



TEMPLE UNIVERSITY
DOCTORAL DISSERTATION APPROVAL
ON BEHALF OF THE GRADUATE BOARD

Author: Kevin Reynolds

Title of Dissertation: How the weapons we buy shape the policy we make: Military technology, foreign policy, and civilian control of the military

Date of Defense: April 19, 2004

By signing below, I indicate my approval of this dissertation and of the candidate's oral defense.

Dissertation Examining Committee Approval Signatures:

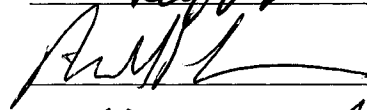
Member's Name and Department

Signature

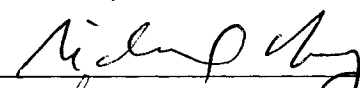
Geoffrey Herrera, Political Science



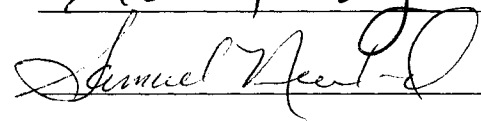
Richard Immerman, History



Richard Deeg, Political Science

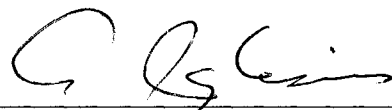


Samuel Newland



Date Dissertation Submitted to the Graduate School: 4/29/04

Accepted by the Graduate Board of Temple University in partial fulfillment of the requirements for the degree of: Doctor of Philosophy

Dean of the Graduate School: 
Signature

**HOW THE WEAPONS WE BUY SHAPE THE POLICY WE MAKE: MILITARY
TECHNOLOGY, FOREIGN POLICY, AND CIVILIAN CONTROL OF THE
MILITARY**

A Dissertation
Submitted
to the Temple University Graduate Board

In Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

By
Kevin Patrick Reynolds
May, 2004

UMI Number: 3128568

Copyright 2004 by
Reynolds, Kevin Patrick

All rights reserved.

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI[®]

UMI Microform 3128568

Copyright 2004 by ProQuest Information and Learning Company.

All rights reserved. This microform edition is protected against unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

©
Copyright
2004

by

Kevin Patrick Reynolds
All Rights Reserved

ABSTRACT

This dissertation researches the impact of the increased technologicalization of the United States' Military on its role in foreign and national security policy since World War II, but especially during the post-Cold War era. Specifically, this study argues that the increased technologicalization of the military due to the exigencies of the Cold War has increased the military's expert knowledge, autonomy, battlefield success, and its allies in the political process. These four technologically-derived benefits help to sustain the military's affinity for technology and contribute to the military's increased influence on the development of U.S. foreign and national security policies. Additionally, the civilian leadership's increased deference to the military's technology-driven policy preferences has contributed to diminished civilian control of the military.

After reviewing and refining the nature and key assertions surrounding the debate on civil-military relations, especially civilian control over the military, this study traces the origins of the principle of civilian control, its application, and its evolution. The study then examines the role of technology in American society, particularly within the military, concentrating on the military's use of technology during World War II. Next, it identifies why the services embrace technology, how it shapes their policy preferences, and how these preferences manifested themselves in national security strategy, overseas basing, defense budgets, alliances, and military force structure during the Cold War. The study introduces the concept of "policy lag" to explain how weapons

systems imagined in the Cold War era affect future policy options. Using case studies on the Gulf War, Somalia, and Kosovo the study illustrates how the military's weapons systems technology and force structure affected U.S. policy options in the post-Cold War era. It concludes with a discussion of current U.S. military operations and examines the implications of weapon-system technology for foreign policy, civilian control of the military, and on the military profession itself.

TABLE OF CONTENTS

ABSTRACT	iv
LIST OF TABLES	vii
LIST OF FIGURES	viii
CHAPTER	
1. INTRODUCTION	1
2. CONTROLLED OR CONSTRAINED: MILITARY SUBORDINATION TO CIVIL AUTHORITY IN THE UNITED STATES.....	26
3. WORLD WAR II AND THE IMPACT OF TECHNOLOGY ON THE MILITARY	82
4. MILITARY TECHNOLOGY AND ITS EFFECTS ON SERVICE DECISION-MAKING AND DOCTRINE	153
5. THE COLD WAR, WEAPONS TECHNOLOGY, AND POLICY.....	200
6. SHAPING THE FUTURE TODAY: WEAPONS TECHNOLOGY AND FOREIGN POLICY IN THE POST-COLD WAR ERA	251
7. THE GULF WAR, SOMALIA, AND KOSOVO: WEAPONS SYSTEMS AND POLICY DECISIONS.....	325
8. EPILOGUE AND CONCLUSION.....	421
BIBLIOGRAPHY	465

LIST OF TABLES

Table	Page
3-1. The value of the Assets of U.S. Manufacturing Corporations in Selected Industries 1939 and 1945 (Millions of Dollars).....	139
3-2. Allocation of Prewar Manufactured Product Defense Supply Contracts by Percentage of Total Value.....	148
3-3. Growth in Manufacturing Facilities by Region 1939 and 1947.	150
4-1. Air Force Commitment to Technology Through Research and Development (R&D) (Amounts in Millions of Dollars)	164
4-2. Cold War Aircraft Carrier Force Structure	170
4-3. Annual Carrier Battle Group Operating Cost for Select Years during the Cold War (in billions of 1997 constant dollars)	171
6-1. Base Force Concepts included in National Policy Documents	290
6-2. Comparison of Military Strategic Recommendations Incorporated into Policy Documents during the Early Clinton Administration	296
6-3. Force Structure Reductions 1990-2001	305
6-4. Comparison of Defense Spending to Government Spending and U.S. GDP	309
6-5. Partial Defense Budget Allocations by Program 1990-1999.....	312
6-6. Selected Weapons Systems and Munitions Costs in Millions of Dollars.....	319
7-1. Comparison of Ends, Ways, and Means.....	377
7-2. Post Gulf War Precision Guided Munitions Development and Procurement	396

LIST OF FIGURES

Figure	Page
6-1. Foreign Policy and Weapons acquisition/Force Structure Development	262

CHAPTER 1

INTRODUCTION

Since the end of the Cold War, a debate about the state of civil-military relations in the United States has arisen within both the academic and government communities. The debate has been variously labeled as “The Crisis in Civil-Military Relations” and/or “The Gap between the Military and Civilian Society.”¹ Much of the debate to date has centered on the sociological, legal, institutional/structural, and grand strategy aspects of civil-military relations. This study examines the role that weapon-system technology has played in promoting the military’s increased influence in foreign and national security policy and the affect this has had on civilian control of the military. The military’s virtually unchallenged autonomy in the weapon-system decision-making process allows it to decide which technologies to research and develop, which weapons systems to acquire, and what force structure to develop that will enhance the weapons’ capabilities.² Given the increasing technological and operational complexity associated with modern

¹ Peter D. Feaver and Richard H. Kohn, “Project on the Gap between the Military and Civilian Society: Digest of Findings and Studies,” (Durham, N.C. and Chapel Hill, N.C.: Triangle Institute for Security Studies, 2000), 2.

² The Joint Staff, Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: U.S. Government Printing Office, 2001), 263. According to Joint Publication 1-02, a weapon system is “A combination of one or more weapons with all related equipment, materials, services, and personnel. And means of delivery and deployment (if necessary) required for self-sufficiency” [sic]. Military technology falls into several categories; nuclear, conventional, high-tech, low-tech, information, spaced based, etc. As such, a weapon system while considered “hi-tech,” can include relatively “low-tech” sub-systems. This study focuses on conventional weapons systems technologies. Specific conventional weapons systems technologies are important measures of military technologicalization because they drive force structure development.

weapon-systems and their employment, civilian leadership increasingly defers to the military's expertise on the development, acquisition, and force structure decisions associated with high-technology weapons and the strategies for their employment. These decisions determine the size, capabilities, and readiness of the armed forces and thus the military options available to the civilian leadership. As a result, the military affects the range and scope of policy options, and by extension the degree of control the civilian leaderships exerts over the military.

Hypothesis and Approach

This study's primary hypothesis is that the military's increased technologicalization has made its special realm even more specialized; increased the military's autonomy; and affected the military's understanding of its role in the political process. Weapons systems technology played an important role in America's Cold War victory and has helped convey upon the military a high degree of trust in its technical and operational expertise. In a political environment that does not lend itself to detailed long range planning, the military's technical and operational expertise promotes the inclusion of its policy preferences in national policy agreements. The increased sophistication of military technology that allows U.S. forces global reach, exact target identification, surgically precise delivery of munitions, minimal collateral damage, and minimal friendly casualties has made the use of military force much more a measure of first choice than last. The technological expertise of the military, while furthering its autonomy and enhancing its role in the development and execution of U.S. foreign policy, has lessen civilian control over the military.

There are three subordinate hypotheses to the primary hypothesis. First, the military's technologically-driven policy preferences may influence the development of foreign and national security policy in a manner that limits civilian foreign policy options--the military can influence what foreign policy the civilian leadership can implement. Second, the military's relative autonomy in the research, development, acquisition, and force structure development process allows it to determine future military capabilities that preclude certain policy options--the military can influence what foreign policy the civilian leadership cannot implement. Last, the differences in planning horizons between foreign policy and weapon-system acquisition makes the linking of future military means and policy ends (objectives/options) difficult.

Civilian deference to the military on the technical employment of military forces, their objectives, and their strategy is exacerbated by the differences in the foreign policy and weapons development planning horizons. Foreign and national security planning seldom extends beyond the presidential incumbent's term of office--four years. Even when executive branch planning extends long-term, there is no guarantee that a subsequent administration will not negate it. Other governmental departments operate under similar constraints. For example, the Department of State's long-range plan extends out only six years. On the other hand, the weapons system development and acquisition process extends out from twelve to twenty years depending on the weapon system. The time difference between these two systems results in what is herein referred to as "policy lag." Policy lag results in the military's imagining and developing weapons systems now for fielding in the future without the benefit of long-term policy guidance. As a result, future political leaders inherit military capabilities that may or may not be

appropriate for the policies they would like to implement, thus potentially limiting their policy options.

Contributing to policy lag is the military's relative autonomy in weapons systems selection. The military's technological and operational expertise engenders a high degree of relative autonomy upon the organization, especially in the fields of research and development, procurement and force structure. These decisions shape the size, capabilities, and readiness of the armed forces; and by extension, the military options offered to civilian leadership should they contemplate the use of armed force. Because the military can indirectly influence future policy options, civilian control of the military is more constrained. It is this study's contention that all too often, these factors have been neglected, and that they have contributed to the military's policy preferences being increasingly incorporated into U.S. policy agreements, at the expense of a lessening, albeit unintentional, of civilian control.

Accordingly, this study asks what influences the military's increased technologicalization had on its ability to have its policy preferences incorporated into U.S. foreign and national security policy agreements. The term "military" in this study refers to the uniformed members of the armed forces within the Department of Defense. In looking at how technology has shaped military policy preferences and how successful the military has been in influencing foreign and national security policy, this study concentrates on U.S. foreign policy since World War II and especially in the post-Cold War era. National policy agreements, as used in this work, are those issues resolved between the executive and legislative branches that either define or support U.S. foreign and national security policy. Conceptually, the link between the military's

technologically-driven preferences and their inclusion in national policy agreements resides in the strategy the military develops to accomplish its roles, functions, and missions. Military preferences are manifest in strategy as the weapons systems, force structure, and the operational recommendations for the use of force. The military's preference inclusion appears in the executive and legislative branches decisions on foreign and national security policies, and is reflected in a number of policy agreement documents.³

Additionally, this study will address several questions implicit in the research question. First, what are the philosophical origins of civilian control of the military in the United States? Second, what civil control issues arose prior to WW II? Third, what is the nature of the civilian control debate today? Fourth, what impact did weapon technology have on the military's role in influencing policy during WWII? Fifth, why does the military embrace technology? Sixth, what are the military's (individual service's) weapons-systems preferences and who decides what weapons systems to develop and acquire. Seventh, do "high tech" weapons systems allow the military a greater role in the development and execution of foreign policy and national security strategy? Last, what implications does the military's continued embrace of technology have for its role in American foreign policy, the principle of civilian control, and the military profession itself?

After this introduction, Chapter 2 examines the theoretical underpinnings of civilian control in the United States, by examining the practical applications of civilian

³ E.g., "The National Security Strategy of the U.S."; "The National Military Strategy"; the Defense Budget; Foreign Treaties; and trade agreements.

control of the military up until World War II and defining the nature of the current civilian control debate. Chapter Three explores the impact of technology on the military during World War II, and how it helped to increase the military's expertise, autonomy, battlefield success, and strengthen political alliances.

Chapter 4 outlines the underlying reasons why the military embraced technology in the post-World War Two era, what specific technologies the services favored and the autonomy the military enjoyed in deciding what weapons systems to research, develop, and procure during the Cold War. Chapter 5 examines how the military's weapons-systems decisions affected U.S. foreign policy during the Cold War in the near term through strategic recommendations, allocation of resources, acquisition of overseas bases, and the formation of alliances. In the long term, it looks at how weapons systems decisions affected future force structure, and how that force structured shaped/constrained policy options.

Chapter 6 explores how the legacy weapons systems of the Cold War and the force structure designed to employ them continue to affect foreign and national security policy in the post-Cold War era. Additionally, this chapter examines how technology continues to enhance the military's role in policy development, despite the absence of a viable global threat to America's structural integrity or its global interests

Chapter 7 consists of three post-Cold War Case studies that illustrate the application of high-tech weapons systems in recent conflicts and how they did or did not support the stated policy objectives. Operation Desert Storm, Restore Hope in Somalia, and Allied Force in Kosovo are the cases used to show the linkage between military technology, military preferences, foreign policy decisions based on those preferences,

and foreign policy outcomes. Chapter 8, Epilogue and Conclusion, begins with an overview and assessment of the influence of weapons-systems technology on the civilian leadership's decisions to invade Afghanistan and Iraq. It concludes with a discussion of the implications for future foreign policy, civilian control of the military, and the military profession.

Background

Civil control of the military is one of the central principles of American democratic government. However, the increased role the military now plays in foreign policy development today was not always the case. From pre-colonial times until the beginning of World War II, the American military was relatively isolated from the society it served. Viewed as an economic encumbrance by most political leaders, the military prior to World War II had little or no formal role in the formulation of U.S. foreign policy. Instead, the military was used as a means to pursue foreign policy objectives. Americans have traditionally been skeptical of the military's utility in peacetime. This inherent distrust of the military arose primarily from two sources rooted in English political and social thought: English Liberalism as represented by the writings of John Locke; and closely related to Locke's theories, a fear of standing armies, which in the wrong hands could be used to usurp representative government and individual freedoms.⁴

For Locke a government's legitimacy and authority to govern depended on the consent of governed. Locke referred to this consent as a social contract. Under this

⁴ John Locke, *Second Treatise of Government*, ed. C.B. McPherson (Indianapolis and Cambridge: Hackett Publishing Company, Inc., 1980), passim.

social contract, men exchanged certain individual rights that they enjoyed in a state of nature for security, the rule of law, and the opportunity to obtain economic prosperity through property rights.⁵ Without such a contract, Locke felt men would compete with one another over limited resources resulting in an unequal distribution of wealth, societal conflict, and general disharmony.⁶ Should a ruler fail to provide his end of the social contract then the governed had the right, if not the duty, to overthrow him.⁷ Absent an external threat, Locke felt that a standing army posed a threat to the people's prosperity because they would have to support the military by paying taxes, serving in it, or by having to provide billets and/or provisions for it. These impositions infringed on the property rights and economic prosperity of the governed, thereby violating the social contract. Moreover, the sovereign might use the army to impose despotism. If the sovereign needed military force on short notice to preserve the state, the political thought circa the late eighteenth century deemed it better to provide that force to the sovereign by means of an armed and trained militia.

Of course, when Locke articulated these thoughts in his *Second Treatise of Government*, he had already experienced the effects of the English Civil War between the crown and parliament. Parliament persevered by creating The Model Army, a professional standing army, which defeated the forces of the crown. Unfortunately, in the hands of Cromwell, its commander, that same instrument turned on its creator and

⁵ Ibid.

⁶ Ibid., 46-47.

⁷ Ibid., 87-89.

imposed military rule on England for ten years.⁸ Like Locke, many of the English settlers who came to America had their political thoughts shaped by England's Civil War in the mid-seventeenth century and the liberal philosophers of the enlightenment.⁹ The colonial institutions they established, both political and military, reflected their English heritage and their own experience with the British Army in America. Hence, colonial government was representative and based on the consent of the governed. Participation in government depended on economic prosperity and more specifically on property ownership. The security of the colony dependent on a citizen based militia because they had the most to lose if the colony was threatened. Although in times of extreme danger such as the Seven Years War, the colonist did accept regular British troops in their midst and even participated with them on campaigns outside of their districts, normatively the colonist eschewed the British regular military establishment. In fact, one of the contributing causes of the Revolutionary War was the British decision to garrison soldiers in the homes of the colonist during The French and Indian War and then keep them there to protect the colonies from Indian incursions.¹⁰

Although the exigencies of the Revolutionary War forced the colonies to confederate and form a Continental Army, American political leaders were always mindful of the threat to a society's liberties and freedoms posed by a standing army in

⁸ Samuel P. Huntington, *Political Order in Changing Societies* (New Haven and London: Yale University Press, 1968), 121-29.

⁹ Richard E. Johe, *The American Military Establishment: An Investigation of a Conservative Enclave in Liberal America* (Ph.D. diss., Duke University, NC: 1974), 15-8.

¹⁰ Richard H. Kohn, *Eagle and Sword: The Federalist and the Creation of the Military Establishment in America, 1783-1802* (New York: The Free Press, A Division of Macmillan Publishing Co., Inc, 1975), 5.

times of peace. After securing its independence, the new American government moved immediately to all but eliminate its active military establishment. On June 2, 1784, the Continental Congress proclaimed, “standing armies in time of peace are inconsistent with the principles of republican Governments, dangerous to the liberties of a free people, and generally converted into destructive engines for establishing despotism.”¹¹ The Congress ordered that the regular army be reduced to eighty privates and an appropriate number of officers, none to exceed the rank of Captain.¹² Over the next one hundred and fifty years, the size and influence of the American military waxed and waned with America’s expansion and conflict involvement. The civil-military paradigm that developed prior to World War II featured a small active regular force that in time of crisis would receive augmentation from the state-controlled volunteer (and later federally regulated) citizen militias. Over the years the actual size of the regular military establishment grew somewhat; however, judged as a proportion of the population and in relation to the potential threats the United States faced, the armed forces remained miniscule.¹³

This is not to say that the military did not have a role in U.S. foreign policy. American diplomatic history is replete with instances of the military influencing foreign policy. Nevertheless, the military’s ability to shape foreign and national security policy derived more from communication limitations, the broad nature of the missions the military received, and the wide latitude the military had to accomplish its tasks. Military operations and actions might have provided the political leadership with foreign policy

¹¹ Ibid.

¹² Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge and London: The Belknap Press of Harvard University Press, 1957), 144.

¹³ Ibid., 167.

opportunities (and challenges), but rarely did the military have a substantial part in foreign policy development prior to its implementation.

However, World War II fundamentally altered the U.S. Military's role in the formulation of foreign and national security policies, and by extension, how the military related to civilian authority. Given the scope of that conflict and the amount of manpower and industry that America had to mobilize in order to prevail, the military became the most dominant governmental agency in the formulation of foreign policy.¹⁴ Nonetheless, at the end of the Second World War, America was returning to its traditional paradigm of a small active military establishment backed by a large reserve force - when the Cold War erupted. The Cold War further enhanced the military's role in government.

With the Soviet development of nuclear weapons, the U.S. faced the possibility of cataclysmic destruction for the first time in its history.¹⁵ Moreover, the Soviets maintained a massive land army in Eastern Europe capable of overrunning a war weary and fledging Western alliance. To meet the massive Soviet quantity, the United States opted for technological superiority and a qualitative advantage. Given the perceived nature of the Soviet threat, it was only logical that the United States military would take the lead in developing technologically advanced weapons systems.

¹⁴ Mark A Stoler, *Allies and Adversaries: The Joint Chiefs of Staff, the Grand Alliance, and U.S. Strategy in World War II* (Chapel Hill, NC and London: The University of North Carolina Press, 2000), passim. Stoler provides a detailed analysis of the role the Joint Chiefs of Staff played in the formulation of strategy and policy during World War II and the implications this had for the military's involvement in Cold War foreign policy. An earlier account is Louis Smith's, *American Democracy and Military Power: A Study of Civil Control of the Military Power in the United States* (Chicago: The University of Chicago Press, 1951), 215-16.

¹⁵ Adam Yarmolinsky, *The Military Establishment: Its Impacts on America Society* (New York: Harper and Row, Publishers, 1971), 111.

The armed services have a history of technological adaptation. The American Civil war saw the advancement of the rifled musket, the repeating rifle, smokeless powder, and the Gatling gun, as well as the adoption of the telegraph, railroad, and steamship for military use. Likewise, in the 1880's great advances were made in naval technology combining steam, armor, and heavier armament and resulting in the Dreadnought class battleship. During World War I, aviation radically changed operational strategy on both sides. Nevertheless, most of these technologies were adapted for military use from the civilian sector. What differentiated the military's adoption of technology in the post-World War II period were the military's own expansive and systemic research and development (R&D) programs, its link with industry, and the rate and pervasiveness of technology-driven change throughout the military. The advanced and even revolutionary capabilities of these weapons systems facilitated American diplomatic efforts during the Cold War and enhanced the role of the military in foreign policy and national security strategy development. In fact, military influence was so much on the rise in policy circles during the late 1950s that President Eisenhower, himself a product of the American military establishment, warned the nation during his farewell address against the dangers of the Military – Industrial Complex.¹⁶

¹⁶ Dwight D. Eisenhower, "Farewell Radio and Television Address to the American People, January 17, 1961," *Public Papers of the President of the United States, Dwight D. Eisenhower, 1960-61* (Washington, DC, 1961), 1035-1040. See also Malcolm Moos, *Washington Post*, March 31, 1969.

Theoretical Foundations

The debate over what the military's proper role should be in American society has captured the interests of scholars and politicians for over two centuries. While that debate has flared and subsided from time to time, with the advent of the Cold War the debate became sustained. In the early, 1940's, Harold Lasswell wrote a series of articles that called attention to the danger of democracies developing into garrison states due to the presence of a sustained external threat to their security.¹⁷ Although the garrison state did not develop in the West, the United States and its allies took unprecedented military measures to secure their freedom.¹⁸ For example, at the outset of the Korean War, the U.S. instituted the first peacetime conscription law in its history, and even after the conflict ended, the U.S. continued to spend more on defense programs than previous peacetime eras. In addition, the bond that formed between government and industry during the Second World War was maintained during peacetime as weapons of mass destruction were produced in order to support a policy of massive retaliation and later mutually assured destruction.¹⁹ Moreover, the civilian and military research and development programs strove to maintain an advantage over their communist adversaries in all potential defense related technologies.

¹⁷ Michael C. Desch, *Civilian Control of the Military: The Changing Security Environment* (Baltimore and London: The Johns Hopkins University Press, 1999), 16. See also Smith, *American Democracy and Military Power: A Study of Civil Control of the Military Power in the United States*, 7-11.

¹⁸ Aaron L. Friedberg, *In the Shadow of the Garrison State: America's Anti-Statism and Its Cold War Grand Strategy* (Princeton, N.J.: Princeton University Press, 2000), 1-20.

¹⁹ James Clotfelter, *The Military in American Politics* (New York: Harper & Row Publishers, 1973), 65-70. See also Huntington, *The Soldier and the State*, 366.

Most scholars who have studied civil-military relations approach it from one of three perspectives: a normative, legal/constitutional, or structural/bureaucratic perspective.²⁰ While acknowledging technology's importance (e.g. in changing social norms within the military and society, in forcing bureaucratic/structure change, or in attaining military objectives in pursuit of grand strategy) none of the works concerning civil-military relations have directly addressed the role that technology played in shaping military preferences, having those preference incorporated into national policy agreements, or what impact weapon technology has had on civil-military relations in the United States.

In 1951, Louis Smith published *American Democracy and Military Power*.²¹ His book was one of the first serious attempts to come to grips with the increased influence of the military in American foreign and domestic policy in the post-World War II era. However, his focus was more on how the executive, judicial, and legislative branches wrestled with each other for political power while using the military as a foil. Smith laid out the constitutional premises upon which civilian control of the military rested. Noting

²⁰ Morris Janowitz, *The Professional Soldier: A Social and Political Portrait* (New York: The Free Press, A Division of the Macmillan Company, 1971). Janowitz represents the normative approach. He focuses on the social determinants of the officer corps and how these affect the actual practice of civil control. Samuel Huntington in *The Soldier and the State* approaches the issue of civil control from a structural bureaucratic perspective. He advocates a bureaucratic structure that keeps the military under "objective control," that is outside of the political process. Richard B. Morris, "The Origin and Framing of the American Constitution," in *The United States Military under the Constitution of the United States, 1789-1989*, ed. Richard H. Kohn (New York and London: New York University Press, 1991), and Richard H. Kohn, "The Constitution and National Security: The Intent of the Framers," in *The United States Military under the Constitution of the United States, 1789-1989*, ed. Richard H. Kohn (New York and London: New York University Press, 1991). Both Morris and Kohn address the legal and constitutional provisions for civil control. They emphasize the philosophical foundations of civil control over the military and the intent of the founding fathers as expressed in the Constitution of the United States, and the writings of America's early leaders.

²¹ Smith, *American Democracy and Military Power*, passim.

the apparent pervasiveness of the communist threat, Smith stated that the U.S. had to maintain strong, capable, and fully prepared military forces to defend its national interest. As a result, it became almost axiomatic that the military would have increased political influence. Smith makes no mention, although it must have been obvious, that technology would be a key contributor to America's defense, and the military's increased stature. For Smith, successfully reconciling permanent military power with democratic institutions and ideals was a constitutional challenge. Smith was not afraid of undue military influence; rather, he proposed far-reaching and coordinated national security and foreign policies. He felt that if these policies explicitly stated the military's requirements (roles, functions, and missions), instead of letting the military determine them in a policy vacuum, then the military would receive the focus it needed, and civilian control of the military bolstered.

In 1954, Burton Sapin and Richard Snyder published *The Role of the Military in American Foreign Policy*.²² Sapin and Snyder tried to define the role that the military should play in the formulation and conduct of U.S. foreign policy. However, this book focused not only on the impact the military had on foreign policy, but also on American society as a whole. One area the authors looked at was the military mind, which they maintained (with few exceptions) was rigid and predisposed to command and the use of force. In their view, the military professional was not attuned to mainstream American values and the finer points of the American democratic system. Sapin and Snyder felt the military was becoming a pervasive and pernicious influence within American society, the

²² Burton M. Sapin and Richard C. Snyder, *The Role of the Military in American Foreign Policy* (Garden City, N.Y.: Doubleday & Company, Inc., 1954).

government, and U.S. foreign policy, but they never articulated why the military was becoming so influential. For example, they did not discuss the threat posed by the Soviet Union and America's decision to leverage technology (American quality versus Soviet quantity), or show how military expenditures affected industry, job growth, and made certain sectors of the economy dependent on the military.

In 1957, Samuel Huntington, one of the most insightful and prolific writers on civil-military relations, published *The Soldier and the State*.²³ He felt that civil control over the military was diminished when the military was drawn away from its professional roots and thrust into politics. Huntington, like Smith before him, did not see the struggle for civilian control over the military as being between the federal government and the military. Rather, he saw the issue as a struggle between Congress and the executive branch for control over the military.²⁴ When either the executive or the legislative branch manipulated the military to bolster their position on a particular issue, they were controlling the military subjectively. This thrust the military into the political process, aligning it with one branch in opposition to the other. A resultant danger of subjective control was the military playing the executive branch and legislative branch against one another as it pursued its policy preferences. The opposite of subjective control, and the form of control Huntington advocated, was objective control. Objective control kept the military focused on its military tasks and limited their role in the government to advice only. Ideally, the military would remain focused on external threats to the U.S. and

²³ Huntington, *The Soldier and the State*, passim.

²⁴ Louis Smith in *American Democracy and Military Power*, 1951 a work that preceded Huntington's, said essentially the same thing. Each branch of government uses the military as a foil against the other.

remain isolated from political issues.²⁵ However, the key to objective control was its reliance on the military's professional ethics and especially on its willingness to remain apolitical.

Although Huntington does address military preferences, they are broadly stated and not related to a specific foreign policy issue or national interest. Likewise, Huntington mentions technology but only as it pertains to specialization within the officer corps and in weapons systems procurement. In three subsequent works: *The Common Defense*, *Civil-Military Relations*, and *American Military Strategy*, Huntington maintains essentially the same premises he put forth in *The Soldier and the State*.²⁶ In *The Common Defense*, he does state that any understanding of military policy must be rooted in an understanding of American political culture, and that military policy cannot be separated from political policy, financial policy, or social policy. He only briefly mentions technology, saying that it allowed America to meet the external threat posed by the Soviet Union while still meeting its pressing domestic concerns. Although Huntington outlines military preferences as they pertained to Eisenhower's "New Look" strategy, he does not address what shaped those preferences or how they were incorporated into national policy agreements. In *American Military Strategy*, Huntington advocates that American strategy take advantage of America's highly developed technology and the

²⁵ Huntington, *The Soldier and the State*, 80-85.

²⁶ Samuel P. Huntington, "American Military Strategy: Policy Paper in International Affairs, No. 28." (Berkeley, California, 1986); Samuel P. Huntington, *The Common Defense: Strategic Programs in National Politics* (New York: Columbia University Press, 1961); Samuel P. Huntington, "An Exchange on Civil-Military Relations: Four Reactions to Richard H Kohn's Article in the National Interest Spring 1994 Issue," *National Interests* no. 36, no. (Summer 1994).

U.S. cultural proclivity toward technology; but again he does not link technology, military preferences, and the military's influence on national policy.

In 1961, Morris Janowitz published *The Professional Soldier*, which explored the social and psychological makeup of the professional officer corps, and how it related to or differed from society. Janowitz approached the problems of civil-military relations from a sociological perspective, like Huntington's his work has become a classic.²⁷ Janowitz argues that the warrior type within the military has resisted the disruptive influences of technology. However, now (1961) the increasing technical complexity of warfare demanded that the professional soldier be a technician and manager as well as a warrior. Janowitz's concern was that the military strike the right balance between the warrior and the technical/managerial requirements of the professional soldier. He acknowledges the role technology played in the specialization of the armed forces, in strategy development, and the actual conduct of military campaigns, but he does not go beyond this.

Other major works continued to appear, for example, in 1973 James Clotfelter in *The Military in American Politics*, argued that insufficient attention had been paid to the military and the central role it has played in foreign policy decision-making.²⁸ Moreover, Clotfelter maintained, less attention has been paid to the impact the military has had on the economic and political resources of the country. Clotfelter states that the military is a major player in both U.S. foreign and domestic policy. For example, he assesses the

²⁷ Janowitz, *The Professional Soldier*, passim.

²⁸ Clotfelter, *The Military in American Politics*, passim.

impact the military has on the U.S. economy. As of 1973, the Department of Defense spent over 80 billion dollars a year and helped fund economic growth and jobs through defense related industries. Defense industries made substantial profits on investments ranging from 21.1% to 56.1%. While Clotfelter addresses technology, he does so from a financial aspect. Technological innovation contributes to increased defense spending, which has a trickle down affect throughout the economy. He does not consider how military technological advocacy might affect U.S. foreign policy.

In 1971, Adam Yarmolinsky published *the Military Establishment: Its Impacts on American Society*. In this insightful book, the author notes the growing influence of the military upon the executive branch. Modern warfare made it imperative that the military embrace and master technology, but in doing so the military placed itself in a position not only to choose among alternatives, but also to determine the alternatives available.²⁹ As with the other authors consulted, Yarmolinsky does not explain why the military favored certain technologies over others and how these preferences were incorporated into national policy agreements.³⁰

Bruce Russett's *Controlling the Sword* addresses how presidents use the military element of power to advance their political agenda and their approval ratings.³¹ Michael Desch's *Civilian Control of the Military* emphasizes how the external and internal

²⁹ Yarmolinsky, *The Military Establishment*, 259-281.

³⁰ Yarmolinsky in *The Military Establishment* and Huntington in *The Soldier and the State*, both acknowledge that the military is a political organization created by the government to serve political objectives.

³¹ Bruce Russett, *Controlling the Sword: The Democratic Governance of National Security* (Cambridge and London: Harvard University Press, 1990).

environments influence civil control over the military.³² He states that a high external threat coupled with a low internal threat best facilitates civilian control over the military, but he makes no direct mention of the impact of technology. In *The Pentagon and the Art of War*, Edward Luttwak examines technology from a cost effectiveness and strategy implementation perspective.³³ Specially, he explores the inefficiencies in research and development as well as procurement. Martin Van Crevald in *Technology and War* provides a history of technological innovation in war, but more in light of the tactical and operational impact these technologies had on the battlefield vice the role they play in policy formation. Amos Jordan, William Taylor, and Michael Mazar address the importance of technology to foreign policy and the national security environment in their book *American National Security*.³⁴ They maintain that the challenge for the U.S. is how to sustain its technological superiority in the absence of a viable threat and in an era of declining budgets. However, they do not investigate why certain technologies are chosen over others, what role the military has in their choice, or why the U.S. should maintain military technological superiority absent a viable threat.

Recently, Aaron L Friedberg published *In The Shadow of the Garrison State: America's Anti-Statism and Its Cold War Grand Strategy*.³⁵ This book is an excellent analysis of the military – industrial complex during the Cold War. Friedberg analyzes

³² Desch, *Civilian Control of the Military*, passim.

³³ Edward N. Luttwak, *The Pentagon and the Art of War: The Question of Military Reform* (New York: Simon and Schuster, 1984).

³⁴ Amos A. Jordan, William J. Jr. Taylor, and Michael J. Mazarr, *American National Security*, 5th ed. (Baltimore: The Johns Hopkins University Press, 1999).

³⁵ Friedberg, *In the Shadow of the Garrison State*, passim.

how the lack of central control, governmental control in particular, was a boon to competitiveness within the American industrial sector; and, how this diversity helped sustain America's military might and its technological superiority over the Soviet bloc.³⁶

Since 1994, the debate has become lively and at times intense. Richard H. Kohn's article in the Spring 1994 issue of *The National Interest* roundly criticized General Colin Powell, the then-serving Chairman of the Joint Chiefs of Staff, for attempting to marginalize and even usurp civilian control. Powell publicly opposed President Clinton on homosexuals in the military and on U.S. military intervention in the Balkans.³⁷ Since then, scholars and politicians across the political spectrum of civil-military relations have weighed in. Some of the most notable contributions have come from Ole R. Holsti, Peter D. Feaver, Richard Kohn, Elliot Cohen, Samuel Huntington, and Russell Weigley.³⁸ However, most of their research and work has focused on how the military differs from society normatively. Similarly, they have examined the structural and legal controls, for example, how the Department of Defense should be organized to best facilitate civilian control, or what constitutional duties the president and

³⁶ Ibid., 296-97. Friedberg asserts that U.S. political and military leaders decided to match Soviet quantity with technologically superior quality.

³⁷ Richard H. Kohn, "Out of Control: The Crisis in Civil-Military Relations," *National Interest* no. 35, (Spring 1994).

³⁸ Eliot A. Cohen, "Why the Gap Matters," *The National Interest* no. 41, (Fall, 2000); Peter D. Feaver, "The Civil-Military Problematique: Samuel Huntington, Morris Janowitz and the Question of Civilian Control," *Armed Forces and Society* no. 23, (Winter 1996); Peter D. Feaver and Richard H. Kohn, "Project on the Gap between the Military and Civilian Society: Digest of Findings and Studies," (Durham, N.C. and Chapel Hill, N.C.: Triangle Institute for Security Studies, 2000); Ole R. Holsti, "A Widening Gap between the U.S. Military and Civilian Society? Some Evidence, 1976-96," *International Security* no. 23, (Winter 1998-99); Huntington, "An Exchange on Civil-Military Relations: Four Reactions to Richard H. Kohn's Article in the National Interest Spring 1994 Issue.,"; Kohn, "The Constitution and National Security: The Intent of the Framers.,"; Russell F. Weigley, "The American Military and the Principle of Civilian Control from McClelland to Powell," *Journal of Military History* no. 57, (October 1993).

legislature have in controlling the military. The difference between theory and norms on one hand and actual practice on the other has contributed to the perceived “Gap in Civil-Military Relations.” As important as these works are in shaping the current debate on civil control, one aspect of that debate that they have neglected is the impact that technology, especially weapon-system technology, has had in increasing the military’s role in policy to the detriment of civilian control.

Relevance

Even though the Cold War has been over for more than ten years, the military’s impact on U.S. foreign policy has if anything increased. The military, while smaller, is increasingly more technologically sophisticated and has been used by the nation’s executive leadership for a variety of non-standard military missions. Since September 11, 2001, the military’s budget has increased by more than 25% with much of this increase targeted for the acquisition of high-technology weapons systems.³⁹ Although the U.S. has many other instruments of power available, in the post-Cold War era it increasingly relies on its military capabilities, often to the exclusion of other viable policy alternatives. The absence of a competitor to check the U.S.’s military power is one reason for America’s increased use of military force. A complementary reason is the post-Cold War administrations’ worldview coupled with American’s unmatched high-technology military capabilities.

³⁹ Since September 11, 2001, the military has had an even larger share of the discretionary budget. However, as analysis in subsequent chapters will show, those dollar increases have been used to increase the technological sophistication of the force, rather than increase its size.

Although the military is firmly committed to the principle of civilian control, the civilian leadership must carefully monitor the pervasiveness of the military's technologically-driven preferences on U.S. foreign and national security policy.⁴⁰ Civil control of the military is not something that can be theoretically assumed; it must be practiced daily. The lure of military technology with its enticing expediency and seemingly sterile solutions must not be allowed to become a panacea for the tough problems the nation faces in its foreign relations. In the modern liberal democratic state there is a constant tension between national security and individual rights/freedoms. To provide for one, a state usually must constrain the other.⁴¹ A nation's civil-military relations play a vital role in determining what balance will exist between national security on the one hand and individual freedom on the other. As such, the military's role in the development of U.S. foreign policy and national security strategy is of interest to not only the country's civilian leadership and political scientists, but also to every concerned citizen of the United States.

The technologicalization of the United States military has contributed to the erosion of civilian control over the armed forces, as the term control has been popularly conceived. This is not to say that the premise of civilian control is threatened, or that the military is actively pursuing a policy to circumscribe or subvert civilian authority. Military subordination to civilian authority has been inculcated into the military through the traditions, rules, regulations, laws, doctrines, and norms of the services. It is

⁴⁰ Kohn, "Out of Control," 31.

⁴¹ Jerel A. Rosati, *The Politics of United States Foreign Policy* (Orlando, FL: Harcourt Brace Jovanovich College Publishers, 1993), 473-87.

enshrined in the oath of office the professional officer takes upon his/her appointment and in the institutions that manage the military establishment.

Rather, the military's embrace of technology has helped to erode civilian control because of the political context within which the military operates. This context, largely a creation of civilian leadership, is defined by partisan politics in Congress; legislative efforts to centralize the military in order to make them more cost efficient (but that has also made them more autonomous); a foreign policy and national security strategy process that is near-term focused; and a R&D and procurement program that is long-term focused. Given this political environment, the highly technical nature of military operations and the increased missions assigned to the military, it is logical that the military would have a greater role in the formulation of national policy. However, it is not the direct influence the military has on foreign policy, but rather its indirect influence on policy, that this study finds potentially detrimental to civilian control. Specifically, this study found that the military develops future weapons systems and force structure almost devoid of strategic political direction. As result, military force structure, and capabilities may not be compatible with the demands of future foreign policy and national security strategy, thus limiting the range of options available to tomorrow's civilian leadership. To a degree, the future of U.S. foreign policy will always be a dice roll; however, it should be the political leadership and not the military that roll the dice.

Technology, as used in this study, has neither a negative nor a positive connotation. The reader should not construe that because weapons-system technology has contributed to an increased role for the military in U.S. foreign and national security policy and in the process has lessen civilian control, that weapon's technology is bad or

that the military is using technology to undermine civilian control. Many other factors have contributed to the military's increased role in policy, not the least of which has been the civilian leaderships' desire that the military play a greater role in the foreign policy process. Many of the effects of technology discussed in this study are unintended. Unintended or not, the effects of technology on the military's current role in policy diverge from the nation's pre-World War II normative understandings. If those norms are still valid, then the role that weapons-system technology had in altering them should be thoroughly examined. This study begins that examination.

CHAPTER 2

CONTROLLED OR CONSTRAINED: MILITARY SUBORDINATION TO CIVIL AUTHORITY IN THE UNITED STATES

Americans often view themselves as a peaceful democratic nation that promotes open markets and eschews violence and war. From Thomas Jefferson to the present Americans and their leaders have emphasized the importance of commercial success, economic progress, and personal prosperity as the hallmarks of American strength and security.¹ While economic strength has certainly been a factor in America's rise to greatness, so has America's military prowess. The United States was born in an act of violence. Yet, as Walter Millis stated in his 1956 classic *Arms and Men: A Study in American Military History*, "In the light of that beginning, it is strange how little attention later generations were to give to the military factor in the origins and development of our institutions."² However, one aspect of the "military factor" that the founding fathers and their political heirs did not neglect was the principle of civilian control over the military.

This dissertation maintains that since World War II weapons technology has contributed to an increasingly significant though largely unexamined role for the military

¹ Anders Stephanson, *Manifest Destiny: American Expansion and the Empire of Right* (New York: Hill and Wang, A division of Farrar, Straus and Giroux, 1995); Bradford Perkins, *The Cambridge History of American Foreign Relations: The Creation of a Republican Empire, 1776-1865.*, ed. Warren I. Cohen, 4 vols., vol. I, *The Cambridge History of American Foreign Relations* (Cambridge, New York, and Melbourne: Cambridge University Press, 1993), 9-12.

² Walter. Millis, *Arms and Men: A Study in American Military History* (New Brunswick, NJ: Rutgers University Press, 1981; reprint, Rutgers pb.), 13-14.

in the formulation and conduct of U.S. foreign policy at the expense of a decrease in civilian control. To examine that assertion, it is important to establish where the principle of civilian control derives from, the role it has had in America's history, and why civilian control of the military is an issue. Establishing American norms for civilian control provides a reference point from which to assess the influence of weapons systems technology on civilian control of the military. To this end, this chapter asks three questions. First, what are the philosophical origins of civilian control of the military in the United States? Second, what has been the American experience with civil control before World War II? Last, what is the nature of the contemporary civil control debate?

Philosophical Origins of the Principle of Civil Control

There were several factors that influenced the founding fathers when they considered what if any type of military force the nation needed and how to ensure that it remained firmly subordinate to civilian control. First, the liberal philosophers of the Enlightenment and their common cultural heritage with the British influenced them.³ Second, they considered the nature and structure of the government and how it could best provide for civil control over the military.⁴ Third, they considered America's geographic

³ Samuel P. Huntington, *Political Order in Changing Societies* (New Haven CT: Yale University Press, 1968), 120-21; Allan R. Millett and Peter Maslowski, *For the Common Defense: A Military History of the United States of America*, Revised and Expanded ed. (New York: The Free Press, a Division of Macmillan, Inc., 1994), 44-45.

⁴ Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge and London: The Belknap Press of Harvard University Press, 1957), 168; Millett and Maslowski, *For the Common Defense*, 92-93.

isolation, particularly in evaluating the threats the young republic faced.⁵ Finally, they considered the nation's interests, namely, the continental expansion of the nation westward, commerce, and trade. Collectively, these factors shaped not only the size and structure of the military establishment in the United States, but also how it related to society, and how it was to be subordinated to civilian authority within the governmental structure.

The founding fathers were steeped in a strong 18th century liberal tradition derived from the teachings of John Locke, Immanuel Kant, Montesquieu, and the English Tudor political heritage.⁶ From these they developed specific political norms, namely, that the right to govern was based on the consent of the governed and expressed as a social contract in the form of a written constitution; the preeminence of individual liberty, equality, an ample portfolio of unalienable human rights; and a general distrust of the military as manifested by a fear of standing armies.⁷ During the colonial period, many of the founding fathers had firsthand experience with British military forces and military government. They had fought with the British against the French and Indians as colonial militia augmentees, and they had experienced the forced billeting of British troops in

⁵ Anders Stephanson, *Manifest Destiny: American Expansion and the Empire of Right*, 21; Alexander Hamilton, John Jay, and James Madison, *The Federalist; A Commentary on the Constitution of the United States*, Modern Library College Editions (New York: Random House, 1941), 63-66,74,152.

⁶ Huntington, *Political Order in Changing Societies*, 110; Huntington, *The Soldier and the State*, 145; Richard H. Kohn, "The Constitution and National Security: The Intent of the Framers.," in *The United States Military under the Constitution of the United States, 1789-1989*, ed. Richard H. Kohn (New York and London: New York University Press, 1991), 42.

⁷ Richard B. Morris, "The Origin and Framing of the American Constitution," in *The United States Military under the Constitution of the United States, 1789-1989*, ed. Richard H. Kohn (New York and London: New York University Press, 1991), 42-3.

their towns and home.⁸ Should the crown and the colonist disagree over an issue of self-governance, the King's view prevailed because his governor had the British army and navy at his disposal to impose his will or to quell discontent, or both. Given that the colonists viewed the army as an instrument, which, in the wrong hands promoted despotism, it is only logical that if they ever felt one was needed, they would prefer it to be under firm civilian control. As much as the founding fathers feared a professional army, they realized that it was largely such a force that gained the nation its independence in the struggle with Britain and that in spite of their liberal tradition, they would have to provide the new nation with the means to defend itself from foreign as well as domestic threats.⁹ Tension arose between their liberal ideologies and the practical requirements to provide for the nation's security. As a result, when the delegates to the Constitutional Convention met in 1787 to draft the document that would govern the nation, they hotly debated the measures that pertained to the raising, supporting, organizing, regulating, and commanding the armed forces in order to ensure the military remained subordinate to civilian control.¹⁰ The type and size of military forces the nation needed were also issues, as was the burden on the government posed by a standing army. The threat to the liberties of citizens sprang not just from the possibility of a military coup, but also from a fear that a civilian leader might use these forces to impose despotism on the country.

⁸ Millett and Maslowski, *For the Common Defense*, 43-47.

⁹ Hamilton, *The Federalist; A Commentary on the Constitution of the United States*, 262-63.

¹⁰ Generally, the nature of the armed forces during the framing of the constitution is discussed in a number of sources; however, the ones most cited in this dissertation consist of the works of Richard H. Kohn and Richard B. Morris in Richard H. Kohn's, *The United States Military under the Constitution of the United States, 1789-1989*, and the Federalist Papers of Hamilton, Madison and Jay.

Essentially, in the debate over a standing army, citizens divided into two groups. The first group consisted of conservatives, who wanted a strong central government that could regulate intrastate commerce, collect taxes, maintain domestic order, and defend the nation against foreign threats. The Federalists are most commonly associated with this side of the debate. The other side of the debate, the liberal side for want of a better term, wanted essentially the same ends as the nationalists, but thought the best way to obtain them was through a weak central government, with the preponderance of political power residing within the states. Thomas Jefferson and the Republicans are normally associated with this view. The nationalists argued for a standing army backed by a militia, and a standing navy. As Hamilton maintained in *Federalist No. 25*, “The steady operations of war against a regular and disciplined army can only be successfully conducted by a force of the same kind.”¹¹ The liberals, on the other hand, wanted a minimal active establishment, thinking that the individual states should maintain their own militia and then band together in time of collective danger as they had during the revolution. On the subject of a navy, both sides favored a permanent naval establishment; being at sea, a navy was seen to be much less of a direct threat to the civilian government and the nation. Moreover, a standing navy was essential to secure the nation’s commerce from interference on the high seas.¹²

When the states ratified the constitution, it reflected a compromise between the Federalists and the Republicans. Article I, Section 8, gave the Congress the power to tax, borrow money, coin money, declare war, raise and support armies, provide for and

¹¹ Hamilton, *The Federalist; a Commentary on the Constitution of the United States*, 156.

¹² Ibid., 261; Kohn, “The Constitution and National Security: The Intent of the Framers,” 65-66, 75-77; Morris, “The Origin and Framing of the American Constitution,” 53.

maintain a navy, call forth the militias, and organize, arm, and discipline them when in the service of the federal government. Implied in these articles was Congress's investigative and oversight authority regarding the armed forces. As broad as these powers were, the Congress did not command the armed forces. That responsibility was reserved for the president. Article II, Section 2, of the Constitution made the president the commander in chief of the armed forces, and of the militia when called into service. Since war required unified direction, the delegates gave that power to the president. The framers of the constitution never envisioned the president taking to the field at the head of the Army, although some feared he might (as both Washington and Madison took the field during armed hostilities – Washington during the Whiskey Rebellion, 1794, and Madison during the War of 1812).¹³ Rather, they intended for the president to provide the strategic direction that the armed forces needed and to rally the nation behind the war effort.¹⁴ As with all other aspects of the federal system they created, power and responsibility were shared between the executive and legislative branches so as to provide a series of checks and balances within the governmental system. These checks and balances manifested themselves in the structure of the military establishment as well.

The military structure contained both regular forces and state militias. In time of war, the regular establishment formed the initial bulwark of defense against invasion while the militia mobilized.¹⁵ However, after mobilization Congress envisioned that the

¹³ Anthony S. Pitch, *The Burning of Washington: The British Invasion of 1814* (Naval Institute press, 1998).

¹⁴ Kohn, "The Constitution and National Security: The Intent of the Framers," 79-80.

¹⁵ John McAuley Palmer, *Washington, Lincoln, Wilson: Three War Statesmen* (Garden City, NY: DoubleDay, Doran, 1930), 375-96; John McAuley Palmer, *Washington's National Defense Plan* (New

militia would carry the burden of the war.¹⁶ Besides being the vital linchpin in the nation's defense, the state militias were a counter to the regular force. Should the regular army in the hands of a military leader or the president attempt to impose unconstitutional measures on the country or any of the states, then the states could either collectively or individually, use their militia to counter such a move.¹⁷ Complementary to the militias' function as a counterweight to the regular army was the Second Amendment, this provided for the right of the people to "keep and bear arms." Thus, in theory the regular army served as a check against errant states, the state militias provided a check against the regular army, and by extension, individually armed citizens could check the powers of both the regular army and the militia.

Although this was not an efficient structure for conducting a war, it was very effective at ensuring civilian control of the military, providing for multiple checks and balances that precluded any one person or group from using the military to further their aims. That this system worked so well is in part due to the prescience of the founding fathers but also due to America's geographic isolation from Europe and Asia, the limited nature of the threats it faced, and its limited national interests outside of the hemisphere.

York: R.O.T.C. Association of the United States, 1935), 5-12. In both of these documents Palmer explores the intent of President Washington as expressed in his report to congress entitled "Sentiment on a Peace Establishment." In this document, Washington provided congress with his views for a peacetime army. It was to have a small expandable regular army, backed by a well-regulated militia. By "well-regulated militia," Washington meant one under close Federal supervision. Specifically Washington wanted the militia to have uniform equipment, weapons, organization, and discipline regardless of state origin. The active army would assist in this process. Washington's report was lost for close to 140 years until Palmer discovered it in the Library of Congress during the late 1920s.

¹⁶ Millett and Maslowski, *For the Common Defense*, 92-95.

¹⁷ Hamilton, Modern Library edition, *The Federalist; A Commentary on the Constitution of the United States*, 165, 174.

Besides the inherent distrust of standing armies, these factors also contributed to the formation of a minimal regular military establishment.

For most of its first 130 of existence, America faced minimal external threats. Britain, France, and to a limited degree Spain were the only states capable of intervening in the hemisphere. However, conflicts in Europe kept these nations engaged in continental affairs for the most part. Moreover, despite its antipathy toward Great Britain over the struggle for independence, America in time came to view Britain as its most vital trading partner.¹⁸ The British Navy in effect enforced the Monroe Doctrine since it was in Britain's interests to promote the economic development of the United States along with Latin America's economic dependence on Britain, and to keep other European powers out of the hemisphere. Within the hemisphere, threats to America security were almost non-existent. The states of Latin America were in the process of shaking off the yoke of colonialism and their militaries and economies were weak. America's native Indian population resisted federal expansion into their lands of course, but these occasional violent outbreaks of warfare were always local, more of a nuisance than a true threat to the survival of the nation.¹⁹ The absence of a credible threat either external or internal worked against the establishment of a large regular military force.

¹⁸ Perkins, *The Creation of a Republican Empire, 1776-1865.*, 205-13.

¹⁹ Millett and Maslowski, *For the Common Defense*, 50-77; Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy, Wars of the United States Series* (Bloomington, IN: Indiana University Press, 1973), 40-42.

Finally, domestic policy focused on the westward expansion of the nation, while peaceful commerce and trade constituted the core of America's foreign relations.²⁰ With the exception of Indian hostilities, America's westward expansion seldom brought it into conflict with a foreign power. When, such conflict did occur, the opponents were either too weak to muster effective opposition (Mexico in 1848), were too preoccupied to intervene (France in 1812, Spain in 1819), or found the price too high (Britain in 1819 and 1896).²¹ Other than during the American Civil War when the threat of European intervention seemed both real and imminent, America pursued its concept of Manifest Destiny relatively unimpeded. Externally, the fledgling nation cultivated trade relations with the European nations and soon became an important market for European goods and capital investment. Although Americans consumed most of what they produced, the expanding American population and its need for manufactured goods allowed Europe, especially Great Britain to develop lucrative commercial relations with its transatlantic trading partner. Again, given its focus on internal expansion and secure foreign trade, America's political leadership did not feel the need for large standing forces.

Because of the factors discussed above, America's early political leaders provided for armed forces that were both small and of little political or budgetary consequence. If war should arise, the nation would call out the militia to carry the brunt of the fighting. This concept, though cost-effective and politically popular during peacetime, was belied

²⁰ Stephanson, *Manifest Destiny: American Expansion and the Empire of Right*, 16-26, Millett and Maslowski, *For the Common Defense*, 92-93, Perkins, *The Cambridge History of American Foreign Relations*, 112.

²¹ Warren I. Cohen, *The Cambridge History of American Foreign Relations, vol.2, The American Search for Opportunity, 1865-1913*, by Walter LaFeber, (Cambridge, England: Cambridge University Press, 1993); Perkins, *The Creation of a Republican Empire, 1776-1865*.

by America's actual wartime experience. In fact, contrary to the popular notion that Minutemen banded together to defeat the British, it was the Continental Army after a long, hard struggle, that finally wrought victory in the Revolutionary War. Organized around a corps of professional regulars, supplemented with long-serving state militias, and aided by a professional French army, the continental army finally defeated the British army at Yorktown forcing Britain to acknowledge the reality of America's independence.²²

However, that is not the lesson that most American politicians took away from the war. Rather, the popular notion that the Revolutionary War was won by the citizen-soldiers of the militia was the image in their minds as they assembled to draft the documents that would establish the institutions for governing the new nation.²³ Even General Washington, an ardent nationalist who knew all too well the value of a regular military establishment and a nationally regulated and mobilizable militia, was willing to pare the down the military.²⁴ In July 1783, four years before the Constitutional Convention, he reduced the size of the regular army to four regiments of infantry and one of artillery for a total of 2,631 men in all.²⁵ All that General Washington and others wanted was a delaying and early warning force. At the time, the United States had no extraterritorial ambitions. The militia model seemed a prudent risk to take. Thus, the army took on a constabulary role. Stationed on the frontier in small and scattered

²² Millett and Maslowski, *For the Common Defense*, 57,93-100.

²³ Hamilton, *The Federalist; a Commentary on the Constitution of the United States.*, 157.

²⁴ Palmer, "Washington's National Defense Plan," 5-12.

²⁵ Millis, *Arms and Men*, 42-43.

detachments, the army focused on the Indian threat and in expanding the transportation infrastructure as the nation expanded westward. Maintenance of only a small regular establishment, far away from the population centers and checked by state militias, provided the early measure of civilian ascendancy.

The establishment of the navy proceeded under similar constraints, but America's leaders more readily endorsed its establishment. America's political leadership knew that with the ocean as a natural barrier and the limits of transoceanic transport available at the time, any potential aggressor would find it difficult to invade the United States and even more difficult to sustain that invasion, especially if a navy could even partially interdict the sea lines of communication with Europe. Moreover, this interdiction did not require a substantial standing force either; the navy could rapidly expand with the hulls and trained sailors of America's seafaring commercial industry.²⁶ While politicians still viewed the cost of maintaining a navy with skepticism, it was more palatable to them for two reasons. First, commerce and trade were the underpinnings of America's foreign relations. The nation's prosperity and growth depended on the uninterrupted flow of trade, which only a navy could secure. In Hamilton's words, "If we're to be a commercial people, or even to be secure on our side of the Atlantic we must endeavor as soon as possible to have a navy."²⁷ Second, a naval force at sea constituted much less of a threat to the government than an Army which could march on the capital and seize

²⁶ Millett and Maslowski, *For the Common Defense*, 124, Millis, *Arms and Men*, 33-35,56-57.

²⁷ Hamilton, *The Federalist; A Commentary on the Constitution of the United States*, 152.

power.²⁸ Hence, congressional leaders, especially those from New England, were less opposed to a regular naval force than they were to a standing army.²⁹

In theory civil control over the military remains firmly rooted in the American political tradition and constitutional structure; however, in the early years at least it was much more amorphous. Almost from the beginning, the military challenged civil authority. The Newburgh Conspiracy of 1783 offers a clear example of the early military's capability to ignore civil control and threaten the government. Had it not been for the personal intervention of General Washington, the United States may have begun its existence under military rule. The next section of this chapter examines how the concept of civilian control evolved between 1787 and 1941 and the role that the military played in shaping U.S. foreign policy. By examining how the principle of civil control was adhered to or challenged during the first 150 years of America's history, this dissertation will explore the norms that have governed the military's role in foreign policy prior to 1941.

The Civil Control Paradigm: 1787-1941

Given the founding fathers philosophical roots and early experience with the military, a civilian control paradigm evolved that remained in place, with some adaptation, until the Second World War. America maintained a small peacetime regular establishment that patrolled the frontier in peacetime, and in war formed the nucleus of the nation's expansible militia-based armed forces. During peace, Congress and the executive branch maintained control of this force by, keeping it small and by posting it in

²⁸ Stephanson, *Manifest Destiny*, 22.

