 95-156.

the line on escort duty to accompany an important convoy back to Europe. Instead, he delayed that convoy and arrived on 30 August in the Chesapeake Bay with all twenty-seven men-of-war and clear naval superiority over the British.⁷⁰ The troops brought by de Grasse were immediately disembarked and joined Lafayette's force, bringing that army to a total of 8,000 troops.⁷¹

The decision to keep the French fleet intact proved critical in the outcome of the overall Yorktown operation. It established allied naval superiority and eventually won command of the sea. At last, Washington had the naval superiority for which he had pleaded so earnestly, and he was ready to undertake the vigorous and decisive joint offensive operations for which he had held his army in readiness above New York for more than three years.⁷²

(3) Movement of Allied Armies. A French army of 5,000 troops under Rochambeau had marched to New York from Newport to join Washington's forces already there. On August 14, and in possession of the news of de Grasse's intention to move the French fleet to the Chesapeake area, the combined American-Franco army faced a challenging march south to Yorktown. The need to deceive General Clinton at New York and to guard certain strategic positions limited the size of this combined army to 6,500 troops.⁷³

⁷⁰William James Morgan, "The Pivot Upon Which Everything Turned: French Naval Superiority That Ensured Victory at Yorktown," *Naval Historical Foundation Publication*, 1981, (reprinted from *The Iron Worker*, Spring 1958, Lynchburg Foundry).

⁷¹Dudley Knox, *The Naval Genius of George Washington*, p. 96.

⁷²*ibid.*, p. 91.

⁷³E.B. Potter, ed., *Sea Power: A Naval History*, p. 45.

The most expeditious route included crossing the Delaware River north of Philadelphia, then marching to the headwaters of the Chesapeake at Elkton, Maryland to continue the journey by water. Some French ships were placed in the mouth of the York River to guard against the exit of British ships which might seriously interfere with the safe movement of Washington's army down the Chesapeake Bay.⁷⁴ In addition, several French ships were placed in the James River to preclude the escape of Cornwallis's force to the south.⁷⁵ These precautions to protect armies moving by sea stand in stark contrast to Washington's earlier risk in transporting troops from Boston to New York on a sea commanded by the British.

De Grasse had detached four ships of the line to secure the York and James Rivers, and his boats with a large part of his crews were absent while landing troops, leaving his fleet seriously undermanned. De Grasse was to face the British with 24 ships of the line.⁷⁶

The advantage gained in joint warfare came at a price. The French paid for the benefits of joint warfare by sacrificing a degree of preparedness for the purely naval battle that was taking shape.

(4) British Naval Forces. Unlike the French, the decision made by the British in the West Indies prior to arrival in the Colonies was to split the fleet. Admiral Rodney took to England the ships that needed repair and refitting, leaving 14 ships of the line under the command of

⁷⁴Dudley Knox, *The Naval Genius of George Washington*, p. 96.

⁷⁵ibid.

⁷⁶E.B. Potter, ed., *Sea Power: A Naval History*, p. 47.

Admiral Hood⁷⁷. Hood arrived in New York on August 28 after looking in vain for the French fleet in the Chesapeake Bay and Delaware River. There, his ships came under the command of Admiral Graves, the senior naval officer present. Anticipating an attempt by De Barras's Newport squadron to join de Grasse, the British got underway from New York to intercept it and defeat the French naval forces individually.⁷⁸

The British fleet headed south and made the entrance to the Chesapeake before sighting any French ships. It was not De Barras's squadron that they saw however, but De Grasse's fleet. The French had been expecting De Barras, and so had the British. Both sides were equally surprised; the British less pleasantly, given the large superiority which confronted them.⁷⁹

Summarizing:

Hood had assured Graves that De Grasse probably had only twelve ships, so that their combination of 19 ships was more than enough for victory. In the meantime, De Grasse rounded Cape Henry, anchored at Lynnhaven Bay, landed 3000 French troops, sent boats up the Chesapeake to assist Washington and Rochambeau, and detached two pairs of ships to block the James and York Rivers and cooperate directly with the Allies forces present under Lafayette. If Cornwallis was startled to find himself under siege and cut off from the sea,

⁷⁷Thomas J. Fleming, *Beat the Last Drum: The Siege of Yorktown, 1781* (New York: St. Martin's Press, 1963), 96-126.