²⁹ Millis, *Arms and Men*, 49.

small detachments located on the frontier.³⁰ This arrangement not only facilitated civilian control, but it also placed the military where it was needed and where it best served the nation's interest, i.e. expansion and settlement, and the protection of commerce and trade. However, this arrangement also had the serendipitous effect of keeping the military's leadership geographically separate, isolating the military from society at large, and most importantly, from the seats of political power. As a result, the military's influence on politics, especially in its ability to affect the country's foreign relations agenda was minimal. Of course, this is not to say that the military played no role in policy decisions or that the military acquiesced entirely in the principle of civil control. The present section examines the historical examples testifying to the impact of the military on foreign policy and, as the military grew into a regular-based professional establishment, its theoretical challenges to the principle of civilian control.

In many cases, circumstances outside of the military's control created opportunities for it to influence policy, which individually adept military commanders sometimes took advantage of, in such a way that foreign policy became a function of military action; however, that was the exception rather than the rule. One such opportunity arose in 1818 during the Monroe administration. While the United States acquired through the Louisiana Purchase from France in 1803, most of western Florida, Spain retained eastern Florida. The Monroe and previous administrations had wrestled with the question of how to acquire the remainder of Florida from Spain when Gen. Andrew Jackson suddenly delivered them the opportunity to acquire it. Seminole and

³⁰ James Clotfelter, *The Military in American Politics* (New York: Harper & Row Publishers, 1973), 12-27; Huntington, *The Soldier and the State*, 1957; Jerel A. Rosati, *The Politics of United States Foreign Policy* (Orlando, FL: Harcourt Brace Jovanovich College Publishers, 1993).

other Indian tribes had long raided U. S. territory from safe havens in Florida. Spain turned a blind eye on these incursions and America's resultant protests, preferring to deal with more immediate problems in their Central and South American colonies. Although Britain denied involvement, it appeared that the British covertly supported the Indian raids as means to hem in the expanding United States and check its influence in the region. Never one to wait for orders, in 1818 General Jackson, the military commander in the district, attacked into Spanish territory in a punitive campaign to eliminate the Indian threat. In the process, he captured two British citizens, allegedly traders, and hanged them as spies and insurrectionists.³¹ Although this evoked angry denunciations in Great Britain, Jackson's precipitate actions presented to all national parties, including the Monroe administration itself, a *fait accompli*. The next year, because of Jackson's stroke, the United States signed the Transcontinental Treaty with Spain, sometimes known as the Adams-Onís Treaty. This settlement enabled the United States to acquire Florida for five million dollars. Jackson's action prompted achievement of a political goal that American leaders had entertained for nearly 20 years. Additionally, Jackson later capitalized on his popularity as a military hero to catapult himself into politics. While Jackson may have been the first military commander since Washington to shape foreign and defense policy

³¹ Millett and Maslowski, *For the Common Defense*, 141-43.

while still in uniform, he certainly was not the last.³² Nor was he alone in parlaying his military experience and reputation into political advantage at the polls.³³

Gen. Winfield Scott, a military contemporary of Jackson's during the War of 1812, was a competent commander whose actions also drove policy. During the Mexican-American War, Scott, along with President Polk's negotiating representative Nicholas Trist, brought about a peace settlement with Mexico that proved to be short of what President Polk actually desired. In Washington, given the limited means of communication available, Polk and his cabinet were isolated from the operational and political realities of the war in Mexico. With Mexico City occupied and Santa Anna having abdicated the Mexican presidency, the country was for a time without a government. Attempts by Scott and Trist to formalize the end of hostilities met with delay because for a time there was no legitimate party with which to negotiate. Fearing that the Mexicans were intentionally procrastinating and that Trist had mismanaged negotiations, Polk sent a message recalling Trist and instructing Scott to "prosecute the war anew."³⁴ Polk wanted a harder peace imposed on the Mexicans, one requiring greater territorial concessions in exchange for less compensation. The war had taken longer and cost more in treasure and blood than Polk had anticipated. In the absence of

³² George Washington in his "Sentiments on a Peace Establishment" written while he was still Commanding General of the Continental Army, was influential in establishing defense policy before he became president.

³³ Paul C. Nagel, *John Quincy Adams: A Public Life, a Private Life* (New York: Alfred A Knopf, 1997), 249-250.

³⁴ John S.D. Eisenhower, *Agent of Destiny: The Life and Times of General Winfield Scott* (New York: Free Press, 1997), 301.

significant concessions from the Mexicans, Polk felt that both his and the Democratic Party's political fortunes were in jeopardy.³⁵

Nevertheless, once in receipt of Polk's communication, Scott and Trist ignored the president's orders and concluded a peace with the Mexicans that essentially established the present border between Mexico and the United States and compensated Mexico (\$15 million) for the acquisition of its territory. Polk was furious, accusing Scott of insubordination. Acting on the original intent of his commander in chief, and in light of the operational and political realities he faced on the ground, Scott knowingly concluded the war on terms his civilian superior was opposed to, but which the Senate quickly approved in the Treaty of Guadalupe Hidalgo. In this case, Scott was not disobeying the orders of the president when he failed to renew military operations against the Mexicans because with the Mexican army having ceased to exist, there was no opposing force. Instead, he pursued a policy that was in accord with his government's broad foreign policy objectives, if not the president's, and thus reached specific foreign policy agreements while still adhering in spirit to the principle of civilian control.³⁶ Nevertheless, Scott had placed himself in a compromising position with his actions. It was well known that he was considering running for the presidency on the Whig ticket and Polk accused him of using his position as commanding general in Mexico to promote those political aspirations. Scott's political ambitions however, came to naught. Even though he desired the nomination, he never once attempted to use his military position

³⁵ Ibid., 301-305.

³⁶ Ibid., 306-307.

and prestige to wrest control of foreign policy and national defense from the hands of America's elected leaders.

Naval leaders also provide examples of military men whose pursuit of operational duties took on political overtones. Naval officers sent out to protect commercial interests and conduct scientific explorations often set the tenor of future foreign policy. The navy's best-known role in the constructing of foreign policy during the 19th century occurred in the Far East. In 1844, dispatch of a naval squadron commanded by Lawrence Kearny to the Far East paved the way for strengthened diplomatic and commercial relations with China. The Treaty of Wanghia, which Kearny negotiated, opened five ports to American merchants, placed American economic relations with China under diplomatic protection for the first time, and heralded American entrance in Far Eastern politics.³⁷ Matthew C. Perry's expedition to Japan employed a combination of force and negotiations to bring about the Treaty of Kanagawa in 1854 and open Japan to American economic ventures. Although these actions were generally in accord with the civilian leadership's overall policy and were quickly sanctioned, it remained that a naval officer in operational command had established the framework of the foreign policy that America pursued in the region.

If ever a time arose in America's history that the federal government might be vulnerable to usurpation by the military, it was during the Civil War. However, neither the Union nor the Confederate governments experienced problems maintaining civilian control over their armed forces. That is not to deny that individual generals balked at orders on occasion, or moved in an overly cautious mode when they disagreed with a

³⁷ Millett and Maslowski, *For the Common Defense*, 132-33.

government policy. Nor is it to deny that some generals, for example, George McClellan, entertained strong political ambitions. But not one of the generals North or South sought to undermine their government or wrest control from the elected civilian leadership. Although he personally loathed President Lincoln and was slow to act, General McClellan never refused to obey an order. The same observation could be made concerning the differences between Confederate leaders Gen. Joseph Johnston and President Jefferson Davis. Like McClellan, Johnston was relieved and reinstated several times during the war. While McClellan and Johnston both bristled at times, at what they felt was political interference in military matters, they nevertheless obeyed their orders. Only at the end of the war, in the panic that ensued after Lincoln's assassination, did civilian leaders question the loyalty of military officers and their subordination to civilian control. For example, Gen. William Tecumseh Sherman was accused of being too lenient in the terms of surrender he offer to Gen. Johnston. President Andrew Johnson revoked the terms and had Sherman impose harsher ones.³⁸ During the wild rumormongering associated with Lincoln's death, Sherman was even accused by some as having helped to plot Lincoln's assassination in order to promulgate a military coup. All such charges proved false, and Sherman along with other senior officers was fully exonerated. However, Sherman, Grant, and Lee during the course of the war were involved in politics and in setting policies that normally would have been decided by civilians. Most

³⁸ James M. McPherson, *Ordeal by Fire: The Civil War and Reconstruction*, 3rd ed. (New York: McGraw-Hill, 1982), 523.

prominently, they helped shape America's approach to war, i.e., a war of annihilation leading to unconditional surrender.³⁹

In bringing the horror of war to the Southern people, Sherman defined a new approach to war for Americans. War, as he saw it, was not simply about armies fighting. It was about nations locked in struggle, a struggle that involved farmers, machinists, and seamstresses as well as soldiers. What would be called total war in the 20th century had its theoretical and empirical roots planted in the 19th with Sherman.⁴⁰ Likewise, Grant contributed to modern warfare theory in his implementation of a strategy of military annihilation and his policy of unconditional surrender.⁴¹ Although not as outspoken as Sherman, Grant was even more determined in his pursuit of "Total War."⁴² Confederate Gen. Robert E. Lee, like his Union antagonist, understood the dynamics of total war. What prevented him from executing this form of warfare was not the lack of a theoretical construct or unwillingness on his part to pursue such a strategy - it was a shortage of resources.⁴³ If, as Clausewitz said, "war is the continuation of politics by other means," then these three soldiers greatly influenced the American philosophical approach toward both war and the application of force in pursuit of national interests. That philosophy has dominated American strategic thought ever since.

³⁹ Weigley, *The American Way of War*. That American War's have been characterized by a strategy of annihilation is the theme of this work and many others of Dr. Weigley's books and articles.

⁴⁰ *Ibid.*, 149.

⁴¹ Archer Jones, *Civil War Command and Strategy: The Process of Victory and Defeat* (New York: The Free Press, 1992), 229-31.

⁴² Joseph T. Glatthaar, *Partners in Command: The Relationships between Leaders in the Civil War* (New York: The Free Press, 1994), 298-300.

⁴³ Jones, *Civil War Command and Strategy*, 226-28.

In addition to helping shape America's foreign policy through its approach to war, the military also strongly influenced policy after a conflict by the way it performed its constabulary duties while administering the peace. From 1865 to 1877, the army administered the reconstruction program imposed on the Confederate states as they applied for readmission to the union. The Reconstruction South was divided into five military districts, each governed by a general officer. Caught between opposed political agendas, personal vendettas, and residual North-South antipathies, the army did its best to maintain civil order, protect the newly freed black population, and provide a secure environment conducive to the resumption of normal political processes. That the military was only partially successful was the result of many factors, not the least important of which was its total unsuitability for such a role. Nevertheless, one can only imagine what would have happened if the stabilizing presence of the army had been lacking in the South, a country that had been ravaged and left destitute by the Civil War.⁴⁴

The military's war-induced role in foreign policy often continued long after hostilities ceased. The federal government customarily charged the military with administering the conquered territories at the conclusion of a conflict. At the conclusion of the Spanish-American War for example, America suddenly found itself with a bevy of troubled colonial territories, which needed governing. Uncertain as to how to administer the nation's new territorial acquisitions and uncomfortable with its imperial role, political leaders turned to the military to administer the occupied areas, restore order, and supervise transition to some form of self-rule. In the Philippines the military, combining brutality and benevolence, suppressed a revolutionary independence movement,

⁴⁴ McPherson, *Ordeal by Fire*, 566,567,569,575.

improved social conditions, and established a transitional civilian government.⁴⁵ The harsher aspects of American methods in the Philippines were controversial at the time and have come under increasing critical scrutiny since by historians, but they were effective in establishing order. Moreover, the overall well being of the people as measured in such social indicators as child mortality, disease control, nutrition, education, and general health did significantly improve. Although the military occupation of the Philippines ended in 1902, the military continued to administer other former Spanish possessions well into the mid-20th century.⁴⁶

Besides the Philippines, America at various times established military governments in the Dominican Republic, Panama, Cuba, Puerto Rico, Haiti, Nicaragua, and Mexico.⁴⁷ Whether the military furthered the cause of democracy or imperialism is not the issue here. What matters is that the military by its actions in governing these nations was exercising palpable effects upon U.S. foreign policy toward the nation and the region. The results of these acts of intervention were mixed. As they had done in the Philippines, the military used a combination of force and civic development to restore order and maintain peace. While the end of World War I saw the military involved in

⁴⁵ Russell F. Weigley, *History of the United States Army*, Enlarged ed. (Bloomington: Indiana University Press, 1967), 307-309,319,326,328; Max Boot, *The Savage Wars of Peace: Small Wars and the Rise of American Power* (New York: Basic Books, 2002).

⁴⁶ Millett and Maslowski, *For the Common Defense*, 303-13.

⁴⁷ Boot, *The Savage Wars of Peace*,3-10. Boots' recent book gives a comprehensive review of the military's role in administering foreign states.

occupation duties yet again, it was following World War II that the military's occupation duties influenced U.S. foreign policy the most.⁴⁸

At the conclusion of World War II, the military was responsible for the administration and rebuilding of a devastated Nazi Germany and Japan. In Germany, the United States military government remained in place from 1945 until 1950, playing an important role, along with the armies of the western allies, in securing Western Germany from the Soviet threat and in revitalizing its industrial economy and social services.⁴⁹ In Japan, the America military under the command of Douglas MacArthur was almost totally responsible for installing a democratic constitutional government and developing the industrial base that propelled Japan to economic preeminence in the 1980s. MacArthur's rule as military governor of Japan has been likened to that of a pro-counsel having extraordinarily wide powers. Although, MacArthur's methods have been questioned, few have questioned the results. Moreover, the Japanese still hold him in high esteem, and enormous compliment considering that MacArthur was a foreign conqueror and a westerner at that.⁵⁰

While MacArthur demonstrated the effectiveness of the military in serving as an agent of the government in the conduct of foreign relations, he is also the subject of controversy for his differences with the Truman administration during the Korean War. MacArthur' detractors accused him of disobeying the orders of the president by making

⁴⁸ John S.D. Eisenhower, *Intervention!: The United States and the Mexican Revolution 1913-1917* (New York and London: W.W. Norton & Company, Inc., 1993), Millett and Maslowski, *For the Common Defense: A Military History of the United States of America*, 396.

⁴⁹ Amos A. Jordan, William J. Jr. Taylor, and Michael J. Mazarr, *American National Security*, 5th Ed. (Baltimore: The Johns Hopkins University Press, 1999), 172-174.

⁵⁰ Weigley, *History of the United States Army*, 501-504,507-512.

what amounted to foreign policy pronouncements during the conduct of the war. MacArthur advocated the use of nuclear weapons against Communist China and of arming the Nationalist Chinese on Formosa (now Taiwan) for use in an attack on mainland regime. His refusal to hew to the administration line, coupled with his failure to follow Truman's orders, resulted in his dismissal. The fact that prominent Republicans were courting him as a potential presidential candidate was also a contributing factor. With a monumental ego and often given to acting without guidance or orders, MacArthur contested civilian leadership and policy but never publicly questioned the underlying principles of civilian control.⁵¹

However, the military did not accept every manifestation of civilian control. There may not have been an organized effort within the military to dictate the terms under which the military served under civilian control, but the military had its own agenda -- to maintain the readiness of the military in order to meet the defense needs of the nation as it construed those needs. And it was willing to work the system as best it could in order to meet those needs despite contrary views on the part of the nation's civilian leadership.

While the military may have influenced U.S. policy through the individual opportunistic actions of certain officers, as the officer corps became more professional (expert, corporate, and responsible to society) officers began to ponder how to make the military more efficient and effective in times of national crisis. The U.S Military Academy at West Point (established by Jefferson in 1803) along with the Naval Academy

⁵¹ Roy K. Flint, "The Truman-MacArthur Conflict: Dilemmas of Civil-Military Relations in the Nuclear Age," in *The United States Military under the Constitution of the United States, 1789-1989*, ed. Eliot A. Cohen (New York: New York University Press, 1991), 223-268.

at Annapolis (established in 1845 by Secretary of the Navy George Bancroft) provided the nation with the beginnings of a professional officer corps.⁵² Long service in isolated garrisons cultivated the roots of American military professionalism. After the Civil War a series of educational reforms instituted by General Sherman in the army and Admiral Stephen Luce in the navy produced a military education system, which honed military expertise and provided the corporate identity required of a true profession. The schools and professional journals that Sherman and Luce established provided for an intellectual exchange within the officer corps, allowing military thinkers like Emory Upton of the Army, Alfred Thayer Mahan of the Navy, and others to emerge, with cogent ideas on national defense, officer professionalism, military structure, and civil-military relations. Their audience was not limited to military officers, but consisted of the academic, political and defense communities at large. Officer-scholars like Upton and Mahan became extraordinarily influential within the officer corps of their respective arms, serving as a catalyst for the development of American military thought from 1869 to 1903.⁵³

Emory Upton, a young protégé of Sherman's, was one such catalyst. An 1860 graduate of the U.S. Military Academy, Upton had served in the Civil War with great distinction rising from lieutenant to brevet major general. A keen student of war as well as an able practitioner, Upton had developed and successfully demonstrated how to penetrate prepared enemy defenses. His attack in May 1864 at the Mule Shoe salient in the battle of Spotsylvania achieved great success. From this experience and others during

⁵² Huntington, *The Soldier and the State*, 198.

⁵³ *Ibid.*, 230-269.

the war, Upton drew three significant conclusions. First, militia-based forces led by state-appointed political hacks were not up to the rigors and challenges of modern warfare. Second, the civilian leadership's meddling in the affairs of military commanders had prolonged the war. Third, the size of the regular army needed to be increased in order to win the nation's first battles and provide a cadre for the militia when federalized. Upton demonstrated how each of these three deficiencies contributed to the needless loss of thousands of soldier lives. After touring Europe in the years following the Franco-Prussian War, Upton became enamored with the Prussian military system. His solution for preventing civilian meddling in military affairs and for enabling the nation to achieve victory in its next conflict was to establish a clear line between civilian and military control and to increase the size of the regular military establishment so that the Army would not have to rely on a poorly trained and undisciplined militia in a future war.⁵⁴

In his classic study of the American military, *The Military Policy of the United States*, Upton found fault bordering on negligence with the American system for civilian control.⁵⁵ For Upton the nature of the political system bred inefficiency and wastefulness; moreover, congressional interference adversely impacted military operations in the field, often leading to near disaster. Upton felt the only way to overcome this handicap was to provide the military with professional autonomy in determining its needs and, once war came, to avoid interference with the military in the conduct of the war. Additionally, he wanted a larger regular army modeled on the order

⁵⁴ Russell F. Weigley, *Towards an American Army: Military Thought from Washington to Marshall* (New York: Columbia University Press, 1962), 100-26.

⁵⁵ Emory. Upton, *The Military Policy of the United States* (New York: Greenwood Publishers, 1904). Upton's work was published posthumously under the sponsorship of Secretary of War Elihu Root.

of the one proposed by former Secretary of War Calhoun.⁵⁶ Upton realized that in a major conflict, the support of the militia would be vital to success; however, he proposed measures to place the militia under strict regular army control and supervision. Although Upton backed his assertions with detailed analysis, his argument ran counter to the basic premises of the principle of civilian control and the separation of powers encapsulated in the constitution.⁵⁷ As mentioned previously, Americans wanted to ensure their individual liberties remained inviolate. They saw their freedom and security in the series of checks and balances within the federal government and among the levels of government, in America's geographic isolation, a neutral foreign policy, and economic prosperity. Military might, in this view was the least important factor.

By advocating a clean separation between the civilian and military spheres of responsibility, Upton was arguing against one of the founding principles of American government, namely, that the legislative and executive branches, with oversight from the judicial branch, shared responsibility for governing the nation and both were answerable to the people at the polls. Upton's recommendation to subordinate the militia to the regular army amounted to a consolidation of military might under the federal government, a concept running counter to the ideals of the American political system. His call for an increase in the size of the regular army was still another measure American political leaders could not accept. A standing army was a drain on the resources of the government as well as a potential threat to the existence of the people's liberties. Upton did not hold out the opportunity for compromise and consensus- building

⁵⁶ Weigley, *Toward an American Army*, 30-37.

⁵⁷ Emory Upton, *The Military Policy of the United States* (New York: Greenwood Publishers, 1904).

as preludes to the implementation of his program. Thus, he ignored the two key political enablers of the American system of governance. While insightful in identifying the problems, his work did not offer solutions that the American electorate could realistically entertain within traditional civil-military parameters.

This was not the case with the naval theorists. Alfred Thayer Mahan preached from the same Gospel as Upton; namely, that America's defense depended on military preparedness. But his sermon was different. In his seminal work *The Influence of Sea Power upon History, 1660-1783*, published in 1890, Mahan linked naval preparedness with America's natural inclinations toward trade and commerce.⁵⁸ Unlike Upton's standing army, which would drain the economy and threaten liberty while it waited to be called into use, a standing navy would actively support and secure America's growing global economic interests, thus earning its keep. Because it would be at sea, it constituted little or no threat to American liberties. A strong navy supported America's economic interests by deterring threats in peacetime and decisively defeating any threat to them in wartime. Naval proponents such as Benjamin Harrison's Secretary of the Navy Benjamin Tracy used Mahan's theories to lobby for an aggressive naval construction program. However, economic realities curbed the appetites of both the navy and its congressional allies. Nevertheless, these ideas, arriving as they did at the height of America's fervor for Manifest Destiny and global ambitions, found favor with America's political and industrial leaders.⁵⁹

⁵⁸ Alfred Thayer Mahan, *The Influence of Sea Power Upon History 1660-1783*, Dover ed. (New York: Dover Publications, Inc., 1987; reprint.), 5.

⁵⁹ Millett and Maslowski, *For the Common Defense*, 274-76.

Mahan, like Upton, had his blind spots. He based his theories on imperfect analogies with Britain, from these deriving economic and defense policies for the United States that treated America as if it were an insular nation. Moreover, he did not take into account the advances in weapon and naval technology at the time. Many of the techniques he offered hearkened back to the days of sail, not the era of submarines, aircraft, armor piercing shells, and over-the-horizon naval engagements, which were evolving as he wrote. Still, his theories were widely accepted both in the United States and abroad. Mahan continues to be one of the most influential military theorists the United States has produced.

A number of theorists followed both Upton and Mahan. In the army, Upton had many supporters among the young officers who blamed civilian ignorance and neglect for the sorry state of preparedness in the army and the reserves. They advocated a number of solutions to the issue of civilian control of the military that ran the gamut from changing the structure of government to refining the structure of the current system. Disciples of Upton like Homer Lea and James Pettit saw nothing short of a change in government itself as providing a solution to the Uptonian-posed civilian control dilemma.⁶⁰ They shared the frustrations expressed by Generals in Chief of the Army Winfield Scott, Grant, Sherman, and Sheridan with the balancing between military command and political reality. It was not until Lt. Gen. John M. Schofield became General in Chief of the Army from 1888 to 1894 that insightful thought was brought to the problem. Pondering long and hard the issue of civilian control, Schofield first acknowledged the validity of Clausewitz's dictum that war was an extension of politics by other means. Second, he

⁶⁰ Weigley, *Towards an American Army*, 154-161.

granted that in a democracy the decision to go to war was a decision that only the people through their elected representatives could make. Third, he acknowledged the influence of politics in all aspects of military operations as one of the conditions of living in a democracy. Consequently, in a remarkable turn, he in effect abdicated his role as commanding general and became the Chief of Staff to the Secretary of War. Schofield directed the army staff henceforth to send all orders through the civilian secretary for his concurrence prior to transmitting them to the field.⁶¹

Schofield explicitly acknowledged not only the principle of civilian control, but also the right of civilian leadership to become involved in what heretofore had been perceived as exclusively military realms. Since they were more congruent with American political and social norms, Schofield's views ultimately prevailed over those of Upton and his disciples. Subsequent military leaders such as Generals Leonard Wood, John McAuley Palmer, and George C. Marshall continued to advocate reform measures that would improve military readiness and preparedness without challenging the principles of civilian control or attempting to circumvent the militia. Rather, they looked for ways to strengthen federal control over the military readiness of the reserves by prescribing a series of structural and training reforms within the state-controlled militias. Also, they supported assigning regulars to advise the militia and recommended conditioning the militia's receipt of federal dollars and equipment upon state compliance with the federal standards. In brief, these reformers developed structural and organizational procedures consistent with the principle of civilian control and the

⁶¹ Ibid., 162-176.

doctrine of separation of powers. They acknowledged the importance of the militia to America's defense policy and only modestly increased the size of the regular establishment. Moreover, they increased the overall readiness and preparedness of the armed forces. By reinforcing constitutional precepts and political norms and by allowing for compromise and consensus- building, these reformers advanced the military readiness of the United States.⁶²

The philosophical origins of the principle of civilian control and America's long empirical experience with this arrangement provide the backdrop for the present discussion. They also provide a model for assessing the influence of the various aspects of the military establishment – in this case, military technology – on contemporary foreign policy.

Origins of the Debate Today

The end of the Cold War brought the nature of American civil-military relations in general and civilian control of the military in particular into question again. With the collapse of the Soviet Union and the demise of communist regimes in Eastern Europe, it appeared to most Americans that there were no major threats to national security.⁶³ In 1991, scholars and statesman alike for the most part foresaw a new era of peace characterized by the flowering of democracy throughout the world, free trade, and open markets. Francis Fukuyama went so far as to label the 1989 period and beyond as the end

⁶² Ibid., 250-54.

⁶³ The events of September 11, 2001, and their continuing aftermath have shown just how dangerous the threats to America's security really are.

of history.⁶⁴ American political thinking soon began to focus inwardly on the promise of a “peace dividend” to be derived from the cutbacks in defense expenditures that were sure to follow the end of the Cold War. Amidst the euphoria of a new era dominated by peace, prosperity, and globalization, America’s political leaders seriously questioned the military’s prominent role as an instrument of the nation’s foreign policy. The budget knives were drawn, sharpened, and readied for use. But two factors dampened the zeal with which some lawmakers began to pursue defense cuts.⁶⁵

First, unlike America’s previous major wars which lasted four to five years, the Cold War lasted over 40 years. Coming as it did at the end of the Second World War (the costliest conflict American had ever participated in), the Cold War altered the traditional civilian control paradigm. World War II elevated American military leaders to unparalleled heights of prominence, prestige, and respect within American society.⁶⁶ The Cold War, due to the seriousness of the threat and the potential decisiveness of new military technology, greatly amplified the military’s role in the national security and foreign policy process. Additionally, the perils of the Cold War forced America to create and maintain the largest and most technologically advanced military establishment that it ever had in peacetime.⁶⁷ All of society felt, to some degree, the impress of the military’s ubiquitous influence on America’s foreign and domestic policies. However, the end of

⁶⁴ Francis Fukuyama, “The End of History?” *The National Interest*, no. (Summer, 1989).

⁶⁵ Peter G. Sebenius and James K. Peterson, “The Primacy of the Domestic Agenda,” in *Rethinking America’s Security: Beyond Cold War to New World Order*, eds., Graham Allison and Gregory F. Treverton, *Council on Foreign Relations* (New York and London: W.W. Norton & Company, 1992), 69.

⁶⁶ Jordan, Taylor, and Mazarr, *American National Security*, 171-74,82; Adam Yarmolinsky, *The Military Establishment: Its Impacts on America Society* (New York: Harper and Row, 1971), 36.

⁶⁷ Eliot A. Cohen, “Why the Gap Matters,” *The National Interest* 41, (Fall, 2000): 41; Jordan, Taylor, and Mazarr, *American National Security*, 175.

the Cold War and with it the threat of global nuclear destruction did not necessarily mean the military would or should relinquish its lately won clout, for it had become inextricably linked with the nation's security and foreign policy making instrumentalities. Removing it from that process to some draconian extreme could have jeopardized the whole security system. Given the nature of the international environment at the end of the Cold War, the U.S. military would not willingly be relegated to insignificant roles and policy irrelevance.⁶⁸

Second, the conflictive nature of the post-Cold War international system prevented the military from passing into the relative obscurity that had characterized its existence prior to World War II. The combination of democracy, free trade, and open markets would not prove to be the panacea that some pundits had promised. Globalization not only highlighted the cultural similarities among civilizations, but also made their differences more apparent as well. In brief, the world was not to become as stable or tranquil as many political leaders and scholars supposed. Ethnic and religious strife soon replaced the frictions associated with the Cold War. Major new conflicts erupted in Bosnia, Somalia, Rwanda, Haiti, East Timor, and the former Soviet Republics of Georgia and Chechnya; to name only a few. Old conflicts such as the Israeli/Arab and the Indian/Pakistani rivalries now broke forth with even greater intensity, threatening to boil over into regional or even global conflicts.⁶⁹ Nuclear and chemical weapons technology spread with alarming speed, while narco-trafficking continued unabated.

⁶⁸ Richard H. Kohn, "Out of Control: The Crisis in Civil-Military Relations," *National Interest* no. 35, (Spring 1994).

⁶⁹ As of this writing, new tensions between Pakistan and India have developed over the Kashmir region. Both countries have rattled their nuclear sabers at one another. In addition, a new round of Arab-Israeli fighting and terror has erupted in Israel with no signs of abatement.

Liberal, politicians such as President Bill Clinton soon found themselves reversing their stances on proposed cuts in defense spending and troop strength. In fact, during the eight years of the Clinton presidency, the military conducted more major deployments (33) than it had during the entire Cold War (8).⁷⁰

Currently, America is wrestling with how to reconcile the need for a military voice in the policy-making process given America's traditional abhorrence of things military and its fear of standing armies. Peter Feaver in his illuminating article "The Civil Military Problematique: Huntington, Janowitz, and the Question of Civilian Control" sums up the issue succinctly: "How [do we] reconcile a military strong enough to do anything civilians ask them to do with a military subordinate enough to do only what civilians authorize them to do."⁷¹ As important as this question and others are to civil control and foreign policy issues, the debate would have remained largely within academia and Washington policy circles had it not been for some of the activities and initiatives of Gen. Colin Powell when he was chairman of the Joint Chiefs of Staff (CJCS). While the current debate may not have begun with General Powell, his actions and statements while CJCS (1989-1993) lent intensity to the debate and brought it to public notice.

As CJCS, General Powell was politically astute to an extraordinary degree, having served throughout his career in numerous national security policy-making positions in Washington. Such assignments qualified him well to serve as the CJCS,

⁷⁰ William S Cohen, "Report of Secretary of Defense to the President and Congress 2000," (Washington, DC: Department of Defense, 2000).

⁷¹ Peter D. Feaver, "The Civil-Military Problematique: Samuel Huntington, Morris Janowitz and the Question of Civilian Control" (Winter 1996): 149.

whose power and influence were greatly increased through the reforms of the Goldwater-Nichols Act of 1986.⁷² Specifically, this act:

- Made the CJCS the primary military advisor to the President and Secretary of Defense, a position formerly shared by all the service chiefs.
- Routed all specified and unified commands correspondence through the CJCS before reaching the president or secretary of defense.
- Gave the CJCS approval authority for all weapons and force structure acquisition and reform.
- Gave the CJCS oversight authority over service budget formulation.
- Removed the service chiefs from direct access to the president and secretary of defense.
- Made the CJCS and the joint staff responsible for reviewing and formulating all major operational plans and contingency plans.⁷³

With his Washington insider status, firm grasp of foreign and national security policy, and the authority given him by the Goldwater-Nichols Act, General Powell became de facto chief of the armed services and a formidable force within the U.S. policy-making apparatus.⁷⁴ His influence became particularly apparent when Bill Clinton became president-elect. Powell's experience in foreign policy and national security policy contrasted sharply with Clinton's background, which was almost exclusively in state and local politics. Further widening the gulf between the two, Clinton had made no attempt to hide his disdain for the military, a position he maintained since his days in college when he had actively resisted the war in Vietnam and had avoided the draft.

⁷² Russell F. Weigley, "The American Civil-Military Cultural Gap: A Historical Perspective, Colonial Times to the Present," in *Soldiers and Civilians: The Civil-Military Gap and American National Security*, eds., Peter and Richard Kohn Feaver, Basic Studies in International Security (Cambridge, MA: MIT Press, 2001), 241-43.

⁷³ Christopher M. Bourne, "The Unintended Consequences of the Goldwater-Nichols Act," *Joint Force Quarterly* (Spring 1998), 18.

⁷⁴ Kohn, "Out of Control," 111-112.

Moreover, many of Clinton's political appointees shared his distrust and dislike of all things military.⁷⁵

General Powell openly challenged Clinton's policies. Fearing that the military as an institution might be harmed and weakened by some of the president-elect's policies, General Powell grabbed the headlines before Clinton took office in an attempt to preempt a decision to allow gays in the military. Powell also opposed Clinton's intent to deploy U.S. troops into the Balkans for peacekeeping operations in the 1992-93 period. But, it was not the fact that Powell opposed the administration's initiatives that was at issue. It was Powell's going public on his differences with the president-elect while still in uniform. He appeared on several Washington talk shows and was interviewed in the *New York Times*, the latter drawing the most criticism from political analysts and scholars.⁷⁶

In 1992, military historian Russell Weigley criticized Powell for breaking what Dr. Weigley felt was a norm applying to the military since the Civil War. Dr. Weigley felt that General Powell in staking out a position on Balkan intervention was attempting to make U.S. foreign policy, a role reserved for the civilian political leadership. According to Weigley, Powell had gone beyond rendering his military opinion, which he was required to do, and instead became a partisan policy advocate. Weigley accused Powell of using his position as CJCS, his Washington insider status, and the prestige of a military still riding the crest of popularity over its Gulf War victory, to sway public

⁷⁵ Ibid., 113-114.

⁷⁶ Ibid., Russell F. Weigley, "The American Military and the Principle of Civilian Control from McClellan to Powell," 28-30.

opinion against the president's initiatives.⁷⁷ Weigley reviewed the political involvement of various key military leaders going back to Gen. George McClellan in the Civil War, concluding that General Powell violated the norm that McClellan and previous military leaders had established over the past 130 years.

In addition, Weigley took Powell to task for what some have referred to as the Powell doctrine.⁷⁸ Weigley cites that Powell's advocacy of using "overwhelming force" in all military operations and of employing the military only in situations when their victory is foreordained. Thus, if he had his way, General Powell would have limited the president's policy options by constraining the conditions under which the president could use military force. Whether one agrees with Dr. Weigley's assessment of Powell or not, (the Powell doctrine was after all only a set of recommendations), his work spurred renewed interest within the academic community of the issue of civilian control of the military.

By 1994, the spark struck by Dr. Weigley turned into a flame when Dr. Richard Kohn published the article "Out of Control: The Crisis in Civil-Military Relations." Kohn's opening statement, "The U.S. military is now more alienated from its civilian leadership than at any time in American history, and more vocal about it," while dramatic

⁷⁷ Ibid.

⁷⁸ Suzanne C. Nielsen, "Rule of the Game? The Weinberger Doctrine and the American Use of Force," in *The Future of the Army Profession*, directors Don M. Snider and Gayle L. Watkins, ed. Lloyd J. Matthews (New York: McGraw-Hill Primis Custom Publishing, 2002), 212-18. Nielsen and others have commented on the "Powell Doctrine" as being an extension of the Weinberger doctrine, developed in the 1980s. General Powell, then a special assistant to Secretary of Defense Weinberger, was instrumental in developing the Weinberger Doctrine.

and eye-catching, is suspect.⁷⁹ Nonetheless, a plethora of articles and studies soon followed. The participants in the debate have ranged from politicians to military officers to academics to journalists. The participants have approached civilian control from a number of diverse views, falling generally under one of three broad rubrics - normative, constitutional/legal, or structural. In actual practice of course, there is considerable overlap among the three approaches, but for purposes of analytical clarity, they are treated separately below.

The Normative Approach

The gist of the normative approach to civil-control of the military lies in answers to the question: How should the military interact with civilian leadership in the formulation and execution of national policy so as to remain subordinate to civil leadership and sustain the principle of civilian control? Generally, the issues associated with this approach fall within two areas: the norms that govern the military's role in the political process and the military's adherence to and reflection of American societal norms. Although not all-encompassing, this division facilitates discussion of the major tenets of the normative approach.⁸⁰

⁷⁹ Kohn, "Out of Control: The Crisis in Civil-Military Relations," 3. Dr. Kohn's statement implies that the military has been alienated from civilian leadership since the founding of the country, only now more so. Further, he implies that alienation equates to loss of control. There is little empirical evidence to suggest that the military has ever actively resisted or intentionally circumvented civilian control.

⁸⁰ For a more detailed discussion of these themes see the following works: Paul Bracken, "Reconsidering Civil-Military Relations," in *U.S. Civil-Military Relations: In Crisis or Transition?*, eds. Don M. Snider and Miranda A. Carlton-Carew, Significant Issues Series. (Washington, DC: The Center For Strategic & International Studies, 1995); Peter D. Feaver and Richard H. Kohn, "Project on the Gap between the Military and Civilian Society: Digest of Findings and Studies" (Durham, N.C. and Chapel Hill, N.C.: Triangle Institute for Security Studies, 2000); Curtis L. Gilroy, "Civil-Military Operations and the Military Mission: Differences between Military and Influential Elites," in *U.S. Civil-Military*

Three norms have evolved since 1787 regulating the military's participation in the political process. First, the military should be professionally competent and when called upon by civil authority give its best military advice on defense, security, and other military matters. Second, the military may differ with civil leadership up to the point of decision, but then must faithfully execute that decision to the best of its ability. Last, regardless of individual soldier voting preferences, as a body the military should remain apolitical. Samuel Huntington systematically addressed these norms in *The Soldier and the State*. According to Huntington, in the political process civil control of the military takes one of two forms objective or subjective. Objective control revolves around the military professional criteria of expertise, corporateness, and responsibility to society.⁸¹ Under objective control, the military advises the political leadership when asked, conducts military operations to promote or obtain policy objectives when told, and remains focused on external threats to the nation's security. Essentially, objective control isolates the military from the political process and focuses it on the art and science of the military profession.

Under subjective control, however, the military becomes a player in the political process itself. For Huntington subjective control occurs when the civilian leadership exerts its authority by meddling in purely military matters and when it uses the military as a foil against political opponents. Manipulation of the defense budget, equipment

Relations: In Crisis or Transition?, eds. Don M Snider and Miranda A. Carlton-Carew, Significant Issues Series (Washington, DC: The Center For Strategic & International Studies, 1995); Ole R. Holsti, "A Widening Gap between the U.S. Military and Civilian Society? Some Evidence, 1976-96," *International Security* 23, (Winter 1998-99); Kohn, "Out of Control: The Crisis in Civil-Military Relations"; Thomas E. Ricks, "The Widening Gap between the Military and Society," *The Atlantic Journal* 280, no. 1 (1997).

⁸¹ Huntington, *The Soldier and the State*, 8-10.

acquisitions, and defense contracts by various political interest groups is an example. These political tactics interpose the military between the executive and legislative branches and can thus result in the military being forced to take sides on an issue. In such power struggles, the military usually does not receive a product determined by objective military analysis, but rather a product massaged and compromised by the political process. Additionally, bringing the military into the political process allows it to play one branch of government against the other encouraging the military to lobby Congress and political action groups in order to have its preferences included in national policy decisions. For Huntington, there are two major drawbacks to subjective control. First, subjective control can ultimately weaken civil control by making the military more influential in the policy process. Second, with the military more involved in politics, it runs the risk of losing its professional edge and thus jeopardizing national security.

On the other hand, Huntington's concept of objective control has been criticized for its sole reliance on the professionalism of the officer corps to keep the military out of the political fray.⁸² Huntington realized, of course, that in reality both types of control were at play and to a degree necessary. However, he felt that the civilian leadership should maximize objective control, with its emphasis on an officer corps deeply indoctrinated with a sense of professionalism, as the linchpin for effective civilian control of the military.⁸³ For Huntington, such professionalism ensured that the military would remain focused on military matters and confine its advice to such matters. Such an

⁸² Feaver, "The Civil-Military Problematique," 160.

⁸³ *Ibid.*,: 163-164.

approach allowed the military respectfully to disagree, but discreetly and not ordinarily in public. It kept the military apolitical.

Writing nearly 40 years after Huntington, Peter Feaver re-casts Huntington's two types of normative control as "assertive" and "delegative." With assertive control, civilian leadership is involved in purely military matters at all echelons.⁸⁴ This type of control is inherently conflictual, as the military will attempt to retain autonomy over its internal functions and thus resist civilian intrusions into its operations. Under delegative control, civilian leadership delegates to the military certain roles and missions within the political process, which while giving the military autonomy, essentially prescribes the scope and degree of military involvement in the political process.⁸⁵ Feaver maintains that inevitably assertive control gives way to delegative control since over the long run the tension associated with assertive control is too debilitating to the political process.

Both Huntington's and Feaver's concepts of control are predicated on a division of labor between the civilian and military leadership in the formulation of national policy. Each acknowledges that both the military and the civilian leadership have legitimate spheres of influence with distinct tasks and competencies; but they also acknowledge that there are areas between the civilian and military leadership in which there are overlapping responsibilities that require shared competencies. The differences and disputes take place not over having spheres of responsibilities, but rather over what constitutes a sphere and what overlap exist between the spheres. While the historical record of the civil military interface can serve as a guide, it is not a definitive dictum

⁸⁴ Peter D. Feaver, *Guarding the Guardians: Civilian Control of Nuclear Weapons in the United States* (Ithaca, NY: Cornell University Press, 1992), 7.

⁸⁵ *Ibid.*, 9-12.

because the amount of give and take between civilian and military leaders over policy formulation has been dependent on the personalities of the participants and the prevailing zeitgeist.

Given that there will be friction between the military and civilian leadership within the overlapping spheres of interests, how should the military voice its disagreement on policy issues? Some, following the Huntington approach, say the military should offer its professional military opinion and refrain from commenting on anything other than the strictly military aspects of the policy in question. As a corollary, the military must not take its differences with the administration into the public arena.⁸⁶ To do otherwise would be to violate the norm of being apolitical. According to those commentators who subscribe to this apolitical norm, Gen. Colin Powell violated it and the principle of civilian control by making his views on gays in the military, and U.S. troop deployments to Bosnia, both of which differed from those of the incoming Clinton administration, known to the public. Even if Powell was right, these debaters maintain, the political leadership has the right to be wrong.⁸⁷

The other side of the issue advocates a greater political role for the military. These advocates argue that officers are citizens first and that their oath of allegiance is to the constitution, not to the president or Congress. Thus, if officers feel that a particular policy will have dire consequences for the military and the country, they not only have

⁸⁶ Kohn, "Out of Control: The Crisis in Civil-Military Relations," 113-115; Weigley, "The American Military and the Principle of Civilian Control from McClelland to Powell," 28-29; Weigley, "The American Civil-Military Cultural Gap: A Historical Perspective, Colonial Times to the Present," 241-46.

⁸⁷ Feaver, "The Civil-Military Problematique," 154.

the right as citizens, but the duty to make their professional views known to the public.⁸⁸ Of course, the military cannot frame/characterize every disagreement with the civilian leadership as one involving a threat to national security. There must be bounds to their objections. Still, given the constraints of the constitution and the norms established over the last 220 years, this group argues that there is room for a military that is more not less politically involved in government.⁸⁹

While looking at where the civilian and military leadership operate within the context of national security and national defense, it is important to remember Clausewitz, noting that the military is a political instrument of the state created to serve a political end. As such, all military practices, operations, and procedures remain subject to civilian control and oversight. However, in practice civilian control is limited by the complexity of military operations and organizations, weapons technology, and the time it takes to master these.⁹⁰ The demands of pressing domestic and international issues confronting legislators and the president severely constrain the time they can devote to mastering military matters.⁹¹ It is thus simply impossible to know what a military professional knows without becoming one. The result is a division of labor. In the beginning of the

⁸⁸ Christopher P. Gibson and Don M. Snider "Civil-Military Relations and the Potential to Influence: A Look at the National Security Decision-Making Process.," *Armed Forces and Society* (Winter 1999), 58-63; Samuel P. Huntington, "An Exchange on Civil-Military Relations: Four Reactions to Richard H. Kohn's Article in the National Interest Spring 1994 Issue, *National Interest* no. 36 (Summer 1994), 28-29; Sam C Sarkesian, "The Military Must Find Its Voice," *Orbis* 42, no. 3 (1998), 127-128.

⁸⁹ Sarkesian, "The Military Must Find Its Voice," 127-128.

⁹⁰ Huntington, *The Soldier and the State*, 32; Morris Janowitz, *The Professional Soldier: A Social and Political Portrait* (New York: The Free Press, A Division of the Macmillan Company, 1971), 30; Jordan, Taylor, and Mazarr, *American National Security*, 324-337; Yarmolinsky, *The Military Establishment: Its Impacts on America Society*, 84-133.

⁹¹ Clotfelter, *The Military in American Politics*, 7.

republic, this division of labor came about as a result of indifference on the part of politicians and the public toward military matters. This was not unexpected considering that at America's founding there were no immediate and direct threats to the United States, and the military establishment was small and geographically isolated. But, over time, America's geographic expansion and increased foreign trade brought it into competition and conflict with rival nations. With this increased contact came greater threats to the nation's prosperity and the requirement for a larger, more politically active military. However, today it is not indifference that sustains the division of labor, but as noted above, the complexity of military systems and operations. Whereas the division of labor was a matter of convenience in 1790, by 1990 it was a matter of necessity.⁹²

The second problematic aspect of the normative approach deals with how the military's ethos differs from that of society. Following Janowitz, most adherents argue that the closer the military's culture, mores, values, and norms mirror those of society, the more that civilian control over the military is enhanced. With the passing of the Cold War, scholars and commentators such as Peter Feaver, Richard Kohn, Ole Holsti, and Thomas Ricks have pointed to the growing sociological differences between the military and the society that spawned it. They contend that the military officer corps is more white, religious, conservative, and Republican in its political affiliation than either the intellectual and cultural elites or the public at large. Additionally, they contend that the military's values on domestic social issues (e.g., welfare, education, abortion, drugs, and gay rights) and on certain foreign policy issues (e.g., humanitarian aid and military

⁹² Feaver, "The Civil-Military Problematique," 168; Gibson, "Civil-Military Relations and the Potential to Influence," 46-48; Yarmolinsky, *The Military Establishment*, 184, 261.

intervention) differ in a significant way from those of society. Thomas Ricks, based on his observations of a Marine Corps recruit-training platoon at Paris Island, South Carolina during the summer of 1995, states that the military fosters an elitist value system. Ricks writes that the Marine recruits were taught that civilian society was weak and morally soft, and that the Marines have a role in setting society right. Ricks maintains that joining the military (especially the Marines) is like joining a religious cult in terms of the values and loyalty instilled in the recruits. Interviewing many graduates of Boot Camp after they returned from a short leave at home, Ricks was surprised and disturbed at how many of them now looked down upon their erstwhile civilian friends. These new Marines felt they had a role not only in protecting society, but also in correcting it.⁹³

Even more interesting than the difference in values is the trend of increased party affiliation with the Republican Party among the officer corps. According to Feaver and Kohn, senior officers have publicly proclaimed their affiliation with the Republican Party at gatherings of their subordinates and implied that the Republican Party was the military's party. In fact, they quote sources claiming that many of the U.S. Military Academy cadets and Naval Academy midshipmen equate being an officer with being a member of the Republican Party.⁹⁴ They point to the decreased percentage of officers who identify themselves as either liberal or independent over the last 30 years. Political affiliation within the all-volunteer military is overwhelmingly Republican, significantly exceeding the rate of society at large even allowing for the fact that the number of

⁹³ Ricks, "The Widening Gap between the Military and Society, passim."

⁹⁴ Feaver and Kohn, "*Project on the Gap between the Military and Civilian Society: Digest of Findings and Studies*," 35.

civilians associating themselves with the Republican Party has grown as well.⁹⁵

Moreover, because the military is highly self-selective, tending to attract the type of person who finds himself at home in an elitist, authoritarian culture they fear that this trend, if not reversed, will further jeopardize the principle of civilian control over the military. The proposed fixes involve closer integration of civil and military values through education and job interoperability (exchanges).⁹⁶

The Constitutional/Legal Approach

The second approach to the issue of civil control of the military emphasizes the legal/constitutional aspects. The proponents trace the origins of civil control in the United States from English Tudor practices and traditions through the American colonial/Revolutionary War era to the present. They look to the constitution and the intent of the Founding Fathers for cues in judging the legal and normative developments in the United States that have brought civilian control of the military to its present state. They attempt to assemble and articulate the legal and constitutional foundations of civil control and civil-military relations in light of current realities in order to provide a legitimate architecture for current and future civil control principles.⁹⁷

⁹⁵ Ibid., 34-35; Holsti, "A Widening Gap between the U.S. Military and Civilian Society? Some Evidence, 1976-96," 10-11.

⁹⁶ Feaver, "The Civil-Military Problematique," 168; Kohn, "Project on the Gap between the Military and Civilian Society," 17; Ricks, "The Widening Gap between the Military and Society," 78; Gibson, "Civil Military Relations and the Potential to Influence," 63.

⁹⁷ Kohn, "The Constitution and National Security: The Intent of the Framers;" Jonathan Lurie, "The Role of the Federal Judiciary in the Governance of the American Military: The United States Supreme Court and "Civil Rights Supervision" over the Armed Services.," in *The United States Military under the Constitution of the United States, 1789-1989*, ed. Richard H. Kohn (New York: New York University Press, 1991); Morris, "The Origin and Framing of the American Constitution.," Don M Snider and Miranda A. Carlton-Carew, "The Current State of U.S. Civil-Military Relations: An Introduction."

For the most part, this approach usually boils down to three broad issue areas: budget, commitment of the armed forces to combat, and roles and missions of the services. The military budget or, more properly defense appropriations are often a contentious area. The legislative and executive branch struggle over what funding levels the armed services should have. In accordance with the constitution, Congress is responsible for raising and sustaining the armed forces; yet the president is their commander in chief. Who determines the services' budgets and who does the military respond to on budgetary issues? The individual services prepare budgets that they submit to the secretary of defense who adjusts and consolidates them, performs the necessary coordination within the administration, and passes the result, an approved Department of Defense budget to the president. The president then submits the defense budget as part of the federal budget to the Congress for ratification. Congress calls for the military service chiefs to testify before the Armed Services and Appropriations committees as to the sufficiency of the military portion of the budget. During this testimony, it is not unusual for service chiefs to break ranks with the administration if in their best considered opinion the monies they have been allocated will not allow them to meet the national security objectives they have been assigned. Invariably, Congress adjusts the military budget (in recent years usually up) as a result of the military's testimony, Congress's assessment of the U.S. national security strategy, and pork barrel and logrolling politics within the committees and Congress at large.⁹⁸ The debate over the defense budget, especially the military aspects of it, is often intense, with the military often finding itself

⁹⁸ Jordan, Taylor, and Mazarr, *American National Security*, 83, 129.

in the middle between the two branches of government each of whom looks at national security differently.⁹⁹ The military's involvement in the budget process promotes the politicization of the officer corps and encourages the individual services to lobby Congress in order to have their preferences funded.

The second constitutional area often surrounded by controversy has to do with the commitment of U.S. military forces to combat. The Cold War, with its numerous near-war incidents involving the prospective deployment of U.S. forces in harms way, increased the constitutional tension between the legislative and executive branches. The president maintains that his responsibilities as Commander in Chief give him the authority to commit U.S. forces without the express approval of Congress. Congress counters that the constitution gives them, and only them, the authority to declare war. Because such force commitments can lead to war, Congress must have a voice in any combat employment of U.S. forces.¹⁰⁰ Vietnam illustrated this tension. Nine years of undeclared war strained executive and legislative relations almost to the breaking point. It resulted in Congress reasserting its authority through a number of legislative measures, one of the most notable being the War Powers Act.¹⁰¹ With this act, Congress mandated that the president could not commit U.S. forces to combat without consulting Congress, and that they could only be employed for 60 days without express congressional approval. Additionally, it limited the president as to the number of reservists he could call to active duty and the duration of their time on active duty, unless otherwise

⁹⁹ Rosati, *The Politics of United States Foreign Policy*, 314-316.

¹⁰⁰ Jordan, Taylor, and Mazarr, *American National Security*, 125-126.

¹⁰¹ Rosati, *The Politics of United States Foreign Policy*, 305-314

approved by Congress. Since passage of this act, there have been 25 instances of a president committing U.S. forces to combat.¹⁰² The act has been a paper tiger, because congressional leaders are reluctant to cut off funds for a mission when American lives are on the line. Nothing is more potentially influential upon a nation's sense of well-being than its decision to undertake prolonged hostilities. As Korea, Vietnam, and the Gulf Wars illustrate, relatively small military actions can lead rapidly to the commitment of the nation to war, declared or undeclared. In an era when near-war appears to be the norm, the issue of who can commitment U.S. troops to battle will remain, as it should, contentious.

Related to commitment of the military to combat is the contention between the executive and legislative branch over what missions the military should engage in. Peacekeeping, peace-enforcement, humanitarian aid, support to the homeland, and drug interdiction are all missions that fall under the military moniker of Military Operations Other Than War (MOOTWA). Inevitably, these missions arise from some unforeseen crisis and have not been budgeted for. Therefore, Congress, at the president's request, will be called upon to appropriate money for them. Since, this procedure adds to the deficit, or threatens some other previously funded program, the debate over the desirability of military intervention often becomes intense.¹⁰³ During the Clinton administration, some scholars and lawmakers accused the president and the secretary of state of using the military as social workers. They claimed that soldiers were not suited for nation-building, and that the number and duration of these other MOOTWA missions

¹⁰² Jordan, Taylor, and Mazarr, *American National Security*, 126-131.

¹⁰³ Don M Snider, "U.S. Civil-Military Relations and Operations Other Than War," (1996), 143-152.

detracted from the readiness and combat capability of the force. Generally, in these debates the military has been able to play one side off against the other. When there is a policy disagreement between the legislative and executive branches, the military sides with the branch whose views most closely align with the military's policy preferences.¹⁰⁴

At the heart of the constitutional power struggle has been how to get the best military advice for the employment of the armed forces in the most effective and efficient way. The debates over control of the military as discussed above have often provided the catalyst for structural reform.

The Structural Approach

Closely related to the constitutional/legal approach and drawing on it to some extent are those scholars, politicians, and military leaders who explore civil control of the military from what has been variously termed a structural, organizational, or systemic approach. Investigators in this area focus on civil control as a structural issue derived from the defense needs of a democratic and pluralistic governmental system. They study the defense reorganization acts and the intended, along with the unintended outcomes of these structural measures.¹⁰⁵

The structuralists focus on how best to provide for civilian control, obtain the best possible military advice, and maintain the most capable and cost effective fighting force possible given the constraints of the international and domestic environments. Problems

¹⁰⁴ Feaver, "The Civil-Military Problematique," 113-114.

¹⁰⁵ Richard K. Betts, *Military Readiness: Concepts, Choices, Consequences* (Washington, DC: The Brookings Institution, 1995); Feaver, "The Civil-Military Problematique;" Gibson, "Civil-Military Relations and the Potential to Influence: A Look at the National Security Decision-Making Process;" Huntington, *The Soldier and the State*; Robert Previdi, *Civilian Control Versus Military Rule* (New York: Hippocrene Books, 1988); Snider, "U.S. Civil-Military Relations and Operations Other Than War."

associated with the harmonization of military advice and effort during the World War II resulted in the passage of the National Security Act of 1947 whose stated purpose was: “to advise the President with respect to the integration of domestic, foreign, and military policies relating to the national security so as to enable the military services and other departmentsto cooperate more effectively in matters involving the national security.”¹⁰⁶ The discussion below will highlight the main points of the debate in each of three areas: advice, cost-effectiveness, and inter-service cooperation.

During World War II, military advice to the president and Congress was not institutionalized. President Roosevelt formed an ad hoc military advisory group consisting of Gen. George C. Marshall (Army), Gen. Henry H. “Hap” Arnold (Army Air Corps), Admiral Stark (Navy), and headed by Adm. William D. Leahy (Navy), a long time friend and trusted advisor.¹⁰⁷ On the surface, this de facto Joint Chiefs of Staff worked well; however, it was personality-driven and was unable to resolve the disputes among the various theater commanders.¹⁰⁸ Additionally, each service maintained its own research and procurement branches, which often resulted in redundancy and waste. The 1947 act mentioned above sought to institutionalize the military’s role in policy formulation and in providing unified and coordinated military advice to the president and the nation’s top civilian leadership. The act created the National Military Establishment (which later became the Department of Defense), the office of the Secretary of Defense,

¹⁰⁶James F. Schnabel, *The Joint Chiefs of Staff and National Policy 1945-1947*, vol. I, *History of the Joint Chiefs of Staff* (Washington, DC: U.S. Government, 1986); *National Security Act* (1947), 496.

¹⁰⁷ Robert Dallek, *Franklin D. Roosevelt and American Foreign Policy, 1932-1945* (New York: Oxford University Press, 1995); Walter Millis, Harvey C. Mansfield, and Harold Stein, *Arms and the State: Civil-Military Elements in National Policy* (New York: Twentieth Century Fund, 1958).

¹⁰⁸ Paul L. Miles, Jr., “American Strategy in World War II: The Role of William D. Leahy” (Ph.D. diss., Princeton University, 1999).

the National Security Council, the Joint Chiefs of Staff, and the Joint Staff, it also established such positions as Director of a Central Intelligence Agency, and Chairman Joint Chiefs of Staff.¹⁰⁹ In theory the United States acquired a unified military establishment consolidated under the Secretary of Defense; however, in practice the services were anything but unified. Despite the structure explicitly legislated to embed unification, problems involving coordination, cooperation, and synchronization among the various uniformed services still arose. It was not until 1961 that Secretary of Defense Robert McNamara attempted to impose his will on the services.

When President Kennedy selected Robert McNamara to be his Secretary of Defense, he set in motion reforms with the Department of Defense (DOD) whose effects are still felt over 40 years later. McNamara came into office with a writ for change from President Kennedy.¹¹⁰ Despite the changes in DOD's structure over the preceding 13 years, the services were still autonomous in terms of their views on strategy, force structure, and research and development. Rather than allow the services to act individually, as had been done before, McNamara forced them to integrate mission planning with budgeting in order to establish a link between assigned missions and the resources needed to accomplish them.¹¹¹ McNamara implemented "program budgeting" which cut across service boundaries by placing coherent packages of military forces and weapons systems (regardless of service) in mission-oriented defense programs according to their principal purpose. The system, which became known as the Programming

¹⁰⁹ Schnabel, *The Joint Chiefs of Staff and National Policy 1945-1947*, 496. Addresses specific aspects of the National Security Act of 1947.