⁷⁸E.B. Potter, ed., *The United States and World Seapower* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1955), p. 113.

⁷⁹Dudley Knox, *The Naval Genius of George Washington*, p. 96.

Graves was overwhelmed on a September morning to stumble upon de Grasse's whole fleet rather than a part.⁸⁰

This citation summarizes the events that determined the placement and composition of forces in Yorktown before the battle started. Highlights of that battle follow.

d. The Battle of Yorktown

Hostilities began with a naval battle off the Virginia Capes on 5 September 1781. The prize in this fleet action off the Capes was access to the Chesapeake Bay, and subsequently Cornwallis's flank. If the British had carried the day at sea, then retreat, reinforcement, or resupply were options available to Cornwallis through secure lines of communication. If the French prevailed off the Capes, then Cornwallis would be forced to deal with: colonial ground forces collecting to his rear, hostile naval forces in front, and no means of retreat, reinforcement, or resupply.

The battle off the Virginia Capes drew both battle fleets out to sea and away from the strategic objective-- Cornwallis. The action on the first day was furious with significant damage sustained by both the French and British forces. Though the fleets remained in visual contact for two days after the initial battle, neither attacked. On the morning of the ninth of September, De Barras's squadron arrived from Newport while the two battle fleets were still off the Virginia Capes. De Barras's force immediately recognized the situation, proceeded into the Chesapeake Bay, and anchored in a position that eliminated Cornwallis's

⁸⁰ibid., p. 114.

options. De Grasse joined de Barras at anchor the next day, bringing the strength of his fleet to 36 of the line.⁸¹

When the British found the French at anchor inside the Chesapeake Bay, they had no alternative but to return to New York, repair battle damage, and return with 6,000 troops to attempt a rescue of Cornwallis. This turnaround required ten days and the British force returned to the mouth of the Chesapeake with 23 of the line on 26 October. Cornwallis, after losing two of his outer redoubts and failing in an attempt to escape across the York River, had already surrendered on the 19th of October.⁸²

The loss of a second army in America by the British was a stunning blow, and it ended, for all practical purposes, the American Revolutionary War. Lord North announced the resignation of his ministry. George III seriously considered abdicating. The Marquis of Rockingham formed a new government friendly to America and at once sent an emissary to Paris to discuss peace terms with Franklin.⁸³

The paper now turns to an analysis of the role played by the interaction of land and sea forces in bringing the War to this surprising conclusion.

⁸¹E.B. Potter, ed., *Seapower: A Naval History*, p. 47-49.

⁸²*ibid.*, p. 48.

⁸³*ibid.*, p. 49.

IV. DISCUSSION

A. PURPOSE

The purpose of this chapter is to focus attention on episodes from the previous chapter in which changes in the balance of naval power between the belligerents influenced the manner in which the land campaign proceeded.

B. OVERVIEW

This chapter looks at salient developments in each of the campaigns presented in Chapter III, to include: the Lake Champlain waterway (LCW), Boston, New York, Philadelphia, and Yorktown. In each case, an attempt is made to associate the independent (change in naval condition) and dependent (change in land campaign) variables. From this association, guidelines for influencing the land campaign from the sea are established.

C. THE LAKE CHAMPLAIN WATERWAY

1. Independent Variable

Control of communications on Lake Champlain, held by the Colonists early in the War, was won by the British late in 1776 as a result of a hard-fought naval battle. This change in control between belligerents is the independent variable.

2. Dependent Variable

Improvements in transport and logistics for invading armies is the dependent variable that resulted when the British won control of communications.

3. Discussion

a. The Nature of Inland Communications

(1) The Status Quo Tends to Endure. What distinguishes the LCW campaign from the other campaigns of the Revolutionary War is its strongly inland character. The primary objective of inland naval power, like that of oceanic naval power, is the control of communications. There is, however, a difference between inland and oceanic control of communications. That difference stems from the difficulties inherent to placing naval vessels on inland waters. The more inaccessible the inland sea, the more likely it is that the status quo naval condition will remain in-place. The additional access obstacles facing a challenge to command on an inland sea requires a commensurate increase in the resources to achieve the objective. The result is that control of communications tends to be a more permanent condition on the inland sea than that on the oceans.

In the case of the LCW, reinforcements and replacements could not be sailed to the battle area, but had to be built on the lake. This impediment applied equally to each of the belligerents, and each took a turn building a lake flotilla. Once the British established control of communications on Lake Champlain, a large and local Colonial construction effort was required in the wilds to challenge that control. Due to a paucity of resources, the British were all but assured of long-term control of communications along the waterway once it was established.

(2) Penetrating the Landmass. Another aspect of warfare along an inland waterway that distinguishes it from oceanic warfare is its ability to penetrate hostile territory. Traditionally, naval power wins coastal access which can be used as a base to support land campaigns

into the interior. Supply lines for the subsequent campaign are vulnerable at any point the defenders can concentrate. Naval power on an inland waterway however, penetrates into interior. Not only can the waterway bring supplies closer to the battlefield, but the supply lines are secure as long as the waters are commanded. The dual advantages of closer delivery and secure lines which result from penetration of the landmass make control of inland waterways militarily desirable.

b. Using the Communications

The British failure to prevail in this northern campaign after winning control of the LCW suggests that control of communications is not sufficient in itself to assure victory. It is a facilitator rather than a guarantor. The following paragraphs provide plausible explanations for the failure of the British to prevail in the LCW campaign despite the advantages initially acquired at such great effort.

The geography of the LCW made exploitation of naval control of communications very difficult. In fact, the same features that favored long-term control of the LCW for the British also made it difficult to fully exploit it. The LCW was not a continuous, uninterrupted waterway. There exists a set of impassable rapids in the Richelieu River which joins the St. Lawrence River and Lake Champlain. In addition, a stretch of wilderness separated Lake George from the upper Hudson River. Had these land barriers been absent, and had the British been able to sail throughout the hostile interior of North America to supply and transport their armies, the critical Colonial victory at Saratoga would have been far less likely.

Those portages affected the progress of the war in the following manner. To begin, the rapids in the Richelieu

River critically delayed the British advance from Canada onto Lake Champlain. The British were forced to build vessels *on the lake* to match the Colonial flotilla already in place. Without these rapids, the British had only to sail onto the Lake with the same vessels used in the relief of Quebec. This construction delay, together with the delay caused by the onset of winter, pushed the British advance into the next year. That time was used by the Continental Army to prepare defenses ahead of the expected line-of-advance of the invaders. This delay ultimately resulted in the capture of an entire British Army at Saratoga the following year, and the entry of Britain's historic European enemies into the war.

The portage between Lake George and the Hudson River also played an important part in the British defeat at Saratoga. Throughout the war, the North American interior was a hostile environment for the British, and the only exception was found in controlling inland waterways. Whenever the British ranged inland from the coast, or left the protection of the inland waterways, their military strength was quickly sapped and diminished in the countryside. The key vulnerability was not a lack of military efficiency by the British Army itself, but the fragile lines of communication that supported it through the wilderness. As the British Army made portage between Lake George and the Hudson River, it met dogged resistance from local militia and eventually Colonial regulars. In a desperate attempt to gather supplies, a 700 man British detachment was lost just prior to the debacle at Saratoga.

This experience in the wilds of the northern colonies was an enlightening one for the British. Conclusions that would determine the future of the war were drawn from the LCW campaign. The conclusions drawn by the

British with respect to the interaction of land and sea forces is summarized below:

Due to the hostile nature of the countryside during the Revolutionary War, British advantages from naval power ended abruptly at the waterline, salty or fresh. This forced the British to remain almost exclusively on the coast for both garrison duty and campaigning because it facilitated logistics. That logistics advantage however requires exposure to the sea; which equates to an exposed flank when the enemy commands that sea.

c. Local Versus Distant Command

Throughout the Revolutionary War, British generals and admirals complained of command interference from superiors in London. This resulted in confusion at the highest levels of command in prosecuting the war. Campaigns were often simultaneous but "non-concentric"¹ in that they were disjointed and in no way mutually-supporting. Even major campaign objectives were sometimes misunderstood by the very field generals responsible for their accomplishment. This confusion can be traced to conflicting guidance issued by distant authority. The following citation identifies distant authority as a major source of failure for the LCW campaign.