¹¹⁰ Millett and Maslowski, *For the Common Defense*, 554.

¹¹¹ Jordan, Taylor, and Mazarr, *American National Security*, 202-204

Planning Budget System (PPBS), forced the military to think, or least budget, systemically across service boundaries.¹¹² Theoretically, PPBS did three things for DOD: it made the budgeting system more efficient; it linked strategy to force structure and procurement; and, most important, it centralized the development of strategy and the resourcing of that strategy in the Office of the Secretary of Defense, and especially in the hands of Robert McNamara. Predictably, McNamara's ideas met with resistance from the military though in formal terms he was able to impose his reforms.

McNamara's reforms did what no other previous administration had been able to do - it united the military in their budgeting approach, albeit in opposition to McNamara's system. To have their voices heard, the military learned they had to become systems analysts themselves and that they had to speak with a coordinated and united voice. Unfortunately, McNamara's dismissive attitude toward the military in matters of budget and procurement carried over to the Chief's recommendations on U.S. military involvement and strategy in Vietnam. McNamara has since been praised for his budgeting and management reforms during the first half of his tenure as secretary of defense and simultaneously vilified for his strategic decisions and recommendations during the Vietnam war.¹¹³

Various secretaries of defense have initiated defense organizational and structural measures between 1949 and 1986 to harness military advice and promote efficiency; however, most have proved inadequate owing to service and Congressional resistance. It

¹¹² Ibid.

¹¹³ H.R. McMaster, *Dereliction of Duty: Lyndon Johnson, Robert McNamara, the Joint Chiefs of Staff, and the Lies That Led to Vietnam* (New York: HarperCollins Publishers, 1997).

was not until the Goldwater-Nichols Defense Reorganization Act of 1986 that, in the view of many, true reform took place.¹¹⁴

The pros and cons of the Goldwater-Nichols Act have been hotly debated both within and outside of the Department of Defense. In fact, it is the authority this act accorded the CJCS coupled with the personality and background of Gen. Colin Powell during his tenure as CJCS that served as a catalyst for the current debate.¹¹⁵ Whether the reforms of the Goldwater-Nichols Act will produce more Colin Powell's or not remains to be seen. None of the three subsequent CJCS's has been as controversial as General Powell was. But then again, the Clinton and George W. Bush administrations may very well have selected chairman they knew would toe the administration's line, leading one to conclude that military advice is still very much personality driven, and that presidents may receive only advice that confirms their predilections. Ever since 1947, Secretaries of Defense and defense reformers have wrestled with how to make the peacetime services more cost efficient, yet still capable of accomplishing any mission given them. Invariably, military readiness comes to the fore: how to unify the services in their strategic outlooks without diluting their distinctiveness, affordability, wartime efficacy, and candid, objective counsel, all while preserving their firm compliance to civil authority. It's a dilemma yet to be resolved.¹¹⁶

¹¹⁴Douglas Lovelace, "Unification of the United States Armed Forces: Implementing the 1986 Department of Defense Reorganization Act," (Carlisle, PA: Strategic Studies Institute, United States Army War College, 1996), 1-37.

¹¹⁵ Kohn, "Out of Control: The Crisis in Civil-Military Relations"; Weigley, "The American Military and the Principle of Civilian Control from McClelland to Powell," 93.

¹¹⁶ Betts, *Military Readiness: Concepts, Choices, Consequences*, 43-62.

The debate over military readiness in the United States is a debate over risks or, more accurately, perception of risks. Even now, the military, owing to its conservative culture, leans toward worse-case scenarios.¹¹⁷ Given its preferences, the military would have the force structure, weapons systems, and logistics necessary to defeat by a wide margin all possible threats to the United States. To the military and its supporters the world remains a very dangerous place. However, not everyone views the world in equally dark terms. Many legislators, academics, and defense commentators question not only the alleged threats to American interests, but also the interests themselves.¹¹⁸ They do not perceive the risk as gravely as the military does. Thus, they question what force structure the U.S. needs, whether weaponry should be state of the art or just good enough, and how much money should be spent on upkeep and training. Consequently, risk perception, force structure, strategy formulation, and dollar allocations for a force capable of implementing the strategy that offsets or minimizes the risk will continue to be issues that affect civilian control over the military.¹¹⁹

The Congress and the president will continue to wrestle over what size military force best serves America's interests, how to control it in peacetime and war, how to ensure budget and administrative efficiency in peacetime consistent with preparedness for war, and the degree of risks they are willing to accept based on their perceptions of the international and domestic environment. The military too will be a player in this

¹¹⁷ Ibid., 23-34.

¹¹⁸ Jordan, Taylor, and Mazarr, *American National Security*, 52-58.

¹¹⁹ Ibid., 188.

process.¹²⁰ Congress and the president have turned to the military in the past and will increasingly do so in the future, seeking operational and technological advice.¹²¹ They will frequently defer to the military in matters of weapons procurement and force structure but as events surrounding the Army's ill-fated heavy artillery system Crusader have clearly shown, such deference cannot be taken for granted. Already possessing a high degree of autonomy, the military will continue to garner political and special interest support for its policy preferences. How to control the military's involvement in the political arena will remain a subject of controversy, especially as the military becomes more technologically proficient, politically astute, and the civilian leadership more dependent on it for advice.¹²²

World War II fundamentally altered America's position and role in the international system. The necessities during World War II itself and the threats to the nation's security during the Cold War, which followed, elevated the military to unaccustomed preeminence within the government. This new importance and influence often entailed a diminution of civilian control as the political leadership increasingly deferred to the military's technological expertise. Aided by Americans' penchant for technology and impelled by the exponential growth in technology during the war, the military became more influential in all aspects of foreign and national security policy. The next chapter explores the military's experience with technology before and during

¹²⁰ Millett and Maslowski, *For the Common Defense*, 647-52.

¹²¹ Cohen, "Why the Gap Matters," 43.

¹²² Huntington, "An Exchange on Civil-Military Relations: Four Reactions to Richard H Kohn's Article in the National Interest Spring 1994 Issue"; Janowitz, *The Professional Soldier*, 30-33.

World War II as a way to shed light on why the military embraces technology to such an extent and how technology has enabled the military to play a more prominent role in policy.

CHAPTER 3

WORLD WAR II AND THE IMPACT OF TECHNOLOGY ON THE MILITARY

World War II catapulted the military into a prominent role in the formulation of foreign policy and strategy. That the military should be so influential during the war came as no surprise; nor was it surprising that civil control of the military would lessen somewhat given the exigencies of the war. What was surprising, however, was the sway that civilian leaders, especially the Congress, extended to the military due to its technological and strategic expertise.¹ Although Roosevelt, with the military's advice, determined America's overall strategic direction and the nature of American alliances, the military played a crucial role in determining theater and operational strategy.² By the middle of the 20th century, the art and science of war had evolved to such a level of multidisciplinary complexity as to demand full-time professional commitment by its practitioners. Civilian amateurs, no matter how intelligent, did not have the time to master military matters. The Second World War ushered in a wave of technological advancement and innovation that had far-reaching effects on the U.S. military's conduct of war and on its relations with other participants in the policy-making apparatus.

¹ Amos A. Jordan, William J. Taylor Jr., and Michael J. Mazarr, *American National Security*, 5th Ed. (Baltimore: The Johns Hopkins University Press, 1999), 172.

² Robert Dallek, *Franklin D. Roosevelt and American Foreign Policy, 1932-1945*, With Afterword ed. (New York and Oxford: Oxford University Press, 1995), 532; Paul L. Miles Jr., "American Strategy in World War II: The Role of William D. Leahy" (Ph.D. diss., Princeton University, 1999), 99,162,199.

Undertaking war at the height of the industrial age called for technological and operational expertise in the fields of weapons systems development and their strategic and operational employment, along with the ability to mobilize and harness the nation's war potential.³

This chapter has three objectives. First, it examines the importance of technology in American society. Second, it explores the military's approach to technology in the Second World War as compared to previous wars, and how the U.S. military adapted to technology during the war, including how it institutionalized the process for weapons systems development. Last, this chapter explores the benefits the military derived from technology, namely, expertise, autonomy, battlefield success, and political allies; and how these benefits increased the military's influence in the policy-making process.

Technology in American Society

Americans have a special affinity for technology. This is not to deny that other nations have embraced technology as well. Modern science and technology have had a special place in Western civilization since the 16th century, and the Europeans who settled this country were the intellectual descendants of this movement. However, in America technological innovation in the form of the machine and things mechanical took root and blossomed. This penchant for scientific and technological innovation derived from a host of variables, but most notably from the interaction of three factors: America's

³ Walter Millis, Harvey C. Mansfield, and Harold. Stein, *Arms and the State: Civil-Military Elements in National Policy* (New York: Twentieth Century Fund, Inc, 1958), 141-42.

ideology concerning itself and its relationship with the world; America's geography and natural resources; and America's political and social systems.

An observer of the American scene today might have difficulty identifying a specific ideology that all Americans subscribe to, except possibly the desire to obtain money. Given the diversity of American society and the day-to-day pace of American life, Americans can appear to many foreigners as narcissistic and hedonistic. Yet despite the differences and inequalities among Americans their underlying mental image of their country is that America is special.⁴ Americans view their country and themselves as special in a moral sense; that is, they enjoy a special place in the world due to the blessings of God. This almost intuitive feeling that most Americans would acknowledge was made empirically evident in the events following the attack on the World Trade Center and the Pentagon on September 11, 2001, when many American's were not only angry over the attack, but incredulous that someone would want to do the U.S. harm.⁵ The rightness or wrongness of this perception is not at issue. What matters is the perception itself--it illustrates how Americans feel about themselves, the world, and their approach to technology.

The early settlers and founding fathers looked at America as a new world, a special place given to them by God to care for and develop. Of course there were many variations of this theme, but the two that seemed most pervasive within early American ideology were contradictory. Some conceived of America as a garden, almost a natural

⁴ Walter A. McDougall, *Promised Land, Crusader State: The American Encounter with the World since 1776* (New York: Houghton Mifflin Company, 1997), 203-06.

⁵ "Special Report: A Year On," *Economist*, September 7th-13th 2002, 22-24.

paradise that needed only nurturing; others thought of America as a rich wilderness that needed taming and harnessing in order to create the garden. For those who embraced the former notion, technology in the form of the machine was a thing to be shunned. All one had to do was cultivate the naturally bountiful land in order to enjoy a bucolic and peaceful existence in communality with nature. To this group technology threatened that pastoral image. But for those who embraced the second view, technology was a necessity. They felt that God gave man the opportunity to create his garden by harnessing the vast natural wealth of the country and that he could realize this only through technology. Leo Marx captures both these sentiments in *The Machine in the Garden: Technology and the Pastoral Ideal in America*. Marx asserts that Americans have juggled these competing notions as they attempted to find a “middle landscape,” a balance between the increasing complexity wrought by technology and the serenity, peacefulness, and relative autarky of a pastoral agrarian community.⁶ Even critics of Marx’s concept of the pastoral image of America such as Howard Segal concede that European settlers had hopes that America would be a utopia. “What made America a potential utopia,” Segal writes, “was its alleged status as a tabula rasa on which a new society could be impressed and its possession of enough natural resources to provide material plenty for all.”⁷

⁶ Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (London, Oxford, and New York: Oxford University Press, Inc., 1964), 5-8, 15.

⁷ Howard P. Segal, *Future Imperfect: The Mixed Blessings of Technology in America* (Amherst, MA: University of Massachusetts Press, 1994), 4.

How much, how often, and with what effort Americans have wrestled with the issue of a pastoral image versus the technological image of America, and which if either they accept is less important than the fact that it was an active issue in their minds. Thomas Jefferson conceived of America as a community of self-sufficient artisans and farmers on the one hand, but on the other saw the country's foreign relations relying on commerce. Jefferson realized that America's commercial relations with the world depended on manufacturing and trade, and further that profitability in manufacturing and industry was directly proportional to technological advancement.⁸ Jefferson knew that his fellow citizens had a knack for business and were not adverse to profits or the accumulation of personal wealth. A century later, Max Weber in his landmark book *The Protestant Ethic* commented on this aspect of the American work ethic. Weber stated that the "Protestant spirit" promoted hard work, innovation, and the accumulation of individual wealth. Individual advancement and wealth glorified God, provided the individual obtained these in a morally correct manner.⁹ Weber attributed much of the success of capitalism in America to this underlying Protestant ethic. Jefferson who came to believe intuitively what Weber later observed empirically, adopted a vision for America based on a salubrious balance between farming and manufacturing.¹⁰

⁸ Lawrence S. Kaplan, *Thomas Jefferson: Westward the Course of Empire* (Wilmington, DE: Scholarly Resources Inc., 1999), 27-28; Robert W. Tucker and David C. Hendrickson, *Empire of Liberty: The Statecraft of Thomas Jefferson* (New York and Oxford: Oxford University Press, 1990), 19, 60-61.

⁹ Max Weber, *From Max Weber: Essays in Sociology*, ed. H.H. Gerth and C. Wright Mills, trans. H.H. Gerth and C. Wright Mills (New York: Oxford University Press, 1946), 322.

¹⁰ Marx, *The Machine in the Garden*, 124.

From Jefferson forward, American intellectuals and foreign observers have commented on America's special relationship with technology, some extolling its virtues and others warning of the demise that technology would bring to America. Trench Coxe, a Philadelphia merchant who helped Hamilton write the *Report on Manufactures* in 1791, embraced machine technology as a tamer of the wilderness and a liberator of humankind.¹¹ Coxe felt that the machine would help men create the garden ideal they sought to realize. Others were not so optimistic. The German Friedrich Schiller saw technology as fomenting social inequality, creating a few haves and many have-nots. The Englishman Thomas Carlyle saw it as a destroyer of man's moral force by making him subservient to the machine.¹² Most Americans fell somewhere in between these two views. Sometimes suspicious of technology, Americans embraced it nevertheless as a way to advance in social standing and to obtain a better life.¹³

Foreign visitors to the United States were often struck by the hustle and bustle of American society and the pervasiveness of the machine in American life. Alexis De Tocqueville often commented on how practical Americans were, and how they spent less time on pure scientific inquiry and more time on developing technologies that would have immediate practical use.¹⁴ In his article *Machines, Megamachines, and Systems*, Thomas Hughes states: "European visitors stood on the streets of our industrial cities

¹¹ Ibid., 151, 157.

¹² Ibid., 169-77.

¹³ Ibid., 101-04.

¹⁴ Alexis De Tocqueville, *Democracy in America*, ed. J.P. Mayer, trans. George Lawrence (New York: Harper & Row, 1966), 459-61.

early in this century and saw the procession of inventors, engineers, entrepreneurs, and workers saw America as essentially a building nation, a technological rather than a political and business-driven one. The displacement of the wilderness and the prairie by the machine especially impressed them.”¹⁵ In 1915, French artist and social commentator Francis Picabia visited America, commenting that: “almost immediately upon coming to America it flashed on me that the genius of the modern world is in machinery. I have been profoundly impressed by the vast mechanical development in America. The machine has become more than a mere adjunct of human life. It is really a part of human life--perhaps the very soul.”¹⁶ Many German admirers who visited the U.S. in the late 19th and early 20th centuries envied America’s high standard of living and its form of democracy; however, it was America’s production technology that impressed them the most.¹⁷ Nevertheless, Americans enjoyed no stranglehold on technological innovation. In fact, they imported and refined much of the technology they used in the 19th century, adapting it to the needs of an expanding nation.¹⁸

America’s geography, natural resources, and expanding population played a major role in developing the American inclination toward technological solutions. The sheer size of the nation and its wilderness setting invited if not insisted that the settlers

¹⁵ Thomas P Hughes, “Machines, Megamachines, and Systems,” in *Context: History and the History of Technology: Essays in Honor of Melvin Kranzberg*, ed. Stephen H. Cutcliffe, and Robert C. Post (Bethlehem, PA and London: Lehigh University Press, 1989), 107.

¹⁶ Ibid.

¹⁷ Ibid., 109.

¹⁸ David C. Mowery and Nathan Rosenberg, *Paths of Innovation: Technological Change in 20th-Century America* (Cambridge, New York, and Melbourne: Cambridge University Press, 1998), 6.

use technology in order to clear it. Trench Coxe, mentioned earlier, advocated technological solutions to the problems America would encounter as it expanded westward.¹⁹ Even Thomas Jefferson, who was suspicious of anything that might compromise his pastoral image of American, took measures to further technological progress.²⁰ In 1802, he established the U.S. Military Academy at West Point, New York. Jefferson was not fond of the military; still, he realized that if his concept of American exceptionalism were to succeed the nation would have to expand. Critical to that expansion was technological competence in the form of trained engineers. Thus, the Military Academy was first and foremost an engineering school designed to produce leaders who would use technology to clear forests, build roads, bridge rivers, and subdue nature in order to push America's frontiers forward.²¹ De Tocqueville also commented on the positive effect that geography had on the American bias in behalf of technology and the particular way Americans approached technology.

De Tocqueville stated that Americans were the descendants a of European scientific culture and tradition that had passed to a new and unbounded country in which they could spread out at will and which they could make fertile without difficulty.²² The vastness of America allowed its inhabitants to develop and pursue opportunities to make their fortunes. Conquering this wilderness required technological acumen on a broad

¹⁹ Marx, *The Machine in the Garden*, 125.

²⁰ Kaplan, *Thomas Jefferson*, 27-28.

²¹ Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy*, *Wars of the United States Series* (Bloomington, IN: Indiana University Press, 1973), 81.

²² De Tocqueville, *Democracy in America*, 454-55.

scale. De Tocqueville maintained that Americans eschewed scientific knowledge for purely esoteric purposes. Rather, given their individual drive, literacy, and the vast richness of their country, Americans chose the applications of science over scientific theory.²³ Americans had an empire to harness and they chose technological applications that were practical and durable. De Tocqueville stated: “It is easy to see how, in a society organized on these lines, men’s minds are unconsciously led to neglect theory and devote an unparalleled amount of energy to the applications of science, or at least to that aspect of theory which is useful in practice. These same Americans who have never discovered a general law of mechanics have changed the face of the world by introducing a new machine for navigation.”²⁴

The vast distances involved between people and resources drove American technological innovation particularly in the transportation and communication fields. Americans needed machines and devices that could shorten travel times, reduce transportation costs, and increase the speed and reliability of communications--in the 19th century these were the telegraph and railroad (plus the older technology of canals), and in the 20th they were the automobile, the airplane, and the telephone.²⁵ Edward Constant noted the effect of America’s geography on the development of American commercial transportation in his book *The Origins of the Turbojet Revolution*. The American scientific community did not make any significant theoretical breakthroughs in the

²³ Ibid., 459.

²⁴ Ibid., 463.

²⁵ Mowery, *Paths of Innovation*, 8-9.

science of flight. Those were occurring primarily in Germany, Britain, and France. In contrast, the Wright brothers were trial-and-error pragmatists.²⁶ What Americans were doing was rigorously testing European scientific theories and technologically developing them into systems that suited the geography and demography of America. American technology tended to be functional, cheap, rugged, and energy intensive: “The quest for technical excellence or extraordinary performance at the expense of utility or reasonable cost was quite foreign to most American technological practice.”²⁷ As a result, of its geography, demography, and pragmatic approach to technology, by the 1930s America had developed a commercial airline industry that was the envy of the world.²⁸

Though America’s vast expanses were rich with resources, getting at them was another matter. Again, Americans used technology to their benefit. Natural resources do not intrinsically possess economic value. Their value is a function of what society uses them for, i.e., the worth society places on them and the availability of technological knowledge, usually in the form of a machine or device, which allows those resources to be extracted and subsequently exploited for human needs.²⁹ The United States in the 19th century was unusual in the speed with which it exploited its mineral reserves, the existence of which in many cases had been discovered only a few years earlier. These discoveries spurred technological growth in the fields of chemistry, engineering, and later

²⁶ David C. Schlenoff. “The Equivocal Success of the Wright Brothers,” *Scientific American*, December 3003, 94-97.

²⁷ Edward W. II Constant, *The Origins of the Turbojet Revolution* (Baltimore and London: The Johns Hopkins University Press, 1980), 68,76, 165.

²⁸ *Ibid.*, 162-63.

²⁹ Mowery, *Paths of Innovation*, 167.

computer science. One final point on geography and demographics bears mentioning, market size. America's population grew exponentially during the 19th century. With this population explosion came a huge increase in demand for reliable and affordable products that drove technological innovation in the U.S. In brief, profit was a determining factor in America's approach to technological development, and the more profit made, the more finances that were available for further technological innovation and development.³⁰

In addition to ideology and geography, America's political and social systems contributed to America's special relation with technology. De Tocqueville observed that scientific and technological development occurs differently in different democracies. He considered the United States exceptional in this regard, since American democratic institutions developed as the result of a political, not social, revolution.³¹ American democracy was unique in his view and so were its institutions. De Tocqueville said, "If Democratic society and institutions do not curb the vigor of the human mind, they certainly do direct it in one direction rather than another."³² For De Tocqueville the direction that American democracy drove the people's cognitive endeavor was toward practical technological activity, reflecting a restless striving for new applications.³³ "Democracy," he said, "may not lead men to study science for its own sake, but it does immensely increase the number of those who do study it. [P]ermanent inequality of lot

³⁰ Constant, *The Origins of the Turbojet Revolution.*, 30; Mowery, *Paths of Innovation*, 170-71.

³¹ Segal, *Future Imperfect*, 40.

³² De Tocqueville, *Democracy in America*, 459.

³³ *Ibid.*, 460-61.

leads men to confine themselves to the proud and sterile search for abstract truths, while the institutions of democratic society tend to make them look only for the immediate practical applications of science.”³⁴

The democratic structures of the United States rest on federalism with its inherent pluralistic participation in the political process. As such, virtually every individual and group has access to the political process at some point. Both Robert Dahl and E.E. Schattschneider noted this effect, albeit from different approaches. Dahl observed that Americans, whether they realized it or not, are members of various interests groups who voice political preferences which the elected legislature responds to. Although not every preference is met, they are all heard, and over time the chances are overwhelming that some of one’s individual preferences will be met.³⁵ Schattschneider came to the same conclusion, but through a different method. He looked at the operation of the political system in America as a series of structural conflicts, intrinsic to the system itself. The way individuals and groups eventually have their preferences addressed when they are in conflict within the system is to expand the scope of the conflict. In different words, other groups sharing similar political preferences are enlisted in the struggle.³⁶ Dahl’s and

³⁴ Ibid., 463.

³⁵ Robert A Dahl, *A Preface to Democratic Theory* (Chicago and London: The University of Chicago Press, 1956), 145-49.

³⁶ E.E. Schattschneider, *The Semisovereign People: A Realist’s View of Democracy in America* (New York, London, Montreal, Sydney, and Tokyo: Harcourt Brace Jovanovich College Publishers, 1960), 10-14.

Schattschneider's views are both valid. From a technological development perspective, the American political system promotes innovation and development.³⁷

Public education is a key facet of American democracy that promoted not only equality but also technological development. For evidence, one needs only to review the history of the major land grant universities that sprang up across the nation after the Civil War. These institutions promoted the study of agriculture, mining, engineering, practical and mechanical sciences, and research and development.³⁸ As such, they lent impetus to further technological development in the United States and laid the groundwork for American preeminence in both scientific and technological research and development that occurred after the Second World War. Social equality extended to business practices as well. In the late 19th and early 20th centuries, the Federal government took measures to rein in monopolies and to protect small businesses by passing anti-trust and patent laws. These measures promoted competition and technological innovation. Moreover, the federal government began to sponsor research and development within defense-related industries. However, it was not government-funded research and development that spurred technological development, important as it was. It was the laws, regulations, and agencies the government established to promote private business that had the greatest impact on American technological advancement.³⁹

³⁷ Hughes, "Machines, Megamachines, and Systems," 109.

³⁸ Mowery, *Paths of Innovation*, 23.

³⁹ *Ibid.*, 12-30.

Technological determinism or social construction? How much did technology drive the development of America political, social, and economic institutions versus how much these factors influenced technological development is a debate still in progress. It would be futile and unproductive to try to resolve the matter here. However, we must acknowledge the validity of both approaches without fully accepting either. Individuals, groups, and states through their personal and political choices shape the direction of technological development, and technology in turn shapes the parameters of their choices. There is thus a reciprocal relationship between technological determinism and sociological constructivism. States, agencies, and individuals make choices as to which weapon system to develop, based on other than purely technological reasons. However, the present choices they make channel their capabilities in the future, and hence to some degree the direction of their future choices.

Despite America's favorable orientation to technology, the military did not always readily embrace it. Technological innovation in the military was dependent upon happenstance and personality. Not until the advent of the Second World War did the military services uniformly develop methods to develop, test, and acquire technologically advanced weapons system.

The Technological Nature of World War II

Prior to World War II, neither the military nor the U.S. Government had a systematic approach to research and development. What military technological innovations that occurred were largely due to private entrepreneurs and business

enterprises. The only exception to this trend was the Navy's bureau system, which pursued ship hull design, armament, and power plant engineering through a formal, institutionalized approach, at least in theory.⁴⁰ However, the Navy's organization was loosely synchronized, and individual bureau chiefs were often shortsighted; thus technological development within the Navy prior to World War II was often personality dependent in practice. Nonetheless, prior to World War II the Navy was much more oriented toward technology than the Army.

The military, however, was not without access to state-of-the-art weapons technology. For example, during the Civil War, Union forces could have been equipped with repeating rifles and Gatling guns which had been developed by civilian arms manufacturers. But Army staff officers in an effort to save money and under political pressure, chose to use up the existing stocks of rifled muskets.⁴¹ The excuse they offered was that troops with rapid-fire weapons would waste too much ammunition and therefore cost the government more money; moreover, the Chief of the Army's ordnance bureau thought that repeating weapons were too complicated.⁴² Thus, without the benefit of a systematic research and development system in house, the services' ability to acquire state of the art technology was a prisoner of chance at best.⁴³

⁴⁰ Wilbur D. Jones Jr., *Arming the Eagle: A History of U.S. Weapons Acquisition since 1776* (Fort Belvoir, VA: Defense Systems Management College Press, 1999), 131.

⁴¹ *Ibid.*, 115, 119.

⁴² *Ibid.*, 117.

⁴³ James A Huston, *The Sinews of War: Army Logistics 1775-1953*, ed. Stetson Conn, Army Historical Series (Washington, DC: U.S. Government Printing Office, 1966), 186, 89, 96-97.

Contributing to the military's lack of a systematic approach toward developing technology was the government's indifference toward the military as expressed as shoestring defense budgets during peacetime and officer indifference toward technology. Reduced in size to a bare minimum, stationed in remote posts, and operating on a minuscule budget, the military could not afford a formal research and development program. Congress appropriated funds at the subsistence level. Commanders had barely enough money to clothe, feed, pay, and maintain the equipment of their soldiers.⁴⁴ The American soldiers and marines that went off to war in 1898 against Spain were mostly armed with Civil War era single shot rifles while their opponents in Cuba and the Philippines had modern German Mauser bolt action rifles with smokeless ammunition. Only the Navy had modern ships and armament due largely to a shipbuilding program that Congress began in the early 1890s to bolster America's claim to world power.⁴⁵ Moreover, the budget constraints were merely contributory to the negative predisposition toward technology that already existed within the officer corps.⁴⁶ For example, General George A. Custer could have had six Gatling guns with him at Little Big Horn, but decided not bring them fearing that they would encumber his movement. In fact, Custer's troopers were armed with single shot carbines while the Indians had repeating Winchester rifles.⁴⁷ What technological adaptation that did take place was usually at the initiative of a few innovative officers. However, technological innovativeness was not

⁴⁴ Ibid., 126, 33-34, 41, 46, 476.

⁴⁵ Jones, *Arming the Eagle*, 141.

⁴⁶ Ibid., 156.

⁴⁷ Ibid., 174.

institutionalized in the Army (or for that matter the Navy), with the result that American soldiers inevitably began each conflict at a technological disadvantage. American success depended not on technology, but on superior junior leadership, numbers, and training.

World War I demonstrated the military's technological backwardness and the lack of military and industrial preparedness for war. Even after having had the benefit of observing the war in France for almost three years, American armed forces entered the war with inferior weapons and equipment. American divisions were equipped largely with French and British weapons systems. In some cases, American arms producers had superior weapons, but the military did not have a systematic way to evaluate and procure them. A case in point is the Lewis gun. Colonel Lewis of the Marine Corps invented a superior light machine gun, which both the Marines and the Army favored. However, the Army's ordnance bureau chose to equip the infantry units with an inferior French model.⁴⁸ Only in the M1903 rifle did the U.S. have a superior small arm.⁴⁹ As the war drew to an end, American industry was just beginning to deliver the numbers of weapons the armed services had requested upon entry into the conflict.⁵⁰ A postwar review of

⁴⁸ Huston, *The Sinews of War*, 322. Even though the Lewis gun was being produced for the British, had been proven satisfactory in two years of combat, and had the endorsement Army General Leonard Wood the Army's Ordnance Department still refused to adopt it. One reason Huston offers is the division of Line and Staff that still existed in the Army. Semi-autonomous Army staff agencies procured what they thought the Army needed without regard for input from the Line officers serving in the field that would actually use the equipment. Huston states that the Ordnance Department tended to choose weapons systems based "on the personality or deserving character of the inventor rather than the real issue- -the merits of the weapon."

⁴⁹ R. Ellberton Smith, *The Army and Economic Mobilization*, ed. Kent Roberts Greenfield, *United States Army in World War II* (Washington, D.C.: U.S. Government Printing Office, 1958), 37.

⁵⁰ *Ibid.*, 38.

America's industrial preparedness for war involved much finger-pointing between the military and industry, with each blaming the other for the nation's technological and industrial shortcomings.⁵¹ To remedy this situation, Congress passed the National Defense Act of 1920 creating an undersecretary of war "charged with supervision of the procurement of all military supplies and other business of the War Department pertaining thereto and the assurance of adequate provision for the mobilization of material and industrial organizations essential to wartime needs."⁵²

Despite the best intentions of Congress in the immediate postwar period to provide for materially robust and technologically advanced armed forces, a commercial foreign policy tradition and the belief that the First World War had really been "The War to end all Wars" precipitated a reduction in the armed services.⁵³ Money dried up and with it any nascent R&D programs the services might have been inclined toward. Naval construction was the sole exception. Although limited, the Navy continued to receive appropriations for new ship construction, but within the limits of the Washington Naval Treaty. Even though Army officers had been exposed during World War I to the technologies that would come to dominate warfare during the Second World War, very few of them showed any inclination to pursue technological development either in

⁵¹ Paul A.C. Koistinen, *Mobilizing for Modern War: The Political Economy of American Warfare, 1865-1919* (Lawrence, KS: University Press of Kansas, 1997), 203-07, Smith, *The Army and Economic Mobilization*, 38-39.

⁵² Smith, *The Army and Economic Mobilization*, 391.

⁵³ Jones, *Arming the Eagle*, 213-14; Allan R. Millett and Peter Maslowski, *For the Common Defense*, Revised and Expanded ed. (New York: The Free Press, a Division of Macmillan, Inc., 1994), 382.

published theory or by developing experimental units.⁵⁴ George Patton, who would become one of the Army's foremost practitioners of armored warfare, was typical of his generation of officers. Having commanded a tank brigade in France during World War I, Patton was more familiar than most with the explosive potential of the tank. Yet, after the war Patton returned to the cavalry and in his professional writings extolled the virtues of the horse.⁵⁵ Only the catalyst of World War II and German technological and organizational innovativeness propelled him to become an armor enthusiast again.⁵⁶ For most of the interwar years it fell to military innovators like Bill Mitchell (Army Air Corps), Edna Chaffee (Army Tank Corps), and Ernest King and William Halsey (Navy) to keep the seeds of technological progress alive in the services.⁵⁷

Fortunately for the military, most weapons R&D occurred in the private sector during the interwar years. Commercial aviation design had direct military applications. The Army Air Corps benefited from the developments in air-cooled radial engines and airframe structural design used for long distance commercial flight, which it incorporated into advanced bomber design.⁵⁸ Likewise, the Navy incorporated advances in civilian

⁵⁴ David E. Johnson, *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army 1917-1945* (Ithaca, NY and London: Cornell University Press, 1998), 21.

⁵⁵ Carlo D'Este, *Patton: A Genius for War* (New York: HarperCollins Publishers, Inc., 1995), 304-05. The Chief of Cavalry, an ardent believer in the value of the horse, blocked the promotion of those officers who extolled the virtues of mechanization. A fact that was not lost on someone as egocentric and career-oriented as Patton.

⁵⁶ Martin Van Creveld, *Technology and War: From 2000 B.C. To the Present* (New York: The Free Press, A Division of Macmillan, Inc., 1989), 179-81.

⁵⁷ Huston, *The Sinews of War*, 322; Jones, *Arming the Eagle*, 241; Millett and Maslowski, *For the Common Defense*, 389, 393-94.

⁵⁸ Constant, *The Origins of the Turbojet Revolution*, 163-65; Johnson, *Fast Tanks and Heavy Bombers*, 103; Jones, *Arming the Eagle*, 296-99; Millett and Maslowski, *For the Common Defense*, 403.

hull design and propulsion plant efficiencies into its ship-building program. However, the Navy had a formal structure that institutionalized naval R&D and procurement. When the Washington Naval Treaty limited the number and size of ships in the fleet, naval R&D turned to the development of the aircraft carrier and naval aviation.⁵⁹ The Army, on the other hand, was the service least inclined to pursue R&D, the exception being its air corps. During the interwar years, the Army focused its energies on industrial mobilization, manpower mobilization, and refining staff procedures.⁶⁰ Burdened by the vast stockpiles of World War I weapons and traditional Congressional indifference to standing armies in peacetime, the Army as an institution had little incentive or money to pursue R&D.⁶¹ As late as 1939, the War Department spent only five million dollars out of 454 million dollars in military appropriations (just one percent) on R&D.⁶² However, World War II changed how the military, industry, and the government approached technology and R&D.

America's entry into World War II quickly dissipated any reluctance to pursue technology and R&D on the part of most military officials. Using massed armored formations in conjunction with close air support and strategic bombing, the Germans' lightning conquest of Poland and France and the deep thrusts into the Soviet Union

⁵⁹ Jones, *Arming the Eagle*, 231-33.

⁶⁰ Millett and Maslowski, *For the Common Defense*, 385; Smith, *The Army and Economic Mobilization*, 123-25.

⁶¹ Johnson, *Fast Tanks and Heavy Bombers*, 58.

⁶² Jones, *Arming the Eagle*, 241. Dollar amounts are in 1939 dollars.

stunned American onlookers and sent the military scrambling to catch up.⁶³ The military in conjunction with industry and civilian research centers came together under the aegis of the Office of Scientific Research and Development (OSRD) headed by Vannevar Bush, president of the Carnegie Institution and former president of the Massachusetts Institute of Technology. Although the military determined the requirements, Bush ensured that the R&D effort was spread out to every part of the R&D community (government laboratories, industry, private research institutes, and universities) in order to harness the very best scientific talent available.⁶⁴ Bush's leadership provided the U.S. with an R&D structure far beyond anything it had seen before and far surpassing anything to be found for that purpose in Germany or Japan.⁶⁵ As the technologies developed from the R&D and industrial effort began to bear fruit on the battlefield, the military became enamored with technology.

World War II saw the military institutionalize R&D and the acquisition of advanced weapons systems technology. Whereas before the war military technological advancement had been happenstance and dependent on the personal inclination of the service chiefs and their various bureau heads, during the war technology acquisition became systematic and comprehensive. The OSRD, headed by Bush, had direct access to Congressional funding.⁶⁶ This funding, coupled with the contracting system established

⁶³ Huston, *The Sinews of War*, 686; Millett and Maslowski, *For the Common Defense*, 413; Van Creveld, *Technology and War*, 179-83.

⁶⁴ Huston, *The Sinews of War*, 467-68; Jones, *Arming the Eagle*, 231; Millett and Maslowski, *For the Common Defense*, 433.

⁶⁵ Huston, *The Sinews of War*, 468.

⁶⁶ Jones, *Arming the Eagle*, 306.

by the government during the war, allowed Bush and the military to pursue multiple research and development efforts simultaneously, spurring technological competition among research centers (more money for R&D) and industry (more procurement contracts) while ensuring that the military had access (through competition) to advanced weapons systems.⁶⁷ Also, the contract system facilitated the harnessing of America's significant pool of scientific talent. Rather than consolidate scientific talent in government laboratories, a move the scientists would have resisted, the contracting system allowed the work to be done at research centers throughout the country. The OSRD's agent for this effort was the National Defense Research Committee (NDRC). The NDRC maintained a list of all the services' research projects, validated and consolidated them, and with the streamlined contracting procedures contracted them out. For example, early in the war America was losing the Battle of the Atlantic to German U-Boats. Although the Navy's bureau chiefs and the Chief of Naval Operations, Adm. King, jealously guarded their R&D autonomy, with political pressure they finally acquiesced in relinquishing it. The NDRC began to coordinate the efforts of over 70 research centers that focused on anti-submarine warfare. Anticipating what the enemy's counter to the technology would be they incorporated counters to enemy countermeasures directly in the technological design. This R&D effort produced enhanced sonar and radar that facilitated submarine detection and destruction.⁶⁸

⁶⁷ U.S. Congress, "Special Committee to Study Problems of American Small Business." In *The Military Industrial Complex*, edited by Carroll W. Jr. Pursell (New York: Harper & Row, Publishers, 1972), 151-177.

⁶⁸ Jones, *Arming the Eagle*, 309.

Additionally, the OSRD established the Joint Committee on New Weapons and Equipment. This committee presented the scientists' ideas and research leads to the Joint Chiefs of Staff for consideration and possible further research and development.⁶⁹ With this committee a formal process came into play that provided a systematic approach for evaluating new technologies emerging in the R&D community for their military application, and provided the R&D community with a periodically updated itemization of military requirements. As the war progressed, the importance of technological research and development and technological innovation grew and became even more institutionalized. According to David Mowery and Nathan Rosenberg, "For most of the pre-1940 period, U.S. basic research was of distinctly secondary quality, by comparison with that of such European nations as Germany, the United Kingdom, and France, although American research in physics was clearly becoming world class in the interwar years. The fundamental transformation in the structure of the U.S. R&D system wrought by World War II changed the status of U.S. science from follower to undisputed leader."⁷⁰ The partnership between government, industry, and universities for the creation of defense-related R&D, forged in the early days of World War II, remains central to the American approach to science and technology policy even today.⁷¹

America's victory in the Second World War depended on its industrial capacity, its technological and often quantitative superiority, and the American military's expertise

⁶⁹ Ibid.

⁷⁰ Mowery, *Paths of Innovation*, 176.

⁷¹ Hunter A. Dupree, "National Security and the Post-War-Science Establishment in the United States," *Nature* 323 (1988); Ethan Barnaby Kapstein, *The Political Economy of National Security* (Columbia, SC: University of South Carolina Press, 1992), 188.

in operationalizing those advantages into superior strategy and war-fighting techniques. America became the “Arsenal of Democracy,” producing 86,000 tanks, 120,000 artillery pieces, 2.4 million trucks and jeeps, 96,000 bombers, 88,000 fighters and 82,000 landing craft, just to name a few of its accomplishments.⁷² American researchers produced some outstanding military innovations: radar, Norden bomb sights, high-performance aircraft engines, amphibious vehicles, sonar, antitank rockets for aircraft, radar-controlled proximity fuse for all kinds of ground and naval artillery, drugs to combat all types of diseases and infections, and of course the atom bomb.⁷³ Every nation that fought the axis powers had American equipment as an integral part of its armed forces.⁷⁴

The institutional lessons of World War II were incorporated into military structure after the war. The National Security Act of 1947 created the Department of Defense (DOD) and established the research and development board. Further changes to DOD’s structure established the Undersecretary of Defense for Acquisition and Technology.⁷⁵ Never again would the services neglect technological development. Whereas the services were spending less than one half of one percent of their budget on R&D in 1939 at the outbreak of World War II, by 1949 the services were spending over two percent of their budget on R&D.⁷⁶ With the experiences of World War II institutionalized in DOD and

⁷² Millett and Maslowski, *For the Common Defense*, 412.

⁷³ *Ibid.*, 433.

⁷⁴ Smith, *The Army and Economic Mobilization*, 499.

⁷⁵ Jones, *Arming the Eagle*, 321-27.

⁷⁶ *Ibid.*, 241; William J. Clinton, “Historical Tables, Budget of the United States Government-Fiscal Year 2001,” (Washington, D.C.: The White House, 2000), 160.

within the various services, the military approached technology with an enthusiasm it had never displayed before. Many industries and civilian research centers became dependent on military R&D funding during the Cold War. For example, the military's impact on aviation, space, and electronics research and development was significant. By 1962, 31 percent of aerospace sales were attributed to military R&D contracts and in the electronics industry during the late 1950s and early 1960s 70 percent of R&D was defense-funded.⁷⁷

Success during World War II was not the result of outcomes of one-on-one engagements. If it had been, the Germans might have prevailed, given their technologically advanced tanks, rockets, and jet fighters. It was the efficient operationalization of entire technological systems within a specific strategic context that achieved success on the battlefield. Alan Gropman described this larger vision as follows: "War is no longer a battle between armed forces in the field; it is a struggle in which each side strives to bring to bear against the enemy the coordinated power of every individual and every material resource at its command."⁷⁸ High-tech weapons systems in quantity employed by trained personnel and following a strategic concept that maximized their collective capabilities, produced victory.⁷⁹ In the final analysis, battlefield success

⁷⁷ Gregory Michael Hooks, *Forging the Military-Industrial Complex: World War II's Battle of the Potomac* (Urbana and Chicago: University of Illinois Press, 1991), 241, 52.

⁷⁸ Alan L. Gropman, "Mobilizing U.S. Industry in World War II," In *McNair Paper*, 167 (Ft. McNair, VA: National Defense University Press, 1996), 20; see also Colin S. Gray, *Policy, Strategy, and Military Technology* (Lawrence, KS: University Press of Kansas, 1993), 76-79, for a discussion of war and strategy in the mid to late 20th century.

⁷⁹ Smith, *The Army and Economic Mobilization*, 15, 706.

is the military's *raison d'être*.⁸⁰ It follows then that the military would embrace technology since it helps them succeed in their defining purpose. Bureaucratic survival is always a vital consideration for the military, especially given the American penchant for minimizing the size of the regular establishment absent a crisis.⁸¹ Technology helped the military secure its survival since it enhanced the military's expertise, furthered its autonomy, increased the military's probability of success on the battlefield, and as a result of the economic effects of the war, especially the development of high-tech weapons systems, helped the military form alliances with business and Congress within the context of the political negotiating process that defines the American governmental system.⁸²

The Military Benefits of Technology

The military entered World War II somewhat skeptical of technology and ended the war embracing it. The military's conversion was due first and foremost to the strength of the competition. German and to a degree Japanese (e.g., naval aviation) military innovativeness exceeded that of the United States at the beginning of the war. The U.S. military had to adapt quickly to technology or risk defeat on the battlefield. But beyond survival, technology provided the military with four valuable tools for its

⁸⁰ Sam C Sarkesian, "The Military Must Find Its Voice," *Orbis* 42, no. 3 (1998): 423.

⁸¹ Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge and London: The Belknap Press of Harvard University Press, 1957), 144-56; Millett and Maslowski, *For the Common Defense*, 98-101; Emory Upton, *The Military Policy of the United States* (New York: Greenwood Publishers, 1904); Russell F. Weigley, *Towards an American Army: Military Thought from Washington to Marshall* (New York: Columbia University Press, 1962).

⁸² Hooks, *Forging the Military-Industrial Complex*, 91-93; Smith, *The Army and Economic Mobilization*, 8, 239.

participation in the political process. First, technology provided the military with expertise. Mastering the art of modern warfare and use of complex weapons systems to practice that art were arcane, difficult, and required years if not a life-time of study. To be expert and have that expertise recognized by other actors in the political process meant the military's special place among the professions became even more exclusive and special. Second, technology helped develop autonomy within the organization. Every bureaucratic organization strives for autonomy, the ability to control its internal activities and to have its niche in government inviolate.⁸³ Autonomy derives in part from expertise and in part from the structure of the government and the importance of the organization to the governmental structure. No governmental organization is totally autonomous, obviously, but the more autonomy it has the more it can control its own destiny and generally the more power it wields. Third, technology provided the military with the opportunity for success on the battlefield. Technology did not guarantee victory, but it was an important independent variable that if used opportunistically and expertly could contribute to victory and thereby validate expertise and reinforce autonomy. Last, technology helped build allies in the political process. The acquisition of technologically advanced weapons systems created industries and jobs. Congressmen were keen to see their constituents benefit from defense spending. Both Congress and business promoted the downward trickle of benefits, especially distributed benefits, since everyone in the process won. Together, these four advantages derived from technology helped alter the military's relationship with the other actors in the political process and contributed to a

⁸³ James Q. Wilson, *Bureaucracy: What Government Agencies Do and Why They Do It* (New York: Basic Books, 1989), 20; see also Gray: *Policy, Strategy, and Military Technology*, 77.

more active role for the military in policy formulation during the post-World War II era. The next section examines each of these four elements in some depth.

Expertise

During World War II technology strengthened the military's claim to an exclusive body of expertise as the services employed complex weapons systems in a conflict that rewarded technological prowess.⁸⁴ The military also demonstrated expert knowledge in the development of a force structure that could optimize the employment of those weapons systems on the battlefield (e.g., the armored division and corps, the aircraft carrier task force, and bombardment groups and wings made up of long-range bombers). Moreover, the military became expert at synchronizing the operations of various weapons systems and platforms with one another in a wartime context (e.g., the carrier-based fleet, amphibious warfare, strategic bombardment, the armored breakthrough). Last, the military developed expertise in the development of strategies that leveraged the advantage wrought by technology (e.g., force projection, force protection, and force sustainment in two major theaters simultaneously). But besides the immediate military applications of technology mentioned above, technology cast a spotlight on military expertise in the political arena as manifested by the way civilian authority sought the

⁸⁴ Alan R Millett, "The United States Armed Forces in the Second World War," In *Military Effectiveness: The Second World War*, eds., Allan R. Millett and Williamson Murray (Boston and London: Allen & Unwin Inc., 1988), 53; See also Eugene Skolnikoff who asserts that World War II was the first war that was truly dominated by technology. Weigley in *The American Way of War* (pages 407-410) also acknowledges the influence of technology on the conduct of the war and how the American military came to institutionalize research, development, and acquisition of weapons technology during the war.

military's counsel on the strategic direction of the war, on the actual conduct of operations, and in the immediate post war occupation duties assigned to the military.⁸⁵

The technological and operational complexity of warfare increased the premium upon the military's expertise and expanded its role in the development of America's war aims. Initially, President Roosevelt established the political goals of the war, but as the war progressed and became increasingly more complex, Roosevelt relied increasingly on the advice of his military leaders, giving them a relatively free hand in actually conducting the war.⁸⁶ President Roosevelt valued the advice of Admiral William D. Leahy and General George C. Marshall, consulting them on virtually all strategic and policy matters.⁸⁷ For instance, even before America entered the war President Roosevelt and top military planners had determined that Nazi Germany was the primary threat to the United States. If England succumbed to the Nazi onslaught and the Soviet Union reached an accommodation with the Nazis, then the task of defeating Germany, given the resources it would acquire, would become prohibitive if not impossible. Thus Roosevelt made the political decision to defeat Germany first. Consequently, American grand strategy called for the prioritization of the war effort to go to the European theater of

⁸⁵ Colin S Gray, *Policy, Strategy, and Military Technology* (Lawrence, KS: University of Kansas Press, 1993), 22; see also Allan R. Millett, "The United States Armed Forces in the Second World War," in *Military Effectiveness: The Second World War*, ed. Allan R. and Williamson Murray Millett (Boston, London, Sydney, and Wellington: Allen & Unwin Inc., 1988), 45-89.

⁸⁶ *Ibid.*, 54-60.

⁸⁷ Robert Dallek, *Franklin D. Roosevelt and American Policy, 1932-1945* (New York and Oxford: Oxford University Press, 1995), 531-33; see also Miles, "American Strategy in World War II," 162-63. Miles provides a detailed look at President Roosevelt's leadership style from the perspective of his military chief of staff during Admiral Leahy World War II.

operations.⁸⁸ But Adm. Leahy, Roosevelt's chief of staff, realized that the Pacific theater was too vital to be neglected. Without U.S. support, Japan would drive China out of the war.⁸⁹

As a result of Leahy's and the Joint Chiefs of Staff's influence, theater commanders in the Pacific like MacArthur and Nimitz were able to request and get virtually the same allocation of resources, when measured in gross manpower and material cost, as the European theater.⁹⁰ Part of the reason the military was able to shift priorities was that the European theater required much more combined allied planning and coordination which caused longer operational delays than occurred in the Pacific. Moreover, Germany occupied a continent that could not be isolated as islands in the Pacific could. To get at Germany was a much tougher prospect. Since these factors militated against rapid military action in Europe, MacArthur and Nimitz proposed strategies that were almost entirely under American control and brought American technological developments into the fight soonest. Thus, they would be able to offer visible results (assuming they were successful) more quickly in the war against fascism, results that American citizens needed to see. After six months of successive defeats, the political consequences of an American victory--any victory--were not lost on either the president or the Congress.⁹¹ As a result, the military leaders in the Pacific, with their

⁸⁸ Waldo Heinrichs, *Threshold of War: Franklin D. Roosevelt and American Entry in World War II* (New York and Oxford: Oxford University Press, 1988), 38-41; see also Millett and Maslowski, *For the Common Defense*, 452.

⁸⁹ Miles, "American Strategy in World War II," 156-57.

⁹⁰ Weigley, *The American Way of War*, 270-71.

⁹¹ Miles, "American Strategy in World War II," 241-45; see also Millett and Maslowski, *For the Common Defense*, 422-23.

Congressional allies, were able to forge a compromise: strategically, Germany remained the first priority; but until the allies were ready to invade the continent proper, assets which would have been stockpiled in Europe were sent to the Pacific where America's growing technological expertise and production capacity could have immediate impact.⁹² The military's ability to allocate resources/means was tantamount to determining the ends as well.

While President Roosevelt did not abdicate his role as the nation's strategic leader, he did rely increasingly on the military's expert advice and provided the military more latitude in policy decisions as the war progressed. For example, President Roosevelt at the behest of Churchill decided that American forces should engage in active ground combat in the European theater during 1942. To that end, Roosevelt backed the British proposal for an invasion of Vichy-controlled Algeria. General Marshall opposed using American forces in what he thought was a sideshow in North Africa, because he felt it would only delay the cross-channel invasion that must occur to defeat the German army and end the war. Ever aware of the political aspects of the war, Roosevelt saw the need to bolster the British in the Mediterranean and, for domestic morale and politics, to get Americans into the fight. Consequently, he overruled Marshall and backed the British proposal for Operation Torch in North Africa.⁹³ Although Roosevelt acted against the advice of his military in this case, it was one of the few times

⁹² Miles, "American Strategy in World War II," 262-63; and Millett and Maslowski, *For The Common Defense*, 453.

⁹³ Dallek, *Franklin D. Roosevelt and American Foreign Policy, 1932-1945*, 322; Weigley, *The American Way of War*, 321-23; and Russell F. Weigley, *Eisenhower's Lieutenants: The Campaign of France and Germany 1944-1945* (Bloomington, IN: Indiana University Press, 1981), 47-48.

he did so. So far as a cross-channel invasion was concerned, the British did not relish the thought of meeting the strength of the German army head on. Consequently, they proposed further operations in the Mediterranean that would siphon off German strength and assist the Soviets too. However, when FDR's Joint Chiefs advised him that, beyond invading Italy, any further excursions in the Mediterranean would delay if not jeopardize a cross-channel attack in 1944, Roosevelt backed his military advisors over the British.⁹⁴

Moreover, the military's expertise in the actual conduct of operations during the war went unchallenged. Unlike previous wars in which the President and the Congress were heavily involved in the military's operational matters, neither the President nor the Congress interfered with the military's conduct of operations during the war. The Truman Committee investigating the war effort went so far as to say that committee members "never have investigated, and they still believe that they should not investigate, military and naval strategy or tactics."⁹⁵ President Roosevelt was concerned with ensuring that the proper broad political goals of the war were adhered to, while the Congress worked diligently to ensure the armed services had the resources they needed to equip the vast force structure they had created. Senior military commanders were free to conduct the operations and campaigns in Europe and the Pacific with minimal political interference. For example, the conduct of the campaign in Europe from the Normandy invasion to the Nazi surrender, including the decision whether to capture Berlin ahead of the Russians or stop at the Elbe River, was left to General Eisenhower and his

⁹⁴ Miles, "American Strategy in World War II," 226-227; and Millett and Maslowski, *For the Common Defense*, 451-52.

⁹⁵ Huntington, *The Soldier and the State*, 325.

lieutenants.⁹⁶ The decisions involved in this undertaking had important political ramifications.⁹⁷ Had the Normandy invasion failed, Germany's defeat and surrender would surely have been delayed. It is even possible that the allies would have accepted a negotiated settlement rather than insisting on unconditional surrender. That such decisions were left in the hands of the military is indicative of the enormous confidence political leaders reposed in the military's politico-military judgment throughout the war.

Congress and the president have been anything but hands-off during the nation's earlier wars. For instance, the Civil War saw members of Congress take to the field at the head of regiments, divisions, and corps.⁹⁸ Additionally, in Congress the Committee on the Conduct of The War was constantly interfering with military commanders in the field recommending strategy and tactics, and even demanding the relief of those officers who refused to heed their advice. Sustaining the war effort was also largely a Congressional effort, with various Congressional representatives promoting their private interests or those of their business cronies. Although, the Union Army was lavishly

⁹⁶ Jordan, Taylor, and Mazaar, *American National Security*, 72; See also Forrest C. Pogue, ed., *The Decision to Halt at the Elbe, Command Decisions* (Washington, DC: U.S. Government, 1960), 483-86. At the Malta conference President Roosevelt had approved a separation of Germany into zones of occupation for the allied powers. Generally, the Americans, British, and French would have zones west of the Elbe. However, these zones were not formally drawn. It was Churchill's understanding that cities like Berlin, Vienna, and Prague would be taken by whoever got there first. Eisenhower's decision to halt on the Elbe and turn his efforts to the south were conveyed to Stalin on March 21, 1945 without either Roosevelt's or Churchill's approval. Pogue writes that Roosevelt soothed Churchill stating that Eisenhower's decision supported the guidelines agreed to at Malta. Nevertheless, Eisenhower exercised wide-ranging authority. His decisions had lasting repercussions throughout the Cold War.

⁹⁷ Williamson Murray and Allan R. Millett, *A War to Be Won: Fighting the Second World War* (Cambridge, MA and London: The Belknap Press of Harvard University Press, 2000), 480-81; Weigley, *Eisenhower's Lieutenants*, 1050-55.

⁹⁸ William T. Sherman, *Memoirs of General W.T. Sherman*, Second ed., reprint The Library of America (New York: Library Classics of the United States, 1990). Sherman often complained of general officers who were also members of Congress and how they would leave the Army at critical times to return to their districts in order to run for re-election, John A. Logan from Illinois is a case in point.

supplied compared to its Confederate counterpart, it still experienced problems with supply and ammunition throughout the war. Presidents have not been shy about intervening in military operations either. Until he appointed Grant Commander in Chief of the Union Armies, President Lincoln was intimately involved in the details of military strategy. While he did not dictate to his subordinate commanders, he did strongly advocate strategic lines of operations and objectives down to the tactical level.⁹⁹

Roosevelt was a very strong political leader. That he did not intervene in military operations is an indicator of the trust he had in his military's expertise due largely to war's technological complexities, which, he realized were beyond him.

In the Pacific theater both General MacArthur and Admiral Nimitz made key operational decisions that influenced the strategic outcome of the war in that theater. MacArthur and Nimitz, after an intense debate, settled on a dual drive across the Pacific. Nimitz would campaign in the central Pacific using aircraft carrier task forces to seize key island bases en-route to Japan, and MacArthur would attack in the southern Pacific to defeat the Japanese forces in New Guinea and the Philippines. While President Roosevelt monitored this debate, he was not really involved in the decision-making other than to sign off on the strategy the military developed. For example, it was MacArthur who decided to invade the Philippines, and not the president. Likewise, Nimitz determined which islands to seize that would best facilitate the aerial bombing of Japan and its subsequent invasion. President Roosevelt endorsed these actions; however, he did

⁹⁹ Joseph T. Glatthaar, *Partners in Command: The Relationships between Leaders in the Civil War* (New York, London, Toronto, Tokyo, Singapore: The Free Press, A Division of Simon & Schuster Inc., 1994), 95-134.

not become involved in the actual planning or conduct of the military's campaigns.¹⁰⁰ These campaigns had foreign policy implications. The nations the U.S. forces liberated would depend on America for aid and security in the post war world. Operational plans, accordingly, should have received closer political scrutiny than they did. The lack of supervision derived from trust in the expertise of the military in the conduct of increasingly complex military operations, even those with foreign policy consequences.

As the war progressed the civilian leadership came to rely on military expertise in areas outside of the military realm.¹⁰¹ At the war's end President Truman charged the military with administering the occupation of Germany, Austria, Italy, and Japan. The military thus took on the responsibility for rebuilding the communication and transportation infrastructures (at least to the point where subsistence-level supplies could be transported), reestablishing governmental institutions including executive, legislative and judicial; feeding the conquered populations; etc.¹⁰² Moreover, the military was charged with helping to establish democratic practices and institutions where previously there had not been any. In short, the military was given difficult tasks, most of them suited for other departments and agencies of the government. To be sure, the military had performed occupation duties and had governed occupied territories before, e.g., during Reconstruction at the end of the American Civil War, in the Philippines at the

¹⁰⁰ Millett, "The United States Armed Forces in the Second World War," 53-53,57.

¹⁰¹ Miles, "American Strategy in World War II", 266-67.