The result of these orders, proposals, and counter-proposals was that Burgoyne received definite orders to advance southward from Ticonderoga to meet Howe whose proposals to move South also had

¹Alfred Thayer Mahan, *Major Operations of the Navies in the War of American Independence* (London: Sampson Low & Co., 1913), p. 46.

been approved. The operations were doomed to failure before a shot was fired.²

The "orders, proposals, and counter-proposals" refers to inconsistent orders issued from London concerning the desired objectives for campaigns in America. The problem with the orders received by the British generals is that Burgoyne, advancing south from Lake George, had expected to rendezvous with Howe's forces along the Hudson as they moved north from New York City. Howe's expectations were quite different because he received orders directing his forces south to Philadelphia. As stated above, the operations were doomed to failure before a shot was fired.

General Carleton remarked after the surrender at Saratoga:

This unfortunate event...will prevent Ministers from pretending to direct operations of war in a country at three thousand miles distance, of which they have so little knowledge as not to be able to distinguish between good, bad, or interested advices, or to give positive orders upon matters which, from their nature, are ever on the change.³

This issue of effective command hierarchy and effective control of forces does not relate specifically to the interaction of land and sea forces. It does, however, affect those interactions in a broader sense. The admonitions of General Clinton speak to timeless problems in civil-military relations that are applicable even today, and for that reason they are included in this discussion. They are considered further in the final chapter.

²W.M. James, *The British Navy in Adversity: A Study of the War American Independence* (London: Longmans, Green and Co., 1933), p. 56.

³ibid., p. 61.

D. THE BOSTON CAMPAIGN

1. The Independent Variable

Command of the sea did not change hands between belligerents during the Boston campaign, but there was a more subtle change in naval conditions with significant consequences. The change in naval condition that occurred was the creation of a naval force by George Washington.

2. The Dependent Variable

The dependent variable was indirect, took time to develop, and was therefore not observable during the Boston campaign. It revealed itself in the ability of the Continental Army to use a sea commanded by the British to occupy New York City ahead of the enemy. It is also reflected in the continuing ability of the Colonies to prey on British merchants and conduct commerce of their own.

3. Discussion

Washington was faced with the frustration of watching the British in Boston regularly receive war supplies by sea, while his own forces were desperately short of both food and munitions. To correct this problem, Washington turned to the sea and commissioned raiders and privateers to prey on the British supply lines. The privateers were a small force and in no way threatened to sever the enemy's vital supply lines. The British in Boston continued to receive regular support from London. The booty collected by Colonial privateers was a welcome relief for Washington's forces, but were insufficient to change the balance of military power alone. The most significant affect that the privateers had on the course of the war was to threaten supply lines and thereby force the British to better protect the valuable troop transports and supply ships bound for the colonies. This diluted British naval strength available for operations along the eastern seaboard, diminishing effective exercise

of command of the sea. The colonists were thereby permitted to use the sea, albeit at great risk. One example of this surreptitious use of the sea occurred when the Continental Army sailed from New London to New York City, arriving to take-up defensive positions ahead of the British Army. Had the British been able to deny use of the sea to the Continental Army and forced them to march to New York, the British Army would certainly have arrived first and have had the advantage of the defensive.

In this way, a small group of privateers had an indirect influence upon the land campaign by distracting the British fleet and thereby granting a degree of mobility by sea to the Continental Army as well as some commerce.

E. THE CAMPAIGN FOR NEW YORK

1. The Independent Variables

a. Phase One

Phase one in the campaign for New York started with the actual battle for the city in August, 1776, and ends a year later when the British sent troops to occupy Philadelphia in 1777. During this phase, there was no change in naval condition between belligerents, hence no independent variable. Nevertheless, this phase displayed certain interactions between navies and armies that are instructive and are therefore discussed below.

b. Phase Two

The second phase occurred after the British evacuate Philadelphia and return to New York. The independent variable for phase two is the change in naval supremacy that accompanied the entry of France into the war.

2. The Dependent Variables

a. Phase One

Without an independent variable with which to establish linkage, the dependent variable becomes trivial. What is of interest are the specific advantages made available to military commanders as a result of command of the sea. The primary advantages were mobility in the littoral and initiative in battle. They are discussed below.

b. Phase Two

The dependent variable in phase two is the most telling of the war. It consisted of a complete metamorphosis in the character of Washington's forces: the Continental Army abruptly changed from the hunted to the hunter. Thereafter, opportunities were sought to pinch a large British force on the coast between the Continental Army and the French Navy. This type of joint/combined operation eventually ended the War at Yorktown.

3. Discussion

a. Phase One

(1) A Missed Opportunity. As stated, there was no significant change in naval condition associated with this period of the war. The British enjoyed a clear margin of naval supremacy along the Atlantic seaboard throughout this interval. What is instructive in this case goes beyond naval supremacy and the struggle for command of the sea per se. Instead, it goes to the intended fruits of that struggle, the exercise of command. The British had high and low points in their exercise of command during phase one in New York, and each had ramifications for the land campaign.

The attack on New York City itself by the British was a masterful display of mutual support between the Army and Navy. While awaiting reinforcements, General Howe sent frigates up the Hudson on lengthy patrols to

reconnoiter and find the best points for a follow-on assault. Once the attack commenced, armies were landed under the guns of British men-of-war which anchored close-in and fired with great effect. The advance along the islands that comprise New York City was well coordinated between the two services.

The only conspicuous failure in the assault on New York City occurred in the closing moments of that battle. With the Continental Army facing superior numbers with their backs to a swift tidal stream nearly a mile wide, the British failed to close the trap⁴. The Continental Army was permitted to escape under cover of darkness despite the strong likelihood that its capture would have ended the rebellion and the War.

The excellence in coordination by the British forces in taking New York is overshadowed by the missed opportunity. It is axiomatic to say that an outnumbered enemy should have his line of retreat watched carefully. Nevertheless, the British did not do it and this failure to coordinate land and sea forces resulted in a missed opportunity to end the war on their terms.

(2) The Value of Initiative. Exercise of command includes mobility as one of its primary advantages. This mobility extends beyond the simple movement of supplies and reinforcements. It also has implications for the maneuver of troops in initiating attacks in previously uncontested areas. It permits the temporary concentration of forces to seize objectives in widely separated geographic areas that are connected by navigable waters. The ability of the belligerent holding command to concentrate forces

⁴A.T. Mahan, *Major Operations of the Navies in the War of American Independence*, p. 43.

over wide areas leaves the defender in a quandary as to the proper disposition of his forces. This robs the defender of the initiative and forces him to wait for intelligence on enemy movements before *marching* troops to the defense of an area.

Washington experienced this quandary while awaiting the arrival of the British in New York. Once the British Army had evacuated Boston, Washington could not be sure of their destination. He *guessed* New York because of his superb grasp of strategic principles, but the British were almost as likely to proceed up the Hudson River, land in Philadelphia, or even return to Boston. Not only did he risk his Army on an "enemy sea" but he had no recourse but to move it to New York on a hunch. That the hunch proved correct is to his credit, but it does not diminish the military disadvantage he faced as a result of the enemy's ability to exercise command of the sea.

Alternatively, the advantages inherent to command of the sea were demonstrated by General Howe toward the end of phase one in New York. The Continental Army had invested the heights overlooking Morristown in a pivotal position that simultaneously flanked British advances *by land* either up the Hudson Valley or south to Philadelphia. Storming the heights was an unattractive option for the British due to the high casualties that would likely be suffered. Howe used his mobility advantage on the littoral sea, and sailed past Washington's well-positioned forces, up the Chesapeake Bay to Philadelphia. The Continental Army was forced to abandon its advantageous position in Morristown and march south to give battle practically at the time and place of Howe's choosing.