¹⁰² Murray and Millett, *A War to Be Won: Fighting the Second World War.*, 561; and Weigley, *History of The U.S. Army*, 485-86.

conclusion of the Spanish-American War, in the Caribbean, and in Central America.¹⁰³ However, those tasks did not match the scale and scope of what the military had to deal with at the conclusion of World War II.¹⁰⁴ That the military was given such wide-ranging authority is due in part to their having first-hand knowledge of the country they were in and the issues confronting the people they were tasked with administering. Also, the military's organizational ability, discipline, and ready pool of available manpower to tackle the tasks they were given, coupled with the fact that the forces were already in place, undoubtedly contributed to their getting the mission. Additionally, other government departments and agencies did not have the personnel or the organizational structure to deploy overseas and assume these missions. Last, from pre war mobilization planning to actual mobilization to the conduct of synchronized campaigns on a global scale, the military had demonstrated its organizational expertise.¹⁰⁵

Eisenhower's military government in Germany and MacArthur's government in Japan offer ample evidence of the military's expertise and competence in administering,

¹⁰³ Beisner, *From the Old Diplomacy to the New: 1865-1900*, ed. John Hope Franklin and Abraham S. Eisenstadt, Second ed., The American History Series (Arlington Heights, IL: Harlan Davidson, Inc, 1986), 129-36; Max Boot, *The Savage Wars of Peace: Small Wars and the Rise of American Power* (New York: Basic Books, A Member of the Perseus Books Group, 2002), 125-28; Walter LaFeber, *The Cambridge History of American Foreign Relations: The American Search of Opportunity, 1865-1913*, ed. Warren I. Cohen, vol. II, *The Cambridge History of American Foreign Relations* (Cambridge, UK and New York: Cambridge University Press, 1993), 164-68.

¹⁰⁴ Murray and Millett, *A War to Be Won: Fighting the Second World War.*, 559-73.

¹⁰⁵ Weigley, *History of The United States Army*, 479-82. Weigley addresses the impact that global war had on the American military, industry, and the psyche. See also Millis, Mansfield, and Stein, *Arms and the State: Civil-Military Elements in National Policy*, 113-17. Millis provided an earlier analysis of essential the same factors that Weigley did. Millis emphasizes the military's and industry's organizational and operational skills in overcoming the distances and the determined resistance of the enemy.

rebuilding, and democratizing two devastated former totalitarian countries.¹⁰⁶ By 1949, both Germany and Japan were well on the road to achieving economic recovery, establishing democratic institutions, and becoming fully independent countries and staunch allies of the United States during the Cold War. While global economic conditions, the Marshall Plan, and domestic particularities in the occupied countries, etc., certainly played a role in shaping the future of these states, so too did the military's actions during its occupation.¹⁰⁷ That the military was given this mission is indicative of its subordination to civil control and the trust the civilian leadership placed in the administrative, logistical, and organizational expertise the military had demonstrated during the war.¹⁰⁸

Technology played a large role in the development of that expertise, but not an exclusive role. Certainly, a host of other factors contributed to the expertise of the military such as expanded officer civilian education, service schools, and officer assignments just to name a few. The officer corps had acquired strategic and operational expertise over decades. Technology enhanced that expertise by making the military's forces faster, more sustainable, and more lethal. It also contributed to functional

¹⁰⁶ Ernest R. May, "The Development of Political-Military Consultation In The United States," *Political Science Quarterly*, June 1955, 174-75; and Huntington, *The Soldier and the State*, 355-57. Although somewhat dated they both discuss the military's role, as perceived at the time, in administering defeated foes.

¹⁰⁷ John Lewis Gaddis, *What Know Now: Rethinking Cold War History* (New York: Oxford University Press, Inc., 1997), 199-200, 202; and see Peter Romijn, "Did Soldiers Become Governors? Liberators, Resistance, and the Reconstruction of Local Government in the Liberated Netherlands, 1944-1945.," in *World War II in Europe: The Final Year*, ed. Charles F. Brower, *The Franklin and Eleanor Roosevelt Institute Series on Diplomatic and Economic History* (New York: St. Martin's Press, 1999), 265-83. The allies were responsible for reestablishing democratic institutions in many more countries than Germany and Japan. Across the board, they handled these responsibilities well. Millis, *Arms and the State*, 128-132 provides an earlier review of American occupation policies that generally is still accurate today.

¹⁰⁸ Millis, Mansfield, and Stein, *Arms and the State*, 140.

specialization within the armed services, thus making them more complex, arcane, and difficult to master.¹⁰⁹ Thus with technology's help, the military came ever more close to resembling the traditional professions like medicine and law. In terms that Huntington would use, technology contributed to military professionalization.

Autonomy

Expertise tends to promote autonomy. The more expert an organization or profession becomes, usually due to task specialization (in the military's case the conduct of warfare and its increasingly technical and complex nature in World War II), the more autonomy its masters allow it in managing its internal practices and operations.¹¹⁰ As mentioned above, mastering complex weapons system technology and its operational employment provided the military with unique expertise that came to be reflected in the military's influence on grand strategy and in the conduct of the campaigns it undertook during the war. The same technological complexity that demanded such expertise also demanded autonomy in its operations. Unlike previous conflicts the U.S. had been involved in, where the president and congress had meddled in operational matters, during the World War II they largely maintained a hands-off approach.¹¹¹ For example, President Roosevelt asked General Marshall if the invasion of North Africa, Operation Torch, could occur before the mid-term congressional elections in November 1942.

¹⁰⁹ These themes are pervasive in Huntington, Millis, and Janowitz, yet largely untouched by modern commentators with the exception of Cohen.

¹¹⁰ James Q. Wilson, *Bureaucracy: What Government Agencies Do and Why They Do It* (New York: Basic Books, A Subsidiary of Perseus Books, L.L.C., 1989), 188-95.

¹¹¹ Huntington, *The Soldier and the State*, 323-27; Millis, Mansfield, and Stein, *Arms and the State: Civil-Military Elements in National Policy*, 63.

Marshall stated that operational concerns precluded moving the date up, and Roosevelt demurred.¹¹² Besides having virtual autonomy in the conduct of operations during the war, the military was free to determine what weapons systems to research and develop.¹¹³

Military laboratories, civilian research centers, and numerous universities under the direction of Vannevar Bush worked diligently to develop the technologies the military needed.¹¹⁴ Although Congress provided oversight to R&D activities, it seldom intervened in the process.¹¹⁵ At one point, President Roosevelt at the behest of his economic advisors considered consolidating the R&D process under a civilian agency; however, General Marshall and Admiral King adamantly maintained that the military should determine its own requirements. Roosevelt let the matter drop. However, it was Bush's organization, dominated by civilian scientists and researchers, who determined how best to develop the military's requirements and steered the direction of future weapons systems development. The military's dominance in this development and acquisition process allowed it to place quality equipment in the hands of the rapidly expanding armed forces in a timely manner.¹¹⁶ Technology provided the occasion for

¹¹² Rick Atkinson, *An Army at Dawn: The War in North Africa, 1942-1943*, 3 vols., vol. 1 (New York: Henry Holt and Company, LLC, 2002), 15-16.

¹¹³ Hooks, *Forging the Military-Industrial Complex*, 225,32,36; Smith, *The Army and Economic Mobilization*, 239.

¹¹⁴ Millett and Maslowski, *For the Common Defense*, 433.

¹¹⁵ Hooks, *Forging the Military-Industrial Complex*, 132.

¹¹⁶ Smith, *The Army and Economic Mobilization*, 8, 707.

military autonomy in deciding what weapons systems to research, develop, and procure, and autonomy in how to structure the armed services to fight.¹¹⁷

Once America formally entered the war, the strategies the military developed to obtain the war's political objectives drove the mobilization effort.¹¹⁸ It was strategic plans and the War Department personnel who developed them, many of whom had been prominent business leaders before the war, that determined the size of the forces the U.S. would field, what type of weapons and equipment they would have, and how they would be organized and structured to fight--and thus determining the scope of the services' procurement. Procurement decisions, in turn, determined the size and scope of the nation's industrial and manpower mobilization.¹¹⁹ As important as national objectives and military strategies were to the mobilization effort, the military would not have wielded as much influence if it did not also control the funds that underwrote the procurement contracts.

With America's entry into the war, the military became the dominant spending agency within the federal government. From 1942 until the end of the war in 1945, defense spending commanded 90 percent of the federal budget, which amounted to approximately 48 percent of the nation's Gross National Product (GNP).¹²⁰ In fact, Congress was so generous to the military with appropriations during the war that at the

¹¹⁷ Hooks, *Forging the Military-Industrial Complex*, 28, 46, 60-61, 93, 114.

¹¹⁸ *Ibid.*, 92-93.

¹¹⁹ *Ibid.*, 239; Smith, *The Army and Economic Mobilization*, 8.

¹²⁰ Alan L. Gropman, "Mobilizing U.S. Industry in World War II," in *McNair Paper #50* (Washington, DC: National Defense University Press, 1996), 100; Hooks, *Forging the Military-Industrial Complex*, 93, 113.

end of every year they allowed the military to keep close to 30 billion dollars without demanding an accounting for it. A further example of Congressional largesse occurred in 1942 when Congress allocated 77 billion dollars, or 75 percent of the nation's projected GNP, to the military after only five minutes of debate. Congress made appropriations to the military in lump sums with no restrictions.¹²¹ The War Production Board (WPB), the civilian agency charged with orchestrating the mobilization effort, abandoned its contract clearing function, which some considered a surrender of civilian control, to move procurement along more rapidly so as to speed the prosecution of the war.¹²² In the first six months of 1942, over 100 billion dollars in contracts were signed with industry.¹²³ Thus given the military's independence in procurement and the size of the budget it controlled, it was essentially able to decide the scope and direction of the nation's mobilization efforts.

The technologically complex nature of military operations during the war allowed the military to leverage its war-fighting expertise to obtain the autonomy needed to develop the strategic plans that would win the war. The military's mastery of complex weapons systems and their operational employment engendered a high degree of autonomy for the military in its bureaucratic workings, its direction of the war effort, and its relationship to other governmental agencies. Already autonomous to a degree, the development of sophisticated technical weapons systems made the military more so.¹²⁴

¹²¹ Hooks, *Forging the Military-Industrial Complex*, 93, 114.

¹²² Smith, *The Army and Economic Mobilization*, 273.

¹²³ Hooks, *Forging the Military-Industrial Complex*, 114.

¹²⁴ *Ibid.*, 93.

Battlefield Success

The military's embrace of technology after 1940 resulted from the experience it had with technology during the war. Thus it is important to examine the weapons systems the military acquired and the operational strategies it developed to use them. Technology alone did not bring victory to the allies. The Axis powers, especially Germany, had access to equally if not more advanced weapons systems than the allies. But while having technologically advanced weapons systems, a highly developed industrial base, and a well trained military are necessary, they are not sufficient. Also necessary is the ability to use them synergistically in pursuit of global objectives and victory. It was the military's successful use of weapons technology in an operational context that made it realize the benefits of technology. Writing in 1959, historian Elberton Smith summarized how the allies achieved victory in World War II: "[It] was attributable basically to their ability to wage technological warfare on a scale far surpassing that of the Axis powers [placing] superior weapons in the hands of highly trained troops. But behind the lines of battle it required the capacity to develop, manufacture, and deliver a torrent of equipment and supplies to overwhelm the enemy. It was predominantly the United States that demonstrated this capacity."¹²⁵ The remainder of this section explores the military's operational experience with technology at sea, in the air, and on land, examining how the benefits the military accrued from the use of technology altered its role in the political process.

¹²⁵ Smith, *The Army and Economic Mobilization*, 3.

U.S. Technology at Sea

Given America's geographic location, control of the sea lanes of communication was critical. Without control of the sea, America could not get its military power into the fight or bolster the efforts of its already engaged allies. Additionally, America had to sustain its forces once they engaged in active combat operations.¹²⁶ In each theater of war, European and Pacific, America used its technology and industrial capacity to support a distinctive strategy. In the Atlantic and Mediterranean theaters, the Axis powers posed a different naval threat than did the Japanese in the Pacific. In the European theater, the German naval strategy was more indirect. Rather than confront the combined power of the British and American fleets on the surface, Germany chose to strangle Britain logistically and economically with a submarine campaign. In the first three years of the war, the German submarine campaign was highly effective. German submarines sank over 17,860,000 tons of shipping, while the U.S. and Britain could replace only 10,717,000 tons in new construction.¹²⁷ Although it is doubtful whether the German U-boat campaign alone could have defeated the combined British/American effort, it could have slowed the buildup of allied combat power in the theater and allowed Germany to concentrate its power against the Soviet Union, defeat it, and then turn on the

¹²⁶ Julian Stafford Corbett, "Theory of the Object: Command of the Sea," in *Strategic Schools*, ed. Raymond Alexander (Carlisle Barracks, PA: U.S. Army War College, 1988; reprinted from, *Some Principles of Maritime Strategy*, Naval Institute Press, 1988), 230-38; Alfred Thayer Mahan, *The Influence of Sea Power Upon History 1660-1783*, Dover ed. (New York: Dover Publications, Inc., 1987; reprint), 82-88.

¹²⁷ Hermann Kinder, *The Anchor Atlas of World History: From the French Revolution to the American Bicentennial*, trans. Ernest A. Menze, 2 vols., vol. II (New York, London, Toronto, Sydney, Auckland: Doubleday, a division of Bantam Doubleday Dell Publishing Group, Inc., 1978), 200.

Western allies. Realizing this potential danger, America decided that one of its first strategic challenges would be to defeat the U-boat menace.¹²⁸

America, in conjunction with Britain, developed a campaign strategy that revolved around three concurrent approaches. The first was convoy protection. This part of the campaign strategy called for evasive naval tactics and reacting to detected German submarines. America employed ship formations that optimized defense and used sonar-equipped destroyers to escort the convoy and screen against German attack. The second element of the U-boat strategy was pro-active. Here the Navy operated in hunter-killer task forces made up of sonar-equipped destroyers, supply ships, long-range reconnaissance bombers, and escort aircraft carriers. These task forces attempted to find, intercept, and destroy the German U-boats before they got to the shipping lanes.¹²⁹ The third element of allied strategy was preventive. In this part of the overall plan, the American and British bombers and fighter-bombers attacked U-boat construction facilities along the North Sea and their bases in France. Altogether, during 1943 and 1944 they flew 26,050 sorties and dropped 72,044.95 tons of bombs on German U-boat facilities.¹³⁰ All three approaches relied heavily on American and British signal and code-breaking technology; sonar for undersea detection; radar for surface detection and fire direction; and long-range bombers for both escort duty at sea and strikes at the heart

¹²⁸ Clay Blair, *Hitler's U-Boat War: The Hunted 1942-1945* (New York: Random House, Inc., 1998), 707-09.

¹²⁹ Walter A. Musciano, *Warbirds of the Sea: A History of Aircraft Carriers and Carrier-Based Aircraft* (Atglen, PA: Schiffer Publishing, Ltd., 1994), 258; see also Weigley, *The American Way of War*, 282-85.

¹³⁰ Blair, *Hitler's U-Boat War*, 804-08.

of German submarine production.¹³¹ The anti-submarine technologies by themselves, while important, were not decisive. America's ability to operationalize its technology and production capability into a mutually supportive strategy was decisive. Of nearly 1,100 German submarines built during the war, over 750 were lost, and allied control of the Atlantic from 1943 on was never in doubt.¹³²

In the Pacific, America operationalized its technology and production capacity differently. The Pacific theater covered a greater expanse of ocean than the Atlantic, and Japan, unlike Germany, had a large and formidable navy. To defeat Japan America had to conduct a naval campaign over vast stretches of ocean in order to seize bases from which it could strike the Japanese homeland. Pearl Harbor and the Battle of Midway had shown the importance of naval aviation to any campaign in the Pacific. America developed an operational solution that hinged on the fast carrier task force. This force was built around large, fast, and heavily armored aircraft carriers. Moreover, after 1943 each carrier had technologically advanced fighters (Grumman F6F Hellcat), dive-bombers, and torpedo planes. The task force consisted of a mixture of fast and heavily gunned battleships, cruisers, destroyers, and supply vessels. These task forces were capable of operating independently or in combination when organized into a Fleet for combined land and sea operations.¹³³ As in the Atlantic, the Navy strategy was multi-faceted. U.S. submarines attacked Japanese supply ships out of range of the carrier task forces, while the fast attack

¹³¹ Ibid., 12-18.

¹³² Ibid., 709.

¹³³ Walter A. Musciano, *Warbirds of the Sea: A History of Aircraft Carriers & Carrier-Based Aircraft* (Atglen, PA: Schiffer Publishing, Ltd., 1994), 197-201.

forces protected and supported invasion forces and simultaneously sought out the Japanese fleet in order to destroy it.¹³⁴ Additionally, land forces seized terrain from the Japanese, thereby reducing Japanese controlled territory, pinching off its supplies, and establishing forward repair and logistic bases for the U.S. Navy. Moreover, these operations provided the Army Air Corps with air bases to support the fleet's next invasion, and from which long-range bombers struck the Japanese home islands. Again, the military employed its technological advantages in the fields of sonar, radar, aircraft design, ship design, communications, signal intercept technologies, and industrial capacity (industry produced 95 carriers of all types during the war) in mutually supportive strategies to produced victory.¹³⁵

However, technology could push success only so far. For example, in night surface actions the Japanese navy inevitably bettered the U.S. Navy despite the advent of radar-controlled target acquisition that should have given the U.S. battleships and cruisers a decisive range advantage. Japanese training and tactics allowed them to overcome the U.S. technological advantage. It was not until mid-1944 that the U.S. fleet was the equal of the Japanese in night surface actions.¹³⁶ Technology also provided the U.S. air forces with a potentially decisive advantage, but as in the case of naval technology the Air Force had to adapt its operational doctrine and techniques to leverage them into an advantage over the enemy.

¹³⁴ Keith Wheeler, *War under the Pacific*, ed. Gerald Simons, vol. 23, *World War II* (Alexandria, VA: Time-Life Books Inc., 1980), 186-87.

¹³⁵ Millett and Maslowski, *For The Common Defense*, 464-78; and Weigley, *The American Way of War*, 260-62.

¹³⁶ Millett, "The United States Armed Forces in the Second World War," 81.

U.S. Technology in the Air

American strategists realized the importance of gaining and maintaining air supremacy. Learning from the British experience and its own experience early in the war, American military planners knew that sustaining an effective naval and ground campaign would be next to impossible without control of the air.¹³⁷ Additionally, air power theorists such as Mitchell and Douhet had preached the importance of the strategic bomber's ability to destroy the enemy's economic capacity to wage war.¹³⁸ This mixture of experience and theory produced the largest and most technologically advanced air force in the world--the U.S. Army Air Forces (USAAF). As with the Navy's strategy, the USAAF pursued several mutually supportive campaigns. First, the USAAF sought to destroy the enemy's economic ability to wage war and lower its morale through a strategic bombing campaign. Second, it sought to gain air supremacy by destroying the opposing air forces. Third, it provided close air support to advancing ground forces.¹³⁹ While, the USAAF's ability to destroy the enemy's production capability and lower the morale of the populace was never definitively proven (excepting Hiroshima and

¹³⁷ Millett and Maslowski, *For The Common Defense*, 454-55; and Weigley, *The American Way of War*, 334-37.

¹³⁸ Robert Frank Futrell, *Ideas, Concepts, Doctrine: Basic Thinking In The United States Air Force 1907-1960*, 2 vols., Vol. I (Maxwell Air Force Base, AL: U.S. Government Printing Office, 1989), 36-40; and David MacIsaac, "Voice from the Blue: The Airpower Theorist," in *The Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 624-47. MacIssac provides a cogent synopsis of the development of airpower theory along with example of its application during war.

¹³⁹ *Ibid.*, 150,89,153,173-75; and MacIssac, "Voices From the Blue," 638. MacIssac claims that the U.S. Air Force after World War II took particular interest in the development of doctrine to govern the employment of aircraft in support of ground operations. Events in Korea, Vietnam, and more recently during Operation Enduring Freedom in Afghanistan challenge whether the Air Force ever took the doctrine the developed seriously. Nevertheless, close air support of ground troops is a mission assigned to the U.S. Air Force under Title 10, United States Code.

Nagasaki), it did certainly hamper the enemy's production capability by destroying factories, forcing industrial dispersion, and killing workers. Unquestioned, however, was the USAAF's virtual elimination of the German and Japanese air forces and the valuable fire support the Air Force provided to allied ground troops.¹⁴⁰ It is hard to imagine American army or marine units effectively conducting the type of ground operations they did without the USAAF's control of the skies.

Although the American aircraft industry produced some of the war's most advanced aircraft, they were not fielded immediately. More importantly the U.S. had to learn the best way to use its airpower. Strategic bombardment, air interdiction, air superiority, and close air support were all separate missions that collectively produced a devastating air campaign. However, they competed for the same airframes. For example, all the missions listed above required fighters. The bombers that struck German and Japanese industrial centers suffered heavy losses until long-range fighters arrived that could escort the bombers to and from their targets. Yet, these same fighters were needed to provide close air support and perform air interdiction. Eventually, the USAAF found the right mix among technology, people, doctrine, and operational employment to produce victory. However, some have criticized the Air Force for waiting on technology and for placing too much emphasis on strategic bombardment. According to this view, if

¹⁴⁰ Tami Davis Biddle, *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas About Strategic Bombing, 1914-1945* (Princeton, NJ and Oxford: Princeton University Press, 2002), 274,280, 284; Clayton K. S. Chun, *Aerospace Power in the Twenty-First Century: A Basic Primer* (Colorado Springs, CO: U.S. Government Printing Officer, 2001), 123; Robert Frank Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force 1907-1960*, 2 vols., vol. I (Maxwell Air Force Base, AL: U.S. Government Printing Office, 1989), 170; Gian P. Gentile, *How Effective Is Strategic Bombing? Lessons Learned from World War II to Kosovo* (New York and London: New York University Press, 2001), 72-72, 76; Millett, "The United States Armed Forces in the Second World War," 69-70; Millett and Maslowski, *For the Common Defense: A Military History of the United States of America*, 457-60.

it had placed more emphasis on air interdiction and close air support for the ground forces, the war's end would have arrived sooner.¹⁴¹ As with the naval and air campaigns, the ground forces had to find the right mix of technology and operational techniques to produce battlefield success.

U.S. Technology on Land

American ground operations were characterized by speed, momentum, shock, and the massive use of firepower.¹⁴² The American infantry divisions that landed in Normandy on D-day had nearly as much mobility as German armored divisions. Mechanized transportation was abundant in the American armed forces. A U.S. armored division was totally mechanized/motorized and self-contained, where as a German armored division still relied heavily on horses to move its supplies and artillery. However, compared to their adversaries the American infantry and armored divisions had even greater access to indirect firepower.¹⁴³ The Germans considered the American field artillery to be the best in the world, not only in quality and quantity, but also in employment methods and destructiveness.¹⁴⁴ The development of the radar-emitting air burst fuse coupled with advanced fire direction techniques allowed the Americans to mass the effects of fire without actually massing the weapons. The U.S. artillery became

¹⁴¹ Biddle, *Rhetoric and Reality*, 280; and Millett, "The United States Armed Forces in the Second World War," 76, 79; Earl F. Ziemke, "Military Effectiveness in the Second World War.," in *Military Effectiveness: The Second World War*, ed. Allan R. Millett and Williamson Murray (Boston, London, Sydney, and Wellington: Allen & Unwin Inc., 1988), 307.

¹⁴² Weigley, *Eisenhower's Lieutenants*, 1059-61.

¹⁴³ Weigley, *History of The United States Army*, 474-75.

¹⁴⁴ Millett, "The United States Armed Forces in the Second World War," 69, 78.

a highly supple and effective instrument, capable of supporting the fast pace and range of U.S. armored divisions.¹⁴⁵ American combat units were mechanized, and their logistical support was equally mobile. Even more important, American equipment was rugged and mechanically reliable. This allowed the American ground forces to sustain high rates of advance (operational tempo) in open warfare, and the wherewithal it needed to force a breakthrough in static warfare.¹⁴⁶ The German Panther tank had a maximum on-road speed of 25 mph, while the American Sherman could do 35 mph.¹⁴⁷ In a war that rewarded speed, momentum, and firepower, America's technological arsenal provided the U.S. armed forces a decisive edge against their opponents.

As mobile as American divisions were, they have been criticized for technological and operational deficiency in other areas. For example, incapable of penetrating German armor, American anti-tank guns (37mm) were virtually obsolete when they Army fielded them. Also, while quite mobile, the Sherman tank did not have the armor protection or the firepower of the German tanks and hence was at a significant tactical disadvantage in tank-on-tank engagements. Additionally, American infantry divisions did not have as many automatic weapons as their German counterparts. Finally, the personal replacement system and the intentional decision to siphon off the best and brightest into the USAAF or Airborne units confined the American ground forces to a recruit base not

¹⁴⁵ Ibid., see also Weigley, *The American Way of War*, 348.

¹⁴⁶ Ibid., 76-77.

¹⁴⁷ Robert M. Citina, *Armored Forces* (Westport, CT: Greenwood Press, 1994), passim.

necessarily first rate. Given these apparent deficiencies, American forces should have suffered many more reverses than they did.¹⁴⁸

American arms were successful because they fought with entire weapons systems, not just individual weapons. Coordination among infantry, artillery, armor, and close air support characterized American combat operations. It was the synergistic effects of these weapons systems that was so devastating, not their individual employment per se. Recent scholarship has argued that the American ground forces by 1944 were highly combat effective vis-à-vis their opponents and proven masters at coordinating the effects of both indirect and direct fire weapons systems.¹⁴⁹

America's decision to seek technological superiority in critical aspects of sea, air, and ground warfare coupled with its enormous industrial capacity made the military's strategic planning goals feasible. Military leaders became experts in the technological characteristics of the weapons systems they employed and, in an operational context, synchronizing their employment with the advanced weapons systems of sister services while still supporting an overall national strategy. Nevertheless, success on the battlefield was not produced by technology alone. Industrial output, available manpower, geography, national resources, etc., all contributed to success on the battlefield. One must also take into account the mettle of the individual American soldier. As a consequence of its World War II experience, the military became wedded to research and

¹⁴⁸ Van Creveld, *Technology and War*; and Weigley, *Eisenhower's Lieutenants*.

¹⁴⁹ Michael D. Doubler, *Closing with the Enemy: How GI's Fought the War in Europe, 1944-1945* (Lawrence, KS: University of Kansas Press, 1994), 281-99, Peter R. Mansoor, *The G.I. Offensive in Europe: The Triumph of American Infantry Divisions* (Lawrence, KS: University Press of Kansas, 1999), 263-67.

development and technological innovation as ways both to execute national decisions and to shape them.¹⁵⁰

Political Allies

In addition to battlefield success, technology promoted the military's alliance with other actors in the political process. The two most important such alliances were those with business and Congress. Not every business leader or Congressman looked favorably on the military, and, with the exception of a few industries, the alliances themselves were not permanent. Nonetheless, these alliances represented a linkage between the military on one hand and Congress and business on the other that, prior to World War II, either did not exist or existed only tenuously at best.

Business Allies

Technology helped the military form strong political ties with certain sectors of the business community. World War II lifted America out of the Depression, and by the war's end its economy was the strongest in the world.¹⁵¹ Prior to the beginning of World War II, industry had very little interest in military production during peacetime. Except for mobilization planning, industry generally eschewed military contracts because the armed forces were small and production orders were correspondingly limited. Consumer production was what fueled the economy. Converting a production line to military use

¹⁵⁰ Ethan Barnaby Kapstein, *The Political Economy of National Security* (Columbia, SC: University of South Carolina Press, 1992), 26; Millett, "The United States Armed Forces in the Second World War," 55,57,62,65,71,73, Ziemke, "Military Effectiveness in the Second World War.," 311. Kapstein provides an analysis from the perspective of an economist while Millett and Ziemke look at the military's approach to research and development as a way to enhance fighting potential.

¹⁵¹ Hooks, *Forging the Military-Industrial Complex*, 91, 127; Smith, *The Army and Economic Mobilization*, 475,716.

often involved retooling dies, presses, and other production hardware and methods to meet the military's orders--an expensive proposition.¹⁵² Unless the orders were substantial and assured over a prolonged stretch of time, it was not cost effective for industry to engage in military production. Admittedly, some specialized ordnance industries benefited from working primarily with the government; but except for a 15-year period beginning in the 1890s when Congress decided to modernize the Navy and the shipbuilding and steel industries profited accordingly, most major industries viewed the military and military production as a drain on society and the economy.¹⁵³

Although American business had earlier shied away from military production, with the explosion in technological innovation and production beginning with the war, business attitudes toward military production and contracts changed.¹⁵⁴ Such contracts suddenly became very attractive and profitable. Major corporations such as General Electric and General Motors established sub-divisions whose sole purpose was to research, develop, and produce military technology. In other instances entire corporations came into existence for the exclusive purpose of developing military technology and hardware.¹⁵⁵ Some of these war industries became dependent on the War

¹⁵² Alan S. Milward, *War, Economy and Society, 1939-1945* (Berkeley and Los Angeles: University of California Press, 1977), 62-74. Milward's statistics in other parts of his work (especially how disruptive the strategic bombing effort was to the German war economy) have been challenged by recent authors such as Biddle and Gentile cited above. See also: Blair, *Hitler's U-Boat War: The Hunted 1942-1945*; Huntington, *The Soldier and the State*, 364; Paul A. C. Koistinen, *Planning War, Pursuing Peace: The Political Economy of American Warfare, 1920-1939*, ed. Theodore A. Wilson, *Modern War Studies* (Lawrence, KS: University Press of Kansas, 1998), 81-82.

¹⁵³ Koistinen, *Mobilizing for Modern War*, 55-57.

¹⁵⁴ Huntington, *The Soldier and the State*, 365-67; Koistinen, *Mobilizing for Modern War*, 56-57.

¹⁵⁵ Hooks, *Forging the Military-Industrial Complex*, 228.

Department (later the Department of Defense), particularly the aircraft and shipbuilding industries.¹⁵⁶ With America supplying arms and equipment to all the allied governments fighting the axis powers during World War II, Lend Lease and other military assistance programs, (known later as Foreign Military Sales [FMS]) became major components of the U.S. political, economic, and military assistance program in behalf of its allies in the struggle against totalitarianism. All of these factors combined to strengthen the ties between the military and industry during the war.

Consider the aircraft industry. Prior to World War II the aircraft industry employed 100,000 people and produced 23,000 planes per year. At the peak of the war effort in 1943 and 1944, it employed over 2 million people and produced 86,000 and 96,000 aircraft, respectively.¹⁵⁷ The technological nature of the war ensured that military procurement would be diversified and that military requirements would absorb a major share of the productive capacity of most industries. Besides the patriotic motivation associated with winning the war, the profit motivation that went along with the large procurement contracts promoted a close working relationship between the military and industry.

Two factors contributed to this change in perspectives. First, the massive scale of mobilization and strategic planning made for a closer working relationship between the military and industry in general and the aircraft and shipbuilding industries in particular.

¹⁵⁶ Ibid., 150-51.

¹⁵⁷ Ronald H. Bailey, *The Home Front: USA*, ed. William K. Goolrick, World War II (Alexandria, VA: Time-Life Books, Inc., 1977), 82.

Second, industry benefited from special government investment incentives that provided them with a competitive edge in the post war global marketplace.

On the whole, the level of sophistication of industrial, manpower, and procurement planning by the military and industrial leaders during World War II was extremely advanced. Certainly, the exigencies of war had a lot to do with the quality of the planning; as did the 21 years of military and industry mobilization planning that took place during the interwar period. The National Defense Act of 1920 established the Office of the Assistant Secretary of War, which guided planning for total mobilization.¹⁵⁸ Throughout the late 1920s and all through the 1930s, the military and industrial leaders developed a series of yearly updated plans for wartime mobilization. Broadly speaking, these plans divided wartime mobilization planning into three sectors: industrial mobilization, which civilian business leaders took responsibility for; procurement, which the military assumed responsibility for; and manpower mobilization, responsibility for which military and business contended.¹⁵⁹ Over all, the interwar mobilization planning was a joint effort on the part of both civilian and military planners. Even though very few of the plans survived the onset of the war intact, the prewar planning effort laid the groundwork for a close working relationship among the participants and a common view of the challenges and problems associated with mobilizing the nation for war. Further

¹⁵⁸ Gropman, "Mobilizing U.S. Industry in World War II," 10; Adam Yarmolinsky, "The President, the Congress and Arms Control," in *The Military-Industrial Complex: A Reassessment*, ed. Sam C. Sarkesian, Sage Research Progress Series on War, Revolution, and Peacekeeping (Beverly Hills and London: Sage Publications, 1972), 55.

¹⁵⁹ Koistinen, *Planning War, Pursuing Peace: The Political Economy of American Warfare, 1920-1939*, 57-71.

strengthening this relationship were the financial incentives the government provided to industry to undertake war production.

The federal government offered a number of economic incentives to bolster industrial conversion to wartime production, which helped strengthen the alliance that had begun to develop between business and the military. Through a program known as the Defense Plant Corporation Financing, industries were able to build entire new plants as well as expand and renovate existing structures at government expense. The government then leased the new facility to the industry at a dollar per year for the duration of the war or, in the case of existing plant expansion, subsidized that undertaking.¹⁶⁰ Moreover, the government sponsored and subsidized most of the private sector's research and development, much of which had civilian as well as military applications. The government with the military as its agent controlled the sources of investment capital and procurement contracts; thus, private firms became asymmetrically dependent on the state.¹⁶¹ Under these programs, industry had no overhead, no sunk costs, and little or no R&D costs. As a result of these incentives, according to Ellberton Smith, "The American economy in World War II exhibited the greatest capital expansion in history."¹⁶²

Governmental economic assistance did not end with the conclusion of hostilities. As the war drew to a close, the government formed the Reconstruction Finance

¹⁶⁰ Peter Mansfield Abramo, *The Economic and Military Potential of the United States: Industrial and Mobilization Planning 1919-1945* (Ph.D. diss., Temple University, 1995). 267-70; Hooks, *Forging the Military-Industrial Complex*, 114; Smith, *The Army and Economic Mobilization*.

¹⁶¹ Hooks, *Forging the Military-Industrial Complex*, 134.

¹⁶² Smith, *The Army and Economic Mobilization*, 475.

Corporation to subsidize the cost of industrial re-conversion to peacetime consumption. Besides underwriting the retooling of many plants built for military consumption during the war, government-owned, civilian-operated plants were sold to civilian industry at bargain prices.¹⁶³ Table 3-1 below shows the scope of the war's economic effects on selected industries in terms of their growth in holdings.

As mentioned earlier, the aircraft and shipbuilding industries saw the most rapid growth during World War II. These industries continued to be highly dependent on defense contracts after the war. Due largely to military-driven plant expansion, production increases, and wartime profits, when the war ended American industry was poised to dominate competition in the emerging global marketplace.¹⁶⁴

World War II changed the military-industrial paradigm that had existed previously. The magnitude of the threat, the technological nature of warfare in the mid-20th century, the expertise required to employ the weapons systems collectively, and the scope of industrial mobilization required to win the war thrust the military and industry into a symbiotic relationship that many claimed spawned a post war military industrial complex.¹⁶⁵ The military-industry collusion thesis is still a subject of intense debate. That World War II forged a new mutual appreciation between the military and industry for each other's abilities and a much closer working relationship between them is

¹⁶³ Hooks, *Forging the Military-Industrial Complex*, 129-34.

¹⁶⁴ Gropman, "Mobilizing U.S. Industry in World War II," 103, 04 (note 2).

¹⁶⁵ Hooks, *Forging the Military-Industrial Complex*; Koistinen, *Mobilizing for Modern War: The Political Economy of American Warfare, 1865-1919*; Walter. Millis, *Arms and Men: A Study in American Military History* (New Brunswick, NJ: Rutgers University Press, 1981; reprint, Rutgers Paperback); see also Kapstein, *The Political Economy of National Security*, 92.

Table 3-1. The value of the Assets of U.S. Manufacturing Corporations in Selected Industries 1939 and 1945 (Millions of Dollars)

Industry	Assets of All Corporations 1939 ^a	Assets of all Corporations 1945 ^b	Percent Change in Growth	Number of Corps. in the Industry
Basic iron and steel	4,070	5,577	27	19
Iron and Steel products	2,279	4,024	43	21
Nonferrous metals and their products	979	2,791	65	15
Fabricated metal products, except ships and aircraft	5,730	9,638	41	70
Aircraft and parts	114	1,930	94	14
Ship and boat building	162	742	78	15
Basic chemical products	2,180	4,835	55	16

Source: U.S. Smaller War Plants Corporation, 1946, *Economic Concentration and World War II* (Washington, DC: USSWPC), 245-46.

^aTangible capital assets, income statistics for 1939, Bureau of Internal Revenue Service.

^bThe 1945 Measure is the sum of tangible assets in 1939 and usable facilities added between 1940 and 1945, as reported by the Smaller War Plants Corporation. Facilities deemed difficult to convert to peacetime are excluded.¹⁶⁶

¹⁶⁶ Ibid., 142.

indisputable. The war tore down the walls of disdain that had existed between the military and industry as both came to realize the importance of each other's support in the pursuit of their particular policy preferences.

Congressional Allies

World War II also promoted alliances between the military and Congress.

Generally, three factors contributed to a closer working relationship between the military and the Congress: Congress' patriotic fever and desire to win the war; the technological and operational complexity of the war and the need to defer to military expertise for the planning, procurement, force structure requirements, and operational conduct of military operations; and the benefits that military production brought to Congressional districts. As with industry, the military-Congressional alliance was not a permanent fixture within the American political structure; instead, alliance formation took place along interest-specific lines, which tended to shift with time and circumstances. What was permanent was a new appreciation of the benefits that the country derived from the more cooperative, even collaborative working relationship that had developed between the military and Congress during World War II, and thus the desirability of perpetuating that relationship.

Whether they were isolationist or internationalist in their foreign policy thinking, virtually all Americans became united in their desire to prosecute the war to a successful conclusion once the Japanese attacked Pearl Harbor. Members of Congress were no

exception. As Walter Millis observed in his book *Arms and the State: Civil-Military Elements in national Policy* (1958):

No member [of Congress] wanted to be accused of delaying or getting in the way of the military. Officers in uniform suddenly became effective witnesses before Congressional committees. Word that the War Department favored a bill was likely to be decisive testimony, and civilian agencies maneuvered to get that support if possible for bills they were interested in.¹⁶⁷

A patriotic fervor swept the Congress, manifesting itself in the legislative support the Congress gave the president and the military in declaring war and in appropriating funds for the war effort. For example, the president's proposed declaration of war against Japan passed both houses in less than half an hour. Likewise, the declarations of war against Germany and Italy went through the approval process in less than a day. Congress threw its full constitutional support behind the commander in chief by passing the First War Powers Act into law on December 18, 1941. This act gave the president the power to create, abolish, and reorganize executive agencies as he thought fit, measures over which Roosevelt had fought with and lost to Congress in the 1930s. Moreover, the military received just about anything it asked for. Within the first six months of the war, the Congress appropriated over 100 billion dollars for the military with another 60 billion dollars appropriated in the subsequent four months.¹⁶⁸ As mentioned previously, the Congress allocated almost 50 percent of the nation's GNP to the military budget, which in turn constituted over 90 percent of all governmental spending.¹⁶⁹ With mobilization

¹⁶⁷ Millis, Mansfield, and Stein, *Arms and the State: Civil-Military Elements in National Policy*, 63.

¹⁶⁸ Ibid, Milward, *War, Economy and Society, 1939-1945*, 63-65.

¹⁶⁹ Hooks, *Forging the Military-Industrial Complex*, 114.

affecting every Congressional district, providing financial support for the armed services was not only the right thing to do in a patriotic and civic sense but it was also politically smart. Besides monetary support for the armed services, Congress voluntarily restrained its oversight authority so as not to disrupt the military in the speedy prosecution of the war. While every member of Congress undoubtedly wanted a speedy and successful conclusion to war and hence resisted the urge to meddle in military operations, the sheer scope and technological complexity of the war militated against their involvement, too.

As noted above, World War II spawned the development of highly technological weapons systems and complex operational strategies for their employment. The details of these intricate systems did not lend themselves to easy mastery. As a result, Congress willingly deferred to military expertise on what and how much to buy, how to structure the force, and how to use those resources to prosecute the war. In *The Soldier and the State*, Samuel Huntington maintains that Congress appropriated generously and in record time to the military not because wartime budgets were any less important than peacetime ones; rather, Congress felt that the military should have what it needed and that “it was beyond the capacity of Congress to inquire into military estimates in any fundamental way.” Huntington quotes a Congressman as stating “Congress was willing to trust in God and General Marshall,” and quotes an informed Congressman’s statement that, during the war years, “The War Department, or General Marshall virtually dictated the

budgets.”¹⁷⁰ In addition to deferring to the military on what to procure, the Congress stayed out of the military’s business during the prosecution of the war.¹⁷¹

As Huntington explained it, Congress voluntarily restrained its investigative power: “The fear of involvement in technical military matters expanded into a general willingness to stay clear of the realm of grand strategy.”¹⁷² Truman put the majority of his committee’s effort into ensuring that military expenditures did not usurp the entire economy.¹⁷³ The Truman committee wanted to ensure that the Army and Navy got exactly what they needed “in the minimum of time at a minimum of cost and with as little disruption to the civilian economy as possible.”¹⁷⁴ Further confirming its trust in the military’s technological and operational competence, the Truman committee’s report went on to say: “The committee has the utmost confidence in Admiral King, Chief of Operations of the Navy, and General Marshall, Chief of Staff of the Army, and we believe that matters of tactics and strategy should be entirely in their hands.”¹⁷⁵

In the spring of 1969, almost 25 years after the end of the Second World War, Senator J. William Fulbright, Chairman of the Senate Foreign Relations Committee,

¹⁷⁰ Abramo, *The Economic and Military Potential of the United States*, 277, 292-96; See also: Huntington, *The Soldier and the State*, 323-325.

¹⁷¹ Gropman, “Mobilizing U.S. Industry in World War II,” 62.

¹⁷² Huntington, *The Soldier and the State*, 325.

¹⁷³ {Hooks, *Forging the Military-Industrial Complex*, 105,145, 174; See also: Ibid., and Millis, Mansfield, and Stein, *Arms and the State: Civil-Military Elements in National Policy*, 64.

¹⁷⁴ Huntington, *The Soldier and the State*, 325.

¹⁷⁵ Louis. Smith, *American Democracy and Military Power: A Study of Civil Control of the Military Power in the United States* (Chicago: The University of Chicago Press, 1951), 216. More recent scholarship supports Smith’s claim. For example, Peter Abramo, *The Economic and Military Potential of the United States*, states that the Truman committee felt that military strategy should drive procurement, thus procurement and contracting should remain in the hands of the military.

lamented to a reporter that the military was out of control. He blamed the secretary of state, the president, the Congress, and himself, stating: “nothing could be done, for example, to cut an appropriation for the Defense Department no matter what I did. This is something that started with World War II. The Congress simply does not review or investigate or exercise control over Defense spending”; and later in the same interview: “The majority of Senators [don’t] want to take responsibility for second guessing the military.”¹⁷⁶ Morris Janowitz said essentially the same thing in his book *The Professional Soldier: a Social and Political Portrait*. “Congress fully recognizes its dependency on the expertise of the military professional [and] legislators often feel that they do not have sufficient basis for evaluating the testimony of the military establishment.”¹⁷⁷ Neither Donald Nelson, head of the War Planning Board (WPB), nor Under Secretary of War Robert P. Patterson felt that civilian agencies should interfere with military procurement. Experience with the Truman committee led them both to believe that any civilian agency would be heavily criticized by Congress, so they gladly left procurement authority to the military services.¹⁷⁸ Although Congress was often skeptical of the military’s demands upon the economy during the war, it nevertheless did not challenge the military on its acquisitions, force structure, or strategy.

In addition to reasons associated with patriotism and the need to defer to military expertise, Congress drew closer to the military because of the economic benefits that the

¹⁷⁶ Adam. Yarmolinsky, *The Military Establishment: Its Impacts on America Society* (New York: Harper and Row, Publishers, 1971), 53.

¹⁷⁷ Morris Janowitz, *The Professional Soldier: A Social and Political Portrait* (New York: The Free Press, A Division of the Macmillian Company, 1971). A factor contributing to congressional hands-off policy, was the absence of the relatively large staffs they have today.

¹⁷⁸ Abramo, “The Economic and Military Potential of the United States, 293.

war's military spending brought to the various Congressional districts. Virtually every industry in America saw an increase in government spending due to military appropriations. Not all Congressional districts benefited equally. Initially, military contracts were awarded to industry's leading businesses--those corporations that had the managerial, R&D support base, capital, and plant infrastructure needed to produce military equipment and armaments quickly and in great quantity.¹⁷⁹ From June 1940 to September 1941, 82 percent of the money for prime supply contracts went to the largest 100 companies in the U.S. These firms represented less than two percent of the business in American industry but nearly 40 percent of the industrial output.¹⁸⁰ Fearing that select corporations might be deriving windfall profits from the nation's and the military's predicaments, both the House and the Senate held small business hearings and developed legislative proposals to deal firmly with this issue, ultimately passing the Small Business Act of 11 June 1942.¹⁸¹ This act ensured that the military considered and issued primary contracts to those firms with 500 or less employees.

In passing this legislation, Congress acted on its penchant for bringing more benefits into a district regardless of their dollar amount. By diffusing award of military contracts in this manner, Congress attempted to ensure that benefits associated with the war reached every district.¹⁸² In *The Purse and the Sword*, Elias Huzar states, "Most Congressmen's attention, if any, has been focused chiefly on those Army activities that

¹⁷⁹ Smith, *The Army and Economic Mobilization*, 413-14.

¹⁸⁰ Abramo, "The Economic and Military Potential of the United States", 256-57.

¹⁸¹ Smith, *The Army and Economic Mobilization*, 418.

¹⁸² Millis, Mansfield, and Stein, *Arms and the State Policy*, 121.

have direct effects on their constituents. [T]hey have been less interested in how much, or for what, military funds are to be spent than they have been in the locations at which the money is to be expended.”¹⁸³ War or no war, Congress faced elections every two years, and being able to claim credit for furthering the war effort while at the same time bringing jobs, economic growth, and increased individual prosperity to their districts provided Congressional leaders with marketable moral and political capital.¹⁸⁴ Given the dollar amount of military appropriations (48 percent of the GNP) and the potentially positive impact those appropriations might have on the businesses in their districts, it is not surprising that individual Congressmen would develop a closer working relationship with the military.

In addition to Congress’s overt championing of small business, major corporations subcontracted out most of the production to small firms. Under Secretary of War Patterson at the opening session of the Truman Committee early in 1941 testified:

We had to take industrial America as we found it. For steel we went to the established steel mills. For automobiles we went to Detroit. So does the general public. Take airplanes: We placed orders with concerns that can manufacture them, and contracts must be placed in line with the manufacturing facilities, existing and potential, of the particular company. The manufacturers are sharing a great amount of their work by

¹⁸³ Huzar, *The Purse and the Sword*, 46-7. See also James M. Lindsay, "Congress and the Defense Budget: Parochialism or Policy?," in *Arms, Politics and the Economy*, ed. Robert Higgs (New York and London: Holmes & Meier Publishers, Inc., 1990), 176; Kenneth R. Mayer, "Elections, Business Cycles, and the Timing of Defense Contract Awards in the United States," in *The Political Economy of Military Spending in the United States*, ed. Alex Mintz (London and New York: Routledge Publishers, Inc., 1992), 19-25; Robert M. Stein and Kenneth N. Bickers, *Perpetuating the Pork Barrel: Policy Subsystems and American Democracy* (Cambridge, New York and Melbourne: Cambridge University Press, 1995), 145-46. Lindsay quotes Rep. Les Aspin (D-Wis) in the late 1980’s : “Because of the nature of the information a congressman gets, the Armed Services Committee is typically less concerned about the question of how much we are buying in defense than the question of where we are going to buy it.” All the references listed above support Huzar’s observation made 52 years ago.

¹⁸⁴ Robert M. Stein and Kenneth N. Bickers, *Perpetuating the Pork Barrel*, 122.

subcontracting with other concerns. The Lockheed Co., for instance, has 350 subcontractors; the Boeing Co. has 325.¹⁸⁵

In the summer of 1941, 18,000 prime contracts generated 366,000 subcontracts that went to the smaller companies that made up over 98 percent of the U.S. industry.¹⁸⁶

Subcontracting ensured that the benefits derived from military appropriations were widely, if not evenly, distributed among Congressional districts (see Table 3-2 below).

During the course of the war, the War Department let 576,133 prime contracts worth 83.847 billion dollars. Of that number, small business (500 or less employees) received 356,971 prime contracts worth 15.027 billion. Said differently, small businesses received 62 percent of all prime contracts worth 17.9 percent of the total dollar value of all prime contracts let during the war. Much of this money was spent on technologically advanced weapons such as advanced bombers, fighters, tanks, and aircraft carriers. During the war the United States produced 303,717 aircraft, 88,430 tanks, 115 escort carriers, and 30 fast attack carriers. The value of aircraft production alone in 1944 was over 17 billion dollars.¹⁸⁷ Table 3-2 below shows the distribution of prewar manufactured products and wartime defense supply contracts by percentage of total value:

¹⁸⁵ Smith, *The Army and Economic Mobilization*, 414.

¹⁸⁶ Abramo, "The Economic and Military Potential of the United States: Industrial Mobilization Planning 1919-1945", 259.

¹⁸⁷ Gropman, "Mobilizing U.S. Industry in World War II," 93, 96-97.

Table 3-2. Allocation of Prewar Manufactured Product Defense Supply Contracts by Percentage of Total Value

REGION	1939 Total Value of Manufactured Product	Percent Change in FY 1940 Defense Supply Contracts	Percent Change in Defense Supply Contracts Thru Dec. 1942	Percent Change in Defense Supply Contracts Thru Jul. 1943	Total Defense Supply Contracts WORLD WAR II
New England	8.6	+4.8	-3.1	-1.5	9.2
Middle Atlantic	28.2	+1.7	-7.5	+0.3	24.6
East North Central	30.8	-15.2	+13.5	+2.5	34.1
West North Central	6.8	-2.5	+1.3	+0.6	5.4
South Atlantic	9.5	+3.4	-4.6	-0.5	6.3
East South Central	3.5	-1.3	+0.7	-0.1	2.1
West South Central	4.5	+0.1	+1.2	-0.3	5.2
Mountain	1.5	-0.4	+0.5	-0.2	0.4
Pacific	6.6	+9.3	-1.6	-0.8	12.6

Sources: National Industrial Conference Board, *The Economic Almanac for 1941-42*, p. 61; Idem, *The Economic Almanac for 1945-46* (New York: The Conference Board, National Industrial Conference Board 1946), pp 193-4; Idem, "Regional Impact of War Contracts United States, 1939-1943," Road Maps of Industry Weekly Char Service, No 406 (New York: National Industrial Conference Board, Inc., October 8, 1943), passim.¹⁸⁸

With the exception of the West North Central region, the percentage of total value in supply contracts closely approximates the region's pre war total value of manufactured products although the aggregate dollar value during the war grew substantially. Due to the concentration of aircraft and shipbuilding industries along the Pacific coast during the war, this region saw proportionately greater growth than the other regions did. Also, while the table shows the aggregate benefits of prime contracts in the region, it does not

¹⁸⁸ Abramo, *The Economic and Military Potential of the United States*, 261

show the benefits the regions derived from subcontracts, nor does it factor in the growth of the services, transportation, and communication industries that supported the expansion and development of the manufacturing industry. Military appropriations brought much more than an expansion in a particular industry. In many cases it benefited the entire economic infrastructure of the area, and it is one of the reasons members of Congress lobbied and petitioned the military to let contracts for small businesses and build bases in their districts.

A Senator from Oklahoma said to a military officer at a Senate hearing on a supplemental to the National Defense Appropriation Bill for 1942:

To date you have located too many of these installations in the coastal states. My good friend from Virginia (Senator Glass) lives in a virtual arsenal; Texas is almost covered with defense camps, plants, and institutions. There is a group of states in the center of the United States, embracing such states as Kansas, Oklahoma, Colorado, Nebraska, Iowa, the Dakotas, Wyoming and other states that have been overlooked (Third Supplemental National Defense Appropriation Bill for 1942, Senate Hearings, p. 333).¹⁸⁹

A year later, in 1943, Senator O'Mahoney complained to the Truman committee that the economic benefits associated with prosecuting the war should be more equally distributed throughout the country:

There are great areas in this country which are deprived completely of any share in the war program, and when Members of Congress urge consideration of their States, the tendency for a great many people is to say that they are merely trying to get political fat for their States; where, as a matter of fact, what they are trying to do is to protect the economic status of their people (1943 Senate Hearings 64-65).¹⁹⁰

¹⁸⁹ Huzar, *The Purse and the Sword*, 50.

¹⁹⁰ *Ibid.*, 51.

By and large, such Congressional pleas were successful. Table 3-3 below shows the growth in manufacturing firms by region.

Table 3-3. Number of Manufacturing Facilities by Region 1939 and 1947

REGION	1939	1947	% Growth
New England	15,201	20,274	25
Mid-Atlantic	53,226	75,363	29
East North Central	30,013	50,570	41
West North Central	14,066	17,403	19
East South Central	7,024	10,907	36
West South Central	9,509	13,181	28
South Atlantic	16,657	24,001	31
Mountain	3,787	5,049	26
Pacific	16,319	24,133	32
TOTAL	173,802	240,881	28

Source: U.S. Bureau of the Census, *Census of Manufacturers: 1947, Vol. 1: General Summary*, p.32.¹⁹¹

This table reveals that every region benefited from the military's technologically-driven appropriations. The total of manufacturing firms grew by 28 percent. Also, with the exception of the East and West North Central regions, all other regions grew at a rate within three percentage points of the 28 average.

Considering the scale of defense spending and the fact that the military largely obtained the appropriations it requested, the opportunity to gain economic benefits for

¹⁹¹ Abramo, *The Economic and Military Potential of The United States*, 337

their states and districts through military contracts was incentive enough for most Congressmen to work closer with the military. The economic benefits mentioned above, coupled with Congress's patriotic fervor and Congress's need to defer to military's expertise in the actual conduct of the technologically and operationally complex military operations characteristic of the war, provided the military and Congress with opportunities to develop personal as well as institutional working alliances.

So why did the Congress defer to the military during the Second World War? Most likely Congress felt comfortable with the level and effort of planning conducted by the military and industry during the pre war period. In addition, military, business, and industrial technology had advanced so dramatically that Congress lacked the expertise to oversee the details, thus having to defer to the military and industrial experts.¹⁹²

World War II ushered in a new wave of technological advancement in the complexity, efficiency, lethality, and precision of military weapons systems. That the exigencies of war should drive the military to adapt to the realities presented by technology is not as apparent as it may seem. Bureaucratic institutions traditionally resist change, and the military before World War II was no exception. World War I had shown the efficacy of the tank and motorized transportation, yet the cavalry remained a mainstay of the U.S. Army force structure well into the late 1930s. Similarly, in the 1920s Army air power advocate Billy Mitchell and naval aviation pioneers demonstrated the range and destructiveness of massed airpower (with the concomitant obsolescence of the battleship). However, when the war began, the U.S. Army air corps was fragmented and dispersed, while carrier-based aviation was relegated to supporting the main striking

¹⁹² Millis, *Arms and Men*, 205-10.

power of the fleet--the battleship. That the military adapted to technological change so rapidly is a testament to the unrelenting drive of the pioneers in these fields, but even more so to the benefits that the military as an organization derived from technology during the war; namely, expertise, autonomy, battlefield success, and political allies.

These benefits would have disappeared had not technology and the war fundamentally altered America's role in the international system. Having won the war, most Americans were only too willing to get on with their temporarily disrupted lives. However, the world had changed and so had America's role in it. Americans soon had to confront this realization. A new type of war developed. Unlike previous wars characterized by conquest and destruction, this war, a cold war, was characterized by intimidation, ideological differences, and the struggle for people's hearts and minds. Moreover, it threatened to turn "hot" at almost any time at a number of flash points around the globe, with the omnipresent potential to escalate into nuclear war. In the Cold War environment, technology and military advice became even more important than they had in the Second World War. As technology had helped to shape the military's weapon system preferences during World War II, it would play an even greater part in shaping such preferences and in increasing the military's influence in foreign policy during the Cold War.

CHAPTER 4

MILITARY TECHNOLOGY AND ITS EFFECTS ON SERVICE DECISION- MAKING AND DOCTRINE

The unleashing of the atomic bomb on Japan in August 1945 ended World War II demonstrating for all to see America's scientific and technological superiority. The totality of America's victory, for a while at least, made America economically, politically, and militarily the most powerful nation in the world. American prestige, especially military prestige was at an all-time high both at home and abroad. A factor contributing to this status was the technological expertise the military had acquired and demonstrated during the war. Military technology, as discussed in the preceding chapter, was a key component of America's victory, and while technology had increased the military's expertise and autonomy, it had not substantially elevated the military's role in foreign policy development; however, the Cold War changed that. The present chapter has two objectives. First, it examines the development of the military's weapons systems preferences during the Cold War. Second, it explores the military's relative autonomy in the decision-making process that determines which weapon system technologies to develop and procure.

Immediately after World War II, American began a precipitate demobilization. It appeared that America's traditional civilian control paradigm would reassert itself after the military's brief period of influence during World War II. However, the Soviet Union

soon began to threaten America across the full spectrum of its diplomatic, economic, and ideological interests. Beginning in 1946, tension between the communist Soviet Union and the capitalist United States heightened. Ever mindful of the Soviet Union's geographic vulnerability to invasion from the west, Stalin sought security in territorial acquisitions. The countries that the Red Army liberated from the Nazis during the Second World War provided Stalin with a buffer against invasion in his struggle with the West. Stalin, backed by the Red Army, institutionalized the buffer by ensuring that elections in Eastern Europe were rigged to select only communist parties aligned with the Soviet Union. Winston Churchill coined the term "Iron Curtain" to describe the barrier that developed between Western and Eastern Europe as a result of the growing confrontation.¹ Initially, the chief weapons the west wielded in this Cold War were economic. However, when the Soviet Union exploded an atomic bomb in August 1949, thus ending America's nuclear monopoly, the military element of power took on increased importance.² Technologically superior weapons systems became an essential asset in America's struggle against communism. The military's weapon system preferences and the decisions made to develop and acquire them had important effects on the development of America's various containment strategies during the Cold War.

That the U.S. military would have a greater role in foreign and national security policy seems only logical given the perceived threat the Soviet Union posed for most of

¹ Richard K. Betts, *Soldiers, Statesman and Cold War Crises*, Morningside ed. (New York and Oxford: Columbia University Press, 1991), 104-111; John Lewis Gaddis, *We Now Know: Rethinking Cold War History* (New York: Oxford University Press Inc., 1997), 15, 24-28. Betts provides the U.S. reaction to the possibility of a nuclear war.

² Walter S. Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, vol. IV, *History of the Joint Chiefs of Staff* (Washington, DC: U.S. Government, 1986), 1.

the Cold War. However, the military's influence went beyond merely advising the civilian leadership. In many instances, the military had an active hand in the formulation of the nation's foreign and security policies. While not the only factor, weapons system preferences and service autonomy in deciding what weapons systems to develop significantly enhanced the military's influence in this process.

The Military and Weapons Systems Preferences

Given the nature and scope of the Soviet threat that America faced at the onset of the Cold War and America's penchant for technology, it is not surprising that this country would choose to offset Soviet quantity with quality. Aaron Friedberg writes in his recent book *In the Shadow of the Garrison State: America's Anti-Statism and Its Cold War Grand Strategy*, "From the onset of the Cold War, top American decision-makers tended to believe both that it was necessary for their country to seek a technological edge over the Soviet Union and its allies, and that such an advantage could be achieved and maintained. These beliefs helped to keep technology at the forefront of American strategy and to sustain a massive four decade flow of resources into research and development."³ Even before the Second World War ended, senior American scientists and military planners agreed that a central goal of the nation's peacetime defense policy must be the maintenance of a preeminent position in weapons technology. Unless the U.S. and its allies were willing to meet the Soviet challenge man for man and vehicle for

³ Aaron L. Friedberg, *In the Shadow of the Garrison State: America's Anti-Statism and Its Cold War Grand Strategy* (Princeton: Princeton University Press, 2000), 297.

vehicle, the nations of the free world would have to offset the advantages of their rivals by substituting firepower for manpower, capital for labor, quality for quantity. “Heavy reliance on technology,” according to Friedberg, “was therefore not an option for the West; given the internal characteristics of the Cold War competitors, it was essential.”⁴

Reflecting the society that spawned it, the U.S. military was receptive to technological innovation. However, the military, like any large bureaucratic organization, develops rules, regulations, standard operating procedures, and organizational structures that all militate against change and innovativeness. As Friedberg makes clear, “For the armed services, endless technological change was a rather more mixed blessing, bringing disruptions to existing patterns of organizational and doctrinal thought. It was precisely the desire to avoid such disruptions that had often caused military organizations to cling to existing ways of warfare. The postwar embrace of a policy of perpetual innovation by the armed services helped to overcome those traditional sources of resistance to technological change.”⁵ But components of the military, i.e. the individual services, did not all embrace “perpetual innovation” to the same degree. To understand the military’s specific technological choices during the Cold War requires a brief examination of the services’ war-fighting theories and doctrine, past experience with technology, cultural orientation toward technology, the number of advanced weapons systems they procured, the money they allocated to these systems, and how these weapons systems shaped the services’ war-fighting strategies. In light of these criteria, this section examines three weapons systems technologies that emerged during

⁴ Ibid., 297, 300.

⁵ Ibid., 97, 200.

the Cold War: the Air Force's strategic bomber, the Navy's carrier task force, and the Army's helicopter.

The U.S. Air Force, the youngest of the services, is also the one most enamored of technology.⁶ Its doctrinal and strategic antecedents go back to the theories of Giulio Douhet of Italy, William "Billy" Mitchell of the United States, Sir Hugh Trenchard of Great Britain, and Alexander De Seversky, a former Russian Czarist aviator who immigrated to the United States.⁷ While their theories differed from one another in various particulars, they all believed that airpower as embodied in technologically advanced aircraft would be the deciding factor in any future conflict. In the U.S. Air Force's official history of air force bombing doctrine, appropriately titled *Strategic Bombardment*, David MacIsaac writes:

Douhet was the most strident of the three, seeing a long-range air force composed entirely of bombers (called battleplanes) as both necessary and sufficient to secure command of the air, that is, air superiority from which, he argued, victory in war must inevitably follow. Trenchard's view was broader and included the concept of air control, in which military aviation was applied to the functions of policing the Empire. Mitchell's approach was the most flexible of the three, emphasizing that all future warfare would be dominated from the air, and hence a separate air force, consisting of all aircraft types and led by airmen should be organized to capitalize on what he saw as the virtually unlimited potential of emerging aircraft capabilities.⁸

⁶ Carl H. Builder, *The Masks of War: American Military Styles in Strategy and Analysis*, A Rand Corporation Research Study (Baltimore and London: The Johns Hopkins University Press, 1989), 19.

⁷ Robert Frank Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force, 1907-1960*, 2 vols., vol. I (Maxwell Air Force Base, AL: U.S. Government Printing Office, 1989), 167; David MacIsaac, "Introduction," in *Strategic Bombardment*, ed. R. Cargill Hall, *Air Force History and Museums Program* (Washington, DC: U.S. Air Force, 1998), 4.

⁸ MacIsaac, "Introduction," 4.

Like Mitchell, De Seversky emphasized the importance of winning the air battle in order to gain air superiority. He maintained that victory could not be achieved without air superiority: “But once we have achieved clear-cut dominance in the air,” he stated, “all else becomes a secondary subordinate, auxiliary operation.”⁹ Within their theories, the central aspect of a war winning strategy was bombardment from the air. They prophesied that strategic bombardment would penetrate the enemy’s defense, destroy his war-making industry, defeat his armies on the ground, and reduce his cities to smoldering ruins, thus bringing about victory. The key aircraft in the accomplishment of all this was the long-range bomber. Bombers not only drove the development of Air Force doctrine, but also furnished the Air Force with its *raison d’être*.

The U.S. Air Force’s experience in World War II confirmed its belief in air power theory, the doctrine of strategic bombardment, and the technology of the long-range bomber. However, not every promise of air power came to fruition. For example, the German economy, though dispersed and disrupted by strategic bombardment, was not destroyed. In fact, Germany reached the height of its industrial production in the fall of 1944, a time coinciding with the height of the allied bombing effort against Germany. Also, there is no evidence to support the claim that the Germans’ will to resist was significantly lowered by bombardment.¹⁰ These disclaimers notwithstanding, strategic

⁹ Futrell, *Ideas, Concepts, Doctrine*, 171.

¹⁰ Tami Davis Biddle, *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas About Strategic Bombing, 1914-1945* (Princeton, NJ and Oxford: Princeton University Press, 2002), 80, 84, 274; Gian P. Gentile, *How Effective Is Strategic Bombing? Lessons Learned from World War II to Kosovo* (New York and London: New York University Press, 2001), 63, 72-76, 125; “United States Strategic Bombing Survey, 1944-45,” (Washington, DC: War Department, 1945), 1-67.

bombardment did assist in the destruction of the German *Luftwaffe* and thus helped the U.S. gain air supremacy.¹¹ Bombers were also effective at destroying German lines of communication and supply thereby disrupting the enemy's movement of troops and supplies to the fighting front. The Air Force inflicted even more serious damage to the German war effort when it attacked German oil sources.¹² Against Japan, the bombing effort was much more successful due to the geographical concentration of the Japanese war industry and its dependence on imported oil. The independent civilian commission that prepared the *Strategic Bombing Survey* concluded, "Only repeated and sustained attack could assure the permanent dislocation of manufacturing effort."¹³ The Air Force concentrated the majority of its resources in bombers. Over 33 percent (69,082) of its total airframes were bombers organized into 141 wings and 33 percent (68,712) of its aircraft were fighters, roughly an even division. However, on average, the bomber cost four to five times as much as a fighter to manufacture and required a crew of from seven to nine personnel as opposed to one.¹⁴ On the whole, it is evident that in addition to its doctrinal leanings, the Air Force's experience during the Second World War confirmed its belief in the efficacy of bomber technology.

¹¹ Gentile, *How Effective Is Strategic Bombing*, 76.

¹² Biddle, *Rhetoric and Reality in Air Warfare*, 284; Clayton K.S. Chun, *Aerospace Power in the Twenty-First Century: A Basic Primer* (Colorado Springs, CO: U.S. Government Printing Office, 2001), 95.

¹³ Stephen L. McFarland and Wesley Phillips Newton, "The American Strategic Air Offensive against Germany in World War II," in *Strategic Bombardment*, ed. R. Cargill Hall, *Air Force History and Museums Program* (Washington, DC: U.S. Government, 1998), 235-37.

¹⁴ Wilbur D. Jones Jr., *Arming the Eagle: A History of U.S. Weapons Acquisition since 1776* (Fort Belvoir, VA: Defense Systems Management College Press, 1999), 281.

The airplane, especially the bomber as used in World War II, was the instrument that gave birth to an independent air force, an independence formally recognized in the U.S. with the National Security Act of 1947.¹⁵ Carl H. Builder in his book about service cultures and approaches to war, *The Masks of War: American Military Styles in Strategy and Analysis*, writes: “If flight is a gift of technology, and if the expansion of technology poses the only limits on the freedoms of that gift, then it is to be expected that the fountain of technology will be worshipped by fliers and the Air Force.”¹⁶ This cultural orientation toward technology expressed itself institutionally in the Air Force’s establishment of the RAND Corporation in the early 1950s, a civilian-based research entity and think tank for the Air Force. Budgetarily, it expressed itself in the amount of money the Air Force spent on R&D (approximately 11.2 percent of its balance sheet from 1950 to 1989). On average, the Air Force spent one third more than the Navy and twice as much as the Army on R&D.¹⁷

Evidence of the Air Force’s preference for strategic bombers was manifest in the bomber proportion of its pool of combat aircraft during the war and in the amount of money allocated for their development and procurement as a percentage of the overall Air Force budget. During the 1950s and 1960s the number of operational bomber wings among total Air Force wings grew from 20 of 93 in 1951 (26 percent) to 52 of 122 in 1960 (44 percent), then gradually declining to 28 of 83 wings by 1970 (33 percent), to 20

¹⁵ Builder, *The Masks of War*, 19; David E. Johnson, *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army, 1917-1945* (Ithaca, NY and London: Cornell University Press, 1998), 103.

¹⁶ *Ibid.*, 19.

¹⁷ Joseph T Kammerer, “*United States Air Force Statistical Digest FY 1998*,” (Washington, DC: U.S. Air Force, 1999), 15-17; Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy*, Wars of the United States Series (Bloomington, IN: Indiana University Press, 1973), 409-410.

of 79 by 1980 (25 percent) and then leveling off to between 17 and 19 of 62 (31 percent) until the end of the Cold War.¹⁸ The decline in the number wings did not mean the Air Force had moved away from the bomber. Although the number of bombers declined in the last half of the Cold War, the amount of money spent by the Air Force on bombers as a percent of its budget grew. The development of the B-52 and the B-1 bombers illustrate this subtle but important point.

The development of the B-52 began in 1946, with the Air Force accepting the first model B-52A in June of 1954. Each airplane cost 28.38 million dollars, with the research and development cost over some five years totaling nearly 100 million dollars, a large sum at the time.¹⁹ Between 1954 and 1962, the Air force procured 744 B-52s of various models, for a total procurement cost of 5.246 billion dollars.²⁰ When spread out over the eight years of the B-52's production, this yearly cost represented 7.21 percent of the Air Force's budget. Moreover, the Air Force spent 5.4 percent of its Budget for R&D as well as developing and procuring six other bomber types (B-36, B-45, B-47, B-50, B-57, and the B-58) during the same period, all with similar costs.²¹ Even though the number of bombers in the force inventory dropped as the Cold War lengthened, the capabilities and the cost of the new bombers increased.

¹⁸ Air War College, *USAF Wing Force Structure* [Internet] (May 2002 [cited August 22, 2002]); available from http://www.au.af.mil/au/afhra/wwwroot/USAF_wingforce_structure/1940s.htm.

¹⁹ Marcelle Size Knaack, *Post-World War II Bombers 1945-1973*, vol. II, *Encyclopedia of U.S. Air Force Aircraft and Missile Systems* (Washington, DC: U.S. Government, 1988), 266.

²⁰ *Ibid.*, 277-89.

²¹ Michael E. Brown, *Flying Blind: The Politics of the U.S. Strategic Bomber Program*, eds. Robert J. and Robert Jervis Art, *Cornell Studies in Security Affairs* (Ithaca and London: Cornell University Press, 1992), 325-30; Knaack, *Post-World War II Bombers 1945-1973*, 97.

The Air Force began development of the B-1 bomber in 1961. Twelve years later, in 1973, the Air Force had spent over 13.138 billion dollars on research and development without producing an operational aircraft. The Carter administration cancelled the program, but the Air Force and its proponents resurrected the B-1 under the Reagan presidency. The first prototype B-1 flew in 1984 and the Air Force accepted the first squadron in 1986.²² In all, the Air Force acquired 100 B-1 bombers for a total price of 28.5 billion dollars, or 285 million dollars per plane exclusive of Research, Development, Testing and Evaluation (RDT&E) costs. The procurement cost alone of these 100 planes (out of over 3,000 thousand airframes in the active inventory) accounted for over 14 percent of the Air Force's budget each year during the two years they were procured.

While the B-1 was still in the RDT&E stage, the Air Force began development of the B-2 stealth bomber. Since this bomber embodied secret stealth technology, only a few members of Congress were aware of its costs. By the early 1990s, when the financial ramifications of developing the B-2 became known, tens of billions of dollars had already been sunk into its development. In 1991, the Department of Defense estimated the total cost for 75 B-2s at 64.7 billion dollars or 863 million per aircraft.²³ By way of comparison, a B-52 bomber in constant 1997 dollars would have cost 33.3 million dollars to produce versus the 285 million for a B-1 and 863 million for a B-2. In 1992, bomber wings accounted for only ten percent of the Air Force's total force structure (12 out of

²² Brown, *Flying Blind: The Politics of the U.S. Strategic Bomber Program*, 293. Amounts are in 1986 current dollars.

²³ *Ibid.*, 302.

112 wings), yet received over 30 percent of its budget.²⁴ The Air Force may have reduced the number of bombers in its inventory, but when measured in terms of funds allocated to them, bombers continued to figure heavily in Air Force procurement during the Cold War. Table 4-1 below shows the amount of the Air Force's budget that went into R&D for the technological development of aircraft (especially bombers such as the B-70, B-1, and B-2), missiles, and electronics during the Cold War.

By 1985, the Air Force's commitment to technology represented 15.8 percent of its budget and over 6 percent of the total DOD budget. Although many factors affected Air Force budgeting decisions, e.g., new operational roles and missions, missiles and space-based systems, and changes in force structure, the strategic bomber in its advanced development played a pivotal role in the Air Force's strategic concepts and capabilities throughout the Cold War.

²⁴ Air War College, *USAF Wing Force Structure*.

Table 4-1. Air Force Commitment to Technology Through Research and Development (R&D) (Amounts are in Millions of Dollars)

Year	Air Force R&D	Air Force TOA	R&D as % TOA	DOD TOA
1950	233.0	4,624.0	5.1	13,874.0
1955	441.0	11,564.0	3.7	42,729.0
1960	1,416.0	18,823.0	7.4	48,130.0
1965	3,350.0	19,400.0	17.3	50,620.0
1970	3,050.0	23,900.0	12.8	81,692.0
1975	3,343.0	26,000.0	12.8	86,509.0
1980	5,487.9	41,600.0	13.2	133,995.0
1985	15,352.0	96,500.0	15.8	252,748.0

Sources: Budget of the United States Government 1950, 1955, 1960, 1965, 1970, 1975, 1980, 1985; Historical Tables, Budget of the United States Government-Fiscal Year 2001; and U.S. Air Force Statistical Digest-FY 1998.²⁵

The Air Force's technological choices influenced their strategic recommendations. After all, strategy is channeled by the nature of the weapons at hand. Of all the services, the Air Force advocated the most aggressive strategy. Relying on the bombers and later Intercontinental Ballistic Missiles (ICBMs) of the Strategic Air Command (SAC), the Air Force proposed to deliver, in Gen. Curtis LeMay's words, a

²⁵ Kammerer, *United States Air Force Statistical Digest FY 1998*; U.S. President, *Budget of the United States Government 1955* (Washington, DC: U. S. Government, Executive Branch, 1955); U.S. President, *Budget of the United States Government, 1950* (Washington, DC: U.S. Government, Executive Branch, 1950); U.S. President, *Budget of the United States Government, 1960* (Washington, DC: U.S. Government, Executive Branch, 1960); U.S. President, *Budget of the United States Government, 1965* (Washington, DC: U.S. Government, Executive Branch, 1965); U.S. President, *Budget of the United States Government, 1970* (Washington, DC: U.S. Government, Executive Branch, 1970); U.S. President, *Budget of the United States Government, 1975* (Washington, DC: U.S. Government, Executive Branch, 1975); U.S. President, *Budget of the United States Government, 1980* (Washington, DC: U.S. Government, Executive Branch, 1980); U.S. President, *Budget of the United States Government, 1985* (Washington, DC: U.S. Government, Executive Branch, 1985); U.S. President, *Historical Tables, Budget of the United States Government-Fiscal Year 2001* (Washington, DC: The White House, 2000).

devastating “Sunday punch” at the very outbreak of hostilities.²⁶ This meant that the Air Force’s bombers launching from both the United States and overseas bases would attack a series of priority targets with nuclear weapons in the first stage of the war, then continue to bomb with conventional weapons in subsequent stages. The Air Force’s targeting priority was Soviet industry, military forces, and then population centers. In the Air Force’s view, the U.S. would need ground and naval forces, but they were subsidiary to the Air Force’s bombing campaign. The Air Force anticipated victory in six to 12 months (LeMay told his command to plan on a war of no more than 30 days).²⁷ Under General LeMay’s leadership, the Air Force’s Strategic Air Command (SAC) trained to respond immediately to any Soviet first launch, while secretly it prepared to pre-empt any Soviet intent to launch, i.e., catch Soviet nuclear forces on the ground and in their missile silos as they prepared to attack. Although nuclear weapons release remained in the hands of the president as Commander in Chief, the revelation by LeMay to a group of defense contractors that he intended to deliver the first blow and actually initiate a nuclear war was alarming.²⁸ LeMay and the Air Force’s senior leadership felt that Soviet awareness of the American preemptive capability was as much a deterrent to war as America’s retaliatory capability. LeMay’s confidence in SAC’s capabilities was based on the

²⁶ Nick Koltz, *Wild Blue Yonder: Money, Politics, and the B-1 Bomber* (New York: Pantheon Books, A Division of Random House, Inc., 1988), 37-39.

²⁷ David Alan Rosenberg, “Toward Armageddon: The Foundation of United States Nuclear Strategy, 1945-1961” (Ph.D. diss., University of Chicago, 1983), 201.

²⁸ Koltz, *Wild Blue Yonder*, 37. LeMay implied to his visitors that he intended to conduct a preemptive nuclear attack against the Soviets should he receive indicators that the Soviets were preparing for an attack. When questioned on this apparent breach of authority by one of his guests who said, “But General that is not national policy,” LeMay responded: “I don’t care. It’s my policy. That’s what I’m going to do.”

technological supremacy of its bombers and the superb training of its crews.²⁹ The Air Force retained its other missions of air supremacy, air interdiction of the battlefield, and close air support for the Army; however, based on budget allocation, it was apparent that the strategic bomber drove their procurement and force structure decisions along with their strategic recommendations.³⁰

Like the Air Force, the U.S. Navy had a technological predisposition based on its doctrine, its experience, and its cultural inclination. This predisposition was manifest in the number of aircraft carriers the Navy acquired and the strategy it recommended for their employment. By World War II, the Navy's weapon system of choice was the aircraft carrier. The Navy's theoretical roots stem from the writings of Alfred Thayer Mahan and Sir Julian Corbett. Mahan and Corbett both saw navies as the primary guarantor of their nations' prosperity. Both argued that the lifeblood of the nation, i.e. commerce and trade, flowed on the oceans of the world and that a strong navy was necessary to ensure the unimpeded flow of that blood.³¹ Additionally, the navy provided the nation with its first line of defense against foreign invasion; and, should it become necessary to deploy troops to a foreign war, it was the navy that would transport them,

²⁹Rosenberg, "Toward Armageddon," 197-203. LeMay developed an elite finely honed military instrument. SAC's war plans called for up to 735 bombers to hit the Soviet early warning screens from all directions simultaneously. He had many doubters within the military. But in July of 1953, during Operation TAILWIND, SAC bombers carried out simulated strikes against major coastal and inland cities in the United States that replicated Soviet targets. Over a 48-hour period only one bomber was intercepted prior to releasing its weapon, lending further strength to LeMay's strategic recommendations.

³⁰ Ibid., 204-07. Rosenberg outlines the growing importance and autonomy of the Strategic Air Command under LeMay's leadership. LeMay and SAC dominated the Air Force budget, and for a while drove the development of U.S. nuclear war strategy. See also Steven T. Ross and David Alan Rosenberg's 14-volume set of formerly classified documents that chronicle the development of the military's nuclear war plans from 1945 to 1961, published in New York by Garland in 1989.

³¹ Alfred Thayer Mahan, *The Influence of Sea Power Upon History 1660-1783*, Dover ed. (New York: Dover Publications, Inc., 1987), 25-28.

support their assault onto land, and then sustain them once ashore.³² In preparation for these tasks, it was essential for the navy to have bases overseas to sustain the fleet. If war should arise, then according to Mahan and Corbett the navy should be fully prepared to protect U.S. commerce, which might entail the destruction of the enemy fleet in a climatic battle at sea.³³ They envisioned that battleships would provide the decisive edge in battle and be the mainstay of any fleet.³⁴ However, the technological development of the aircraft carrier and naval aviation in the 1930s began to push the battleship into a supporting role as part of a new weapon system called the carrier task force.

Indeed, the Navy's experience in World War II confirmed its belief in the aircraft carrier as the centerpiece weapon system of an even larger system called the carrier task force. With the exception of the action in the Suriago Strait during the Battle of Leyte Gulf in October 1944, carriers whose surface combatants never saw one another during the engagement fought every fleet-on-fleet action in the Pacific.³⁵ The carrier task force consisted of one or more aircraft carriers with up to 80 to 90 aircraft apiece that provided the bulk of the offensive power of the task force. The remainder of the task force consisted of battleships, cruisers, destroyers, tankers, hospital ships, troop transports,

³² Ibid., 28-33.

³³ Seymour J. Deitchman, *Military Power and the Advance of Technology: General Purpose Military Forces for the 1980s and Beyond*, Revised ed., Westview Special Studies in Military Affairs (Boulder, CO: Westview Press, Inc., 1983), 87-88.

³⁴ George and Meredith Friedman, *The Future of War: Power, Technology, and American World Dominance in the 21st Century* (New York: St Martin's Griffin Press, 1996), 29,93-98.

³⁵ Weigley, *The American Way of War*, 303.

landing ships, and other specialized vessels.³⁶ Diverse as these ships were, their capabilities were wedded together in support of the carriers. The carrier task force was the main striking arm of the U.S. Navy during World War II.³⁷ With it, the Navy was able to gain naval supremacy in both theaters of war by interdicting the enemy's commerce, protecting U.S. commerce, destroying the enemy's fleet, and projecting land power and air power ashore. The Navy entered the Second World War with seven carriers and ended it with nearly a hundred.³⁸ The aircraft carrier was and still is the Navy's technological system of choice.³⁹

During the Cold War the Navy consistently spent 8.2 percent of its appropriations on research and development. Although, only two-thirds the amount of the Air Forces research and development expenditures, the Navy's R&D budget reflected the growing importance of technology within the Navy and the importance of technology to the Department of Defense. From 1950, when national defense R&D outlays stood at 772 million dollars or 1.8 percent of all government outlays, R&D funding steadily rose until in 1961 it stood at 6.9 billion dollars or 7.1 percent of government outlays. In the 1960s, 70s and early 80s, R&D appropriations, as a percent of government outlays, declined until 1983 when they reached 2.8 percent. As a percentage of Gross Domestic

³⁶ Deitchman, *Military Power and the Advance of Technology*, 92-97.

³⁷ Allan R. Millett and Peter Maslowski, *For the Common Defense: A Military History of the United States of America*, Revised and Expanded ed. (New York: The Free Press, a Division of Macmillan, Inc., 1994), 462-466.

³⁸ Jones, *Arming the Eagle*, 231.

³⁹ Friedman and Friedman, *The Future of War*, 29.

Product (GDP), national defense R&D outlays averaged 0.7 percent of GDP from 1950 to 1983.⁴⁰

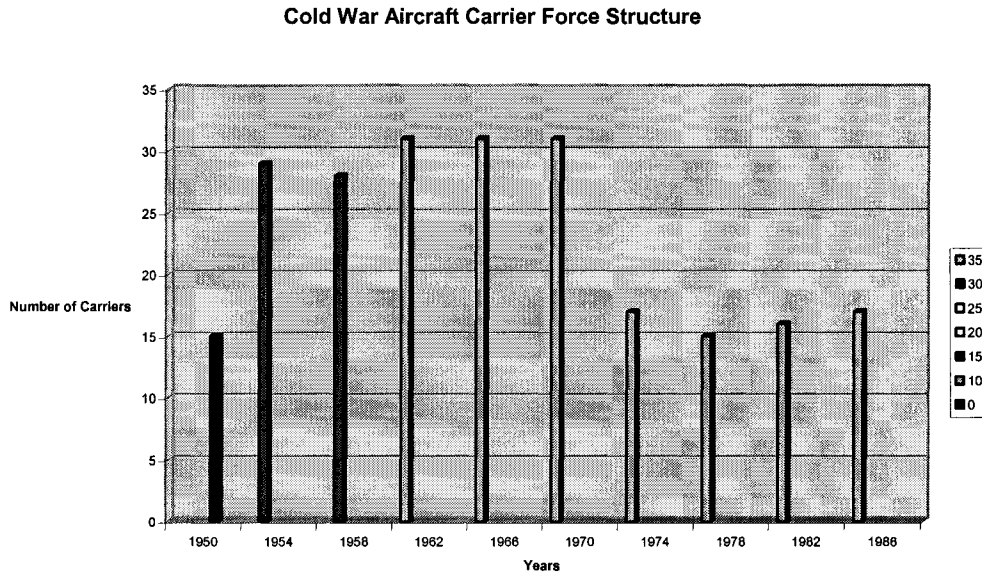
The importance of the carrier task force to the Navy's strategy was manifest in the number of carriers in its force structure during the Cold War and in the amount of money the Navy spent on procuring aircraft carriers during the Cold War. Although the number of aircraft carriers in the Navy's inventory diminished from its World War II high of over 100, the capability, technological complexity, and cost of the carrier weapons systems and support systems increased significantly. In the early 1950s the Navy fought for funds to upgrade its carriers' capabilities. According to Wilbur Jones, "By 1959, the Navy received 10 different types of jet strike and fighter airplanes, and carrier decks were modernized with angled decks, steam catapults, and mirror landing systems."⁴¹ Table 4-2 below shows the number of carriers the Navy sustained during the Cold War. At the outbreak of the Korean War, in June 1950, the Navy had seven large carriers, four light carriers, and four escort carriers for a total of fifteen. In the next 18 months, the Navy acquired seven additional large carriers, one extra light carrier, and six additional escort carriers, thus bringing the total to 29 carriers. Much of this expansion, consisting of refurbished WW II carriers, resulted from the exigencies of the Korean War. But as table 4-2 shows, the Navy was able to maintain a considerable number of carriers throughout

⁴⁰ President, "Historical Tables, Budget of the United States Government-Fiscal Year 2001," 160.

⁴¹ Jones, *Arming the Eagle*, 342.

the Cold War, and beginning in 1955 was able to sustain an acquisition program that brought 15 new carriers into the fleet, seven of them nuclear-powered.

Table 4-2. Cold War Aircraft Carrier Force Structure



The acquisition of carriers, especially nuclear carriers, was expensive. When the first nuclear carrier, the *USS Enterprise (CVA 62)*, was commissioned in 1961, it cost 405 million dollars (2.1 billion in 1997 constant dollars) as compared to a non-nuclear Forrestal-class carrier, which cost approximately 210 million dollars.⁴² In 1997 constant dollars, it cost the Navy 2.916 billion dollars to acquire a conventionally-powered carrier while a nuclear-powered carrier cost 6.441 billion.⁴³ Additionally, the annual operating cost of a carrier was high. For example, in 1997 constant dollars the annual operating cost of a nuclear aircraft carrier in the modern era is 840.79 million dollars. Since the

⁴² Ibid., 340-43.

⁴³ GAO, "Navy Aircraft Carriers: Cost-Effectiveness of Conventionally and Nuclear-Powered Carriers" (Washington, DC: Government Accounting Office, 1998), 9.

aircraft carrier is the centerpiece of a carrier battlegroup that includes two to three cruisers, two to four destroyers, two nuclear attack submarines, and a fast combat support ship, their annual operating costs of 660.476 million dollars must be added in. This brings the total annual operating cost of a carrier task force/battle group to 1.501 billion dollars.⁴⁴ Table 4-3 depicts the Navy’s financial commitment to the aircraft carrier.

Table 4-3. Annual Carrier Battle Group Operating Costs for Select Year during the Cold War (in billions of 1997 constant dollars)

Year	# of Carrier Battle Groups	Operating Costs modern carrier (post-1955)	Navy TOA	Operating Costs as a % of Navy TOA
1965	8 modern (29 total)	12.0\$	67.4\$	17.8
1970	9 modern (30 total)	13.5\$	90.03\$	15.0
1985	17 modern (17 total)	25.5\$	126.5\$	20.2
1990	15 modern (15 total)	22.5\$	111.8\$	20.1

Sources: John Birkler, et.al., *The U.S. Aircraft Carrier Industrial Base: Force Structure, Cost, Schedule, and Technology Issues for CVN 77* (Santa Monica, CA: Rand, 1998), 14-18; GAO, “Naval Carrier Battle Groups: The Structure for the Future Force” (Washington, DC: U.S. Government Printing Office, 1993), 8-20; GAO, “Navy Aircraft Carrier: Cost Effectiveness of Conventionally and Nuclear-Powered Carriers” (Washington, DC: U.S. Government Printing Office, 1998), 79-80; Jacquelyn K. Davis, “Aircraft Carriers and Role of Naval Power in the Twenty-First Century” (Cambridge, MA and Washington, DC: Institute For Foreign Policy Analysis, 1993), 46.

Toward the end of the Cold War, the number of aircraft carriers the Navy fielded was half of its Cold War high of 30, but they were all modern aircraft carriers and much more capable than their World War II predecessors. The Navy acquired 15 modern aircraft carriers between 1955 and 1990 at a cost of over 44.3 billion dollars. Amortized

⁴⁴ GAO, “Navy Carrier Battle Groups: The Structure and Affordability of the Future Force” (Washington, DC: Government Accounting Office, 1993), 19; Kammerer, “United States Air Force Statistical Digest FY 1998,” 117-18. The Air Force Statistical Digest contains the Department of Defense Inflation Indices and conversion tables from 1955 to 1998.

over 35 years, the Navy committed 1.2 billion per year just to acquire the hull alone.⁴⁵ This figure does not include the cost of aircraft acquisition, pay and training of the crew, munitions, on-board defense systems such as anti-aircraft and missile defense, cost of acquiring the modern Aegis class cruisers and other support vessels that are inherent in the structure of the carrier battle group, etc., which amounted to another six-hundred fifty-two million dollars per year.⁴⁶ Given the financial commitment described above, it is no wonder that the Navy developed its Cold War strategy based on the capabilities of its aircraft carriers.

At the beginning of the Cold War, the Navy did not have the capability to deliver nuclear weapons. Since U.S. strategy relied heavily on their use, the Navy was at a disadvantage vis-à-vis the Air Force in carving out a strategic role for itself. Nevertheless, the Navy proposed a strategy that allowed it to use its carrier task forces to optimum effect. Adm. Arthur Radford, deputy Chief of Naval Operations and later Chairman of the Joint Chiefs of Staff under President Eisenhower, argued that Navy air units operating from carriers were:

key weapons of [the Navy's] fighting strength. [Navy air units would provide] the most mobile air force in the world they would support the economic and political interests of the nation in almost all parts of the world, and in the event of war would bear the brunt of air fighting against shore based aircraft while national mobilization [was] in process.⁴⁷

In a land war in Europe against the Soviet Union, the Navy proposed to operate on the flanks of the continent striking the Soviet lines of communication and logistics

⁴⁵ GAO, "Navy Aircraft Carriers: Cost-Effectiveness of Conventionally and Nuclear-Powered Carriers," 77-81.

⁴⁶ GAO, "Navy Carrier Battle Groups: The Structure and Affordability of the Future Force," 19.

⁴⁷ Maurice A. Mallin, *Tanks, Fighters and Ships: U.S. Conventional Force Planning since WWII* (Washington, New York, and London: Brassey's (US), Inc., 1990), 21.

with carrier based aircraft, blockading Soviet ports, and landing U.S. forces to exploit soviet vulnerabilities while simultaneously performing its traditional mission of protecting commerce and maintaining control of the seas. The Navy's Strategic Planning Division issued a document that captured the essence of this carrier-based approach:

[The carrier fleets] are organized as powerful striking weapons of great mobility and are prepared to meet any challenge... They are capable of projecting power ashore into enemy coastal areas in support of forces ashore and by their mobility, they can apply their power swiftly and exploit opportunities that would otherwise be lost were it necessary to first establish land based air.⁴⁸

At the same time it advocated this strategy, the Navy moved aggressively to acquire new nuclear-capable carriers and to enlarge its existing carriers so as to enable them to launch nuclear capable aircraft. By the early 1950s, the Navy had acquired the number of aircraft carriers it wanted, if not the exact type. As Soviet naval capability grew, especially Submarine-Launched Ballistic Missile (SLBM) capabilities, the U.S. Navy emphasized the carrier battlegroups' anti-submarine warfare capabilities as part of its traditional missions of commerce protection, sea control, and defense of the U.S. mainland. Although attack and ballistic missile submarines played an important role throughout the Cold War, the Navy continued to build its striking power and its operational strategy around the carrier task force.⁴⁹ In the latter stages of the Cold War, the Navy developed a strategy based on expeditionary forces. Under this concept, naval task forces consisting of Marine, Army, Naval airpower, plus sea-power under the aegis

⁴⁸ Ibid., 22.

⁴⁹ Ibid., 22-23, 56, 143-44.

of the carrier task force, would rapidly deploy to project force virtually anywhere in the littoral world.⁵⁰

In brief, the Navy's strategy for most of the Cold War revolved around the carrier task force's ability to project power ashore or support land power already ashore. Additionally, the Navy intended to control the sea-lanes by defeating the Soviet surface and submarine threat, especially its ballistic missile submarines; and in the event of a nuclear war destroy critical targets with nuclear missiles launched from submarines, surface vessels, and naval aircraft.⁵¹

Of all the services, the Army is the least receptive to technological change. Historically it has spent less on R&D than its sister services. One reason for this is the Army's lack of a strategic approach to war-fighting. In part, strategic theory drives the development of means, which in the military's case equals the development and acquisition of weapons systems technology. Without an underlying strategic approach to obtaining the nation's interests in peace and in war, the Army has had a more difficulty determining its institutional approach to technology. To be sure, the Army has doctrine to govern how it conducts operations in war; however, it has never professed a strategic approach to warfare such as a theory of land power or a continental strategy. Carl Builder writes, "the Army does not have a strategic theory as do the Air Force and Navy because its circumstances--its lack of control over terrain, engagement, and supporting

⁵⁰ U.S. Department of the Navy, *1998 Department of the Navy Posture Statement: Forward...From the Sea: Anytime, Anywhere* (Washington, DC: U.S. Government Printing Office, 1998), 5-19.

⁵¹ *Ibid.*, 205-10.

resources--deny it the freedom to define war on its own terms.”⁵² Builder’s premise that the Army has not articulated an overarching strategy is valid. If the Army has a preference for how to conduct war, it is to pursue a war of annihilation against the enemy.⁵³

The Army’s operational approach historically has been to confront the enemy directly and destroy it through the application of overwhelming firepower from a variety of weapons systems.⁵⁴ The individual soldier is the basis of this approach. It takes soldiers, lots of them, to bring overwhelming firepower to bear upon the enemy’s masses. Hence, the Army has tended to acquire weapons that its soldiers can operate effectively and produce those weapons in numbers that ensure superiority. Tanks, artillery, rifles, and motorized vehicles were the mainstay of the Army’s force procurement effort during the Second World War.⁵⁵ During the 1950s the army’s acquisition and development of the helicopter represented an attempt by the Army to revolutionize its approach to warfare. In the Army’s view, the helicopter would allow it to overcome the tyranny of terrain, divorce itself from reliance on the Air Force for close air support, and provide it

⁵² Builder, *The Masks of War*, 90.

⁵³ Weigley, *The American Way of War*, 316-18, 34,58-59, 463-67. In recent speaking engagements at the Army War College in Carlisle, PA, Dr. Weigley concedes that the U.S. Army seems to be moving away from a strategy of annihilation. He indicates that this is due to an aversion to casualties on both sides that annihilation implies, growing technical sophistication of the Army’s operational doctrine and practices, and the pervasiveness of technologically advanced weapons systems in the Army’s inventory.

⁵⁴ Millett and Maslowski, *For the Common Defense*, 427; Weigley, *The American Way of War*, 313.

⁵⁵ R. Ellberton Smith, *The Army and Economic Mobilization*, ed. Kent Roberts Greenfield, United States Army in World War II (Washington, DC: U.S. Government Printing Office, 1958), 1-31.

with the flexibility to fight separately or with other forces.⁵⁶ However, the helicopter's main purpose was to support soldiers. With the exception of the attack helicopter, helicopters moved soldiers to the fight. Soldiers with rifles still slugged it out with the enemy on the ground, not from helicopters.⁵⁷

The Army's experience in World War II confirmed its operational approach to war-fighting. General Eisenhower articulated a head-on approach in January of 1942 when he confided in his diary: "We've got to go to Europe and fight--and we've got to quit wasting resources all over the world--and still worse--wasting time. If we're to keep Russia in, save the Middle East, India, and Burma, we've got to begin slugging with air at West Europe, to be followed by a land attack as soon as possible."⁵⁸ The Army preferred to meet the enemy head-on where it could pit its strength against the enemy in a contest that rewarded speed, firepower, mobility, and logistic sustainability. Thus, the Army developed motorized transport, tanks, mobile artillery, and a support infrastructure that was lavish by the standards of both its opponents and allies. Again, the emphasis was on people. As with previous conflicts, the Army had been rapidly expanded to fight World War II.⁵⁹ Citizens who had been clerks, farmers, and businessmen only months before suddenly were tank drivers, infantrymen, and artillerymen. Casualties and the need for replacements militated against lengthy training on complex equipment. Moreover, the

⁵⁶ Mallin, *Tanks, Fighters and Ships*, 138.

⁵⁷ John A. Bonin, "Helicopters and Intervention: The Impact of Military Technology on U.S. Foreign Policy in Vietnam." (M.A. Thesis, Duke University, 1982).

⁵⁸ Weigley, *The American Way of War*, 312.

⁵⁹ Allan R. Millett, "The United States Armed Forces in the Second World War," in *Military Effectiveness: The Second World War*, eds. Allan R. and Williamson Murray Millett (Boston, London, Sydney, and Wellington: Allen & Unwin Inc., 1988), 379-81.

Army put its higher-quality inductees in the Army Air Corps and airborne units.⁶⁰ Equipment thus had to be rugged and simple to operate in order to accommodate the speedy training of recruits and their immediate movement to the front. Only in the field artillery could the Army claim a technological advantage in a weapons system. The Army emerged from the war with a bias for technology that was rugged and effective, and that its citizen-soldiers could readily master in time of war. For the remainder of the Cold War, the Army developed war-fighting concepts replicating those that proved successful in central Europe during World War II. With the exception of the helicopter, the Army preferred to pursue technologies that were evolutionary instead of revolutionary, especially those that did not radically alter its doctrine.

Although of late the Army seems to be moving toward the other services in its attachment to machines, culturally the Army remains about soldiers.⁶¹ The Army's doctrine prizes speed, shock, firepower, protection, and momentum in its operations.⁶² Unlike the Air Force and Navy, which fit people to machines, the Army fits machines to people. For example, while the Air Force and Navy lobbied hard for bombers and carriers, respectively, the Army continued to pursue one of its favorite agendas, Universal Military Training (UMT). If the Army had to fight during the Cold War, it intended to do so with mobilized reservists and conscripted citizens.⁶³ Because the Army could not pick

⁶⁰ Maurice Matloff, "The 90-Division Gamble," in *Command Decisions*, ed. Kent Roberts Greenfield (Washington, DC: U.S. Government, 1987), 379-81.

⁶¹ U.S. Army, Field Manual 100-5 (Washington, DC: U.S. Government, 1993) 1-2; Builder, *The Masks of War*, 24.

⁶² Field Manual 100-5, 2-6 to 2-11.

⁶³ Weigley, *The American Way of War*, 369-71.

or choose its recruits, it had to accept what it got. Consequently, as discussed above, the Army acquired weapons systems that partially trained reservists and citizen-soldiers recently called to the colors could operate. As a result, the Army developed a plethora of weapons systems technologies designed for use by soldiers representing the lowest human common denominator. Finally, the Army's lack of an overarching strategic concept contributes to its lack of a specific technological bias, or R&D direction.

The Army's commitment to R&D and technological innovation was not as strong as the Air Force's and the Navy's. On average during the Cold War, the Army allocated less money from its budget to R&D than the other services. In 1950, the Army allocated only 49 million dollars for R&D out of a budget exceeding 4 billion dollars, plus budget, or just over one percent of its budget. By 1955, the Army allocated 4.5 percent of its budget to R&D. It failed to reach Air Force levels until 1960 when it allocated 10.7 percent of its budget to R&D.⁶⁴ However, for most of the Cold War, the Army allocated one third less to R&D than the Navy did and one half less than the Air Force. In terms of budget percentages, on average during the Cold War, the Air Force allocated approximately ten percent of its budget to R&D, the Navy eight percent, and the Army five percent. For example, from 1966 to 1968 during the height of the Vietnam War the Army spent on average 1.5 billion dollars on R&D, the Navy 1.7 billion or 12percent%

⁶⁴ President, "Budget of the United States Government 1955"; President, "Budget of the United States Government, 1950"; President, "Budget of the United States Government, 1960." Defense Appropriations sections are listed under Department of Defense and appropriate service breakouts.

more than the Army, and the Air Force 3.2 billion dollars or 53percent more than the Army.⁶⁵

In order to rapidly harness the manpower and industrial capacity of the nation in the event of general war, the Army proposed such programs as Universal Military Training and industrial mobilization. In pushing these programs, the Army sought to recapture what it had enjoyed at the height of World War II, namely, a large citizen-based force, lavishly equipped by American industry and thus capable of bringing sustained, superior combat power to bear against an enemy in a war of attrition.⁶⁶ As a result, most of the Army's technological effort during the Cold War focused on producing product improvements of the weapons systems it had used to fight and win World War II. It was not until the introduction of the helicopter during the Korean War and its demonstrated utility in combat that the Army initiated a series of technologically driven innovations in their approach to maneuver and war fighting, culminating with the Abrams tank, Bradley fighting vehicle, Paladin self-propelled artillery piece, and of course the Apache Longbow helicopter.

By 1956 the Army began in earnest to develop the helicopter, but only after a political struggle with the Air Force. The Air Force feared that the Army, disgruntled over the Air Force's reluctance to provide close air support to ground forces, would develop its own close air support capability and thus deprive the Air Force of one of its missions along with the force structure and resources that went with it. After the

⁶⁵ Jones, *Arming the Eagle*, 364; Ethan Barnaby Kapstein, *The Political Economy of National Security* (Columbia, SC: University of South Carolina Press, 1992), 50. Kapstein states that since World War II 70% of all U.S. R&D has been military-related.

⁶⁶ Weigley, *The American Way of War*, 369-70.

Secretary of Defense intervened, the two services negotiated a compromise.⁶⁷ However, the Army eventually prevailed and rotary wing aviation (helicopters) spread throughout the Army, finally with an entire division (the First Cavalry Division) organized and trained to capitalize on the mobility and firepower of the helicopter.⁶⁸ The Army along with the other services invested heavily in Precision Guided Munitions (PGMs) and other technology during the Cold War. In addition to the Abrams, Bradley, Paladin and Apache mentioned above, the Army also developed such notable systems as the Patriot air defense missile and the Multiple-Launch Rocket System (MLRS). However, it was the helicopter and the mobility it brought to the battlefield that constituted the most significant change to the tactical and operational menus the Army offered the nation's leadership during the first two and a half decades of the Cold War.

Initially, the Army's proposed force and weapons programs lacked credibility with the executive and legislative branches. By the late 1940's the Army had modified its strategy to take into account the political realities. If the Soviets invaded Western Europe, the Army planned to defend a line along the Rhine river, and should that be untenable it would attempt to retain the Iberian peninsula, the British Isles, the Middle East, and North Africa as staging bases for the reentry to the continent; again, essentially the same strategy as it had used in World War II.⁶⁹ However, this strategy was too costly for the Truman administration, which chose to curtail defense spending and focused on

⁶⁷ Mallin, *Tanks, Fighters and Ships*, 138-39.

⁶⁸ Bonin, "Helicopters and Intervention," 1-38; Weigley, *The American Way of War*, 423-24.

⁶⁹ Norman Friedman, *The Fifty-Year War: Conflict and Strategy in the Cold War* (Annapolis, MD: Naval Institute Press, 2000), 61-64.

domestic spending.⁷⁰ Both the president and Congress relied on America's monopoly of nuclear weapons to offset the rising Soviet challenge; however, the Army did not have weapons systems capable of delivering atomic weapons.⁷¹ Therefore, in a resource-constrained environment the Army, with no nuclear capability, became the bill-payer for the other services' budget increases. Moreover, the strategy the Army did proffer was a duplicate of the one it had used to win World War II. Relying on masses of men and equipment, the Army's approach to postwar security was prohibitively expensive in the eyes of an administration trying to reduce defense spending. Additionally, in the early 1950s the Army's strategy marginalized the impact that atomic weapons would play in any future conflict.⁷² Another objection to the Army's strategy was that it required heavier participation on the part of America's European allies, all of whom were still recovering from the devastating effects of World War II.

The outbreak of the Korean War temporarily rescued the Army from the irrelevance it appeared to be drifting toward. Over the course of the conflict, the Army nearly doubled in size (from ten to 20 divisions). It did so, however, not so much in response to the demands of war in Korea, but more in response to the need to reinforce Europe in order to forestall any Soviet attempt to capitalize on America and Europe's distraction in the Far East.⁷³ As soon as an armistice had been reached in Korea, the

⁷⁰ Michael Pearlman, *Warmaking and American Democracy: The Struggle over Military Strategy, 1700 to the Present* (Lawrence, KS: University Press of Kansas, 1999), 281-82. Weigley, *The American Way of War*, 373.

⁷¹ Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*; Weigley, *The American Way of War*, 418.

⁷² Mallin, *Tanks, Fighters and Ships*, 28.

⁷³ Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952.*, 50-53, 55.

Eisenhower administration moved to reduce the size of the Army and Navy. Eisenhower emphasized the primacy of the domestic agenda, focusing his administration's efforts on stimulating U.S. economic growth and balancing the federal budget. Assuming that nuclear weapons were more cost effective than conventional forces, Eisenhower's strategy, dubbed the "New Look," relied on a wide range of responses to deter Soviet expansion to include the use of nuclear weapons at the onset of a conflict. Nor did Eisenhower rule out the use of tactical nuclear weapons. The New Look attempted to offset Soviet advantages with asymmetrical responses.⁷⁴ However, as events would prove, the nonnuclear conflicts in Korea and Indochina were not anomalies but harbingers of the limited conflicts the United States would face for the duration of the Cold War and beyond. It soon became apparent that nuclear weapons were proportionately and morally inappropriate for the types of military engagements the U.S. would likely be involved in during the Cold War.

Within the Army, three senior leaders argued with the Eisenhower administration over grand strategy and Army force structure. Gen. Mathew Ridgway was the first to make the case for what would eventually become the strategy of flexible response.

⁷⁴ Robert R. Bowie, "Bowie's Commentary," in *American Cold War Strategy: Interpreting NSC 68*, ed. Ernest R May (Boston and New York: Bedford Books of St. Martin's Press, 1993), 115, John Lewis Gaddis, *Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy* (New York: Oxford University Press, 1982), 149-50, Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 16-18; Richard H. Immerman and Robert R. Bowie, *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy* (New York and Oxford: Oxford University Press, 1998), 75,98. Immerman and Bowie maintain that Eisenhower's strategy was much more complex than popular opinion gives him credit for. The threat of massive retaliation was but one of many pillars in Eisenhower's strategy. The strategy's chief support derived from America's economic strength and the democratic values of its people. Aaron Friedberg echoes this same theme in his *In The Shadow of The Garrison State*. See also: Amos A. Jordan, William J. Jr. Taylor, and Michael J. Mazarr, *American National Security*, 5th Ed. (Baltimore, MD: The Johns Hopkins University Press, 1999), 71-75.

Rather than cut back conventional forces, Ridgway argued for more highly mobile units, possessed of heavy firepower and rapidly deployable in support of U.S. and allied interests abroad. In his memoirs published shortly after his retirement Ridgway wrote:

[The armed forces] must be a properly proportioned force of all arms, so deployed in danger spots around the world that each different component - land, sea, and air -- can bring its own special forms of firepower most effectively to bear, as a member of a combined force of all arms. It must be adequately trained, properly armed, highly mobile, and strong in the active elements, which can strike back without delay in answer to any armed attack.⁷⁵

Ridgway felt so strongly the administration was heading down the wrong path that in 1955 he finally broke with the administration and shared his misgivings about the New Look strategy during testimony before Congress.⁷⁶ Soon afterward Ridgway retired partly in protest over the way U.S. strategy was heading. General Maxwell Taylor succeeded Ridgway as Army Chief of Staff. Like Ridgway, Taylor believed in a strategy of flexible response and advocated development of helicopter-borne units that would be capable of operationalizing the Army's part of the strategy.⁷⁷ Lt. Gen. James Gavin, the Army's Chief of Research and Development, seconded Taylor's views. Gavin helped coin the term "Sky Cavalry" to describe the fast-moving, hard-hitting, helicopter-borne

⁷⁵ Matthew Ridgway, *Soldier: The Memoirs of Matthew B. Ridgway* (New York: Harper, 1956), 293; Immerman and Bowie, *Waging Peace*, 185-86. Immerman and Bowie state that Ridgway didn't feel that providing the European allies with nuclear weapons would reduce the need for conventional forces. Admiral Radford, Chairman of the Joint Chiefs of Staff, felt America should rely more on nuclear weapons (a reversal of his thinking in 1949 when he testified before Congress in the controversy between the Air Force and the Navy over the merits of the B-36 bomber versus the nuclear carrier). Eisenhower presented his views on the possibility of employing nuclear weapons when he said, "In the event of hostilities, the U.S. will consider nuclear weapons to be as available for use as other munitions." See also Betts, *Soldiers, Statesman and Cold War Crises*, 70.

⁷⁶ Weigley, *The American Way of War*, 418-19.

⁷⁷ *Ibid.*, 420-22; Betts, *Soldiers, Statesman and Cold War Crises*, 108; Immerman and Bowie, *Waging Peace*, 250.

forces the U.S. would need for the limited wars it was certain to be involved in during the future.⁷⁸ However, Eisenhower brooked no dissent, and Taylor and Gavin soon followed Ridgway into retirement. Still, their ideas did not fall on barren ground. Academics and politicians championed the flexible-response position and expanded on it. Shortly after Senator Kennedy became president, Flexible Response became the official strategy of the United States, and the capabilities of U.S. conventional forces began to grow significantly.⁷⁹ The actual implementation of “Flexible Response” in Vietnam left all the services badly shaken, but especially the Army. Instead of inculcating the lessons of limited war learned in Vietnam, the Army defaulted back to its strategic comfort zone, namely, a World War II-style head-on confrontation with the Soviet Armed forces in central Europe.

During the Cold War, the Army produced two operational concepts to fight a head-on war of attrition with the Soviet Union. The first, labeled “active defense” was promulgated in 1976, modeled on the type of delaying action the Germans had executed against the Soviets as they drove into Eastern Europe in 1943-45. The successor to active defense was “Air-Land Battle.” This strategy was more aggressive and offensively oriented, but like active defense, was predicated on the Army’s ability to predict the actions of a highly stylized Soviet threat. However, much like World War II, both active

⁷⁸ Weigley, *The American Way of War*, 423. Betts, *Soldiers, Statesman and Cold War Crises*, 101-111.

⁷⁹ Betts, *Soldiers, Statesman and Cold War Crises*, 101-03.

defense and air-land battle were attrition-based strategies.⁸⁰ If strategy is the organization of ends, ways, and means, then the lack of a specific strategy on the Army's part indicates uncertainty when it comes to choosing which technological competencies – i.e., means -- to develop. The Army's approach to warfare and hence technological development during the Cold War remained firmly anchored to its culture and its experiences during the Second World War. Thus, with the exception of the ten-year period from 1955 to 1965 when it promoted Flexible Response, the Army lacked an overarching strategy for most of the Cold War.⁸¹

Although each of the services approached technological innovation differently, as products of a peculiarly American culture they all embraced it to one extent or another. In 1949, Karl Compton, president of the Massachusetts Institute of Technology, put into words what the services instinctively practiced:

It is our tradition, therefore, to follow this policy by providing our soldiers, sailors, and airmen with equipment, which will multiply as much as possible their power as fighting men We must...substitute the maximum of mechanical power and technical skill for brute human force if we should again have to fight We must rely on continual technological progress to keep us secure against any possible competitor.⁸²

The Cold War saw the military become even more technologically inclined. In addition to the military's cultural disposition toward technology and the nation's decision to capitalize upon technology in order to offset Soviet numerical superiority, full

⁸⁰ Mallin, *Tanks, Fighters and Ships*, 202-05; John L. Romjue, *From Active Defense to Airland Battle: The Development of Army Doctrine, 1973-1982* (Washington, DC: U.S. Government Printing Office, 1984), 14-21.

⁸¹ Mallin, *Tanks, Fighters and Ships*, 123-25. John L. Romjue, *American Army Doctrine for the Post-Cold War*, 16-21,131.

⁸² Friedberg, *In the Shadow of the Garrison State*, 305.

exploitation of technology provided the military with expertise, autonomy, the promise of battlefield success, and like minded allies in the political process itself. As the next section will explore, these technologically derived benefits provided additional incentives to the military to pursue technical innovation during the Cold War. As we shall see, the autonomy the military enjoyed in selecting and procuring weapons systems helped to establish a pattern of increased military influence in government that extends to the present day.

Weapons Systems Decision-Making

In principle, the selection of major weapons systems should be the result of a decision-making process at the national level that begins with the identification of U.S. interests, goals, and objectives in both the near and the long term. Next, planners should develop the national military strategy or military policy that combines with other elements of national power (economic, political and sociological/informational) to form the nation's grand strategy. Nested within the grand strategy should be decisions on force structure and doctrine, and the identification and acquisition of the means or resources. Colin Gray in his book *Weapons Don't Make War* states: "If it is policy to deter attack upon distant friends, strategy must specify what is to be deterred, and how and with what instruments deterrence is to be achieved. If the means for deterrence will not be available for several years, then policy-makers must decide whether to risk a bluff or redefine policy."⁸³ But the process described above though desirable in theory, is a

⁸³ Colin S. Gray, *Weapons Don't Make War: Policy, Strategy, and Military Technology* (Lawrence, KS: University Press of Kansas, 1993), 66-81. Gray addresses the linkage between national policy, national strategy (military strategy), and the weapon acquisition process. Policy guidance, Gray

practice not nearly so orderly, coherent, and fully realized as depicted. It is much more amorphous, with numerous dyadic relationships that allow for multipartite and negotiations at various levels. The process is more circular and iterative than it is linear and progressive.⁸⁴

All too often, especially since the beginnings of exponential technological development during World War II, weapons systems decisions have heavily influenced both national military strategy and the military's force structure. Thus, in part, weapons systems decisions determine what the nation's political leadership should do (the strategy its civilian leaders should pursue); and what they cannot do (the capabilities and limitations of the force structure the military adopts to optimize the technology).⁸⁵ In fact, given that most weapons systems have a 12-15 year development period, current weapons systems and force structure decisions often limit the policy options of future administrations that inherit a structure whose capability may not meet future policy needs.⁸⁶ In 1986, Gordon Craig and Felix Gilbert, contributing authors to the original and subsequent editions of *Makers of Modern Strategy*, expressed essentially the same concern:

maintains, if often not clear due to interplay between domestic and foreign policy in a pluralistic and democratic society such as the United States. See also: Kapstein, *The Political Economy of National Security*, 116-28. Kapstein provides an account of actors in the weapon acquisition process and their preferences.

⁸⁴ Jordan, Taylor, and Mazarr, *American National Security*, 217-33; Franklin A. Long and Judith Reppy, eds., *The Genesis of New Weapons: Decision Making for Military R&D* (New York, Oxford, Toronto, Sydney, Frankfurt, and Paris: Pergamon Press, 1980), 10.

⁸⁵ Jordan, Taylor, and Mazarr, *American National Security*, 327-28.

⁸⁶ Brown, *Flying Blind*, 27-28; Jordan, Taylor, and Mazarr, *American National Security*, 326; Kapstein, *The Political Economy of National Security*, 122.

The actions that will be taken in future crises promise, indeed, to be predetermined and automatic in nature. One can argue plausibly that the autonomy of the political leadership begins to shrink from the moment that it authorizes the expenditure of national resources on this or that kind of weapons research or the production of this or that kind of bomber, missile, or submarine. Because of the lead time required for the realization of such projects, the decision made today inevitably determines or circumscribes policy at a later date, thus pre-judging situations that have not been foreseen and limiting one's capabilities for contingencies that have not yet arisen.⁸⁷

Weapon system decisions and the force structure they drive are fundamentally political decisions, given the impact they have on near - and short-term policy. Leaving these decisions to the military represents a de facto abdication of important aspects of foreign policy formulation to the military.

Who decides which military technology to procure has implications for how influential the military is on the development of U.S. foreign policy and national security strategy. If the civilian leadership decides on what weapons systems to acquire, then the direction of foreign policy rests firmly in the hands of the elected civilian leadership. However, if the military decides what weapons systems to develop and procure, it may signal a more politically assertive military and a lessening of civil control over the military. As Clausewitz noted in *On War*, political goals drive, or should drive, the elected leader's policy decisions, which in turn direct the development of military policies and the strategies, conceived to obtain the political goals.⁸⁸

⁸⁷ Gordon A. Craig and Felix Gilbert "Reflection on Strategy in the Present and Future," in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 865.

⁸⁸ Carl Von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret, Indexed ed. (Princeton, NJ: Princeton University Press, 1976), 81; Gray, *Weapons Don't Make War*, 65-69.