This phase of the campaign for New York suggests the following: The initiative in the land campaign and the option for offensive operations tended to go to the belligerent commanding the littoral sea.

b. Phase Two

The dynamic naval episode that separates phases one and two of the New York campaign was the addition of French naval power to the wartime equation. Upon arrival at the mouth of the Delaware River in the summer of 1778, Comte d'Estaing enjoyed immediate naval superiority over the British. He pursued them to New York where Washington had already marched the Continental Army. At this time, the new allies were clearly on the offensive. Washington was anxious to coordinate an attack on the British garrison in New York with the newly acquired naval capability. An inferior British fleet and a sandbar were all that stood between d'Estaing's naval units and an exposed British position. This was to the opportunity that the allies missed. The sandbar was cited as the reason that the French abandoned the attack and sailed instead to Rhode Island.

In this case, the missed opportunity was not so much a failure to coordinate land and sea forces in battle. The missed opportunity was the result of a decision, good or bad, that the proper circumstances for battle had not yet presented themselves. What is instructive about phase two is the change in naval condition between the belligerents and the attendant affect it had on the land campaign. Previously limited to responding to British initiatives, the Continental Army now stalked British forces whenever the French Fleet was available for joint operations. As in phase one of the New York campaign, the initiative and the option for the offensive again favored the belligerent that commanded the littoral sea.

F. THE CAMPAIGN FOR PHILADELPHIA

1. Independent Variable

The independent variable for the Philadelphia campaign was the same as that of phase two of the New York campaign: the addition of French naval power to the Colonial war effort.

2. Dependent Variable

The dependent variable for the Philadelphia campaign focuses on the change in British behavior as they adjusted the land campaign in response to the loss of naval superiority. The impact was so dramatic that after an occupation of just nine months, the conquerors of Philadelphia abandoned that city without a fight.

3. Discussion

The attack and evacuation phases of the Philadelphia campaign highlight different facets of the interaction of sea and land forces. What again comes to the fore in both cases, however, is the advantage that accrues to military commander as a result of command of the sea. In this campaign, those advantages included the mobility and initiative already discussed in the New York campaign. Another phenomenon that is observed during the Philadelphia campaign is the variable size of the "target set"⁵. Each is discussed below as they pertain to the campaign.

a. Mobility and the Assault Route

British mobility by sea and the unique geographic circumstances of Philadelphia conspired to increase its

⁵NOTE: "Target set" refers to the total number of strategic centers accessible to invaders. The size of the target set is diminished if targets along inland waterways are no longer accessible. The French challenge to British naval superiority effectively eliminated upriver operations for the British, thus diminishing the size of their target set.

vulnerability to attack by the British. Directly accessible by the Delaware River, it was also accessible by way of the Chesapeake Bay by adding a short march from Elkton, Maryland. The British opted for the latter route and bypassed the heavily fortified Delaware River in their attack on Philadelphia. With the advantage of mobility came the option to choose the route of assault. With this decision, General Howe was able to exert a large degree of control on the time, place, and circumstances of the battle for Philadelphia. Again, the relationship between the naval conditions and the manner in which the land campaign proceeds is readily observable.

b. The Target Set and Evacuation

The most dramatic change in the fortunes of the British land campaign around Philadelphia occurred when the French entered the war. With never a sail in sight, the British preemptively evacuated Philadelphia due to the mere threat of French naval power. Due to a lack of reliable intelligence concerning the arrival time of the French fleet, the British were unwilling to risk troops at sea. Instead, the Army was marched from Philadelphia to New York, while equipment and supplies went by sea. The British Army was trailed and harassed throughout this march by Colonial forces. This episode points to the erosion of options available to the British Army in light of changing naval conditions. The need to evacuate was a function of the diminished size of the British target set. The manner of evacuation reflected changes in the naval condition.

The need to evacuate was the result of a good military decision gone bad by changing conditions. When the decision was made to occupy Philadelphia, the surrender of the British Army under General Burgoyne at Saratoga had not yet occurred and undisputed command of the sea seemed a fact

of war for the foreseeable future. With undisputed command, upriver cities and other strategic centers were directly accessible to British forces. The British could depend on secure lines of communication if the routes were on oceans or *continuously navigable waterways*. Such was the case with Philadelphia when the decision was made to occupy it.

But that situation changed with the arrival of French naval power in North American waters. Command of the sea was challenged and seaborne communications were no longer secure. With a hostile interior landmass as the only alternative source of supply, British upriver options were immediately curtailed by the French. Threatened communications were responsible for the British evacuation of Philadelphia with never a shot fired. The British were forced to consolidate their operations and diminish the size of their target set. The association between changing naval conditions and its influence on the land campaign is direct and readily observable in this episode.

The manner in which the British evacuated Philadelphia is also indicative of limited options ashore resulting from changing naval conditions. Having previously enjoyed unrestricted mobility by sea, the British Army opted to march to New York from Philadelphia. This march was harried by Colonials throughout, required more time, was logistically inconvenient, and damaged morale. It was clearly not the preferred option. But the threat of French naval power in the vicinity made transport of armies by sea a dangerous proposition with war-ending potential. The mobility and convenience of moving armies by sea had been eliminated through a challenge to naval supremacy.

G. THE YORKTOWN CAMPAIGN

1. The Independent Variable

The independent variable in the Yorktown campaign was the change in naval control of the anchorage off Yorktown that closed the noose on Cornwallis's encampment.

2. The Dependent Variable

The dependent variable was the surrender of the British Army under Cornwallis on October 19, 1781.

3. Discussion

a. Gambit in Charleston

General Cornwallis's Army arrived in Yorktown via a circuitous path that went by sea from New York to Charleston, thence north by land to Yorktown. The reason for this expedition was that British authorities sincerely believed that latent loyalist sentiment in the South would facilitate conquest of that entire region. This expeditionary thinking by the British however, is inconsistent with practices established in the aftermath of the Philadelphia evacuation.

After Philadelphia, the British were consolidating their operations and drawing down on expeditionary operations. This consolidation was due to the fact that the French fleet significantly increased the risk of distant waterborne support of armies. The reasons that the British reevaluated this predisposition were twofold and related: first, the potential gain was justified by the degree of risk involved in expedition; second, the French fleet had departed the Atlantic seaboard bound for home or winter operations in the West Indies. It was in anticipation of the return of the French fleet to North American waters that orders were issued for Cornwallis to fortify a position at Yorktown and await either evacuation or reinforcements. By all indications then, expeditions and offensive campaigns by

the British were closely linked to the movements of the French fleet, occurring only in its absence.

b. The Battle of Yorktown

Though there was a grand fleet confrontation off the Virginia Capes on 5 September 1781, this battle was significant only to the degree to which it affected communications on the Chesapeake Bay. The critical element of the battle at Yorktown was the encirclement of Cornwallis's Army on all sides except to seaward. Victory would go to the belligerent controlling that seaward access to Cornwallis's Army.

The British may have lost sight of this fact as they sailed easterly in a prolonged battle. De Barras's squadron arriving from Newport moved quickly to cover Cornwallis's seaward flank in the absence of the battle fleets. De Barras's anchorage was later fortified by the remainder of the French fleet, and the British were forced to sail north to New York for repair and reinforcements. Their return was too late to save the surrounded army, and it was surrendered on 19 October 1781.

The battle of Yorktown was the realization of Washington's long-held plan to coordinate the movements of the Continental Army and the French fleet jointly to isolate and capture a British Army along the coast. He nearly accomplished this feat in New York and was entirely successful at Yorktown. This battle epitomizes the manner in which naval power can influence the conduct of the land campaign. With resupply and reinforcement, Cornwallis should have been capable of breaking-out by land and continuing his northward campaign. Enemy control of sea-lines of communication not only precluded this offensive campaign, but forced the surrender of an otherwise intact army.

V. CONCLUSION

A. LESSONS FROM THE REVOLUTIONARY WAR

In each of the episodes examined during the Revolutionary War, the impact of developments at sea was reflected in the conduct of the land campaign. In general, *a sustained and purposeful exercise of command after it was secured* enabled a more aggressive and offensive land campaign. This offensive style of warfare stemmed from the ability to control passage on the littoral sea. Control of passage imparts to its possessor the advantages of: mobility of troops and hence the ability to concentrate; initiative to dictate the time and place of battle; access to strategic centers on the seaboard or along inland waterways; and the ability to surprise the enemy.