For most of the Cold War, the U.S. military decided what weapons systems to develop and acquire.⁸⁹ Contributing to the military's autonomy in the decision-making process was its expert knowledge in war-fighting, its understanding of the Soviet threat, and the nature of the American political process. While not all-inclusive, these three factors account for much of the military's almost exclusive jurisdiction in the weapons acquisition process.

The military's expertise during the Cold War derived from its experience during the Second World War, the nature of the Soviet threat, and the increasing complexity of weapons technology. The military emerged from World War II with high prestige in the eyes of the nation's elected leaders and the public at large. The services had validated their theories and doctrine in the empirical laboratory of battle, and technology had been a major contributor to the military's victory. Eugene Skolnikoff states in *The Elusive Transformation: Science, Technology, and the Evolution of International Politics*: "It is a fair judgment that [World War II] was the first war in history in which the scientific and technological developments achieved during the war had an effect on the outcome of the war. They may even have been the major factor in determining that outcome."⁹⁰

The Air Force, the Navy, and to a much lesser extent the Army each championed specific weapon technologies. In the Air Force, Generals Henry Arnold, Carl Spaatz, Lauris Norstad, Hoyt Vandenberg, and Curtis LeMay all advocated the development of

⁸⁹ Kapstein, *The Political Economy of National Security*, 117; Mallin, *Tanks, Fighters and Ships*, 162-69.

⁹⁰ Eugene B. Skolnikoff, *The Elusive Transformation: Science, Technology, and the Evolution of International Politics* (Princeton, NJ: Princeton University Press, 1993), 19.

the long-range bomber.⁹¹ Strategic bombardment as practiced during World War II had helped the Air Force gain independence from the Army; and with the advent of nuclear weapons, initially bombers were the only platform capable of delivering the atomic bombs to their targets.⁹² With the Truman administration relying on atomic weapons to offset Soviet superiority in manpower and conventional weapons, the Air Force temporarily became the only service capable of executing a strategic response to Soviet aggression.⁹³ Reliance on nuclear weapons to deter Soviet aggression became the underlying premise of U.S strategic thought during the Cold War and, so far as the other services were concerned, it strengthened the Air Force's demand for more and better bombers as well as its status as *primus inter pares* in the battle for defense dollars. During the Cold War, the Air Force developed and procured 12 models of long-range bombers, most of them concurrently as it strove to maintain a technological superiority in weapons systems.⁹⁴ Even when missiles became the primary vehicle for the delivery of a nuclear strike against the Soviet Union, the Air Force continued to procure bombers. In testimony before Congress, Air Force positions carried the day. For example, in 1947-1948, a Joint Congressional Aviation Board heard testimony from various military leaders, civilian strategists, and members of the scientific and technology community as to what type of air forces the nation needed and, by extension, how to structure the armed

⁹¹ Gentile, *How Effective Is Strategic Bombing?*, 149; Weigley, *The American Way of War*, 372-76.

⁹² Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 49-53, 84-86.

⁹³ Jeffrey G. Barlow, *Revolt of the Admirals: The Fight for Naval Aviation, 1945-1950* (Washington, DC: U.S. Government Printing Office, 1994), 78-80,106. Barlow states that with the exception of the Air Force the other services were slow to realize the impact of atomic weapons in an operational and tactical sense. For example, the Navy didn't think they had the authority to develop strategy and tactics based on the use of nuclear weapons. See also Friedman, *The Fifty-Year War*, 36-37.

⁹⁴ Brown, *Flying Blind*, 327-29.

forces in the post-World War II era. In March 1948, the board concluded that the United States “ should maintain an adequate Navy and ground force” but that the military establishment “must be built around the air armOur military security must be based on air power.”⁹⁵

Although the Air Force, along with the other services, often had dollars withdrawn from its weapon system programs so that it was not able to purchase the number of a particular bomber it wanted, it rarely had programs cancelled by the legislative or the executive branch.⁹⁶ Air Force war-fighting and technological expertise acquired during World War II and sustained throughout the Cold War played an instrumental role in its relative autonomy in deciding what weapons systems (i.e., bombers) to develop and procure.

Like the Air Force, the Navy enjoyed relative autonomy in the weapons acquisition process during the Cold War. The aircraft carrier along with its supporting systems was the platform the Navy developed its force structure around. Stemming from its recent experience in World War II, the Navy’s acquisition strategy revolved around the development and refinement of the carrier task force. Testifying before congress in 1946, James Forrestal, the Secretary of the Navy, expressed the Navy’s position as follows:

⁹⁵ Futrell, *Ideas, Concepts, Doctrine*, 227-29.

⁹⁶ Ibid., 222,40-44; Gray, *Weapons Don't Make War*, 68-69. Gray states that with vague policy, vague strategy, and Congress focusing on number of weapons systems, no policy makers question if we even need the weapon system to begin with.

The carrier Task Forces of this war have been the spearhead of our attack, both against the Japanese empire and against the submarine packs in the Atlantic. These carrier Task Forces are a unique creation of the United States--and are one of the most powerful forces in existence in the world today. They have a remarkable mobility and an enormous reach. In my judgment, these great carrier Task Forces backed up by the surface power of the fleet and by the amphibious striking forces of the Marine Corps, constitute an all purpose weapon which . . . can give this nation and the world a swift and effective means of dealing with arrogance wherever it might raise its head . . . [The Navy envisions] great carrier striking forces which . . . will be capable of delivering atomic bomb attacks.⁹⁷

Although the Navy would suffer some setbacks in its acquisition strategy, mainly due to interservice disputes and budgetary constraints, it prevailed in acquiring the weapons systems it wanted. For example, in a now famous dispute with the Air Force over roles and missions that developed into a heated public debate over two weapons technologies, the B-36 long- range bomber versus the nuclear-powered supercarrier, the Navy had its funding cut, the carrier cancelled, and the monies transferred to the Air Forces acquisition program. Truman's decision instigated what has been labeled the "revolt of the admirals," which resulted in the dismissal the Secretary of the Navy, the Chief of Naval Operations, and several other admirals.⁹⁸

At first glance, these events appeared as a defeat for the Navy; however, the Navy received 130 million dollars to modernize two of its existing carriers, and by the early 1950s was building slightly scaled-down versions of its cancelled nuclear carrier.⁹⁹

These carriers were all able to launch aircraft capable of carrying nuclear weapons. Thus,

⁹⁷ Mallin, *Tanks, Fighters and Ships*, 17-18.

⁹⁸ Barlow, *Revolt of the Admirals*, 121-23, 253-54, 62. Barlow states that the Navy wanted an atomic role but that would entail a new aircraft capable of carrying an A-bomb and a new, larger aircraft carrier, both of which would draw missions and money away from the Air Force and thus hamper their procurement of bombers. Moreover the Air Force might have been relegated to a supporting role in U.S. strategy. See also Weigley, *The American Way of War*, 377.

⁹⁹ Barlow, *Revolt of the Admirals*, 293-94; Friedman, *The Fifty-Year War*, 128-29.

by mid-1950 the Navy had acquired a robust nuclear capability on par with that of the Air Force in the form of its nuclear-capable carriers, and the development of the submarine-launched ballistic missiles (SLBM). Moreover, the nuclear-powered supercarrier proposed in 1949 became a reality on November 25 1961, when the USS *Enterprise* entered the fleet.¹⁰⁰ Although the Navy developed other high technology weapons systems during the Cold War, which for a time dominated its research and development program, over all it remained firmly wed to the aircraft carrier and its related technologies as the centerpiece of its acquisition process.

The Army did not enjoy quite the same consistent success in the acquisition process as its sister services did during the Cold War. The Army's share of the defense budget remained between 25 and 27 percent throughout most of the Cold War. There were two reasons for the Army's relatively poor showing. First, the Army was not as technologically inclined as the other two services and instead relied on manpower and relatively low-technology weapons systems.¹⁰¹ Second, the nation chose to rely on nuclear weapons to deter Soviet aggression; since these were relatively inexpensive, the strategy produced savings in defense dollars that went to programs on the domestic agenda.¹⁰² The nation did not feel it needed a large Army to confront the Soviet masses. Both Truman and Eisenhower placed their emphasis on balancing the budget and stimulating domestic economic growth; hence, they relied on the technological capabilities of the Navy's and the Air Force's strategic forces to offset the Soviet

¹⁰⁰ Jones, *Arming the Eagle*, 341-42.

¹⁰¹ Long and Reppy, *The Genesis of New Weapons*, 8.

¹⁰² Barlow, *Revolt of the Admirals*, 102-03; Friedman, *The Fifty-Year War*, 125; Immerman and Bowie, *Waging Peace*, 13-14.

numerical advantage. Conflicts in Korea, the Suez, Lebanon, and Vietnam undermined the logic of relying exclusively on nuclear deterrence. Although the Army's strength would increase at various times during the Cold War, it struggled more than the other services for resources and funding.

Congress and the president often played the services off against one another in the battle over funds and programs, but they supported the military's technologically-driven weapons systems preferences. The military's weapons systems selections were almost never challenged. Judith Reppy and Franklin A. Long in the introduction to their anthology *The Genesis of New Weapons: Decision Making for Military R&D* quote Edwin Deagle as saying:

The central political feature of the weapon system acquisition process is that its control inevitably resides mainly in the hand of the services. No one else in the system had the information and the financial and staff resources . . . Moreover, no one can match the unique claim to control of the military requirement process that the wearing of a uniform conveys. Thus, the struggle for civilian influence over the acquisition process will always be uphill. And, given the differences and purposes among the various political constituencies, which surround the Pentagon, civilian involvement will inevitably be diffuse, fragmented, and pluralistic.¹⁰³

Further contributing to the military's authority and influence during the Cold War was the threat posed by the Soviet Union and the world communist movement.

As mentioned previously, the Soviet threat to the U.S. was perceived to be quite real. Since Soviet intentions were difficult to determine, the services based their acquisition planning on Soviet capabilities, which were substantial. Even so, the military tended to overestimate the Soviet Union's ability to wage global war. The so-called "bomber gap" and later the "missile gap" which the military claimed put the U.S. at a

¹⁰³ Long and Reppy, *The Genesis of New Weapons*, 15.

strategic disadvantage vis-à-vis the Soviet Union, subsequently proved to be inaccurate.¹⁰⁴ The military's planning on the basis of worst case scenarios tended to exaggerate Soviet might. Its assessments were invariably accepted over the dissenting opinions of others for most of the Cold War.¹⁰⁵ Exaggerated though these estimates may have been, events such as the Berlin blockade, the detonation of a Soviet atom bomb in August of 1949 and hydrogen bomb in August 1953, the Korean War, the launching of Sputnik, the Cuban missile crisis, Communist aggression in Southeast Asia, the Angolan insurgency, and the invasion of Afghanistan all seemed to substantiate the military's assessment of the Soviet threat.¹⁰⁶ These events coupled with hostile Soviet rhetoric lent

¹⁰⁴ Adam Yarmolinsky, "The President, the Congress and Arms Control," in *The Military-Industrial Complex: A Reassessment*, ed. Sam C Sarkesian, Sage Research Progress Series on War, Revolution, and Peacekeeping (Beverly Hills and London: Sage Publications, 1972), 296-97.

¹⁰⁵ Gaddis, *We Now Know: Rethinking Cold War History*, 20-21,37-39. George Kennan, the key originator of containment strategy, did not view Soviet military expansion as the major threat. He advocated economic measures more than military in what he considered and ideological struggle with the Soviet Union. Kennan predicted that, eventually, the Soviet system, economically, politically, and militarily, would collapse. However, as Gaddis points out, in a practical sense that prediction does not do a nation much good if in the mean time it succumbs to Soviet pressure. See also Immerman and Bowie, *Waging Peace*, 123-25. Eisenhower challenged the security experts' assessment of Soviet intentions that appeared in NSC20/4 and NSC 68. He didn't feel that the communist leadership was willing to risk its control over the Soviet Union in a general war with the United States. Eisenhower felt America's chief strength lay in its economic might. Jordan, Taylor, and Mazarr, *American National Security*, 75, state that by 1960 Eisenhower had reduced defense spending in terms of real dollars to its lowest level since 1951.

¹⁰⁶ Beginning in the 1970s the Pentagon's estimate of Soviet nuclear and conventional capabilities was increasingly challenged. In the early 1980s Matthew Evangelista, "Stalin's Postwar Army Reappraised," *International Security* 7 (1983), questioned the Pentagon's assessment of Soviet military capabilities during the period of 1947-48. He argued that the Soviet forces were not prepared for offensive warfare, but in fact were involved in occupation duties, with most of the divisions significantly under-strength. Because much of Western Europe's costly rearmament was predicated on the offensive capabilities of the Soviet conventional forces and in fact may have spurred the Soviet Union to acquire conventional offensive capability during the first decade of the Cold War, intentionally overestimating the threat posed by these forces bordered on the criminal. Phillip A. Karber and Jerald A. Combs in "The United States, Nato, and the Soviet Threat to Western Europe: Military Estimates and Policy Options 1945-1961," *Diplomatic History* 22, no. 3 (1998). state that military planners did overestimate Soviet conventional capabilities, but not significantly so, and not with the intent to deceive. They maintain that even at reduced strength the Soviet Union could put more divisions in the field sooner than NATO could. Both John S. Duffield, (Commentary: Progress, Problems, Prospects," *Diplomatic History* 22, no. 3 [1998]), and Matthew Evangelista, (Commentary: The Soviet Threat": Intentions, Capabilities, and

urgency to the military's funding requests for the new weapons, reinforcing the military's presumed expertise in gauging the Soviet threat, and the need for autonomy in deciding what weapons to develop and procure.¹⁰⁷

During the Cold War there was a constant tension between spending for defense and spending for social programs. For most of the Cold War, presidents strove to keep the defense budget within limits. With the domestic agenda holding primacy, in the absence of a crisis, foreign aid and defense desiderata were not always fully funded. Additionally, the program timelines seldom extended beyond the near term, i.e. to the end of the president's elected term.¹⁰⁸ Moreover, most presidents lacked the expertise and the time to delve into the arcane world of threat estimates, weapons technology, military budgets, force structure, and operational employment of military forces; hence, they

Context," *Diplomatic History* 22, no. 3 [1998]) challenge Karber and Combs' analysis. They maintain that Western intelligence analysts were able to accurately assess the combat worthiness of these divisions based on their strength, equipment, and state of training. This assessment, if it were done, would have indicated that the Soviet Union had no intention of invading the West. Evangelista does admit (p. 442) that Stalin's rhetoric might have contributed to the West's misreading of Soviet intentions. Gaddis, *We Now Know: Rethinking Cold War History*, 14-15, echoes that sentiment. For Stalin, security was a zero sum game. As long as the West remained capable of threatening the Soviet Union, despite their intentions and actions, they would always remain a threat, one the Soviet Union would have to prepare to counter. Supporting Gaddis' assessment is Robert C. Tucker, "The Cold War in Stalin's Time: What the New Sources Reveal," *Diplomatic History* 21, no. 2 (1997). Tucker, examining recently released Soviet archives, states that Stalin was his own foreign minister. He and Molotov actively pursued the expansion of communism and Soviet control over it. Stalin used the Cominform to promote communism in Western nations, and when the opportunity arose to use force, as it did in Korea in 1950, Stalin authorized it. Other commentators stress the importance of context. William C. Wohlforth, "New Evidence on Moscow's Cold War: Ambiguity in Search of Theory," *Diplomatic History* 21, no. 2 (1997), stresses the ambiguity that remains over Soviet intentions even with the recent releases of Soviet sources. It is difficult now to place oneself in the context of the time when these assessments were made. Security culture, values, beliefs, information sources, and their reliability were very situational-dependent, making it difficult to accurately assess the intentions of the actors then. Did the military intentionally mislead the nation and its leadership--no. Did it attempt to hedge its ability to win on the battlefield--yes.

¹⁰⁷ Brown, *Flying Blind*, 330-34.

¹⁰⁸ Samuel P. Huntington, *The Common Defense: Strategic Programs in National Politics* (New York: Columbia University Press, 1961), 218-21, Immerman and Bowie, *Waging Peace*, 98.

relied on the military for that expertise.¹⁰⁹ Even a military professional turned politician like Eisenhower considered the development of the nation's conventional force capability a secondary issue. Focused on the domestic agenda, Eisenhower chose to rely on nuclear weapons and budget ceilings to shape R&D, weapons acquisition, strategy, and force structure.¹¹⁰

Congress labored under similar constraints. It seldom had the expertise to challenge military acquisitions, force structure or strategy recommendations.¹¹¹ Instead, the Congress focused on ensuring that the military followed prescribed contracting procedures, avoided waste, fraud, or abuse, and distributed major defense contracts to as many districts as possible.¹¹² The congress did not, nor could they, review military weapons acquisition decisions, strategy, and force structure within an overarching strategic context.¹¹³ Reppy and Long in *The Decision-Making Role of Congress* wrote:

Just as important, the military utility of new [weapon] systems should be balanced against the effect they may have on international stability and future security in a world where other countries can and do react to U.S. technological initiatives. Unfortunately, Congress does not analyze these larger issues Relying, as they do, mainly on Pentagon witnesses, the

¹⁰⁹ Jordan, Taylor, and Mazarr, *American National Security*, 71,116-21,200; Yarmolinsky, "The President, the Congress and Arms Control," 295-97.

¹¹⁰ Friedberg, *In the Shadow of the Garrison State*, 130-31, Huntington, *The Common Defense*, 223, 28-29, Jordan, Taylor, and Mazarr, *American National Security*, 185,200. Huntington's work offers the once popular view that Eisenhower was not involved in the details of strategy. Immerman and Bowie and later Friedberg state that Eisenhower might not have been involved in the intimate details of strategy development or weapons procurement, but he was very involved in assessing the strategic consequences of strategies and weapons systems and building a national security strategy and military force structure for the long-term.

¹¹¹ Jordan, Taylor, and Mazarr, *American National Security*, 124-25; Yarmolinsky, "The President, the Congress and Arms Control," 296-97.

¹¹² Long and Reppy, *The Genesis of New Weapons*, 184-85.

¹¹³ Jordan, Taylor, and Mazarr, *American National Security*, 127.

armed services committees rarely hear a rounded analysis of the United States' international position, strengths, and weaknesses, and the members tend to lose sight of the broader context of national security.¹¹⁴

Likewise, Congress's committee structure virtually precludes a systematic, coordinated, and thorough review of weapons acquisition.

The various committees and sub-committees of Congress that dealt with the armed forces, foreign policy, and technology focused on specific issues. They approached each issue narrowly and in a fragmented manner.¹¹⁵ For example, among the Senate Armed Services Committee's several sub-committees was one dealing with research, development, testing, and evaluation (RDT&E), and another that dealt with appropriations.¹¹⁶ However, they did not necessarily coordinate their approach.¹¹⁷ Hence, a weapon system could be approved for testing and development, only to have its procurement dollars undercut. Moreover, these sub-committees did not interface with the Senate Foreign Relations Committee. Therefore, the weapons system/ foreign policy/national security strategy linkage was not strong.¹¹⁸ Finally, committee review often boiled down to constituency-related issues such as spending that aided individual member's districts.¹¹⁹ Taken together, all of these factors militated against the development of a coherent set of national priorities, which the political leadership could

¹¹⁴ Long and Reppy, *The Genesis of New Weapons*, 183.

¹¹⁵ Elias Huzar, *The Purse and the Sword: Control of the Army by Congress through Military Appropriations, 1933-1950* (Ithaca, NY.: Cornell University Press, 1950), 400.

¹¹⁶ Long and Reppy, *The Genesis of New Weapons*.

¹¹⁷ Huzar, *The Purse and the Sword*, 399-401.

¹¹⁸ Jordan, Taylor, and Mazarr, *American National Security*, 126.

¹¹⁹ *Ibid.*, 127.

have used to guide the weapon acquisition process. The constraints of the political structure enumerated above, promoted the military's autonomy in weapon acquisition decisions, strategy development, and force structure.

The next chapter advances the argument begun here, namely, that weapons systems technology, and the fact that the military for the most part decides what technology to acquire, is one of the variables (previously under-appreciated) that have increased the military's role in policy at the expense of civilian control. Chapter 5 explores the near-term impact of technology on U.S. strategy, foreign policy, and alliance formation and the long-term impact of present weapons systems decisions on future force structure and, as a consequence of such force structure, the impact on future policy options.

CHAPTER 5

THE COLD WAR, WEAPONS TECHNOLOGY, AND POLICY

That the military had a more influential role in national security and foreign policy formulation after World War II due to the exigencies of the Cold War is now evident. Even before the Second World War ended, the JCS drafted a policy statement approved by President Roosevelt that provided a much-expanded role for the military in the formulation of U.S. foreign and national security policy.¹ However, what is not as clear is the degree to which technology affected the military's policy preferences, and how these technologically driven preferences manifested themselves in the strategic plans the military recommended, the military's capability to execute these plans, and their effect on foreign policy. The previous chapter addressed how the services developed their weapons systems preferences and the military's part in deciding what systems to acquire. This chapter sets forth the position that during the Cold War the military's technologically advanced weapons systems allowed the military to assume increased influence on national security and foreign policy--sometimes with civilian consent and sometimes without -- at the expense of civilian control over the military. First, the

¹ Mark A. Stoler, *Allies and Adversaries: The Joint Chiefs of Staff, the Grand Alliance, and U.S. Strategy in WW II* (Chapel Hill, NC and London: The University of North Carolina Press, 2000), 107-08. Stoler chronicles the growing influence throughout the Second World War of the Joint Chiefs of Staff and their continued influence in national policy at the beginning of the Cold War. See also James F. Schnabel, *The Joint Chiefs of Staff and National Policy 1945-1947*, vol. I, *History of the Joint Chiefs of Staff* (Washington, DC: U.S. Government, 1986).

chapter begins by examining the overarching concerns that shaped military policy during the Cold War. Second, it treats the military's influence on Cold War policy in the near term by examining the effects of weapons systems on American national strategy, the acquisition of foreign bases, and the formation of alliances. Third, it addresses the far-term effects of weapons systems on policy. It explores how previous weapons systems and force structure decisions affected the conduct of future policy options during the Cold War.

Weapons systems and the force structure developed around them affect national security and foreign policy in both the near and far term. In the near term, the capabilities and limitations of the weapons systems on hand influence the development of the military's policy preferences, which are expressed in the military's strategy and force employment recommendations. For example, the decision to intervene militarily in another country, the forces, the duration, the objectives, and the policy goals are influenced by the military's strategic recommendations. Also, weapons systems influence the acquisition of bases, the formation of alliances, and the amount and type of military assistance the United States negotiates with other states. The military affects far-term policy as well. The weapons systems the military decides today to develop and acquire affect the military's strategic capabilities and hence policy options tomorrow.

As the previous chapter established, the military generally decides what weapons systems to acquire and what force structure to build around them. Weapons systems and force structure decisions are not just about acquiring a piece of hardware or equipment for a certain amount of money. They are about acquiring capabilities. It takes from 12 to 15 years to develop and field a new weapon system. Decisions made now to develop and

field a series of weapons systems determine future military capabilities. While the scientific nature of weapons systems development allows the military to predict a weapon system's future capability within narrow limits, the nature of the political process militates against the predictability of future policy. With its more limited planning horizon (4 to 6 years), policy development lags behind weapon system development by eight to 11 years. Consequently, future weapons systems and the force structure built around them may be inappropriate for the future foreign and national security policy -- producing a disconnect between ends and means. Arranging for future weapons systems (i.e., means) to be able to optimally support the then existent foreign and national security policy (i.e., ends) is a systemic problem. The weapons development and policy development systems are not coordinated or synchronized. This chapter will discuss the major factors that account for this difference. However, given the constraints of each system, the question of who makes policy decisions and who makes weapons systems decisions is largely irrelevant to the desideratum of achieving synchronization. As each system is currently configured, weapons planning and procurement would still take 12 to 15 years, and policy would still look out only four to six years, regardless of who the decision-makers were. Thus, policy would still lag behind weapon system development.

However, where the locus of decision-making does make a difference is in how weapons systems decisions affect civil control over the military. With current weapons systems and force structure decisions affecting future foreign policy options, it is important as to which leaders -- civilian or military make the decisions. Without civilian leadership involved in the decision-making process, the military will continue to have an excessively strong role in policy development at the expense of civilian control. A

greater role for the military in the policy process might be beneficial for foreign policy and national security, but in that case, the civilian leadership should make a conscious and deliberate decision to cede a particular degree of control, rather than having systemic incongruence lead them into it haphazardly. Either the national leadership and Congress must have a longer planning horizon, reach consensus on what constitutes the nation's interests, and be more prescient in their reading of the future--or the weapons systems development/procurement process has to be shortened. Given the nature of the political system, it is unlikely that the former will occur, although it would be useful if the process were more constructive and bipartisan. Reform is more likely to take hold in the weapons arena, were Congress can change contracting laws, regulations, policy, and procedures in order to facilitate a shorter time between imagining a weapon and fielding it.

That the military became more influential in foreign and national security policy development during the Cold War is not a matter for concern in and of itself. It is an empirically observable event, neither good nor bad unless placed into context. But having the military more influential in policy development implies that some other civilian agency either is less influential or defers to the military, or that the policy-making venue has grown and the military's influence has increased relative that of civil agencies. Any one of these three possibilities indicates a lessening of civil control either by design or default.

The Cold War Setting

During the Cold War, two principles dominated U.S. strategy; namely, the containment of communism and the deterrence of Soviet aggression. U.S. military thought had been moving along those lines since the end of World War II. In August 1945, the Joint Planning Staff (JPS) produced a strategic blueprint to guide U.S. national security policy. The document advocated among other steps a series of measures focused on maintaining the security of the continental United States, the western hemisphere, and critical allies abroad, and obtaining the participation and cooperation of the international community to maintain global peace. It ended with an injunction for the nation's armed forces to maintain "the best possible relative position with respect to the potential enemy powers, ready when necessary to take military action abroad to maintain the security and integrity of the United States."² Though couched in general terms, this last statement was addressing potential Soviet aggression. Planning continued within the Joint Staff, and in March 1946 the Joint Chiefs of Staff briefed a revised plan to President Truman. By then the Soviet Union was rapidly emerging as a threat to the United States and Europe. Without detailing the specifics, the JCS plan called for sufficient military forces to pursue U.S. interests, the capability to expand the military rapidly, and the maintenance of an industrial mobilization base. Central to such a concept was the formation of alliances, retention of a U.S. military technological advantage, and the procurement and maintenance of overseas bases.³ A number of State and Defense department assessments

² Schnabel, *The Joint Chiefs of Staff and National Policy 1945-1947*, 66.

³ *Ibid.*, 69. The JCS document was undoubtedly influenced by Kennan's "Long Telegram" which had appeared on February 22, 1947. See: John Lewis Gaddis, *We Now Know: Rethinking Cold War History* (New York: Oxford University Press Inc., 1997), 193-94.

followed, the most notable being those derived from George Kennan's "long telegram."⁴ This document, along with Kennan's subsequent Mr. "X" article in the July 1947 issue of *Foreign Affairs*, shaped the Truman Doctrine and provided the background for NSC 68, arguably the seminal document of the Cold War.⁵ An interagency team from the State and Defense departments drafted NSC 68. Military members of the Joint Planning Staff (JPS) and State Department personnel from the Policy Planning Staff (PPS) under the direction of Paul Nitze crafted the details of the document.

Where Kennan advocated the economic and psychological elements of power as the main tools to use in the struggle with the Soviet Union, NSC 68 put much more emphasis on meeting Soviet aggressiveness and expansion with military force. Unlike Kennan's selective confrontation strategy, NSC 68 called for the U.S. to meet every instance of Soviet aggression with resolve and force if necessary.⁶ It identified several essential military tasks that became the basis for U.S. military policy and strategy during the Cold War:

- Defend the Western Hemisphere and other essential areas.
- Protect the mobilization base.

⁴ John Lewis Gaddis, *Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy* (New York: Oxford University Press, 1982), 19-24; Richard H Immerman, and Robert R. Bowie, *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy* (New York and Oxford: Oxford University Press, 1998), 11-13. Immerman and Bowie highlight the importance of NSC 20/4 (1948) in providing an assessment of the magnitude of the Soviet threat that was key in shaping NSC 68.

⁵ Gaddis, *Strategies of Containment*, 26; Ernest R. May, ed., *American Cold War Strategy: Interpreting NSC 68*, Bedford Books in American History (Boston and New York: Bedford Books of St. Martin's Press, 1993), vii, 16.

⁶ Aaron L. Friedberg, *In the Shadow of the Garrison State: America's Anti-Statism and Its Cold War Grand Strategy* (Princeton, NJ: Princeton University Press, 2000), 107-08; Gaddis, *Strategies of Containment*, 93-95; Immerman, *Waging Peace*, 18-22. See also: May, ed., *American Cold War Strategy*, *passim*.

- Conduct offensive operations to destroy “vital elements of the Soviet war-making capacity” and to impede the enemy’s own offensives.
- Protect necessary bases and lines of communications.
- Provide aide to allied powers.⁷

“In the broadest terms,” according to NSC 68, the United States and its allies must possess military forces that would be “superior for at least these tasks, both initially and throughout a war, to the forces that can be brought to bear by the Soviet Union.” They need not match the USSR “item for item.”⁸ Although approved in September 1950, NSC 68 was never publicly promulgated as U.S. policy. Still, it was instrumental in shaping all subsequent military strategy during the Cold War.⁹

Although the National Security Act of 1947 and its subsequent amendment in 1949 theoretically integrated the armed forces under a National Security Council, a Department of Defense, and a Joint Chiefs of Staff, in practice the services remained separate and largely autonomous. Throughout the Cold War, they stubbornly resisted unification until the Goldwater-Nichols Act of 1986 mandated it. During the Cold War, each service developed its own distinct war-winning strategy and vied with one another for primacy in influencing the nation’s military policy and strategy. While they differed

⁷ May, ed., *American Cold War Strategy*, 71-72; Walter S. Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, vol. IV, *History of the Joint Chiefs of Staff*: (Washington, DC: U.S. Government, 1986), 5-7.

⁸ May, ed., *American Cold War Strategy: Interpreting NSC 68*, 72; Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 7.

⁹ May, ed., *American Cold War Strategy*, vii,16,15-17; Samuel P. Huntington, *The Common Defense: Strategic Programs in National Politics* (New York: Columbia University Press, 1961), 113.

on the best strategic approach the U.S. should take, each strategy was dependent on technologically superior weapons systems.¹⁰

In the event of war with the Soviet Union, the Air Force expected to use nuclear weapons from the start to accomplish several essential strategic objectives. First, it intended to destroy the Soviet industrial base. Second, it intended to retard the advance of Soviet conventional forces across Europe. Third, it would destroy, if necessary, Soviet population centers. Last, after 1949 it intended to destroy Soviet nuclear weapons before they could be effectively brought to bear in any decisive way.¹¹ Although only the Air Force had the capability to employ nuclear weapons, each service proposed a different strategic approach that was in large part driven by its penchant for a particular weapon system. U.S. defense strategy was in fact an amalgamation of three separate service war-fighting strategies focused on the same goal.

The services' weapons systems preferences and the strategies they developed to employ them largely shaped U.S. foreign policy throughout the Cold War. In the near term, weapons systems affected the national strategy, the acquisition of overseas basing rights, the formation of alliances and military assistance to those allies. In the far term weapons systems decisions, determine future force structure and military capabilities. True, there were other variables that influenced America's foreign policy during the Cold

¹⁰ Robert J. Art, *Strategy and Management in the Post-Cold War Pentagon* (Carlisle Barracks, PA: U.S Government Printing Office, 1992), 3-5; Huntington, *The Common Defenses*, 298; Roger R. Trask and Alfred Goldberg, *The Department of Defense, 1947-1997: Organization and Leaders* (Washington, DC: U.S Government Printing Office, 1997), 14-16. See also: Jeffrey G. Barlow, *Revolt of the Admirals: The Fight for Naval Aviation, 1945-1950* (Washington, DC: U.S. Government Printing Office, 1994), 247-68.

¹¹ Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 84-86.

War; however, weapons systems technology often played a substantial if not decisive role in the foreign policy process that has heretofore been unexplored.

Weapons Systems and National Strategy

For the duration of the Cold War U.S. policy was to contain Soviet expansion and the spread of communism. Each president from Truman to Reagan implemented containment differently. Their strategies varied from compromising to confrontational, with each differentiated by a myriad of economic, political, ideological, and military factors.¹² Despite their differences, each strategy relied for its successful prosecution upon American technological superiority, especially weapons systems superiority. According to Aaron Friedberg, “Before the Second World War had ended and the Cold War began senior American scientists and top military planners were already agreed that the preservation of a preeminent position in weapon technology must be a central goal of peacetime defense policy.”¹³

Even as the Cold War began, President Truman nonetheless presided over the greatest demobilization in the nation’s history. From 1945 to 1947 the strength of the armed services fell from over 12 million to 1.6 million men. Additionally, defense spending fell from over 81 billion dollars a year to just over 13 billion. While both Stalin’s rhetoric and military might were threatening, Truman felt that the key to any

¹² Richard K. Betts, *Soldiers, Statesman and Cold War Crises*, Morningside ed. (New York and Oxford: Columbia University Press, 1991), 81-87; Gaddis, *Strategies of Containment*; Gaddis, *We Now Know*, 20.

¹³ Friedberg, *In the Shadow of the Garrison State*, 297.

struggle with the Soviet Union would be an economically solvent Western Europe.¹⁴

Given the nuclear monopoly the U.S. enjoyed at the time, Truman felt he could afford to reduce spending in other areas of defense in order to fund economic assistance programs such as the Marshall Plan.¹⁵ Additionally, the military services, especially the Air Force, assured Truman that the nation's advanced bombers with nuclear weapons would be capable of defeating the Soviet Union should a general war develop. The Navy provided assurances of its ability to dominate the seas and if necessary launch strikes against the littoral regions of the Soviet Union to interdict its lines of communications in the event of a war in Europe.¹⁶

However, the Soviet explosion of a nuclear bomb in August 1949 caught the Truman administration off guard.¹⁷ An in-depth review of America's nuclear capability revealed some glaring deficiencies. JCS plans in the event of a war with the Soviet Union called for the employment of over 400 nuclear weapons, yet in 1948 the nation possessed only 50 and by 1949 could have assembled only 169.¹⁸ To make matters worse, the Air Force had only 24 nuclear-capable aircraft left in its inventory and only 18 of those were serviceable.¹⁹ Moreover, of the 30 crews assigned to fly these aircraft, not

¹⁴ Gaddis, *Strategies of Containment*, 62.

¹⁵ Friedberg, *In the Shadow of the Garrison State*, 73-74.

¹⁶ Barlow, *Revolt of the Admirals*, 105-06.

¹⁷ Immerman and Bowie, *Waging Peace*, 16.

¹⁸ Wilbur D. Jones Jr., *Arming the Eagle: A History of U.S. Weapons Acquisition since 1776* (Fort Belvoir, VA: Defense Systems Management College Press, 1999), 334; Allan R. Millett and Peter Maslowski, *For the Common Defense: A Military History of the United States of America*, Revised and Expanded ed. (New York: The Free Press, a Division of Macmillian, Inc., 1994), 500.

¹⁹ Barlow, *Revolt of the Admirals*, 95,101-02; Norman Friedman, *The Fifty-Year War: Conflict and Strategy in the Cold War* (Annapolis, MD: Naval Institute Press, 2000), 36.

one crew was trained to employ nuclear weapons.²⁰ Still, though the administration stuck to its economic recovery plan, it did increase the production of nuclear weapons and undertook a series of studies (the most influential being NSC 68) to assess America's national security posture in light of perceptions of a newly increased Soviet threat. As a result of this analysis and upon the recommendation of the JCS, the Air Force's bomber R&D and procurement programs were accelerated. By 1952 the Air Force had doubled the number of its strategic bombers from 837 in December 1949 to 1638 three years later.²¹

The Soviet-sanctioned invasion of South Korea by North Korea in 1950 again took the Truman administration by surprise.²² After years of neglect, U.S. conventional forces were ill prepared for the difficulties they faced fighting the North Koreans and, later, the Chinese. Although the Department of Defense had continued to develop the strategic bomber force and carrier-based aviation, Army ground force equipment, training, and force structure had been allowed to atrophy.²³ The military's reliance on strategic weapons systems was inappropriate for the situation the United States faced in Korea. The Air Force's strategic bombers armed with conventional bombs were of limited utility, given North Korea's undeveloped industrial base and the political

²⁰ Millett and Maslowski, *For the Common Defense*, *passim*.

²¹ Air War College, *U.S. Air Force Wing Force Structure* [Internet] (April 18, 2002 [cited August 22, 2002]; available from http://www.au.af.mil/au/afhra/wwwroot/usaf_wingforce_Structure.

²² Gaddis, *We Now Know*, 71.

²³ Richard K. Betts, *Military Readiness: Concepts, Choices, Consequences*. (Washington, DC: The Brookings Institution, 1995), 16-19,22.

constraints placed on the conduct of U.S. military operations outside of the peninsula.²⁴ To halt the North Korean advance required Army units backed by close air support. However, American infantry divisions were understrength, poorly trained, and equipped with inferior weapons. The Air Force had few modern aircraft capable of providing the Army and Marine Corps units with effective ground support.²⁵ The Navy, on the other hand, was the best prepared for the conflict. Not facing a surface threat from the North Koreans or the Chinese, its carrier task forces provided timely and effective close air support to the ground forces and supported amphibious landings and ground operations with naval gunfire. Eventually, American technological superiority prevailed but during the first eight months of the war the armed forces suffered a series of painful and humiliating defeats.²⁶

As a result of the North Korean attack and pursuant to NSC 68, Truman embarked on a massive rearmament program. America's nuclear as well as its conventional capability increased rapidly from 1950 to 1953.²⁷ With the exception of nuclear weapons, of which America had both a qualitative and quantitative advantage, the U.S. chose to offset Soviet quantity with quality. The technologically advanced bombers of the Air Force's Strategic Air Command (SAC) and the growing nuclear capability of the

²⁴ Clayton K.S. Chun, *Aerospace Power in the Twenty-First Century: A Basic Primer* (Colorado Springs, CO: U.S. Government Printing Office, 2001), 69-71, 133-39.

²⁵ Ibid.; Friedman, *The Fifty-Year War*, 34, 155-56.

²⁶ Roy E. Appleman, *South to the Naktong, North to the Yalu*, ed. Stetson Conn, United States Army in the Korean War (Washington, DC: U.S. Government Printing Office, 1961).

²⁷ Friedman, *The Fifty-Year War*, 156-58; Immerman and Bowie, *Waging Peace*, 23.

Navy's carrier task forces were vital components of Truman's strategy.²⁸ These weapons systems would allowed the United States to deliver nuclear weapons to targets deep within the Soviet Union, a capability the Soviets would not be able to match until the advent of the intercontinental ballistic missile in the late 1950s. Although the Soviet air defenses had improved, both the Air Force and the Navy assured Truman that the bombers would get through to their targets in the Soviet Union. The Air Force, as personified by Curtis LeMay, did not think a war would last more than six months.²⁹ Only a few dissenters in the Army such as Generals Ridgway, Taylor and Gavin questioned the reliance on massive retaliation.³⁰ However, to deter Soviet aggression with a conventional option as well as a nuclear one, Truman did reinforce the newly formed NATO alliance in Europe with additional Army and Air Force units.³¹

President Eisenhower inherited a concept for national security strategy (NSC 68) from the Truman administration and substantially increased armed forces. However, Eisenhower's assessment of Soviet intentions and what the nation needed to do to counter them differed markedly from Truman's and those expressed in NSC 68. Having had firsthand experience working and negotiating with Stalin and other Soviet leaders during and after World War II, Eisenhower did not believe that the Soviet leadership was willing to risk their control over the country in a general war with the United States.³² He firmly

²⁸ Friedman, *The Fifty-Year War*, 156.

²⁹ David Alan Rosenberg, "Toward Armageddon: The Foundation of United States Nuclear Strategy, 1945-1961" (Ph.D. diss., University of Chicago, 1983), 200-01.

³⁰ Betts, *Soldiers, Statesman and Cold War Crises*, 108,10-11.

³¹ Friedman, *The Fifty-Year War*, 171; Immerman and Bowie, *Waging Peace*, 33-35.

³² Immerman and Bowie, *Waging Peace*, 46-47.

believed that the United States would ultimately prevail in the bipolar struggle. Eisenhower felt that America's great strengths lay in its democratic government, individual values and freedoms, and the strength of its economy.³³ In Eisenhower's mind, raising and sustaining the forces called for in NSC 68 (in response to a threat Eisenhower felt was suspect) would jeopardize the economic vitality of the nations called upon to provide them.³⁴ Eisenhower looked for a more practical and reasoned approach to national security based on his assessment of the threat and his convictions concerning what constituted U.S. interests and power.³⁵ The utility of the Air Force's and Navy's strategic nuclear capabilities and the strategic concepts built around them, essentially the same as those provided to Truman, fit neatly with Eisenhower's strategic thinking.

Like Truman, President Eisenhower relied heavily on America's ability to sustain a technological advantage over the Soviet Union in almost all industrial and scientific sectors, but especially in weapons systems development.³⁶ He dubbed his strategy the "New Look." Although the New Look strategy has been criticized for relying too heavily on the use of nuclear weapons, in fact Eisenhower's strategic approach was suppler than it was given credit for at the time.³⁷ Flexibility was inherent in the mix of forces available, not in how the U.S. used them.³⁸ Eisenhower's New Look strategy was heavily dependent on the potential threat posed by the nuclear and

³³ Ibid., 47.

³⁴ Gaddis, *Strategies of Containment*, 133-34.

³⁵ Immerman and Bowie, *Waging Peace*, 75,187-89.

³⁶ Friedberg, *In the Shadow of the Garrison State*, 302-03,17-19.

³⁷ Immerman and Bowie, *Waging Peace*, 178-201.

³⁸ Gaddis, *Strategies of Containment*, 124-25.

conventional capabilities of the Air Force's bombers and the Navy's carriers. The services had decided to procure these weapons systems in the late 1940s and Eisenhower underscored their importance to national security by augmenting them. In 1953, when Eisenhower took office, the number of bomber wings stood at 31. When he left office in 1961, the number of bomber wings stood at 54.³⁹ The Eisenhower strategy also relied heavily on the Navy's carrier task forces too. Even though there was a general reduction in defense spending as a percentage of GNP from 1953 to 1960 (14.5 to 10.2 percent), Eisenhower undertook the construction of six new super carriers during his administration, all of them nuclear-capable.⁴⁰

While the number of force projection operations the Navy became involved in declined in the 1950s, the tempo of carrier involvement actually increased. Korea (1950-1953), Vietnam (1954), Suez (1956), and Lebanon (1958) were examples of U.S. strategic and diplomatic responses that were shaped in part by the weapons systems available to the administration. The threat posed by the availability of strategic bombers and nuclear weapons (in both the U.S. and USSR) helped limit the scope of these conflicts, while carrier task forces working with ground forces provided the U.S. conventional responses. Whether or not those responses were appropriate is open to debate; however, in each instance the military's strategic recommendations, technological preferences, its weapons systems, and the composition of its ground forces constrained (or enhanced, depending on one's view of the outcome) what the civilian leadership

³⁹ Air War College, *U.S. Air Force Wing Force Structure*; Immerman and Bowie, *Waging Peace*, 248; Amos A. Jordan, William J. Taylor Jr., and Michael J. Mazarr, *American National Security*, 5th Ed. (Baltimore: The Johns Hopkins University Press, 1999), 72.

⁴⁰ Maurice A. Mallin, *Tanks, Fighters and Ships: U.S. Conventional Force Planning since WW II* (Washington, New York, and London: Brassey's (US), Inc., 1990), 86-87.

could do. The military's previous weapons systems acquisition decisions defined the Eisenhower administration's range of conventional military responses and hence their policy/strategic options. The Army's decision to invest in armored and mechanized divisions for a European conflict influenced policy decision as well.

Examining in greater detail Eisenhower's decision to intervene in Lebanon's civil war in 1958 provides further insight. The U.S. had the capability to intervene on a limited scale and for a relatively short duration. Marine units splashed ashore under the protective guns and air cover of the carrier task forces of the Navy's Sixth Fleet.⁴¹ Naval force projection embodied in the carrier task forces made the intervention possible. However, had the Soviet Union contested the U.S.'s intervention with significant force, it is questionable whether the U.S. could have met the challenge. U.S. Army ground forces had been reduced from 20 divisions at the height of the Korean conflict to 14 and they were spread out around the globe with most being in Europe. Moreover, with the exception of two airborne divisions and a shipborne Marine Expeditionary Force, these units were either armored or motorized/mechanized infantry and not strategically mobile. They required vast amounts of sealift and airlift support in order to get them into the theater and sustain them once there. That type of support was not available.⁴²

Likewise, the Air Force's tactical wings played a limited role in this armed intervention.⁴³ In the long run, land-based air power is more cost effective; however, the U.S. lacked bases in the region that would have allowed fighters and fighter-bombers to

⁴¹ Gaddis, *We Now Know*, 175, 250.

⁴² Betts, *Soldiers, Statesman and Cold War Crises*, *passim*.

⁴³ Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 156-59.

operate in support of the ground forces. The only Air Force units capable of reaching the theater, without using forward bases, were SAC's bombers, and their utility in a limited war scenario was at best questionable. Had the situation called for it, the Eisenhower administration could have placed more American combat power in Lebanon and sustained it there longer. However, that response would have required more time to implement, would have entailed commitment of the nation's strategic reserve, and would have come at the expense of many of the nation's domestic programs. The decision in 1949 to increase the number of bomber wings at the expense of the Army, and to lesser degree the Navy, affected the practical application of Truman's and Eisenhower's national security strategies in that their ability to respond to a limited war scenario was constrained by the capabilities and limitations of the weapons systems the military had acquired, i.e., strategic bombers and carriers in lieu of Army battalions and strategic lift, both air and sea.⁴⁴

Eisenhower's New Look strategy gave way to President Kennedy's "Flexible Response" strategy in 1962. Like Eisenhower's strategy, Kennedy's was influenced by the weapons systems and force structure he inherited from Truman and Eisenhower and by the strategic recommendations the military made for their employment. Kennedy had been particularly impressed by the strategic thinking of Gen. Maxwell Taylor, who

⁴⁴ Barlow, *Revolt of the Admirals*, 265-67, Poole; *The Joint Chiefs of Staff and National Policy, 1950-1952*, 49-51. During the hearings over the B-36 and the super carrier, the Air Force promised the Army that it would invest more of its budget in planes for close air support and air transport in an effort to garner the Army's support in its struggle against the Navy. The Air Force soon reneged on its promises. As a result, when the Korean War began, the Army lacked effective close air support from the Air Force.

during the Eisenhower administration had advocated an increase in conventional forces.⁴⁵ Flexible Response was predicated on the military having the capability to respond to a broad spectrum of conflict scenarios ranging from military assistance to global nuclear war.⁴⁶ While the armed forces had the capability to operate at the high end of the spectrum, at the low end, particularly with regard to limited war, the military was unprepared. What the military needed were trained forces-in-being capable of rapidly deploying and fighting along side host nation militaries. Not having such forces available when he took office in 1961, Kennedy heeded the military's advice and created them. He did so by significantly increasing the size and mission of U.S. Special Forces.⁴⁷ Operating under the deterrent shield provided by U.S. strategic nuclear forces, Kennedy put Flexible Response into practice in Southeast Asia. Beginning with advisors, then Special Forces and increased logistical support, the U.S. military became increasingly involved in Vietnam, Laos, and Cambodia in an effort to thwart the spread of communism in Southeast Asia.⁴⁸

Kennedy's successor, President Lyndon B. Johnson, after securing de facto Congressional approval with the Gulf of Tonkin resolution, committed the nation to a

⁴⁵ Gaddis, *Strategies of Containment*, 214; Maxwell D. Talyor, *The Uncertain Trumpet* (New York: Harper&Brothers, Publishers, 1959), 6-7,130-64.

⁴⁶ Friedman, *The Fifty-Year War*, 200,85-86; Gaddis, *Strategies of Containment*, 213-17; Jordan, Taylor, and Mazarr, *American National Security*, 77; Mallin, *Tanks, Fighters and Ships*, 125; Geoffrey Perret, *A Country Made by War: From the Revolution to Vietnam: the Story of America's Rise to Power* (New York and Toronto: Random House, Inc., 1989), 485; Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy*, Wars of the United States Series (Bloomington, IN: Indiana University Press, 1973), 445-46.

⁴⁷ Betts, *Soldiers, Statesman and Cold War Crises*, 116; Mallin, *Tanks, Fighters and Ships*, 155-56; Perret, *A Country Made by War*, 485, 501-01.

⁴⁸ Mallin, *Tanks, Fighters and Ships*, 156-57.

limited war in Vietnam.⁴⁹ In an effort to apply superior American technology to the battlefield environment in Vietnam and with the full concurrence of his military advisors, Johnson in 1965 ordered an airmobile division to Vietnam – the First Cavalry.⁵⁰ Moving an entire division and all its combat support and logistics around the battlefield by helicopter was both technologically innovative and operationally revolutionary. After initial successes with the First Cavalry, the Army squandered its technological advantage by using it like any other infantry division.⁵¹ Given his policy goals, Johnson attempted to obtain limited military ends; however, he used weapons systems and a force structure that were designed to fight a traditional war in order to annihilate an opponent and bring about total victory.⁵² Johnson’s strategy for pursuing the war was flawed in that the means (weapons systems and force structure) did not correlate well with the ways and concepts the U.S. used. Neither the means nor the ways supported the ends (political objectives). Strategic bombers, Polaris submarines, aircraft carriers, and armored divisions were not suited for the type of military operations that Johnson’s policy required (an independent and democratic South Vietnam capable of defending itself

⁴⁹ Ibid., 159.

⁵⁰ John A. Bonin, “Helicopters and Intervention: The Impact of Military Technology on U.S. Foreign Policy in Vietnam.” (MA Thesis, Duke University, 1982), 1-38.

⁵¹ Betts, *Soldiers, Statesman and Cold War Crises*, 137-38; Mallin, *Tanks, Fighters and Ships*, 168-71; Weigley, *The American Way of War*, 423. Gavin realized the potential of the helicopter for combat operations as early as the Korean War. Gavin stated: “From a technological point of view, the real tragedy of Korea was that this great nation, with its scientific resources and tremendous industrial potential, had to accept combat on terms laid down by a rather primitive Asiatic army. Neither our imagination nor vision in the years since WW II had given a combat capability that would provide the technical margin of advantage that we needed in land warfare to win decisively and quickly.” (Quoted in Weigley above). See also: John Everett-Heath, *Helicopters in Combat: The First Fifty Years* (London and New York: Villiers House, distributed in the USA by Sterling Publishing Co. Inc., 1992), 77-83.

⁵² H.R. McMaster, *Dereliction of Duty: Lyndon Johnson, Robert McNamara, the Joint Chiefs of Staff, and the Lies That Led to Vietnam*. (New York: HarperCollins Publishers, Inc., 1997), 90-91, 165, 205-06.

against insurgency and outside aggression).⁵³ Johnson inherited military means which had been conceived in the late 1940s to support political objectives that, when the weapons systems and force structure were finally fielded, no longer existed. Consequently, his policy objectives were compromised by the capabilities of the weapons and force structure on hand, and the military's recommendations on how best to employ them.

Following Johnson, President Nixon and his National Security Advisor, Henry Kissinger, implemented a policy of détente with the Soviet Union. Détente's implementation was based on a realist/neorealist view of the international system. Nixon and Kissinger believed that states within the international system were differentiated by power, and that balancing power among the consortium of states that made up the system was essential for long-term peace.⁵⁴ The Nixon administration saw a multi-polar world as being more stable than the bipolar world that prevailed in the early 1970s. In a bipolar world, conflict between the two super powers was perceived to be a zero sum game. But in a multipolar world, one side's loss in a particular area could be offset by a gain in another. Through a balance among powerful actors, no one state would be allowed to become so powerful that it threatened the stability of the international system. For example, Nixon moved to open relations with China in order to exploit the rift that had developed between it and the other communist giant, the USSR. Nixon hoped thereby to offset the growing nuclear and conventional capabilities of the Soviet Union's armed

⁵³ Friedman, *The Fifty-Year War*, 334-35; Mallin, *Tanks, Fighters and Ships*, 163, 74-77.

⁵⁴ Gaddis, *Strategies of Containment*, 280-81.

forces.⁵⁵ In this way, the U.S. would not have to increase defense expenditures to neutralize a growing Soviet numerical advantage. The possibility of an American-Chinese rapprochement would serve to check any Soviet attempt to leverage its strategic advantage and render the Soviets more amenable to accommodation.

Negotiated as part of the *détente* policy, the Strategic Arms Limitations Treaty (SALT) acknowledged the reality of Soviet power while signaling a U.S. willingness to curb the nuclear arms race. It negotiated a freeze in the deployment of additional intercontinental ballistic missiles and submarine launched ballistic missiles, an area that the Soviets had been particularly active in, and eliminated anti-ballistic missiles (ABMs). On the surface this treaty appeared to place the U.S. at a disadvantage vis-à-vis the Soviet Union, but the U.S. had no restrictions on its bombers and fighter-bombers capable of carrying nuclear bombs, an area in which the U.S. had a distinct advantage. The treaty allowed the U.S. to leverage its technological advantages in developing new and more accurate strategic systems. Additionally, U.S. missiles were more accurate, and their warheads were Multiple Independently Targeted Re-entry Vehicle's (MIRVs), meaning each U.S. missile contained up to ten individually targetable nuclear warheads to the Soviet's one.⁵⁶ Overall, SALT worked to the U.S.'s advantage and weapon technology continued to influence foreign policy decision-making. Under *détente*, weapons systems and force structure constituted instruments of power that could be employed or bargained away in support of U.S. objectives.

⁵⁵ Ibid., 277.

⁵⁶ Ibid., 324-25.

President Carter's policies were equally influenced by the weapons systems and force structure he had available. In the aftermath of the Vietnam War, Congress in the 1970s took on a pronounced anti-military hue. Military budgets were slashed and programs cancelled. Although the military was able to maintain much of its R&D base and its strategic programs relatively intact, the acquisition of new weapons systems was significantly curtailed. This resulted in what Chief of Staff of the Army, Gen. Edward "Shy" Meyers, referred to as a "hollow army."⁵⁷ A decade of neglect by Congress and indifference if not resentment of the military by the American people coupled with the military's emphasis on strategic systems, resulted in a general lack of readiness and in the military's inability to support policy objectives, particularly at the lower end of the conflict spectrum.⁵⁸ Short of its strategic capabilities, for example, the U.S. had few conventional forces that could protect American interests in the Middle East against the growing tide of Islamic radicalism.⁵⁹ The U.S. military's botched attempt to rescue the Tehran embassy hostages in April 1980 illustrated just how unprepared the military was to support the political necessities of the times. Similarly, had the U.S. chosen to oppose the Soviet invasion of Afghanistan in 1980 with conventional forces, it likely would have been unsuccessful. Few U.S. forces were combat ready. Moreover, the U.S. would have had difficulty deploying to the theater and sustaining its forces logistically once there.⁶⁰ Jimmy Carter entered office neglecting the conventional capabilities of the armed

⁵⁷ Richard K. Betts, *Military Readiness*, 3.

⁵⁸ *Ibid.*, 116-17.

⁵⁹ Friedman, *The Fifty-Year War*, 431-32.

⁶⁰ Betts, *Military Readiness*, 131-32.

services, but left office having initiated measures to significantly increase those capabilities.⁶¹

President Reagan's strategy of confronting the Soviet Union with military and economic might was initially constrained by the straitened forces he inherited from the Nixon, Ford, and Carter administrations. Although upon taking office Reagan immediately increased defense spending to increase America's strategic and conventional capabilities, he still faced problems with the force structure he inherited. Two years of increased defense spending could not make up for the almost ten years of neglect. The invasion of Grenada in 1983 by U.S. Army and Marine Corps units overwhelmed the Cuban-supported Grenada defense force. However, the operation exposed glaring deficiencies in the services' abilities to fight jointly and was thus a major catalyst for the Goldwater-Nichols Defense Reorganization Act of 1986.⁶²

Under Reagan defense spending rose from 237 billion in 1979 to over 330 billion (in constant FY 96 dollars) by 1985.⁶³ Upon the recommendation of the military, the U.S. fielded a plethora of modern high-tech weapons systems including but not limited to the M1A1 tank, the *Aegis*-class guided missile cruiser, 5 *Nimitz*-class nuclear carriers, 14 Trident ballistic missile submarines, 36 nuclear attack submarines, 100 B-1 bombers, the Pershing intermediate range ballistic missiles (IRBMs), and the AH-64 Apache attack helicopter. The U.S. also began the development of the MX missile and announced plans

⁶¹ Gaddis, *Strategies of Containment*, 345-46.

⁶² Douglas Lovelace, *Unification of the United States Armed Forces: Implementing the 1986 Department of Defense Reorganization Act* (Carlisle Barracks, PA: Strategic Studies Institute, United States Army War College, 1996), 8-9.

⁶³ U.S. President, *Historical Tables, Budget of the United States Government-Fiscal Year 2001* (Washington, DC: The White House, 2000), 138.

for developing a space-based ballistic missile defense system--the Strategic Defense Initiative (SDI), known as "Star Wars."⁶⁴ The military's technological superiority played an important role in shaping America's various containment strategies and in the opening of negotiations between President Reagan and Premier Gorbachev that eventually led to the end of the Cold War.⁶⁵ In addition to shaping the design of America's various containment strategies during the Cold War, weapons systems and the force structure built around them conditioned the conduct of America's foreign policy.

Weapons Systems and Bases

In addition to playing a defining role in American national security strategy formulation and execution, the military's weapons systems also affected America's foreign policy through the acquisition of overseas bases. As World War II was drawing to a close, the military compiled a list of bases for projecting power in support of American foreign policy in the postwar world. The military named nine "essential" and 25 "required" bases. These bases were to provide an outer ring of security for the continental United States.⁶⁶ As the Soviet threat became more apparent, the military asked the State Department to acquire additional bases in England, North Africa, and the Middle East from which SAC's strategic bombers could strike the Soviet Union in the event of war.⁶⁷ As SAC acquired more bombers, the requirement for additional bases

⁶⁴ Jones, *Arming the Eagle*, 394-95.

⁶⁵ Friedman, *The Fifty-Year War*, 468.

⁶⁶ Barlow, *Revolt of the Admirals*, 92,109; Schnabel, *The Joint Chiefs of Staff and National Policy 1945-1947*, 145-48.