Amplly demonstrated in the early years of the American Revolutionary War is that command of the sea is not something *possessed* by a belligerent, but something that must be *exercised* if it is to be of any military significance. The advantages of mobility, initiative, etc., are available to the belligerent commanding the sea, but unless that command is actively exercised, these advantages are of no benefit. Furthermore, without the active exercise of command by the dominant naval power, the enemy may elect to risk seaborne operations to extract from the sea that which he can. The Colonials did exactly this by preying on British merchantmen and moving the Continental Army on seas "commanded" by the British. This fact supports the contention that naval superiority does not equate to command of the sea, and *the capability to exercise command does not equate to the effective exercise of command.*

B. LESSONS FOR TODAY

Today, the roles are reversed for the United States. No longer the underdog in a struggle for independence, the United States is now the world's dominant military and naval power. With respect to the Revolutionary War then, it is the successes and failures of the British, rather than the Colonists, that currently provide the pertinent lessons for the United States. The United States is now more likely to engage a major contingency in which sea force must be applied aggressively and profitably. The following paragraphs summarize lessons of the Revolutionary War with respect to the interaction of land and sea forces that continue to find application today.

In 1775, command of the sea ended at the shoreline. Beyond that, the landmass was unfamiliar and inhospitable to invaders. That remains true today, but there is an additional qualification that further limits the advantage of command. Due to improvements in sea force systems since the time of the Revolutionary War, command of the sea can be readily disputed by defenders with land-based weapons systems. In consequence, command of the sea extends to the shoreline only when the defender lacks the ability to dispute it. Otherwise, command of the sea extends only to that point on the ocean where expeditionary forces are beyond the range of the defender's sensors and weapons. Due to recent proliferation trends, sea force systems such as attack aircraft, shore batteries, and anti-ship missiles, are available to virtually any nation determined to procure them¹.

¹William D. Hartung, *And Weapons for All* (New York: HarperCollins, 1994), 155-198.

The British fleet was the world's finest, quantitatively and arguably qualitatively, at the time of the Revolutionary War. However, due to the seemingly inevitable global interests of a first-rate power, that fleet was over-committed. Britain had a potentially war-winning strategy with naval blockade, but the number of ships required to successfully employ this strategy was not available to theater commanders in North America. This shortage was exacerbated by the Colonial privateers, who forced the British to closely protect the long lines of communication from England. The privateers of the Revolution practiced a form of guerilla war at sea which the United States may face in the future.

The United States unquestionably owns the world's premier fleet today, but increasing global commitments and declining ship numbers have already resulted in extensions to planned deployment schedules. In the event of hostilities, modern diesel submarines and the ubiquitous missile patrol boats assume the role of the Colonial privateers by forcing the United States to closely protect distant supply lines. Debate already surrounds issue of whether the United States has sufficient assets to support the "two nearly simultaneous major regional conflicts" called for in the National Strategy². In view of the consequences suffered by the British in the Revolutionary War, the United States today must avoid diminishing its naval power through overcommitment.

Another admonition for the United States stemming from lessons learned by the British in the Revolutionary War

²President of the United States William Clinton, *A National Security Strategy of Engagement and Enlargement* (Washington, D.C.: U.S. Government Printing Office [U.S. GPO], 1994), 7.

pertains to the issue of theater command. Throughout the war, British commanders chaffed under the burden of conflicting orders arriving regularly from London. Problems for the United States in this area were apparent during the Viet Nam era, but Desert Storm proves that they are not insurmountable problems. Efforts must continue to prevent a reoccurrence.

In closing, the United States has a rare opportunity to develop a systematic approach to influencing the land campaign ...*From the Sea*. Unchallenged American dominance of the high seas enables pursuit of new naval objectives in the littoral area and into the landmass. New technologies are emerging and older ones are evolving that can be adapted to these new objectives. In the haste to develop effective methods of interaction between land and sea forces however, let it not be forgotten that: first, command of the sea must precede any other use of naval power; and second, command of the sea must be exploited in order to be useful.

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