⁶⁷ Friedman, *The Fifty-Year War*, 63; Millett and Maslowski, *For the Common Defense*, 501.

grew and the state department had to acquire additional operational basing, over-flight and transit rights, and permission to establish key communications, radar, and repair facilities in selected countries.⁶⁸ By 1952, the State Department at the behest of the military had acquired bases in Great Britain, Iceland, Newfoundland, Alaska, Guam, Okinawa, Bermuda, the Azores, Libya, Saudi Arabia, and Egypt, and was negotiating for such rights in Labrador, Algeria, Cyprus, the British Isles, Greenland, and Turkey (at Adana).⁶⁹ Additionally, the U.S. was negotiating for expanded rights in Libya and the Azores.

The need for overseas infrastructure support for the Air Force's bombers drove the U.S.'s acquisition of most of the bases. Even those bombers with intercontinental capability such as the B-36 and later the B-52 needed bases to recover to after they had delivered their deadly payloads. SAC war plans called for heavy bombers, six days after the start of hostilities, to fly from Maine and hit the Moscow-Gorky area with 20 atomic bombs then recover to the Great Britain, while bombers flying out of Labrador were to hit Leningrad with 12 bombs and also recover to the British Isles. Additionally, SAC's medium bombers flying out of Great Britain were to drop 52 atomic bombs on the Volga-Donets basin and return to bases in Libya and Egypt. Bombers from the Azores were to drop 15 atomic bombs on industrial centers in the Caucasus and recover to Dhahran, Saudi Arabia, while medium bombers from Guam dropped 15 atomic bombs on Vladivostok and Irkutsk and then returned to Okinawa. General Vandenberg, Chief of

⁶⁸ Schnabel, *The Joint Chiefs of Staff and National Policy 1945-1947*, 146.

⁶⁹ Immerman and Bowie, *Waging Peace*, 15,35; Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 86-87. Immerman and Bowie provide a discussion of one of the key plans for nuclear war with the Soviet Union, Operation Plan Off Tackle.

Staff of the Air Force, testified publicly that if SAC did not have these bases it would have to increase its strength by a factor of five or six to accomplish its mission.⁷⁰ In 1957, after gaining independence from France, the Moroccan government wanted to close the U.S. bases in its country. The Joint Chiefs of Staff opposed such a move, not so much because the bases in Morocco were absolutely vital, but because their loss might set a precedent that other states might follow, thus diminishing SAC's capability. The Air Force urged President Eisenhower to seek a compromise solution that would allow one communication facility at Kenitra to remain in use and to gain reentry rights to previous bases should the situation warrant. Eisenhower was able to obtain access to Kenitra, but not reentry rights.⁷¹ Weapons systems, in this case Air Force bombers, were so instrumental in the conduct of U.S. strategy and foreign policy, that the President of the United States himself became personally involved in negotiating their basing rights.

Like the Air Force, the Navy needed bases for its carrier task forces. The Department of State negotiated basing rights with the Philippines for the Navy's and Air Force's use of Subic Bay and Clark Field, respectively.⁷² Also, the State Department acquired basing rights for the Navy in Rota, Spain; Siganella, Sicily; Naples, Italy; and at various sites in Turkey and Greece. These bases, along with others in the Atlantic, the Indian Ocean, and the Pacific, were important to the strategic missions the Navy assigned to its carrier task forces, namely, force projection, the containment of the Soviet fleet

⁷⁰ Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 87.

⁷¹ Byron R. Fairchild and Walter S. Poole, *The Joint Chiefs of Staff and National Policy, 1957-1960*, ed. David A. Armstrong, vol. VII, *History of the Joint Chiefs of Staff* (Washington, DC: U.S. Government Printing Office, 1986), 148-50.

⁷² Schnabel, *The Joint Chiefs of Staff and National Policy 1945-1947*, 158-60.

(especially its ballistic missile submarines), and the maintenance of secure sea lanes of communication.⁷³ Operating from these bases during the Cold War, U.S. forces responded to 219 crisis incidents. In 118 of those responses at least one or more carriers participated; and, in 56 of the cases involving carriers, carriers constituted the only U.S. force capable of responding.⁷⁴ The Navy's carrier-driven strategy revolved around the forward presence of carrier task forces. Critical to the sustainment of that presence and the response rate indicated above was the acquisition of forward bases. Even with the advent of nuclear-powered carriers and their longer endurance periods at sea, the Navy needed bases to replenish and refurbish the conventionally-powered ships in the carrier battlegroup.

Unlike the Air Force and Navy, the Army's base acquisitions did not support a specific weapons system. Rather, bases for the Army in Europe and the Pacific were for the purpose of establishing a U.S. presence in the region, bolstering alliances, and deterring aggression. Hence, the Army maintained a forward presence in Germany, France (until France left NATO), Italy, Greece, Turkey, Korea, Japan, and Okinawa, and through military assistance programs in a host of other countries in Latin American, Asia, and the Middle East. However, the Army's presence usually had a larger footprint than the Navy's, whose ships were generally at sea, or the Air Force's, whose air wings were spread across many countries. For example, while an airbase may have had 70 aircraft and 2,000 personnel, an armored division contained over 5,000 vehicles and 17,000

⁷³ Robert J. Watson, *The Joint Chiefs of Staff and National Policy, 1953-1954*, ed. Willard J. Webb, vol. V, *History of the Joint Chiefs of Staff* (Washington, DC: U.S. Government Printing Office, 1986), 213.

⁷⁴ John Birkler, et al., *The U.S. Aircraft Carrier Industrial Base: Force Structure, Cost, Schedule, and Technology Issues for CVN 77* (Santa Monica, CA: Rand, 1998), 105-10.

personnel. In the mid-1950s, five such divisions were stationed in Germany and France along with additional supporting units.⁷⁵ By 1986, there were 300,000 U.S. troops stationed in Europe, with another 100,000 in South Korea. The Army's strategy for fighting the Soviets in central Europe, requiring the forward deployment of over five division equivalents, thus placed a heavy demand on the State Department to acquire bases and maneuver areas to support these units.

Weapons Systems and Alliance Formation

In addition to national security strategy and basing rights, the military's weapons systems preferences affected the formation of America's alliance system during the Cold War. Recalling the advice of George Washington in his Farewell Address, -- "Tis our true policy to steer clear of permanent alliances, with any portion of the foreign world [though] we may safely trust to temporary alliances for extraordinary emergencies" -- America had historically eschewed entangling alliances.⁷⁶ However, in the years immediately after the end of World War II, it was the military that united in one voice to advocate formation of alliances to deal with the communist threat.⁷⁷ NATO was the first permanent multilateral alliance the U.S. entered into in the wake of World War II. The Senate ratified America's participation in the alliance on July 21, 1949, and, under the provisions of the Mutual Defense Assistance Program (MDAP), Congress provided one

⁷⁵ Friedman, *The Fifty-Year War*, 171-72; Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 98.

⁷⁶ Felix Gilbert, *To the Farewell Address: Ideas of Early American Foreign Policy* (Princeton, NJ: Princeton University Press, 1961), 146.

⁷⁷ Robert R. Bowie, "Bowie's Commentary," in *American Cold War Strategy: Interpreting NSC 68*, ed. Ernest R May (Boston and New York: Bedford Books of St. Martin's Press, 1993), 111; Immerman and Bowie, *Waging Peace*, 25-26; Jordan, Taylor, and Mazarr, *American National Security*, 70-71; Schnabel, *The Joint Chiefs of Staff and National Policy 1945-1947*, 75.

billion dollars for NATO nations. The first materiel shipments reached Europe in the spring of 1950.⁷⁸ While U.S. military planners and policy-makers would have liked a robust conventional force deterrence in Europe, economically and politically it was not feasible.⁷⁹ Hence, NATO's credibility as a deterrent to Soviet aggression relied on the weapons systems of the U.S. strategic nuclear forces. Bombers, aircraft carriers, ballistic missile submarines, and later ICBMs and IRBMs were the chief deterrent elements of NATO's defense. After the Soviets acquired the atomic bomb and the Korean War showed that there would be scenarios where nuclear weapons might not be appropriate, NATO, with U.S. prompting and military aid, finally began to develop a conventional deterrent as well.⁸⁰

On October 23, 1950, the JCS recommend that NATO expand from the 29 divisions it had at the time to 96 divisions by July 1, 1954. General Marshall, the Secretary of Defense endorsed the plan, and it was presented to NATO's standing committee.⁸¹ Budgetary realities soon set in as the NATO nations came to realize the exorbitant cost of fielding such a force given the still unrecovered state of their economies.⁸² German rearmament, the JCS felt, was a possible solution; however,

⁷⁸ Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 93.

⁷⁹ Immerman and Bowie, *Waging Peace*, 179-80.

⁸⁰ Bowie, "Bowie's Commentary," 114-15; Gaddis, *Strategies of Containment*, 167-68; Colin S. Gray, *Weapons Don't Make War: Policy, Strategy, and Military Technology* (Lawrence, KS: University Press of Kansas, 1993), 24,149; Jordan, Taylor, and Mazarr, *American National Security*, 70,261-63. See also Friedman, *The Fifty-Year War*, 177. Friedman discusses the planning for the use of nuclear weapons in Europe as a hedge against Soviet conventional forces in the event of a war with the Soviet Union.

⁸¹ Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 126-27.

⁸² Jordan, Taylor, and Mazarr, *American National Security*, 71.

France opposed that course unless German units were integrated into the French command structure. Compromises were reached, and in 1952 after the Korean crisis had subsided somewhat NATO approved a U.S.-backed force structure of 46 divisions on mobilization day with another 52 to follow within 30 days.⁸³ Along with these recommended force objectives, the JCS recommended over 14 billion dollars in Mutual Defense Assistance Program appropriations, of which over 11 billion or 79 percent was earmarked for Europe and NATO (just two years previously the entire U.S. defense budget had been only 13.7 billion).⁸⁴ Under the protection of the U.S. nuclear umbrella and with the U.S. Navy securing the sealanes, the nations of NATO continued to develop economically while they simultaneously rearmed. The JCS furthered this process by proposing such steps as German rearmament, (which did finally begin in the mid-1950s), sharing nuclear technology with essential U.S. allies, and combined consultation on the employment of nuclear weapons. However, the JCS recommended that the military retain sole custody of U.S. nuclear warheads, to include those positioned overseas. Having access to U.S. nuclear weapons delivery systems, if not the warheads themselves, and the assurance of U.S. nuclear protection eased NATO's defense cost by lessening the requirement to maintain substantial conventional forces.⁸⁵

In sum, the U.S. military was largely able to determine the shape of America's alliances, to include the force structure its allies should maintain and thus how much

⁸³ Immerman and Bowie, *Waging Peace*, 39; Watson, *The Joint Chiefs of Staff and National Policy 1953-1954*, 282.

⁸⁴ Watson, *The Joint Chiefs of Staff and National Policy 1953-1954*, 202.

⁸⁵ Immerman and Bowie, *Waging Peace*, 245-46; Watson, *The Joint Chiefs of Staff and National Policy 1953-1954*, 203-04.

money its allies should allocate to defense, through the deterrence value of the U.S. military's strategic weapons systems, the strategic plans the military developed for the employment of those weapons systems, and the MDAP money the military recommended the U.S. should spend on alliance maintenance. Moreover, the military became a factor in the internal politics of NATO nations by reducing their defense burdens through its strategic weapons and the stationing of U.S. forces overseas. Although the context was different, the U.S. military followed essentially the same methodology outlined above to influence the development of the Central Treaty Organization (CENTO or Baghdad pact) and South East Asian Treaty Organization (SEATO).⁸⁶ While these two alliances did not have the endurance or dedicated forces that NATO did, they nonetheless reflected a change in America's attitude toward alliance formation due in part to the recommendations of the military. As such, they represented a further intrusion of the military into the realm of policy. The military based its alliance recommendations on the capabilities of its force structure, which relied on superior high-technology weapons systems capable of countering the quantitatively superior Soviet forces. It is to discussion of force structure and the long-term effects it had on foreign policy during the Cold War that this inquiry now turns.

⁸⁶ Immerman and Bowie, *Waging Peace*, 214-19; Jordan, Taylor, and Mazarr, *American National Security*, 73.

Weapons Systems and Policy in the Far Term

As discussed above, weapon system technology affects foreign and national security policy in the near term through existing weapons and the force structure designed to employ them. However, weapon system technology also affects national policy in the long term through the development of future force structure. According to Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms* (April of 2001), force structure is the “numbers, size, and composition of the units that comprise U.S. defense forces: e.g., divisions, ships, air wings.”⁸⁷ This includes the numbers and types of weapons systems the forces have in their inventory. As mentioned previously, the military decides what weapons systems to acquire. Instead of being driven by strategy, weapon acquisition decisions tend to be technology-driven.⁸⁸ The RDT&E process on average consumes between 10 and 15 years, with some systems taking less time (aircraft carriers, 6-8 years) and more technologically advanced systems taking much longer (B-1 bomber, 23 years).⁸⁹ When weapons systems become operational, they are placed into an organizational architecture designed to maximize their capabilities and within a doctrinal context that governs their employment. The resultant force structure has inherent capabilities and limitations.

⁸⁷ JCS, *The Department of Defense Dictionary of Military and Associated Terms* (Washington, DC: U.S. Government Printing Office, 2001), 265.

⁸⁸ Jordan, Taylor, and Mazarr, *American National Security*, 330-31.

⁸⁹ Birkler, *The U.S. Aircraft Carrier Industrial Base*, 52; Michael E. Brown, *Flying Blind: The Politics of the U.S. Strategic Bomber Program*, eds. Robert J. Art and Robert Jervis, *Cornell Studies in Security Affairs* (Ithaca, NY and London: Cornell University Press, 1992), 238-45; Nick Koltz, *Wild Blue Yonder: Money, Politics, and the B-1 Bomber* (New York: Pantheon Books, A Division of Random House, Inc., 1988).

There is a correlation between current force structure and foreign policy/national security strategy, which appears in national strategy recommendations, defense budget allocations, and policy governing the acquisition of overseas bases, alliance formation, and in military assistance. The weapons-systems decisions the military make now have a similar impact on future foreign and national security policies when those weapons systems are fielded in some 15 years. Contributing to the influence of current acquisition decisions on future policy is what could be called “policy lag.” Other than in very broad terms, it is rare for America’s elected leadership to outline a cogent foreign policy that extended beyond the incumbent’s term. There are a number of factors that account for this: the pluralism inherent to the political system, the primacy of the domestic agenda, the power of the bureaucracy, the presidential life cycle and his approval rating, the influence of the news media and other political actors, the sharing of powers within a federal system, and the tendency of ad hoc crisis management to supplant long-term strategy.⁹⁰ Even though presidents are the chief agents for the conduct of American foreign and national security policy, their power is constrained by the factors just mentioned. Thus U.S. foreign policy tends to be disjointed and characterized by a series of political compromises.⁹¹

The military, on the other hand, does not labor under any such constraints. For example, the Air Force does not have to sell the nation on what bomber or fighter to

⁹⁰ Jerel A. Rosati, *The Politics of United States Foreign Policy* (Orlando, FL: Harcourt Brace Jovanovich College Publishers, 1993), 30-46.

⁹¹ Bruce Russett, *Controlling the Sword: The Democratic Governance of National Security* (Cambridge and London: Harvard University Press, 1990), 7-12; Robert M. Stein and Kenneth N. Bickers, *Perpetuating the Pork Barrel: Policy Subsystems and American Democracy* (Cambridge, New York and Melbourne: Cambridge University Press, 1995), 141-45.

procure. They may have to lobby congress for money to get the numbers of a particular weapon system they need; still, the decision to acquire it remains internal to the Air Force.⁹² Due to the nature of the development and acquisition cycle, military R&D and acquisition planning almost always extends 15 to 20 years into the future, while foreign policy planning rarely extends beyond the administration's current term. As mentioned previously, the military's expertise and autonomy in the weapons systems development process during the Cold War was rarely challenged. Consequently, political leaders saw their policy options circumscribed by the decisions the military had made during previous administrations.⁹³ As the Cold War illustrates, future presidents can change force structure; however, the political price of doing so is normally prohibitive. With regards to the B-2 bomber, for example, over a seven-year period the sunk costs were \$8.5 billion in R&D and \$16.4 billion in procurement producing a total of nearly \$25 billion spent on the first 15 aircraft alone.⁹⁴ With such a huge previous investment, future presidents will think twice about abandoning the weapon. Discarding one weapons system for another affects the readiness of the force, because it normally requires training and restructuring. Still another cost is that a major reorganization of the armed forces normally involves winners and losers within the political process. Benefit redistribution is fraught with

⁹² Jordan, Taylor, and Mazarr, *American National Security*, 331, Ethan Barnaby Kapstein, *The Political Economy of National Security* (Columbia, SC: University of South Carolina Press, 1992); 117, William E. Kovacic, "The Sorcerer's Apprentice: Public Regulation of the Weapons Acquisition Process," in *Arms, Politics and the Economy: Historical and Cotemporary Perspectives*, ed. Robert Higgs, Independent Studies in Political Economy (New York and London: Holmes & Meier Publishers, Inc., 1990), 69.

⁹³ Jordan, Taylor, and Mazarr, *American National Security*, 227,330-31.

⁹⁴ U.S. Congress, Research Service, 2002; Jordan, Taylor, and Mazarr, *American National Security*, 329.

political liability and jeopardizes the president's agenda.⁹⁵ While presidents often tinker with military force structure by adding to or taking from it incrementally, for the most part they tend to make do with the force structure they inherit. The Cold War provides several illustrations of this point.

In June 1950, at the beginning of the Korean War, the American Army was woefully ill prepared for combat. Infantry, armor, and field artillery units were short one-third of their authorized strength and were armed with World War II weapons. Moreover, the Army had only ten divisions in its force structure. The Navy was in somewhat better shape, but had not acquired any new carriers since the fall of 1945. Further, it was scrambling to convert its carriers to handle jet aircraft.⁹⁶ The Air Force had the most technologically advanced bombers due to President Truman's decision to rely on atomic weapons as the primary deterrent to Soviet aggression. However, its force structure was bomber heavy, and, under the domination of the Strategic Air Command (SAC), it was focused on its atomic mission.⁹⁷ Events in Korea soon demonstrated the need for additional infantry, artillery, armor, and close air support units to stem the North Korean advance. But no such forces were immediately available due to the presidential decisions made five years earlier to rely almost exclusively on atomic weapons.⁹⁸

⁹⁵ John Coleman, *Party Decline in America: Policy, Politics, and the Fiscal State*, ed. Ira Katznelson; Martin Shefter and Theda Skocpol, *Princeton Studies in American Politics: Historical, International, and Comparative Perspectives* (Princeton, New Jersey: Princeton University Press, 1996), 12-18, 20; Theodore Lowi, "American Business, Public Policy, Case Studies and Political Theory," *World Politics* 56 (1964): 688-715.

⁹⁶ Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 30, 49-50.

⁹⁷ Mallin, *Tanks, Fighters and Ships*, 47.

⁹⁸ Immerman and Bowie, *Waging Peace*, 13; Jordan, Taylor, and Mazarr, *American National Security*, 70. In an effort to balance the budget, Truman established a rigid ceiling on defense spending. It

Scraping together forces from all over world, including salvaged equipment abandoned on Pacific atolls at the end of World War II, the military was able to roll back the North Koreans while maintaining a façade of strength in Europe. When China entered the war with its massive supply of manpower, America was again on the brink of defeat, actually considering the use of atomic weapons against the Chinese.⁹⁹ Although Truman had ordered partial mobilization of the reserves and a defense spending increase from \$13 billion in 1950 to \$52 billion by 1953 in order to increase the active duty force structure, it would not be until 1954 that the military obtained the force levels first programmed in 1950.¹⁰⁰ Ironically, by that time the crisis was over. Moreover, most of the active force structure increases were programmed for Europe in an effort to dissuade the Soviet Union from invading the continent while America was engaged in Korea.¹⁰¹

The Korean War was fought with the force structure that emerged from the demobilization process at the end of World War II. The nation had atomic weapons and the bombers to drop them, but the limited nature of the war, both militarily and morally, did not in Truman's view warrant their use. As mentioned previously, heavy bombers were of limited utility. The Air Force's bombers could have been used against targets in

appears the ceilings were more arbitrary than driven by policy and strategy requirements. See also Weigley, *The American Way of War*, 381-82.

⁹⁹ Friedman, *The Fifty-Year War*, 165; Gaddis, *We Now Know*, 105-07, Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*. Using recently disclosed Soviet sources, Gaddis provides an account of the Soviet and Chinese perceptions of potential use of nuclear weapons by the U.S. during the Korean War. Truman was against the use of nuclear weapons while Eisenhower refused to rule their use (tactical) out. See also Betts, *Soldiers, Statesman and Cold War Crises*, 105, Lawrence Friedman, "The First Two Generations of Nuclear Strategist," in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton, NJ: Princeton University Press, 1986), 739-40, Weigley, *The American Way of War*, 383.

¹⁰⁰ President, *Historical Tables, Budget of the United States Government-Fiscal Year 2001*, 43.

¹⁰¹ Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 25-29.

either China or the Soviet Union, but that option would have meant a widening of the war in Asia, and possibly extending to Europe. Although the Air Force increased the total number of its fighter wings from 30 to 56 during the 1950-to-1953 time frame, most of the additional fighters were deployed to Europe, and those that went to Korea were involved primarily in air-to-air combat over North Korea rather than providing close air support to the ground forces. The Air Force fought the Korean War with the force structure it had at the time and the tactics developed around it, and not with the force structure and tactics the conditions warranted.¹⁰²

Like the Air Force, the Army fought the Korean War with an inadequate force structure. Although, successful at preventing a communist victory in Korea, the Army suffered the vast majority of its casualties during the first year of fighting when its units were few and under strength. In the end, the best the Army could do without a significant increase in its force structure was reestablish the ante bellum division of the country. However, significant American reinforcements did flow into Europe to help strengthen NATO's defense system. While newer tanks, artillery, and trucks came into the American divisions there, these weapons were essentially only product improvements of what the Army had during World War II. Like the Air Force, the Army entered and ended the Korean War with a force structure unsuited for the conditions it faced in Korea and one that limited the policy options of the president.

¹⁰² Air War College, *U.S. Air Force Wing Force Structure*; The debate over the adequacy of and control over close air support had been going on for some time. The Army maintained that the Air Force's almost exclusive focus on its strategic mission denigrated the military's (Army's) ability to prosecute successful ground campaigns. See also: Barlow, *Revolt of the Admirals*, 267. Weigley, *The American Way of War*, 384. Weigley maintains that the Air Force's identity was linked to bombers and the atomic mission, hence they provided little resources or emphasis on tactical aircraft or missions. As a result, Army ground operations were not supported properly by the Air Force. On the other hand, Navy and Marine close air support was uniformly excellent.

For example, when the Chinese entered the war the Army was incapable of stopping them early due to shortages in infantry units, artillery, and close air support. Fortunately, the Army's mobility allowed it to retreat faster than the Chinese could pursue, and the Chinese outran their supply capabilities. When they had recovered sufficiently to resume the offense, the American Army and its allies had been reinforced.¹⁰³ Although Truman had sent reinforcements to halt the Chinese advance, he could not send enough conventional forces to allow MacArthur to eject the Chinese from the peninsula.

The Navy was the sole service that had the proper force structure to fight the Korean War. The Navy's carriers, which the Air Force had objected to so emphatically in 1949, were the only available means of air support for the ground units early in the war. Four carrier task forces operated off the Korean coast, providing highly effective close air support to the Marine and Army ground units. Additionally, the carrier task forces provided the nucleus of the amphibious forces supporting MacArthur's landing at Inchon. Seven months later, the carriers task forces evacuated U.S. forces from the port of Hungnam after the advancing Chinese had cut them off.¹⁰⁴ Additionally, carrier task forces could steam to other trouble spots to project force or serve as a deterrent. As the Korean War was winding down, U.S. carriers sailed to the Gulf of Tonkin prepared to

¹⁰³ Roy K. Flint, "Task Force Smith and the 24th Division: Delay and Withdrawal, 5-19 July 1950," in *America's First Battles 1776-1965*, ed. Charles E. Heller and William A. Stroff (Lawrence, KS: University Press of Kansas, 1986), 266-99; Friedman, *The Fifty-Year War*, 168. See also Appleman, *South to the Naktong, North to the Yalu*, passim.

¹⁰⁴ D. Clayton James, *Refighting the Last War: Command and Crisis in Korea 1950-1953* (New York: The Free Press, A Division of Simon & Schuster Inc., 1993), 82-83; Weigley, *The American Way of War*, 385.

support the French in Vietnam, and operated frequently in the straits of Formosa as a deterrent against a Chinese Communist invasion of Taiwan.¹⁰⁵

While the Navy's weapons systems decisions and force structure most closely fit the requirements of the Korea War, on the whole the military's force structure limited the government's policy options. Short of nuclear war, it is unlikely that a Soviet conquest of Western Europe could have been prevented had the Soviets attempted it. Neither the U.S. nor its NATO allies had enough conventional forces to stop them. Even if the Soviets had invaded and nuclear weapons were employed against Soviet industrial and population centers, it is highly probable that the Soviet army would still have overrun Western Europe.¹⁰⁶ Likewise, once the use of atomic weapons was ruled out in Korea, the U.S. did not have an adequate conventional force structure to pursue victory. It settled for a return to the status quo ante.

President Eisenhower's New Look strategy and the principle of massive retaliation were shaped in part by the force structure he inherited from the first Truman administration. The refinement and expansion of nuclear weapons and their delivery systems (ICBMs, bombers, carriers, and SSBMs) that had been programmed in the mid to late 1940s entered the military's force structure ten years later in the mid to late 1950s.¹⁰⁷ Although costly, these weapons systems were still a bargain compared to the cost of acquiring and maintaining the size of a conventional force required to deter or defeat the

¹⁰⁵ Mallin, *Tanks, Fighters and Ships*, 46, 56.

¹⁰⁶ Immerman and Bowie, *Waging Peace*, 13,15; Poole, *The Joint Chiefs of Staff and National Policy, 1950-1952*, 25-30,89-90. See also Barlow, *Revolt of the Admirals*, 94-95.

¹⁰⁷ Barlow, *Revolt of the Admirals*, 264; Birkler, *The U.S. Aircraft Carrier Industrial Base*, 96-99; Brown, *Flying Blind*, 27; Weigley, *The American Way of War*, 384,97.

Soviets. However, most of the military challenges the United States faced during the Eisenhower administration were limited and thus did not warrant the use of nuclear weapons.¹⁰⁸ The siege of Dien Bien Phu (1954), the Suez Crisis (1956), the Lebanese Civil War (1958), and the Berlin Wall crisis (1961) are all instances of policy options constrained by the preponderance of strategic weapons and the relative lack of conventional weapons in the U.S. military's force structure, i.e., an Air Force laden with bombers, an army of fourteen under strength divisions, and a Navy with 15 attack carriers and 14 escort carriers. Similarly, inherited force structure was later to constrain President Kennedy's and Johnson's policy options in Southeast Asia.¹⁰⁹

In the early stages of America's direct involvement in Vietnam, President Kennedy opted to bolster the South Vietnamese military with advisors, Special Forces, and logistical support in an effort to stop a North Vietnamese-sponsored communist insurgency movement.¹¹⁰ However, the types of forces he wanted to implement his strategy of Flexible Response were not in the Army's force inventory in the numbers the situation in Vietnam required.¹¹¹ Until more Special Forces became available, Kennedy

¹⁰⁸ Mallin, *Tanks, Fighters and Ships*, 113.

¹⁰⁹ Birkler, *The U.S. Aircraft Carrier Industrial Base*, 96-99; Air War College, *USAF Wing Force Structure* [Internet] (May, 2002 [cited August 22 2002]); available from http://www.au.af.mil/au/afhra/wwwroot/usaf_wingforce_structure/1940s.htm; Jordan, Taylor, and Mazarr, *American National Security*, 74.

¹¹⁰ Jordan, Taylor, and Mazarr, *American National Security*, 178-179; Andrew F. Jr. Krepinevich, *The Army and Vietnam* (Baltimore, MD and London: The Johns Hopkins University Press, 1986), 29-31; Weigley, *The American Way of War*, 460.

¹¹¹ Jordan, Taylor, and Mazarr, *American National Security*, 78. The forces were not in the active component. A reserve mobilization would have been a solution; however, policy-makers eschewed, with exceptions, calling for the reserves during the Vietnam War.

had to rely on the conventional force structure existent when he took office in 1961.¹¹² This force structure had been shaped in the late 1940s and refined during the 1950s to deter a Soviet invasion of Western Europe as well as a nuclear attack on the continental United States. For example, in 1961 the Air Force had 54 bomber wings and 48 fighter wings. There were eight bomber types in the active inventory by then, but the dominant bomber was the B-52. The Air Force began theoretical research on an intercontinental jet bomber in 1944, and by 1946 several aircraft manufacturers began prototype development in accordance with the Air Force's performance requirements.¹¹³ The first B-52 was delivered in 1953, and by 1962 the Air Force had acquired 744 of them.¹¹⁴ The Air Force thus entered the Vietnam War with weapons systems and a force structure that had been developed during the 1940s and fielded in the late 1950s when an optimal foreign policy for the 1960s and an optimal force structure to support could not remotely have been anticipated.

The Navy entered Vietnam with the same constraints as the Air Force. The Navy's force structure consisted of 29 aircraft carriers and their supporting vessels. Many of these carriers were refurbished World War II ships, but six of them were modern attack carriers.¹¹⁵ The Navy had begun design on the nuclear carrier in the late 1940s. After interservice bickering over roles and missions and budgetary constraints, new

¹¹² Mallin, *Tanks, Fighters and Ships*, 128-29.

¹¹³ Mark D. Mandeles, *The Development of the B-52 and Jet Propulsion: A Case Study in Organizational Innovation* (Maxwell Air Force Base, AL: Air University Press, U.S. Government, 1998), 64-65.

¹¹⁴ Marcelle Size Knaack, *Post-WW II Bombers, 1945-1973*, vol. II, *Encyclopedia of U.S. Air Force Aircraft and Missile Systems* (Washington, DC: U.S. Government, 1988), 291.

¹¹⁵ Birkler, *The U.S. Aircraft Carrier Industrial Base*, 18.

carriers began to enter the fleet in 1955. By 1961 six new carriers including the nuclear-powered *Enterprise* had been delivered.¹¹⁶ However, unlike the Air Force's bombers, the battlegroup's carriers had more flexibility inherent in their design. They could launch a variety of aircraft, including fighters, bombers, reconnaissance, and anti-submarine aircraft. Additionally, the battlegroup built around the aircraft carrier could perform a variety of purposes ranging from the conduct of a nuclear strike, to force projection ashore, to the evacuation of American citizens from a foreign land.¹¹⁷ Nevertheless, it is questionable whether the Navy in 1961 needed 29 carriers and the host of support ships that surrounded them. Given the nature of the conflicts the U.S. was involved in during the Cold War, the Navy's force structure might have better served national policy if the Navy had invested in fast sealift ships that could have transported Army units.¹¹⁸

With the exception of limited Special Forces increases and the development of an airmobile division, the Army entered the Vietnam War with the same type of force structure, only less of it, than it had fought World War II and the Korean War with. To be sure, the Army had acquired new tanks, artillery, and rifles, and it had reorganized its divisions twice (Pentomic and ROAD). But it still had divisions, with the same triangular structure, and essentially with the same weapons systems. Moreover, and with the exception of the airmobile division, they fought in the same manner as before.¹¹⁹ The Army could fight a counter insurgency war that at times had conventional war aspects to

¹¹⁶ Ibid., 96-101.

¹¹⁷ The Navy has always emphasized the flexibility inherent in the structure and capabilities of the carrier task force (later carrier battlegroup). See Barlow, *Revolt of the Admirals*, 116.

¹¹⁸ Krepinevich, *The Army and Vietnam*, 36-37.

¹¹⁹ Betts, *Soldiers, Statesman and Cold War Crises*, 136-37; Mallin, *Tanks, Fighters and Ships*, 94-98.

it, but at a cost because it was not structured or trained to fight that way.¹²⁰ The helicopter promised to change how the Army fought. Like other weapons systems, the helicopter and its operational employment had been in the development stage for close to 15 years. First used in combat during the Korean War by the Marines, the Army soon after adopted the helicopter for use in medical evacuation, command and control, and troop movement.¹²¹ By 1956 the Army had acquired attack helicopters and assault helicopters, and was developing a force structure (airmobile battalions, brigades, and divisions) to capitalize on the capabilities of rotary-wing aircraft.¹²² In 1965, the Army fielded the first and only fully airmobile division the U.S. had during the Vietnam War; a full 15 years after the Marines had tested the system in Korea. With the exception of its first six months in combat, the First Cavalry Division was employed much like any other division in the Army's force structure, i.e., to conduct operations based on firepower and attrition.¹²³

The Army's force structure during Vietnam was an enhanced version of what it had developed during World War II and validated in Korea. The weapons systems the Army had acquired were the integral parts of a force structure that was organized and trained to fight other armies similarly organized and equipped, essentially a mid- to high-

¹²⁰ Friedman, *The Fifty-Year War*, 335; Gray, *Weapons Don't Make War*, 174-75; Weigley, *The American Way of War*, 467.

¹²¹ Millett and Maslowski, *For the Common Defense*, 524; Weigley, *The American Way of War*, 423-24.

¹²² Everett-Heath, *Helicopters in Combat*, 77-83; Mallin, *Tanks, Fighters and Ships*, 30, 139-41; Millett and Maslowski, *For the Common Defense*, 60, 552-53.

¹²³ Betts, *Soldiers, Statesman and Cold War Crises*, 136, Millett and Maslowski, *For the Common Defense*, 580-87; Weigley, *The American Way of War*, 467.

intensity conflict on the order of World War II.¹²⁴ Rather than adapt to the situation it faced in Vietnam, the Army clung stubbornly to its long-accustomed force structure. As Andrew Krepinevich wrote in *The Army and Vietnam*:

The administration's [Kennedy's] emphasis on developing a counterinsurgency capability shook the Army brass. They were, in effect, being told to alter radically the Army's method of operation, a method that had been eminently successful in recent conflicts. The notion that a group of novice civilians (Kennedy, McNamara, and the Whiz Kids) should require the Army to de-emphasize its strong suits (heavy units, massed firepower, high technology) in favor of stripped-down light infantry units was bound to encounter strong resistance from the Army leadership. . . . Unable to fit the president's prescriptions into its force structure, oriented on mid- and high intensity conflict in Europe, the Army either ignored them or watered them down to prevent its superiors from infringing upon what the service felt were its proper priorities.¹²⁵

Instead of fighting the war it found in Vietnam, the Army fought a war it wanted to find, a war it was structured to fight. Although Krepinevich and others rightly criticize the Army for not adapting its force structure during the Vietnam War, to a certain degree it could not. The Army faced a large conventional Soviet threat in Europe, where the nation's vital interests lay. Moreover, the Army could not increase its strength on its own. That required congressional approval, which given the limited nature of the war, both Kennedy and Johnson were reluctant to indorse.¹²⁶ Finally, had the Army adapted itself solely for the Vietnam War it would have had to discard billions of dollars worth of equipment, reorganize and train virtually every unit in the Army, and develop new

¹²⁴ Michael Pearlman, *Warmaking and American Democracy: The Struggle over Military Strategy, 1700 to the Present* (Lawrence, KS: University Press of Kansas, 1999), 359-61.

¹²⁵ Betts, *Soldiers, Statesman and Cold War Crises*, 137-38; Krepinevich, *The Army and Vietnam*, 36-37; Betts's discussion provides insight as to service culture, especially regarding weapons systems, and how their cultural orientations influenced the way they fought the war.

¹²⁶ McMaster, *Derelection of Duty*, 262-64.

doctrine. All of these measures were cost-prohibitive and extremely risky given the global threats the Army and the other services had to prepare for. Due to the development time required to produce the weapons systems and force structure (10-15 years) it had in 1965, the Army fought the Vietnam War the only way it knew how to fight. Thus the Army's capabilities, and to a degree its strategy during the Vietnam War, were governed by the force structure it had developed during World War II and had refined during the early stages of the Cold War. However, the Army's preexisting force structure and capabilities did not excuse its direction of the war in Vietnam. The Army's strategic objectives were not predetermined by force structure. The Army's leadership chose to fight a large-scale conventional operation in Vietnam after 1965 due to its past experience and cultural orientation as much as it did because of its force structure. An unwillingness to develop viable alternative strategies to accomplish policy objectives limited the effectiveness of the Army's operations in Vietnam more than weapons systems and force structure.

Numerous variables account for why America's leaders pursued the war in Vietnam the way they did. The U.S. wanted to contain communist expansion without engaging in a general war with either the Soviet Union or China. Any direct confrontation with those powers could lead to nuclear war. Domestic issues demanded time and resources too. The civil rights movement, racial unrest, urban decay, rising crime rates, and the growing anti-war sentiment at home were issues that President Johnson and Nixon had to address.¹²⁷ But the variable that hasn't been examined closely

¹²⁷ Gray, *Weapons Don't Make War*, 174; Jordan, Taylor, and Mazarr, *American National Security*, 30, 327; Millett and Maslowski, *For the Common Defense*, 576-79; Weigley, *The American Way of War*, 467.

enough is the one emphasized here; namely, the indirect influence the military had on the civilian leadership's policy options due to the decisions the military made concerning weapons systems technology and employment in the 1940s that became the force structure and doctrinal realities in the early 1960's. In a sense, regardless of what policy objectives Presidents Kennedy, Johnson, and Nixon wanted to pursue in Vietnam, their choices were channeled in part by the force structure capabilities of the armed forces they inherited. For most of the Cold War, the services acquired weapons systems and designed force structure for a war they hoped never to fight, but not for the ones they had to fight.

The last section examined how weapons systems influenced American foreign policy in the near term and in the long term. In the near term, weapons systems influenced the military's strategic recommendations and its ability to support the civilian leadership's policy options. Also, weapons systems drove the acquisition of overseas bases to support them and in part were influential in the development of America's alliance system and military assistance programs during the Cold War. In the long term, political leaders inherited a force structure that the military developed 15 years or more previously. Because foreign policy tends to look only four or so years out, it lags behind the weapons systems that were designed to support it by ten to 15 years. This policy time lag makes it unlikely that force structure will support future foreign policy ideally or even serviceably. In fact, all presidents during the Cold War were to a greater or lesser degree captive of the weapon acquisition decisions made during previous administrations. That past decisions should influence future choices is neither surprising nor alarming; however, what is a cause for concern is that past weapons systems decisions influencing

if not determining future policy options were made by the military, and not the civilian leadership.

Conclusions

Within the context of the Cold War, weapons systems increasingly influenced U.S. policy in both the near and long term. As the analysis above indicates, in the near term weapons systems affected the military's strategic recommendations, the acquisition of foreign bases, and the formation of alliances and military assistance. In the long term, weapons systems decisions shaped force structure that, due to the time involved in the development and acquisition process would not come into existence until 15 years or more later. The services' weapons systems and the structure they adapted to use them had inherent capabilities and limitations. As the Cold War has illustrated, the realistic planning horizon of U.S. foreign and national security policy seldom extended beyond the term of the current administration; consequently, there was and remains a risk that the military would design a force structure that will not support national policy when it catches up, thus limiting or constraining the civilian leadership's policy decisions.

The impact of current weapons systems decisions on future foreign and national security policy options is not trivial. Besides the possibility of having incompatible military capabilities in the future, the odds are great that those capabilities will be around for a long time. Acquiring inappropriate weapons systems and force structure can significantly influence foreign policy options. For example, the decision to develop and acquire aircraft carrier battle groups and bomber wings versus modernizing ground combat elements foreshadows a national security policy that will be based on maritime

and strategic air capabilities. With such capabilities, the United States will be able to target and strike potential enemies precisely and from distances beyond the enemy's retaliatory capability, but because it trades ground capability for air and naval capability, it limits the civilian leadership's ability to conduct sustained ground combat away from the littoral regions. As we are seeing in Afghanistan and Iraq in 2004, however, it is precisely in the interior regions where ground combat power is most needed. The military attempts to mitigate needs-capabilities mismatch's by ensuring that it has a mix of ground, naval, and air capabilities. Despite the 1986 Goldwater - Nichols Defense Reorganization Act, service parochialism, and political infighting often result in one particular weapon system receiving priority funding to the exclusion of other systems and programs. This can result in a force structure heavily weighted toward one service and one specific capability, a posture which may not meet the policy needs of the future civilian leadership. Moreover, discarding this capability for another is problematic, balance and flexibility always represent the most prudent course.

Technologically advanced weapons systems are expensive. Because of their high cost, they are programmed to have a long service life. The development of the B-1B bomber and the acquisition of 100 of them took 25 years and over \$45 billion dollars. Although the B-1B was already obsolete upon fielding in 1989, it is programmed to be in the inventory for over 30 years. Modern nuclear aircraft carriers cost nearly \$22 billion to build and outfit. Their service life is expected to be 40 to 45 years with an operating cost of \$1.12 billion per year. Given the cost associated with these systems, it is unlikely they will be discarded in favor of another system, even if such a system were dictated on purely military grounds. Consider the major impacts of moving away from a carrier

based naval strategy to one based on another system such as submarines. First, the political costs of mothballing most of the carrier force structure in favor of another weapon system would entail the redistribution of jobs and benefits among various states and congressional districts, producing a political struggle with significant second and third order effects. Second, to accommodate the new weapon system, the Navy's operational doctrine, tactics, training, and war fighting strategy would have to change, a process that would take years to inculcate throughout the ranks. Last, given the constraints of the weapons systems development process, the acquisition of the new weapon system or the significant modification of a current one would take years, possibly decades. Consequently, political leaders would tend to confine their policy options to the means already on hand while making only incremental changes to existing weapons systems and force structure.

This is not to argue that the political leadership shouldn't undertake significant weapon system and force structure change where indicated -- it should. However, it should direct this change with an eye to future policy requirements and military capabilities, not just what is needed now.

During the course of the Cold War the military expanded its policy role. Decisions regarding foreign policy and national security strategy that previously were the exclusive domain of the civilian leadership were opened to military influence and participation. In part, this was a conscious decision by America's civilian leadership to capitalize on military advice due to the exigencies of the Cold War and the increasing technological complexity of warfare. However, during the Cold War weapons systems

technology helped the military to expand its special niche in the political process and to have its preferences reflected in U.S. foreign and national security policy decisions.

As this chapter has shown, weapons systems development and acquisition issues are fundamentally political decisions that have a significant near- and long-term impact on policy. Leaving these decisions exclusively to the military on a de facto basis lessens civilian control by abdicating aspects of foreign policy formulation to the military. Moreover, due to foreign policy lag, weapons systems decisions made at any given time run the risk of shaping a future military force structure that will be ill-suited to the future political realities of American domestic and foreign policy. To a degree, all future actions are shaped by past decisions. What is significant to the issue of civil control is that the military makes decisions that will constrain the policy options of unidentified future political leaders. Thus, the military's embrace of weapons systems technology that began in World War II and has continued to the present has both directly and indirectly contributed to an increased role for the military in America's foreign and national security policy and as a result has contributed to a lessening of civilian control over the military.

Although the Cold War ended in 1989 with the fall of the Berlin Wall and the subsequent collapse of the Soviet Union, the military's reliance on weapons systems technology continues unabated. The next chapter examines how weapons systems technologies developed during the Cold War continue to affect policy in the post-Cold War era, and how emerging technology enhances the military's expertise, autonomy, promise of battlefield success, and alliances in the political arena, thus allowing the military to play an even greater role in the policy process. The next chapter also

examines the implications of the increased political participation of the military for foreign and national security policy and for the principle of civilian control of the military in America.

CHAPTER 6

SHAPING THE FUTURE TODAY: WEAPONS TECHNOLOGY AND FOREIGN POLICY IN THE POST-COLD WAR ERA

During the Cold War, weapons systems technology allowed the military to play a greater role in foreign policy development than ever before. In the near term, weapons technology allowed the military to help shape the national security strategy, the requirements for overseas bases, and the allocation of military aid to allied nations. In the long term, the military used its autonomy in the research and development process to acquire the future weapons systems and force structure it wanted. Given that foreign policy seldom had more than a four- to six-year horizon and thus lagged behind weapon system development, it was questionable whether the existing force structure with its inherent limitations and capabilities would be capable of supporting future policy.

The exigencies of the Cold War and the military's reliance on technology made the military's increased role in government understandable. However, at the time of this writing, the Cold War has been over for some 13 years, and the military, although numerically smaller, is more technologically dependent than ever. Moreover, the military continues to play a prominent role in foreign and national security policy. This chapter examines how weapon-systems technology in the post-Cold War era continues to promote the military's preferences in foreign and national security policy agreements. The chapter is divided into two sections. The first expands on the phenomenon of

“policy lag,” introduced in Chapter 5 by looking at the key factors involved in foreign policy and weapon-systems development and assessing the reasons for the policy lag. The second section examines the military’s near-term impact on U.S. foreign and national security policy through its technologically driven strategic recommendations (based on acknowledged professional expertise), its autonomy in budget execution, and through its friends and supporters in the political process.

Policy Lag and the Legacy Force

This section will expand further on the concept of “policy lag.” It then compares and contrasts the key factors in the development of foreign policy/national security strategy with the development and acquisition of military technology (weapons systems), the purpose being to account for the fact that weapons development always precedes policy decisions that contemplate the use of force. The first and perhaps most important way that the military’s technological preferences affect the national leaderships’ foreign policy options is also the most indirect; namely, through inherited force structure. Each new president inherits a military force structure that, with minor exceptions, was created several administrations previously. This phenomenon was first explored in Chapter 5 under the concept of “policy lag.”¹ Policy lag represents a process involving the military’s current decisions on weapons systems and force structure acquisition that due to the length of the RDT&E process will not manifest themselves for 15 to 20 years. Yet,

¹ In another sense weapons systems can be said to lag behind policy. For example, foreign policy options may require a force structure with certain capabilities that weapons systems in the inventory cannot provide. Research and development begins now when they are needed, but due to the time involved in their development, they are not fielded for 10 to 15 years. Foreign policy may have changed several times in the period between concept development and fielding, and these weapons systems may not support a future administration’s policy needs.

foreign policy decisions rarely extend beyond the current presidential incumbent's current four-year term.² He will base such decisions not on weapon acquisition programs initiated during his own incumbency but rather on programs initiated many years earlier under former presidents.

The development of the B-1 illustrates how problematic it is to expect the military's current weapons systems decisions for acquisitions 20 years in the future to actually support the foreign and national security policies of the nation's future political leaders. When the B-1 bomber was finally fielded policy had changed and the weapon system was obsolete. The conceptual development of the B-1 bomber began in 1961 with the B-70 bomber as part of the Air Force's Advanced Manned Strategic Aircraft program (AMSA). This program was designed to meet the perceived need by the Air Force to acquire a bomber capable of penetrating Soviet air space undetected at low or high level. Begun under the Kennedy administration, the B-1's development continued through the Johnson, Nixon, Carter, and Reagan administrations.³ The B-1 finally entered the Air Force's inventory in 1986.⁴ Over the course of the B-1's development, America's foreign policy orientation changed four times. Flexible Response gave way to Nixon's policy of *Détente*, then Carter's accommodation under a theory of complex

² Henry Kissinger, *Diplomacy* (New York: Simon & Schuster, 1994), 717-18. See also U.S. State Department. *U.S. Department of State Strategic Plan (2000)* (Washington, DC: U.S. Government, 2000). The plan covers a six-year period. Its goals and objectives are broad and difficult to measure as contrasted to weapons procurement objectives, which are fairly specific and definable.

³ Nick Koltz, *Wild Blue Yonder: Money, Politics, and the B-1 Bomber* (New York: Pantheon Books, A Division of Random House, Inc., 1988), 59-65.

⁴ Michael E. Brown, *Flying Blind: The Politics of the U.S. Strategic Bomber Program*, eds. Robert J. Art and Robert Jervis, *Cornell Studies in Security Affairs* (Ithaca and London: Cornell University Press, 1992), 44, 88, 236-238.

interdependency, and finally Reagan's policy of global confrontation with the Soviet Union.⁵ In fact, in 1977 the Carter administration cancelled the B-1 after over \$22.9 billion had been spent on its research and development.⁶ But, like the mythical phoenix, the B-1 rose from its own ashes during the early years of the of the Reagan presidency and by the mid-1980s it entered the Air Force's inventory.

When Reagan became president, the U.S. began a massive rearmament. The Air Force revived the B-1 program, although four years had been lost on its development, and by 1982-1983, three years before the B-1's fielding, its utility was questioned in light of the B-2 stealth bomber, which the Air Force had been developing in secret and concurrently with the B-1.⁷ Moreover, by the time the Air Force began fielding the B-1, the Cold War had begun to thaw as Soviet Premier Mikhail Gorbachev announced a policy of *glasnost* (openness) and *perestroika* (restructuring) and the Reagan administration began to cooperate with the Soviet Union on further limiting strategic weapons and promoting nuclear disarmament.⁸ By the time the last B-1 bomber wing was operational, the Cold War had ended and the B-2 bomber had replaced it on grounds of technological superiority. The story of its acquisition is as much a testament to the military's expertise, autonomy, and the strength of its political alliances as it is an indictment of the lack of coordination between weapon system development and national

⁵ Jerel A. Rosati, *The Politics of United States Foreign Policy* (Orlando, FL: Harcourt Brace Jovanovich College Publishers, 1993), 17.

⁶ Brown, *Flying Blind*, 264

⁷ Brown, *Flying Blind*, 294-98; Jordan, Taylor, and Mazarr, *American National Security*, 84-85; Ethan Barnaby Kapstein, *The Political Economy of National Security* (Columbia, SC: University of South Carolina Press, 1992), *passim*.

⁸ Kissinger, *Diplomacy*, 796-97.

security strategy formulation.⁹ “The importance of organizational preferences was especially striking in the case of the B-1 program. The Air Force’s commitment to the B-1 triumphed over Robert McNamara’s outright opposition to it, David Packard’s attempt to shape it, and, ultimately, Jimmy Carter’s effort to cancel it.”¹⁰

The 100 B-1’s procured by the Air Force cost the taxpayer over 28 billion dollars after 1981, with more than 78 percent of the program’s cost appropriated before the first prototype was successfully flown.¹¹ The Air Force certified that the B-1 would be built for no more than 28.3 billion dollars as a condition for getting Congressional approval for its resurrection. As an additional measure for quelling political opposition, the Air Force improvised a new mission for the plane: “At the beginning of 1981, the Air Force plans called for B-1s to be converted to carry cruise missiles once the Stealths were ready; thus creating a synergistic effect. Air Force officers admitted privately that the new synergism had more to do with politically justifying the B-1B than with attacking the Soviet Union.”¹² As it turned out, the entire fleet of B-1s had to be retrofitted at an additional cost of 3 billion dollars. Given the 22.9 billion dollar R&D cost prior to its cancellation in 1977, its post-1980 cost of 28.3 billion dollars, and the additional 3 billion dollars more for retrofit, the total cost of the program over 27 years was 54.2 billion dollars.

⁹ Nick Koltz, *Wild Blue Yonder*, 180-99.

¹⁰ Brown, *Flying Blind*, 265-67.

¹¹ Brown, *Flying Blind*, 281-82.

¹² Koltz, *Wild Blue Yonder*, 217.

Critics of the program called the B-1 “a flying Edsel” and “a dismal failure.” They could rightly ask what other programs the Air Force could have better spent the money on.¹³

The Air Force had begun research and development on a strategic bomber, which would be capable of low- or high-altitude penetration of Soviet air defenses, in 1961. Twenty-seven years, 54.2 billion dollars, and four major changes in national security policy later, it produced a technically flawed aircraft that even as it completed fielding was superseded by the B-2 bomber. Writing in 1988, Nick Kotz said: “The B-1’s development has been marred by political indecisiveness, bureaucratic obsessions, Air Force overreaching, parochialism, partisan demagoguery, and an utter lack of consensus on defense priorities and procurement strategies”¹⁴ By 1994, the Department of Defense no longer considered the B-1B a strategic weapon, which had been the sole purpose for its creation. It was now classified as a conventional weapon, having been replaced by the B-2 and the venerable B-52H.¹⁵

While it is unfair to blame either the military or America’s political leadership for not anticipating the end of the Cold War, it is fair to question their pursuit of a weapons program that by 1981 was redundant if not irrelevant as a strategic deterrent. America’s strategic deterrent resided primarily in its array of Intercontinental Ballistic Missiles (ICBMs), Intermediate Range Ballistic Missiles (IRBMs), Submarine-Launched Ballistic Missiles (SLBMs), cruise missile technology, and only secondarily in its manned bomber

¹³ Brown, *Flying Blind*, 292.

¹⁴ Koltz, *Wild Blue Yonder*, 249.

¹⁵ Les Aspin, *Annual Report to the President and the Congress* (Washington, DC: Department of Defense, 1994), 147-49.

force.¹⁶ Moreover, because the military steadily upgraded the capabilities of its B-52 force over the years, it could have continued to bridge (as it does today) the perceived technological gap produced by the lengthy development of the B-1 bomber. The end of the Cold War was unknowable, but the production and fielding of the bomber was predictable, as was the cost benefit analysis of producing the B-1 in light of existing bombers and missiles, future bombers (the B-2), and the strategic deterrent capability called for by the national security strategy.

The B-1 remains in the Air Force's active inventory as part of the Cold War's legacy force.¹⁷ It has been converted to accomplish missions that it was not designed for and for which a less costly alternative would have sufficed.¹⁸ The Ronald Reagan, George H.W. Bush, William Clinton, and George W. Bush administrations inherited this weapon system and the force structure built to employ it. The aircraft's life expectancy is 50 - to - 70 years, so the B-1 could be around for another 50 years.¹⁹ The B-1 is currently configured as a cruise missile and smart bomb platform, which can operate at extended standoff distances.²⁰ Its acquisition cost, based on post-1980 figures, was 280 million

¹⁶ John Lewis Gaddis, *Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy* (New York: Oxford University Press, 1982), 349-50; Amos A. Jordan, William J. Taylor Jr., and Michael J. Mazarr, *American National Security*, 5th ed. (Baltimore: The Johns Hopkins University Press, 1999), 78-81; Kapstein, *The Political Economy of National Security*, passim.

¹⁷ Eric K. Shinseki, *United States Army Transformation Campaign Plan* (Washington, DC: United States Army, 2001). The Army defines the legacy force as the force that evolved from the Cold War and was in existence at the time transformation began.

¹⁸ Mark D. Mandeles, *The Development of the B-52 and Jet Propulsion: A Case Study in Organizational Innovation* (Maxwell Air Force Base, AL: Air University Press, 1998), 291-93.

¹⁹ *Ibid.*, 291; Shinseki, *United States Army Transformation Campaign Plan*; Dan L. Crippen, *Budget Operations for National Defense* (Washington, DC: Congress of the United States, 2000), 26.

²⁰ William S. Cohen, *Report of Secretary of Defense to the President and Congress-2000* (Washington, DC: Department of Defense, 2000), 55.

dollars per plane. The older B-52 can fulfill the same mission, with slightly less payload. Its acquisition cost in 1998 constant dollars was 32 million per plane. Given the huge budget outlays to procure the B-1, and the additional costs to maintain, man, and fly (in September 1987, it cost 21,000 dollars an hour to operate one B-1), the Air Force is unlikely to risk further censure by abandoning it.²¹ Instead, the B-1 promises to be an aircraft in search of a mission. Moreover, it will continue to affect policy options if only because its development and operating cost have consumed money, and will continue to do so, that could otherwise be applied to the development and acquisition of more advanced technologies. Similarly, strategies that call for the use of military force, especially airpower, may be constrained by the presence of this weapon system in the inventory: it may not be suited to the policy and military strategy the administration would like to execute, but it is available.

The decision to develop and acquire the B-1 represented a choice that the military (Air Force) made from among other alternatives (for example, upgrading the B-52, developing advanced fighters, procuring of more B-2s, or acquiring additional strategic lift such as the C-5A, C-141, and C-17) predicated on a world view no longer valid when the plane became operational 27 years later.²² Moreover, it was the military that made the weapon-systems choices that affected future foreign policy, not the elected civilian leadership.²³ As a result of this asynchrony between policy and weapon-systems

²¹ Koltz, *Wild Blue Yonder*, 227.

²² Brown, *Flying Blind*, 331-37.

²³ Kapstein, *The Political Economy of National Security*, 117.

development, or what is referred to here as policy lag, the B-1 became essentially obsolete in the final stages of its fielding.²⁴

Proponents of the B-1 maintain that its development played a useful role in the SALT and later START negotiations with the Soviet Union as a bargaining chip to encourage the Soviets to reduce their strategic weapons. Three factors undermine this claim. First, the preponderance of America's strategic nuclear weapons capability resided in its ICBMs, IRBMs, and SLBMs. These strategic systems, constituting the main threat to the USSR's existence, were the ones the Soviets wanted reduced. Second, the oft-vaunted ability of the B-1 to penetrate the sophisticated Soviet air defenses was always theoretical and problematic. Once an enemy learns of a capability, the technological advantage of the weapon system lasts only as long as it takes the enemy to develop a counter-measure. Last, given the prodigious financial and political resources the Air Force expended to procure the B-1, it is difficult to imagine it willingly relinquishing the weapon system absent quid pro quo in its other weapons programs. Air Force prestige and identity were intimately bound up with the B-1 bomber.

B-1 adherents also played up the versatility of the bomber. Even as the B-1's strategic role diminished it could still perform conventional missions based on its considerable standoff capability, or so it was claimed. This argument is also flawed. First, the B-1 was developed and sold to Congress and the American people as a strategic weapon, one that would provide the United States with a significant military advantage. The U.S. had plenty of less costly alternatives, like the B-52, for conventional missions.

²⁴ This is the total dollar amount consisting of the \$28.3 billion post-981 cost and the additional \$3 billion in modifications incurred immediately after fielding.

Moreover, the threats America faced in the post-Cold War era did not require the capabilities of the technologically advanced B-1 to defeat them because these threats were not associated with sophisticated air defense systems. Last, claiming that the standoff capability of the B-1 minimizes risk to the crews is equally contentious. The standoff capability of the B-1 has nothing to do with the aircraft itself; rather, it results from sophisticated weapons munitions on board it (see table 6-6 below). Those missiles and bombs can be launched with equal effectiveness and standoff distance from a dirigible, and for a fraction of the cost.

As the case of the B-1 illustrates, the foreign policy options of America's leadership are constrained (financially and operationally) by the military's decision to acquire specific Cold War weapons systems. In some instances, it is not the weapons systems themselves that are in question as much as the number of such systems in the inventory and the force structure built around them. For example, does the United States in the post Cold War era need almost 1,200 (including 464 in the National Guard) AH-64 Apache Longbow attack helicopters, weapons systems that were designed in the early 1970s to destroy massed Soviet armored formations that no longer exist?²⁵ Does the nation need 12 nuclear-powered aircraft carriers and their associated battle groups when the sea lanes are not threatened?²⁶ What weapon system technologies should the military develop and what force structure should the military have, given the threats the nation

²⁵ Cohen, "Report of Secretary of Defense to the President and Congress-2000," 65; Wolf Kutter et. al., *Army Budget Fiscal Year 2000: An Analysis* (Arlington, VA: Association of the United States Army: Institute of Land Warfare, 1999), 48, 50, 67, 79; Shinseki, *United States Army Transformation Campaign Plan*.

²⁶ Crippen, "Budget Operations for National Defense," 15-16; GAO, *Navy Carrier Battle Groups: The Structure and Affordability of the Future Force* (Washington, DC: Government Accounting Office, 1993), 49-63; Shinseki, *United States Army Transformation Campaign Plan*.

faces, or the capabilities it feels it needs, and the policy it wants to implement both at home and abroad? These questions are not new; they have been raised before and undoubtedly will surface again. Part of the answer lies in an examination of the apparent disconnects between weapons development and force structure decisions, on the one hand, and foreign policy and national security strategy decisions on the other.

While linking weapon system development, acquisition, and future force structure to policy was difficult during the Cold War, it became even more of a challenge in the post-Cold War era when there is not a clearly defined threat to focus on. Since 1989 and the end of the Cold War, there have been four changes in national security strategy.²⁷ With respect to America's basic foreign policy stance, the U.S. shed its previous one and adopted a new one in 1990, 1993, 1996, 2000, and 2002 (see figure 6-1 below). The tenor of these foreign policy changes has been in part dependent on and conditioned by the weapons systems and force structure the political leadership inherited from the Cold War. Even though the armed forces are presently changing/transforming, the decisions made on what capabilities to acquire and how to organized and employ those capabilities remain with the military.²⁸ Moreover, due to the nature of RDT&E and acquisition system, these decisions drive the development of military capabilities that are largely independent of policy.²⁹

²⁷ George Bush, *National Security Strategy of the United States: 1991-1992* (Washington, DC: Brassey's (US), Inc., A Division of Maxwell Macmillan, Inc., 1991); Rosati, *The Politics of United States Foreign Policy*, 17-18. See also the National Security Strategies published annually from 1993 to 2002.

²⁸ Jordan, Taylor, and Mazarr, *American National Security*, 327.

²⁹ Franklin A. Long and Judith Reppy eds., *The Genesis of New Weapons: Decision Making for Military R&D* (New York: Pergamon Press, 1980), 15.

Figure 6-1 below illustrates the potential disconnect between weapon-systems development and force structure on the one hand, and foreign policy on the other. It compares changes in foreign policy to the force structure at the national leadership's disposal should policy decisions call for the use of force.

Figure 6-1. Foreign Policy and Weapons acquisition/Force Structure Development.

	1970	1980	1990	1993	1996	2000	2002	2020	2030+
Foreign Policy	Détente	Bipolar Confront	Unipolar Regional Balance	Multilateral Engagement Enlargement	Engagement US Led Coalition	Unilateral Selected Engage	Unilateral	Pre-emptive	-----?-----?-----?-----?
Legacy Force	RDT&E*	-----20%-----	-----80%-----	-----95%-----	-----80%-----	-----40%-----	-----Reserve		
Interim Force			RDT&E*	-----5%-----	-----20%-----	-----50%-----	-----80%-----	-----25%-----	>
Objective Force					RDT&E*	-----10%-----	-----20%-----	-----75%-----	

*Indicates decision points to develop technology, weapons systems, and force structure for future fielding.

Sources: The White House, *National Security Strategy of the United States* for the years 1988 through 2000; The 1998 Annual Report on The Army After Next Project, *Knowledge and Speed: Battle Force and the U.S. Army of 2025*; Department of the Army: *United States Army Transformation Campaign Plan*, dated April 2001; Department of the Air Force, *Global Engagement: A Vision for the 21st Century Air Force*.

Weapons systems and their encapsulating force structure do not remain static. Changing technology dictates that part of the military's force structure will be in almost constant transition. Presently, the military has three force structures. The first is the legacy force. The legacy force is a residual Cold War era force designed to defeat a Soviet-based threat. It constitutes most of the military's current force structure. The second category of force structure, called the interim force, consists of a percentage of the force that is modernizing with prototypes, but which is not fully trained or ready. The interim force is a bridge between the legacy force and the future force structure the military is building toward, called the objective force. Emerging technology drives the objective force's development.

While the terminology used in this figure--legacy, interim, and objective force--is most germane to the Army, it is descriptive of the process that all the services use. The Air Force, for example, had the B-52 (legacy), the B-1 (interim), and the B-2 (objective) operational at the same time. But, the most important insight to derive from the figure is the relationship among weapon-systems decisions, the type of force in place or projected to be in place, and the potential unsuitability of that force to changing foreign policy. For example, the Cold War legacy force that was developed and acquired to defeat the Soviet threat in central Europe is still in existence today and is projected to remain in the active components until 2015, longer in the reserve components.

As of this writing, the nation is involved in a global war on terrorism that involves military action in a host of countries. The secretary of defense, Donald Rumsfeld, is pressuring the services to transform, to think about possible futures, and to acquire military technology that will give the nation a decisive advantage “across the full spectrum” of warfare.³⁰ As the current war on terror illustrates, the Cold War legacy force does not provide the right fit, but it is available and the current Bush administration has had to adjust its policy options accordingly.³¹ There have been significant increases in the defense budget to acquire the technology and capabilities the military needs today. However, as figure 6-1 illustrates, the technology and force structure the military has on the drawing boards today will not translate into actual capabilities in any meaningful way until 2010 and beyond. Will the current foreign and national security policies in force today still be valid 15 to 20 years into the future? If recent history is any guide, the

³⁰ The Army’s answer to this challenge is the interim and objective forces; however, they will not be fielded for eight to 15 years, respectively.

³¹ Bob Woodward, *Bush at War* (New York: Simon & Schuster, 2002), 42-44.

answer is no. The military is researching and developing weapons technologies that it needs now, but which when fielded may not have the right mix of capabilities that as yet unanticipated future policy options may require. Put differently, the military is developing and acquiring the future's legacy force.

The Lack of Synchronization between Weapons and Policy

Three key factors contribute to the asynchronization between weapon-system development and foreign policy development; namely, the planning horizon involved and the number of players in the two processes; the budget process they operate within; and the predictability of the outcomes of each process. Collectively, these are the main factors that contribute to policy lagging behind weapons development. Understanding how weapon-systems decisions precede foreign-policy decisions by lengthy intervals is important to understanding the role the military plays in shaping the nation's future foreign policy and national security strategy.

Planning Horizons

Foreign policy and national security strategy tend to have short planning horizons when compared to weapon system development and force structure development. First, policy decisions are governed by the structure of the federal government and its political process, whereas weapon system and force structure decisions tend to be relatively isolated from this process. Second, foreign policy and national security strategy formulation tend to be White House-centered, while their implementation is decentralized. Weapon system and force structure planning and execution decisions are both centered within the military. Last, foreign policy and national security decisions are

visible and subject to censure by the electorate while weapons systems decisions are not normally opened to public scrutiny. The discussion that follows elaborates on these distinctions.

The structure of America's political system works against the development of long-range foreign and national security policy. Policy-makers themselves are subject to wholesale change every six to eight years. Congressional elections occur every two years, presidential elections every four years, and senatorial elections every six years. Although the chances are slim that the entire elected leadership of the country would change in any given eight-year period, leadership changes do occur quite frequently and with them changes in foreign policy.³² Figure 6-1, shown earlier, reflects a 13 year post-Cold War period involving three presidents and six different orientations in national security policy. So far as responsibility for the formulation and execution of foreign and national security policy is concerned, it is shared among the various branches of government, but especially the executive and legislative branches. For example, while the president can initiate a treaty, the Senate has to ratify it before it is formally binding on the nation. Likewise, the president can lead the nation into a war, but he cannot declare war--that requires an act of Congress.³³ The individual states play a minor role in the development of foreign policy. They offer tax incentives to lure major foreign

³² Rosati, *The Politics of United States Foreign Policy*, 407-10.

³³ Jordan, Taylor, and Mazarr, *American National Security*, 124. However, the formal declaration of war seems to be a mere formality seldom sought. Presidents do commit the nation to armed conflict (war) without asking for Congress's explicit approval. Although, Congress can threaten to withhold funding, past instances indicate that it is highly unlikely that they would actually risk the lives of U.S. service members by withholding funds.

investment, and they exchange trade delegations with other nations.³⁴ Within the states, major cities such as New York, Los Angeles, Chicago, and Boston negotiate with foreign nations and establish bilateral trade and cultural events. Even more complicating is the nature of the political process that governs the development of foreign and national security policy.³⁵ Commenting on the impact of the federal bureaucracy on foreign policy Henry Kissinger wrote:

The American foreign policy bureaucracy is for the most part staffed by individuals who have dedicated themselves to what is, in American society, a rather unorthodox career so that they may promulgate and implement their views of a better world. Their opinions, moreover, are honed by a system in which policy emerges from bureaucratic struggles, which, as Secretary of State George Shultz later pointed out, are never finally settled. Segmented into a series of individual, and at times isolated, initiatives geared to highly specific problems, American foreign policy is rarely approached from the point of view of an overall concept. *Ad hoc* departmental approaches have more -- and more passionate -- spokesmen than does an overall strategy, which often has no spokesman at all.³⁶

Other writers have commented on the short-term orientation of American foreign policy as well. Bruce Russett states that foreign policy measures are largely governed by domestic policy, "because they gratify friends and disarm adversaries at home, not because they necessarily seem sensible in some abstract principle of the national interests abroad. Furthermore, the political horizon shaping those decisions is typically a short one, not a vision for the long haul."³⁷ Additionally, changes in foreign and national security policy tend to be incremental and thus support a short-term vision. As Herbert

³⁴ Rosati, *The Politics of United States Foreign Policy*, 340-46.

³⁵ *Ibid.*, 3.

³⁶ Kissinger, *Diplomacy*, 717-18.

³⁷ Bruce Russett, *Controlling the Sword: The Democratic Governance of National Security* (Cambridge, MA and London: Harvard University Press, 1990), 7.

Simon stated in 1957, political decision-making is not truly rational, since it is impossible to know and process all the information and variables that impact on a given issue. Thus, in Simon's view, political decision-making occurs in an environment of "bounded rationality," with decision-making based on the best but partial information available at the time. Simon referred to this decision-making as "satisficing," that is, picking the course of action that will meet the requirements. Expanding on Simon's concept, Charles Lindblom postulated that policy decisions are made by marginal analysis in which policies are compared to one another and agreement is made on means rather than on ends. This "muddling through" phenomenon, according to Lindblom, largely accounts for the incremental nature of policy changes, as only small departures from existing policies are acceptable in the face of uncertainties and unclear goals.³⁸

Though numerous actors participate in the foreign policy process, the process remains White House-centered.³⁹ But, as explained above, the president is constrained in the initiation of foreign and national security policy by the structure of the government and the nature of its operation. Even within the executive branch the president's ability to conduct long-term planning is constrained by the agencies he has to work with. In the post-Cold War era, the State Department has proven largely unproductive in developing long-range plans and viable policy. This is due in part to its structure as well as to the culture of the organization.⁴⁰ Most of the State Department's efforts are spent on putting

³⁸ James H. Dixon et. al., *National Security Policy Formulation: Institutions, Processes, and Issues* (Washington, DC: U.S. Government Printing Office, 1984), 141.

³⁹ Rosati, *The Politics of United States Foreign Policy*, 27.

⁴⁰ *Ibid.*, 130-32.

out fires.⁴¹ Likewise, the National Security Council (NSC) staff does not focus on long-term planning either. “The NSC staff is small compared to other governmental organizations and incredibly overworked. The staff responds to the need of the national security advisor and the president who are primarily preoccupied with responding to immediate events and day-to-day governing. Consequently, there is little time, interest, or reward involved in long-term planning.”⁴²

Additionally, a president’s foreign policy agenda is governed by what scholars refer to as the presidential life cycle, or that period of time when Congressional lines have not hardened and the president can work foreign policy, national security, and domestic agenda issues in a more bipartisan manner. This period can last for as little as three to four months or in exceptional cases extend for as many as several years.⁴³ Given the short duration of the bipartisan phase of the presidential life cycle, a president seeking reelection will feel pressed to implement those policies that will have a positive effect on his chances at the polls. Long-term policies whose effects are difficult to measure do little to promote a president’s reelection or his party’s political agenda. Bruce Russett made the case in 1990 that presidents often implement foreign policy measures for purely partisan purposes:

A president may impose a grain embargo less to influence the Soviet Union than to impress voters at home with his toughness against a militarily active foreign adversary; a subsequent president may repeal the embargo far less because it has achieved its stated foreign policy purpose

⁴¹ Jordan, Taylor, and Mazarr, *American National Security*, 108-09.

⁴² Rosati, *The Politics of United States Foreign Policy*, 84.

⁴³ *Ibid.*, 45.

than because he needs the domestic political support of growers and shippers of grain, and of the members of Congress from their states.⁴⁴

Russett goes on to claim that presidents use the armed forces in much the same manner. A show of force, if used properly, can rally public opinion and the Congress to the side of the president during a crisis and assist him in furthering his domestic agenda in its aftermath.⁴⁵ Moreover, a president's policies, both foreign and domestic, are opened to scrutiny by Congress, the news media, and the public.⁴⁶ Additionally, his party's chances at the polls are affected by his policies and their approval by the public. Collectively, these factors contribute to the short-term focus of American foreign policy.

The weapon-system and force-structure development process does not labor under the same constraints that the foreign policy process does. First, the number of actors in the process is comparatively limited. They consist of the president, the White House staff including the NSC and the Office of Science and Technology, Office of the Secretary of Defense, Defense Science Board, Joints Chiefs of Staff, the three services (technically the Marine Corps is subordinate to the Department of the Navy), the Combatant Commanders (formerly known as Comanders in Chiefs [CINCs]), defense contractors, the research and development community consisting of government, private, and government sponsored university researchers, and select members of Congress serving on committees dealing with weapons systems RDT&E and acquisition.⁴⁷ Although this may

⁴⁴ Russett, *Controlling the Sword*, 11.

⁴⁵ *Ibid.*, 38-40.

⁴⁶ Jordan, Taylor, and Mazarr, *American National Security*, 97; Rosati, *The Politics of United States Foreign Policy*, 37-38.

⁴⁷ Jordan, Taylor, and Mazarr, *American National Security*, 316-33.

seem like many actors at first glance, it is small compared to the numbers who play in the foreign policy process. Moreover, with the exception of the few elected or appointed actors such as members of Congress and the Secretary of Defense, most of the participants in the weapon-systems and force-structure development process are immune from electoral politics. Not having to answer to the electorate, they can focus on the long-term aspects of weapons systems development and the bona fide merits or demerits of the systems proposed.

The weapons community mention above, often referred to as the “military-industrial complex,” is focused on relatively narrow issues such as the design and development of new weapons systems.⁴⁸ This circumscribed approach facilitates long-term planning, as the actors involved do not have to worry about the interests of those external to the process. The details of weapons systems research and development tend to be highly technical and arcane, which means players outside of the issue area seldom question them. Based on the recommendations of the military services, the Congress annually appropriates funds for research and development, which are in turn applied to specific weapon programs development. Over the systems’ developmental life span (10-15 years depending on the system), the sunk cost in R&D and prototype testing can become substantial, so much so that these costs often argue against canceling the system even when its utility is in doubt. The development of the B-1 and the B-2 are cases in point. Additionally, individual members of Congress are quick to recognize the job and growth benefits that prolonged weapons systems development and acquisition bring to

⁴⁸ Ibid., 329.

their districts: “It is not uncommon to find the Congress insisting that ‘the nation needs’ a particular weapons system that the president, the secretary of defense, and the head of the armed services that would use the system all insist they do not need or want.”⁴⁹

Furthermore, the military’s RDT&E, acquisition, and force structure planning process is Pentagon-centered and not subject to the same public scrutiny that the foreign policy process is. The military determines what weapon system technologies to develop and then chooses from among them which to acquire with relatively little or no outside interference.⁵⁰ This is not to say that Congress and the news media give the military a free ride. Former Senator William Proxmire initiated the “Golden Fleece Award” to highlight to the public and the media waste, fraud, and abuse on the part of the government. Yet, uncovering 600 dollar hammers and 1,200 dollar toilet seats, while sensational and indicative of over-billing by defense contractors on the one hand and poor contract supervision by the military on the other, does little to reconcile national security strategy development with weapon-system development.⁵¹ Moreover, it does not affect the military’s RDT&E, acquisition, or force-structure development process in any substantive way. The decisions on what weapons systems to develop, and acquire, and how to structure America’s armed forces to use them remain with the military.⁵² “In the

⁴⁹ Ibid.

⁵⁰ Long and Reppy, *The Genesis of New Weapons*, 16, 182.

⁵¹ Kapstein, *The Political Economy of National Security*, 58-60.

⁵² Jordan, Taylor and Mazzar, *American National Security*, 327-28; Alexander Kossiakoff, “Conception of New Defense Systems and the Role of Government R&D Centers,” in *The Genesis of New Weapons: Decision Making for Military R&D*, ed. Franklin A. Long and Judith Reppy (New York: Pergamon Press, 1980).

United States, weapons are not purchased by the secretary of defense for all the armed service, but by the individual services themselves.”⁵³

Taken together, the relatively small number of actors (admittedly all actors are not equal), their insulation from the electoral process, the technical and arcane nature of weapon system development, the distribution of research funds and accumulation of sunk costs over a period years, the economic benefits of long-term development to Congressmen from recipient districts, and the closed nature of the decision-making process all lend themselves to a long-term planning horizon in the weapons systems development process.

Another factor contributing to the difference in the nature of the planning process between foreign policy and weapons system policy is the nature of the budget cycle they operate on, a subject for the next section.

Budgeting Process

Most government agencies, the State Department included, operate on a budget cycle that covers three years. In the current year they are executing one budget, presenting next year’s budget to the president and Congress for approval and appropriations, and formulating the budget for the year after next. Most governmental agencies have to navigate their way through the Congressional budgetary system in order to secure the monies they need for their programs. This involves an authorization process in which they justify to one Congressional committee the need for the program; and to a different Congressional committee as part of an appropriations process in which they

⁵³ Kapstein, *The Political Economy of National Security*, 17.

justify the cost of the programs they want to implement.⁵⁴ Often, the authorization and appropriations processes overlap. The Congressional committees seldom coordinate with one another, and it is not unusual to have members of Congress on the authorization committee approve a program, only to have members on the appropriations committee, due to partisan issues, refuse to fund it. At any point in this process the program is subject to bargaining, compromise, and the necessity for coalition-building.⁵⁵ While agencies may plan for programs beyond three years, the earliest they can get them authorized is two years in advance. Anything beyond that is subject to the winds of political change and the impact of interest groups clamoring for inclusion among those receiving the benefits. Consequently, the budget cycle and the political factors that affect it do not reward long-term planning within most government agencies.⁵⁶

Within the Department of Defense, however, the budget planning system is much more systematic and long-term oriented.⁵⁷ The services plan for the far term (25 years), the mid-term (16 years), and the near term (6 years).⁵⁸ The services go through the same Congressional authorization and appropriations committees process except that their committees are dedicated to defense and the armed services. Like the committees that deal with the rest of government, those that deal with defense have the same coordination

⁵⁴ Rosati, *The Politics of United States Foreign Policy*, 317-20.

⁵⁵ *Ibid.*, 316.

⁵⁶ Dixon, *National Security Policy Formulation*, 168-69.

⁵⁷ Jordan, Taylor, and Mazarr, *American National Security*, 212.

⁵⁸ U.S. Army, "Army Planning Programming Budgeting Execution System (PPBS)- an Executive Primer," in *Course 5: DOD-Organization, Planning, and Strategy - Lesson 3*, ed. James Pierce (Carlisle, PA: U.S. Government Printing Office, 1999), 27.

and synchronization problems. However, the military has three advantages in the budgeting process which facilitate long-term planning for RDT&E, acquisition, and force structure decisions. First, the military's expertise is seldom challenged. Congress may quibble over how many of a certain type of weapon the military wants, but not on whether the military needs it. Recent decisions on procurement of a new nuclear carrier for the Navy, a new attack helicopter for the Army, and a new advance fighter for the Air Force are indicative of the services' unchallenged discretion in the weapon-system development process, given that the threat these three systems were designed to defeat no longer exists.⁵⁹ Second, the participants in the weapon-system authorization and appropriations process are relatively closed groups that share the same interests. Consequently, dissent rarely occurs among those called to testify before Congress. Moreover, the chairmen of the various armed services committees, if not all the members, are from districts and states that have been favorably blessed by defense spending. Finally, the jargon the weapon-system/force-structure advocates speak and the process (Program Planning Budgeting System, or PPBS) they use to identify, justify, and acquire their preferred weapons systems is complicated, tedious, and arcane. Taken together, these three advantages of the military services facilitate their weapon system RDT&E, acquisition, and force structure long-term planning.

The services present their budget plans to Congress specifying what weapons systems they intend to develop, and the long-term plan to research, test, and acquire them. Along with this plan, the military submits the estimated cost of the system

⁵⁹ Department of Defense, *Program Acquisition Costs by Weapon System* (Washington, DC: Department of Defense, 2003), 1-104.

amortized over the length of the RDT&E, acquisition, and fielding period. Unlike civilian governmental agencies whose appropriations cover one year, military appropriations habitually cover two years.⁶⁰ It is not unusual for Congress to fund most of the life-cycle R&D costs in the first several years of a weapons development. In the case of the B-1 mentioned earlier, Congress approved 78 percent of its costs before the first aircraft was flown.⁶¹ Similarly, between 1984 and 2002 Congress appropriated/funded over 5.9 billion dollars for R&D on a new Comanche armed scout helicopter for the Army.⁶² Eighteen years in the making, the military had yet to receive its first operational model. The B-1's acquisition and that of the Comanche helicopter are just two of many cases illustrating the strength of the military services in realizing their weapon-system preferences in the budgetary process and the ability of the military to sustain long-term planning for RDT&E, acquisition, and force structure development. However, this drawn-out process has certain benefits to it. Defense spending brings with it economic benefits to the legislators and their districts.

While the benefits that members of Congress accrue for their constituents from foreign policy are often intangible and impossible to measure, those derived from weapon-system and force-structure development are more concrete. Employment is one of the key benefits a Congressional leader can bring to his district or state. Defense spending plays a major role in employment within the United States. Every one billion

⁶⁰ Military appropriations are funded one year at a time; however, they are normally authorized several years out with funding levels adjusted due to inflation each year. The B-1B, mentioned earlier, was a case in point.

⁶¹ Koltz, *Wild Blue Yonder*, 216.

⁶² U.S. Congress, Research Service, 2002.

dollars in defense expenditures creates between 25,000 and 55,000 jobs, depending on whether the calculation includes indirect employment effects.⁶³ In 1990, the Department of Defense (DOD) spent over 300 billion dollars per year, employed over four million people (60 percent of all full-time government employees), accounted for 30 percent of all Federal expenditures, and had over 900 bases, facilities, and properties.⁶⁴ In the year 2000, the personnel figures were lower, but the dollar amount was not. DOD employed just fewer than three million personnel (2,952,000) and had a budget of 291 billion dollars, of which \$163.7 billion, or more than half, was spent on RDT&E and procurement, which can be equated directly to jobs.⁶⁵ There is a strong correlation between the defense payroll or weapons spending in a state and congressional voting practices. Some member of Congress, expecting their district or state to receive substantial contract awards, request that the contract award announcement be timed to coincide as closely as possible to the congressman's campaign schedule.⁶⁶ Although, not every congressman courts the military and defense contracts, those who sit on the various armed service committees tend to come from states that have defense contractors concentrated in their district/state.⁶⁷

⁶³ Kenneth R. Mayer, "Elections, Business Cycles, and the Timing of Defense Contract Awards in the United States," in *The Political Economy of Military Spending in the United States*, ed. Alex Mintz (London and New York: Routledge Publishers, Inc., 1992), 17.

⁶⁴ Rosati, *The Politics of United States Foreign Policy*, 137.

⁶⁵ Cohen, *Report of Secretary of Defense to the President and Congress-2000*, B-1-2, C-1.

⁶⁶ Mayer, *Elections, Business Cycles, and the Timing of Defense Contract Awards in the United States*, 27.

⁶⁷ James M. Lindsay, "Congress and the Defense Budget: Parochialism or Policy?" in *Arms, Politics and the Economy*, ed. Robert Higgs (New York and London: Holmes & Meier Publishers, Inc., 1990), 177.

The magnitude of defense spending in the United States and its very tangible benefits provide legislators with strong incentives to support weapons systems development, especially if the development and acquisition will occur over an extended period. This benefit is magnified if the weapons system will become part of a force structure that is based in the legislator's state/district. Besides direct compensation to the various states for salaries and wages, DOD provides defense grants to state and local governments, retired military pay, and procurement and research grants. All told, defense spending in 2002 accounted for 14.5 percent of all federal spending. Excluding programs mandated by law, the discretionary budget, defense expenditures in 2002 accounted for almost 61 percent of the federal budget.⁶⁸ Given the amount of dollars that flow out of DOD for weapons systems and forces structure, it is not surprising to find strong legislative support for weapons systems with extend development and fielding times. Those systems that will remain in the inventory for some time.

Predictability

The final factor contributing to the lag of foreign and national security policy behind the military's long-term weapons systems development, acquisition, and force structure programs deals with programs that are tangible and predictable as opposed to those that are not. Foreign policy often addresses issues in the humanitarian world. It is more difficult for the foreign policy community to articulate and justify the commitment of resources to a particular humanitarian program when its outcomes in the near term, let alone the far term, are uncertain and difficult to predict and measure. For example, the

⁶⁸ U.S. Department of Commerce, *Federal Expenditures by State for Fiscal Year 2002* (Washington, DC: Federal Government, 2002), tables 1-6, 10.

U.S. intervention in Bosnia to prevent ethnic cleansing, establish peace, and promote democracy is an open-ended drain on the nation's economic and military resources. While public and Congressional support for the Bosnian intervention still exists, it becomes increasingly difficult to justify in terms of national interests and to the electorate as the years go by. Will ethnic tensions erupt when the U.S. led coalition departs? How do we know that it will not, and what measurement tool do we use? When will democracy take hold in Bosnia? If so, what type of democracy? What aspects of civil society must be in place for democracy to prosper? No one can answer these questions with any certainty; there are too many murky variables to predict an outcome.

Foreign policy deals with states and nations, composed of human beings representing various cultures and civilizations. A policy directed toward a state affects its people, and unlike inanimate objects people often respond in unpredictable ways. Consider the pre-9-11 policy toward North Korea. U.S. policy had been aimed at encouraging North Korea to forsake a nuclear program capable of producing weapons-grade plutonium in favor of a nuclear energy program under the auspices of the International Atomic Energy Agency. In return for participating in this program, the U.S. encouraged its allies to open a trade dialogue with the recalcitrant communist state in order to promote regional stability.⁶⁹ This policy, initiated by President Clinton in 1994, changed almost overnight when President Bush denounced North Korea as a member of the "Axis of Evil" in the immediate aftermath of September 11, 2001. North Korea reacted to this accusation in a belligerent manner. Now, instead of limiting nuclear

⁶⁹ William J. Clinton, *A National Security Strategy of Engagement and Enlargement* (Washington, DC: The White House, 1995), 28.

weapons, North Korea is more active and open in pursuing its own nuclear weapons program along with the capability to target the U.S. and its allies.⁷⁰ Also, the North Koreans might export the nuclear weapons technology they acquire, if not the weapons themselves, to rogue states and terrorist groups.⁷¹ Consequently, a U.S. policy based on deterring nuclear proliferation has changed to one based on preempting nuclear proliferation through the use of force if necessary. This policy applies beyond Korea to a growing number of potentially hostile states capable of acquiring these weapons and their delivery systems.⁷²

What the Bosnia and North Korean examples illustrate is how often foreign policy can change either with the advent of a new administration having a different world view or with a single seismic event. The number of independent variables a foreign policy planner has to deal with is daunting, and many are difficult to assess. Moreover, the legislative branch with its narrower focus contributes to the constant flux in U.S. foreign and national security policy. Because these factors involve human beings who react in often unpredictable ways, they argue for a short-term focus in the foreign and national security planning process. The weapon-system and force-structure development process is less turbulent and more predictable since it deals in the realm of the science, where objects are more tractable.

⁷⁰ "Closing Pandora's Box," *The Economist*, January 4, 2003, 29-31.

⁷¹ Steven A. Cambrone, "Ballistic and Cruise Missile Threats," in *To Insure Domestic Tranquility, Provide for the Common Defense*, ed. Max G. Manwaring, (Carlisle Barracks, PA: USAWC, SSI, 2000), 85-86.

⁷² Clinton, *National Security Strategy of the United States, 2000*, 49; George Jr. Bush, *The National Security Strategy of the United States* (Washington, DC: The White House, 2002), 5-6, 14.

Weapon system and force structure development operate in the realm of science, physics, and mathematics. A weapon system may have people in the loop when it is operating, but the system proper, whether it is a rifle, missile, aircraft, or ship, is composed of elements subject to physically engineered controls. Even those systems that feature artificial intelligence, the so-called “smart” and “brilliant” weapons systems, are composed of man-made material with a programmed range of responses.⁷³ In brief, the development process uses the scientific method. Weapon developers can control the environment and the independent variables associated with the systems operation, and the procedures and test results are reproducible given the variables they control for. Moreover, weapon system development follows a formalized procedure consisting of several fixed steps: identifying the operational requirement; validating its need; full-scale development; performance testing; operational testing; and fielding and operations.⁷⁴

Additionally, the military has institutionalized the same procedure in its organizational structure. In an effort to obtain economy and weapon system interoperability across the services, the Joint Staff established the Joint Requirements Oversight Council (JROC) and the Joint Warfighting Capabilities Assessment (JWCA) program. These two measures enabled the Joint Staff to accomplish the first two steps in the weapon development procedure, namely, the identification of a requirement and its

⁷³ If a weapon system fails, i.e., does not hit its target, goes astray, etc., it is normally because of a flaw in its equipment or programming. Statistically, given the testing involved in weapons R&D, the mean time between failures can be determined and a failure rate for the weapon system predicted.

⁷⁴ Robert Perry, "American Styles of Military R&D." in *The Genesis of New Weapons: Decision Making for Military R&D*, eds., Franklin A. Long and Judith Reppy (New York: Pergamon Press, 1980), 94-96; Kapstein, *The Political Economy of National Security*, 118-20.

validation.⁷⁵ Weapons systems identified and validated through this process are funded for further development and worked into future force structure requirements. Though not perfect, the process, methods, and organization allow the military to acquire weapons systems and develop force structure in a systematic, cost-justifiable, and deliberate manner. Moreover, the weapon system capabilities vis-à-vis the threat they are designed to defeat are predictable, a big advantage in the policy struggle at the national level. Taken together, the factors described above allow the military to forecast its weapon system and force structure development well into the future with a high degree of probability that it will come to fruition.

The creation of future force structure is not the only way that technology allows the military to influence foreign and national security policy. The military uses its technological competence to affect policy in the near term as well. This more direct approach manifests itself in the reflection of the military's preferences in a number of strategy, policy, and budgetary decisions at the national level.

Strategy, Budgets, and Policy

In the post-Cold War era, the effects of the military's technological prowess on foreign and national security policy manifest themselves in a number of direct and indirect ways. One of the indirect ways is through inherited force structure. However, the military's reliance on technologically advanced weapons systems directly affects foreign and national security policy in the near term as well. As mentioned previously, technology provides four primary benefits to the military: expertise, autonomy, the

⁷⁵ The Joint Chiefs of Staff, *The Joint Warfighting Capabilities Assessment; Chairman of the Joint Chiefs of Staff Instruction - 3137.01a* (Washington, DC: Department of Defense, 1999), 1-37.

promise of battlefield success, and allies in the domestic political process. These benefits, evident in the way weapon system technology influences the military's policy preferences, facilitate their inclusion in foreign and national security policy in three ways. First, the military affects policy through the strategic recommendations it makes to the elected leadership. Second, the military affects policy in the size of the discretionary budget the military commands and in the autonomy it enjoys in determining what weapons systems to develop and procure. Last, the military's weapons systems engender political support for its policy preferences in Congress and industry.

Strategic Recommendations

In the post-Cold War era the military has relied on its technological prowess (expertise) to help shape U.S. foreign and national security policy during the course of three major defense reviews: the Base Force, the Bottom-Up Review (BUR), and the Quadrennial Defense Review (QDR). These reviews reflect the military's policy preferences, expressed as strategic approaches in accordance with its *weltanschauung*. The military expresses its strategy preferences in a number of other documents as well, the most notable of which are the *National Military Strategy*, the Joint Staff and the service Vision Statements, the Secretary of Defense's *Annual Report to the President and the Congress*, the annual posture statements of the services, and in the annual budget requests to the Congress. The national leadership's acceptance of the military's preference is found in the policy documents that the executive and legislative branches enact. The first portion of this section will examine the three major defense reviews, identify the military's strategic recommendations and their continuity throughout the

three reviews, and then assess their inclusion in the national security strategy and foreign policy documents.

The Base Force review was the first analysis undertaken in the post-Cold War era to determine what America's role in the world should be and what armed forces it needed to fulfill this role. The Base Force review took place within the process of a larger review initiated by President George H. W. Bush on March 3, 1989, entitled National Security Review 12. Even though other agencies participated in the review, it soon became apparent that the military played a significant role, if not the major one, in the process.⁷⁶ Then Chairman of the Joint Chiefs of Staff, General Colin L. Powell, was the initiator and driving force behind the Base Force review. Although the Joint Staff in 1987-88 had developed some general concepts for what forces the nation would need in the event that the Soviet threat diminished in the near future, no substantive plan had evolved.⁷⁷ On becoming Chairman of the Joint Chiefs of Staff in 1989, General Powell used the enhanced authority the Goldwater-Nichols Defense Act of 1986 had given the position of Chairman to drive the development of a plan to reduce the overall size of the armed forces by 25 percent between 1990 and 1997, later amended to between 1990 and 1994.⁷⁸

⁷⁶ Lorna S. Jaffe, *The Development of the Base Force: 1989-1992* (Washington, DC: Office of the Chairman of the Joint Chiefs of Staff, 1993), 3.

⁷⁷ *Ibid.*, 6.

⁷⁸ Jaffe, *The Development of the Base Force*, 16-17; Eric V. Larson, David T. Orletsky, and Kristin Leuschner, *Defense Planning in a Decade of Change: Lessons from the Base Force, Bottom-up Review, and Quadrennial Defense Review* (Santa Monica, CA: Rand, 2001), 23. The Goldwater-Nichols Defense Act of 1986 allowed the chairman to present his own opinion to the secretary of defense or the president, made him the reviewer of strategic plans to include the individual services' budget plans, made the chairman responsible for the development of joint strategic plans applicable to all the services, and made him responsible for the development of all joint warfighting doctrine. Formerly, combatant

In assessing the world situation in November 1989, General Powell came to several important conclusions that formed the theoretical underpinnings of the Base Force concept. First, he felt that the Soviet Union was on the verge of collapse, no longer constituting a significant threat to the U.S. Second, given the impending demise of the Soviet Union, the United States could no longer justify the large size of its armed forces, meaning they would have to be reduced. Third, absent a global threat, U.S. interests would best be served by a regional approach that consisted of promoting American economic prosperity through free trade and open markets, and of pursuing global stability through the spread of democracy. Moreover, General Powell felt that any threats to U.S. interests would arise at the regional level. Fourth, the maintenance of a forward U.S. military presence and regional allies would be central to countering threats to U.S. interests.⁷⁹ With these underpinnings Powell, the Joint Staff, the U.S. regional Commanders, and the service chiefs, albeit with some reluctance, began work on developing the “base force” which was to be the floor beneath which it would be unwise to reduce U.S. troop strength.⁸⁰

The base force was not designed for global conflict, although it could be augmented for that purpose. Instead, it was designed for a strategy that emphasized a regional focus. This strategy consisted of four pillars: strategic deterrence and defense;

commanders submitted their strategic plans to the Chairman and the joint staff as a courtesy, but with the advent of Goldwater-Nichols the combatant commanders were required to submit their plans to the chairman for review and comment.

⁷⁹ Jaffe, *The Development of the Base Force*, 13-15.

⁸⁰ *Ibid.*, 21; Larson, Orletsky, and Leuschner, *Defense Planning in a Decade of Change*, 9.

forward presence, crisis response, and reconstitution.⁸¹ To implement this strategy General Powell and the joint staff organized the base force into four groupings: Strategic Forces, the Atlantic Force, the Pacific Force, and Contingency Forces.⁸² The strategic forces, consisting of those weapons systems designed to deter and if necessary defeat a nuclear threat, were composed of ICBMs, ballistic missile submarines, and nuclear-capable bombers. The other force packages consisted of conventional forces tailored for the regions they addressed. Atlantic forces consisted primarily of armored and mechanized forces. Pacific forces consisted of naval forces and light infantry forces, and contingency forces consisted of a United States-based mixture of the two (Atlantic and Pacific) forward presence forces.⁸³

In correlating forces with strategy, Powell felt the base force provided the United States with the capability to fight two Major Regional Conflicts (MRCs) and one Small Scale Conflict (SSC)/peacekeeping/presence scenario (based on Desert Storm and Korean scenarios) simultaneously. However, General Powell testified that concurrent campaigns in the Gulf and Korea would bring the Base Force to the “breaking point.”⁸⁴ In terms of manpower and equipment, U.S. land forces could expect to be outnumbered in each theater, as they had been in the Gulf War, even if the U.S. applied all its ground combat forces to a specific theater. However, the Base Force strategy deemed the risk of fighting two concurrent MRCs acceptable due to U.S. technological superiority. The

⁸¹ Ibid., 10-11.

⁸² Jaffe, “The Development of the Base Force: 1989-1992,” 21.

⁸³ Ibid.; Larson, Orletsky and Leuschner, *Defense Planning in a Decade of Change*, passim.

⁸⁴ Ibid., 13.

Base Force strategy intended to leverage U.S. technological and operational expertise in four critical areas: transportation (the ability to shift forces rapidly from one region to the other); space-based systems (enhanced command, control, and communications along with intelligence and targeting capability); research and development (to maintain technologically superior weapons systems, precision munitions, intelligence, and communications functions); and reconstitution (the ability of production and management technology to sustain the force with the high technology systems it needed to shoot, move, and communicate in combat as well as rebuild units with men and equipment after they had been in combat and had suffered losses).⁸⁵

General Powell and the military felt that the combination of superior weapon system technology coupled with advanced operational expertise and superb training gave the United States the capability to bring overwhelming force (later modified to “decisive force” by Undersecretary of Defense Paul Wolfowitz) to bear against any one regional threat.⁸⁶ Haunted by the specter of Vietnam, Powell had long advocated employing military force only as a last resort; but once the decision was made to use force, Powell felt that it should be used in an overwhelming manner in order to end the conflict quickly and avoid losing public support in a seemingly bottomless quagmire.⁸⁷ The conduct and results of Operations Just Cause in Panama during 1989 and Desert Shield/Storm in the Persian Gulf in 1990-1991 strengthened the military’s faith in technology and the concept

⁸⁵ Ibid., 19.

⁸⁶ Jaffe, *The Development of the Base Force*, 48; Bill Owens, *Lifting the Fog of War* (New York: Farrar, Straus and Giroux, 2000), 73-74.

⁸⁷ Colin L. Powell with Joseph E. Persico, *My American Journey* (New York: Random House, 1995), 148-49.

of Overwhelming Force. “Among the key lessons drawn from the Gulf War was that overwhelming force coupled with the qualitative edge afforded by high technology -- including stealthy F117s, conventional cruise missile, precision-guided munitions, the Airborne Warning and Control System (AWACS), and the Joint Surveillance Target Acquisition Radar System (JSTARS) -- could yield campaign outcomes that not only were quick and decisive but also could minimize U.S. casualties.”⁸⁸

Even with the technological enablers that the Base Force strategy called for, it still required allies and bases in the various regions to make it work. Allies were important to the Base Force strategy for three reasons. First, their participation in a regional conflict helped offset a potential disadvantage in ground forces that the U.S. expected to have. Allied forces could provide vital rear area security, logistic support, and other specialized support requirements that would free up U.S. forces for combat operations. Second, if already located in the region, allies could provide U.S. forces with bases and staging areas from which to launch their operations. Airbases, ports, and secure assembly areas were essential to beginning and sustaining a campaign against a regional aggressor. It is unlikely that Operations Just Cause and Desert Storm could have been as successful as they were without secure bases in the region (i.e., Saudi Arabia) to move forces to and attack from.⁸⁹ Last, the inclusion of allies helped garner support in the United Nations, spread the cost of the conflict, and provided moral support by helping to foster favorable world opinion.

⁸⁸ Larson, Orletsky, and Leuschner, *Defense Planning in a Decade of Change*, 23.

⁸⁹ *Ibid.*, 11, 37-38.

The Base Force strategy and associated force structure established the strategic tenets that all further strategic reviews and national security strategies would address in the post-Cold War era. These tenets were:

- U.S. strategic forces would be reduced, but those remaining would be modernized to deter any would-be nuclear aggressor.
- U.S. interests could best be furthered through a regional approach and regional stability.
- Forward Presence, allies, and bases were essential ingredients for regional stability.
- U.S. military forces must be capable of fighting and winning two MRCs concurrently.
- If U.S. military forces are employed in combat, they must be employed in an overwhelming manner to produce decisive victory.
- Superior technological enablers would offset the risk of fighting outnumbered and allow the U.S. and its allies to bring overwhelming force to bear in order to achieve decisive victory.⁹⁰

The tenets above and the strategic foundations presented earlier were incorporated into Secretary of Defense Richard Cheney's *Annual Report to the President and the Congress* and President George Bush's (elder) 1992 *National Security Strategy of the United States*.⁹¹ In fact, President Bush on August 2, 1990, at the Aspen Institute in Colorado articulated the Base Force concept as previously presented to him by the Joint Staff.⁹² Table 6-1 below compares key aspects of the Base Force strategy and their inclusion in policy. The pages in the table below represent instances where the concept/principle expressed in the Base Force strategy is incorporated into the policy document either verbatim or paraphrased so closely that it can be directly attributed to the

⁹⁰ Larson, Orletsky, and Leuschner, *Defense Planning in a Decade of Change*, 5-39; Jaffe, *The Development of the Base Force*, 17-28.

⁹¹ Bush, *National Security Strategy of the United States: 1991-1992*; Dick Cheney, *Annual Report to the President and the Congress* (Washington, DC: Office of the Secretary of Defense, 1992).

⁹² Jaffe, *The Development of the Base Force*, 36.

Base Force strategy as expressed in the National Military Strategy. The inclusion of the military's strategic recommendations in the national security strategy is indicative of the civilian leaderships' acknowledgement of the military's technological acumen. In addition to incorporating the military's strategic recommendations, the analysis of the sources above confirmed the importance of technology to America's military and economic capabilities, and how important it was to maintain the lead in all forms of technology but especially weapons and information-based systems. Weapon technology alone was mentioned extensively, if not exclusively, on 29 pages of 130 pages in the secretary of defense's *Annual Report to the President and Congress*, and on eight of 135 pages in the *National Security Strategy of the United States*.⁹³ Only the four foundations of the Base Force strategy itself were mentioned more than technology.

Although the president and Congress accepted the recommendations of the military, the process by which the Joint Staff reached its recommendations is questionable. In theory, the Base Force strategy was designed to further U.S. interests, but what were those interests? General Powell admits in his autobiography that "National Security Review 12 was being drafted by career bureaucrats and a few administration appointees. The study team did not have a vision or practical political guidance from the President and his NSC [National Security Council] team. The principal value of this study seemed to be to provide the administration with a defense against critics of inaction." Powell goes on to say that other actors such as Congress and independent think tanks were generating their views and that he: "... was determined to

⁹³ Bush, *National Security Strategy of the United States: 1991-1992*; Cheney, *Annual Report to the President and the Congress*.

have the military drive the military strategy train, so [therefore] I had scoped out certain ideas, even if they represented hunches more than analysis.” He did not want an outside

Table 6-1. Base Force Concepts included in National Policy Documents.

1992 National Military Strategy-Base Force	1992 Annual Report to President And Congress	1992 National Security Strategy of the United States
Four Strategic Foundations: Strategic Deterrence; Forward Presence; Crisis Response; Reconstitution.	Pgs: vii, 6-9, 49-53	Pgs: 98-107, 107-12, 112-113, 118-123
Regional Approach	Pgs: 1,6,8	Pgs: 16, 97-98
Two Major Regional Conflicts	Pgs: 10	Pgs: 110-111, 113 (Implied, not stated)
Overwhelming/Decisive Force	Pgs: 5,6,24	Pgs: 110 (Implied)
Technological Enablers	Pgs: viii, 6, 10,14, 70-72, 85-91, 92-99, 110-116	Pgs: 13, 61, 83-85, 120-122
Force Structure of Base Force	Pgs: 4	Pgs: 114, 124-127
Allies and Bases	Pgs: 5-6, 7-8, 15-19	Pgs: 26, 107-112

Sources: National Military Strategy, 1992; 1992 Secretary of Defense Annual Report to the President and Congress; 1992 National Security Strategy of the United States; Defense Planning in a Decade of Change: Lesson learned from the Base Force, Bottom-Up Review, and Quadrennial Defense Review; The Development of the Base Force, 189-1992.

agency forcing military strategy upon the military.⁹⁴ However, in the process General Powell traded the effectiveness of deliberate planning for the expediency of short-term gains.

In the development of the Base Force strategy, U.S. national interests in the post-Cold War era were not formally identified, other than as assumptions by military planners. Moreover, the other actors in the national security policy process were not

⁹⁴ Powell, *My American Journey*, 417.

involved or were marginalized in the development of the Base Force strategy.⁹⁵ The military lost sight of one of their guiding principles as expressed in Clausewitz's dictum that military strategy is always subordinate to political policy.⁹⁶ Despite Powell's claim that the Base Force strategy was developed in behalf of U.S. interests, it appears that the analysis that drove the process and the force reductions that resulted from it were indeed threat-based.⁹⁷ In the absence of a global threat, military planners focused on developing force packages for the threats they did have; namely, one in the Middle East from Iraq/Iran and one in the Far East from North Korea. Whether the military's assessment was correct or not is not at issue. What matters is that the civilian-based process to identify and assess the nation's interests in the post-Cold War era was bypassed and that the military's views were readily accepted in lieu thereof. Moreover, criticism when it arose did not challenge the validity of the military's assessment or the military's expertise, but rather its expense. These critics thought the Base Force troop reductions did not go deep enough; they argued that an even larger "peace dividend" could be realized with further cuts.⁹⁸ They did not assess the base force structure and strategy against America's national interests and therefore were unable to rationally determine its utility.

Criticism also developed from within the military. Powell presented his Base Force concept, to include proposed aggregate force reductions, to the secretary of defense

⁹⁵ Jordan, Taylor, and Mazarr, *American National Security*, 218.

⁹⁶ Carl Von Clausewitz, *On War*, ed. Michael Howard and Peter Paret, trans. Michael Howard and Peter Paret, Indexed ed. (Princeton, NJ: Princeton University Press, 1976), 605-10.

⁹⁷ Larson, Orletsky, and Leuschner, *Defense Planning in a Decade of Change*, 16.

⁹⁸ Jordan, Taylor, and Mazarr, *American National Security*, 553-55.

and President Bush before the service chiefs and regional commanders-in-chiefs (CINCs) reviewed it, a faux pas that Powell admitted but did not regret.⁹⁹ While General Powell was able to cajole and arm twist most of his military contemporaries, the commandant of the Marine Corps, General Gray, actively resisted and was able to thwart the force structure reductions proposed by Powell and the Joint Staff.¹⁰⁰ Powell garnered the support of the other service chiefs and the CINCs by promising not to sacrifice modernization and acquisition of advanced technological weapons systems, a promise he ultimately could not keep.¹⁰¹ Nonetheless, Powell's planned compromise indicates how important technology was to the execution of the Base Force strategy and to the individual services.¹⁰² Ultimately, the Base Force strategy would prove to be politically unsustainable. It was developed without the benefit of national analysis and debate, and without much debate internal to the military. As sweeping as the force reductions appeared, the Clinton administration felt they could go even deeper. Moreover, it did not tackle the issue of military reform.

The end of the Cold War and the demise of the Soviet Union caused a profound change within the international system as it moved from bipolar to a multipolar world. Had the military as part of an interagency approach conducted a more thorough analysis of U.S. interests and the existing and emerging threats to them in light of this new reality, it is probable that the military would have embarked on transformation earlier than 1998.

⁹⁹ Powell, *My American Journey*, 40.

¹⁰⁰ Jaffe, *The Development of the Base Force*, 34-35, 38.

¹⁰¹ Larson, Orletsky, and Leuschner, *Defense Planning in a Decade of Change*, 27-28.

¹⁰² Larson, Orletsky, and Leuschner, *Defense Planning in a Decade of Change*, xvi; Jaffe, *The Development of the Base Force*, 35-40.

Although the service's end-strength, number of units, and modernization/procurement programs were sharply reduced, each service retained essentially the same weapons systems preferences, force structure, and organization that it had during the Cold War.¹⁰³ The Army still had divisions, tanks, and helicopters; the Air Force still had wings with bombers and fighters; and the Navy still had fleets with carrier-based battle groups, the difference being, that they had less of them. The Base Force strategy has been referred to as a Cold War-minus strategy. General Powell's fear of having military strategy "shoved down the military's throat," and his efforts to forestall this by developing the Base Force strategy had exactly the opposite effect to what he intended. The military underwent further force reductions. In the end Powell's strategy, while demonstrating the military's influence and autonomy, failed to reconcile ends, ways, and means (interests, concepts, resources respectively) in a comprehensive way sufficient to withstand the scrutiny of Congress, the news media, and other interest groups in the budget process. As Lawrence Korb wrote in 1991, "The defense budget is the linchpin of U.S. defense policy. Planning is irrelevant and operations impossible if the budget process does not result in the correct mix of manpower and material."¹⁰⁴ By not expanding the debate, building political consensus, and securing fiscal support for the base force, General Powell missed an opportunity to guide the transformation of the military into a 21st century force, and instead subjected it the very bureaucratic manhandling he loathed.

¹⁰³ End strength is a term used by the services to describe the total number of people they are allowed to keep on active duty and in the reserves under Title 10, United States Code. Although the services and the White House have input as to what this final number will be, it is determined by Congress.

¹⁰⁴ Lawrence J. Korb, "The 1991 Defense Budget and the 1991-95 Defense Program," in *Facing the Future: American Strategy in the 1990s* (Aspen, CO: Aspen Institute, 1991), 317.

However, General Powell was not all to blame. By accepting the military's Base Force strategy almost *carte blanche*, the Bush administration missed an opportunity to put foreign policy ahead of weapon system procurement.¹⁰⁵ The failure by the Bush administration to engage the nation in a debate on what the United States' interests in the post-Cold War era should be, how the U.S. should go about obtaining/furthering those interests, what the threats to those interests might be, what resources (in this case armed forces) the U.S. would need, and how they would be equipped and organized (weapon system technologies and force structure), allowed the military, with its heavy reliance on technology to play an inordinately influential role in the development of national security policy. This trend continued during the next two defense reviews.

Immediately following the acceptance of the Base Force strategy, President Clinton came into office. Clinton and Les Aspin, his Secretary of Defense, were convinced that more savings could be accrued without jeopardizing America's security if the armed forces were reduced even further than the Base Force strategy's minimal levels. Accordingly, Les Aspin initiated a Bottom-Up Review (BUR). In theory, this review was interest- and strategy-driven; in reality, it was budget driven.¹⁰⁶ Clinton planned to reduce the deficit, stimulate economic growth, and place more emphasis on domestic programs, all of which spelled a reduction in defense spending, and hence a reduction in military force structure, modernization, or both.¹⁰⁷ Publicly, the Clinton administration announced that it expected to cut 112 billion from the defense budget over

¹⁰⁵ Larson, Orletsky, and Leuschner, *Defense Planning in a Decade of Change*, 36.

¹⁰⁶ *Ibid.*, xix.

¹⁰⁷ *Ibid.*, 44.

a five-year period (1994-1998); yet, privately, defense insiders expected a more modest 17 billion reduction.¹⁰⁸ Despite all the BUR's claims to having reformed defense strategy, it looked remarkably like the Base Force, only slightly smaller.¹⁰⁹ Moreover, the strategic concepts inherent in the Base Force were replicated in the BUR and manifested in President Clinton's 1994 and 1995 *National Security Strategy of Engagement and Enlargement*, again an acknowledgement by civilian authority of the military's expertise.¹¹⁰ Table 6-2 illustrates the continuity of the military's strategic recommendations from the Base Force strategy expressed in the 1992 National Military Strategy through the BUR and into the 1994-95 national security strategies. As with table 6-1, the page numbers indicated in the BUR and NSS columns represent either a verbatim or paraphrased extraction from the Base Force strategy. Although, the influence of the military is virtually the same as it was on the Bush policy, there are some differences. Unlike the Bush administration's policy documents, there is not as much emphasis on the importance of technology, especially weapon system technology, to the successful execution of the strategy. This could have been merely an omission or accepted as a given, since the type of weapons systems that the administration intended to develop and procure in the BUR are decidedly high-tech. Moreover, given that the forces proposed under the BUR would be initially outnumbered in whatever region they might have to fight in, it is safe to say that their ability to win decisively was predicated on

¹⁰⁸ Ibid., 57.

¹⁰⁹ Powell, *My American Journey*, 554.

¹¹⁰ Clinton, *A National Security Strategy of Engagement and Enlargement*.

Table 6-2. Comparison of Military Strategic Recommendations Incorporated into Policy Documents during the Early Clinton Administration

1992 National Military Strategy-Base Force	1993 Bottom-Up Review	1994 National Security Strategy of Engagement and Enlargement
Four Strategic Foundations: Strategic Deterrence; Forward Presence; Crisis Response; Reconstitution.	Pgs: 6, 8, 13-19, 22	Pgs: 6-8, 11-12
Regional Approach	Pgs: 2,6, 7, 24	Pgs: 5,7,8,10, 18-19, 21-27
Two Major Regional Conflicts	Pgs: 7, 19, 28	Pgs: 5, 7
Overwhelming/Decisive Force	Pgs: 8, 15	Pgs: 10
Technological Enablers	Pgs: 12, 18, 19-21, 33-34	Pgs: 7
Force Structure of Base Force	Pgs: 23-25	Pgs: Implied, not addressed
Allies and Bases	Pgs: 2, 13, 15, 19, 22	Pgs: 5, 7, 8, 10

Sources: Powell, Colin L. *The National Military Strategy*. Washington, DC: U.S. Government, 1992; Aspin, Les. *Report on the Bottom-Up Review*. Washington, DC: U.S. Government, 1993; Clinton, William J. *A National Security Strategy of Engagement and Enlargement*. Washington, DC: U.S. Government, 1994.

assumed technological superiority.¹¹¹ Also, the Clinton strategy of engagement and enlargement prescribed a greater role for the military in peacekeeping and humanitarian assistance missions as part of a multinational coalition force or under the auspices of the United Nations.

The BUR not only reduced the size of the military, but it also cut the cost of modernization by extending the fielding process further into the out years and by eliminating some programs.¹¹² However, the BUR did not cut into service (or

¹¹¹ Les Aspin, "Report on the Bottom-up Review" (Washington, DC: Office of the Secretary of Defense, 1993), 13.

¹¹² Larson, Orletsky, and Leuschner, *Defense Planning in a Decade of Change*, 57.

Congressional) “sacred cows,” or those weapons systems that defined service identity and were central to their concept of warfare. Thus, the Air Force retained its Theater Air Program, which included the F-22 next-generation fighter, the enhanced long-range bomber program, enhanced precision-guided munitions development, battlefield surveillance systems, and strategic mobility systems. Similarly, the Army maintained its attack helicopter program, main battle tank upgrade program, and enhanced anti-armor program. The Navy retained its carrier modernization and procurement program, F-18 program, and Seawolf attack submarine program. By extending the development and acquisition program into the out years, the Clinton administration garnered support from the military for further force reductions while realizing some short-term savings.¹¹³ However, other than the increased “engagement” missions that the military acquired, canceling some weapons programs, and reducing the personnel strength of the services, the Bottom-Up Review like the Base Force strategy was heavily influenced by the military. The Bottom-Up Review overlaid a strategy on an existing force structure that was designed and justified in Cold War war-fighting terms, but that would not quite “fit” the engagement and enlargement operations the Clinton national security strategy called for.¹¹⁴

Almost immediately after Secretary of Defense Aspin announced the results of the Bottom-Up Review in October 1993, it came under attack. Some detractors felt that the force structure and modernization cuts were not deep enough, and existing force

¹¹³ Ibid., 56-68.

¹¹⁴ Ibid., xix, 53.

structure was still focused on a Cold War scenario.¹¹⁵ Others thought that the increased operational tempo due to deployments of an already reduced force would weaken readiness.¹¹⁶ Ultimately, the debate surrounding the Bottom-Up Review led Congress to direct the Department of Defense to conduct a defense review every four years, which subsequently became known as the Quadrennial Defense Review (QDR).¹¹⁷

Just as the two previous reviews had been influenced by the military's recommendations, so too was the first QDR conducted in 1997. The strategic concepts articulated in the QDR were influenced by the two previous strategic reviews (Base Force and BUR) and by Chairman of the Joint Chiefs of Staff General Shalikashvili's 1996 *Joint Vision 2010*.¹¹⁸ The QDR retained the focus on two MRCs but adjusted the timing of these operations to near simultaneously vice concurrently; it also retained strategic deterrence, forward presence, and crisis response, but substituted strategic "agility" for strategic "mobility."¹¹⁹ Moreover it continued to emphasize the importance of a regional approach, allies, bases, and the use of decisive force. *Joint Vision 2010* and the QDR both emphasized the importance of technology to the successful application of America's defense strategy: "Joint Vision 2010 is the conceptual template for how America's

¹¹⁵ David Isenberg, *The Pentagon's Fraudulent Bottom-up Review* (Washington, DC: CATO Institute, 1994), 1-13; Carl Coneta and Charles Knight, *Framework for Constructing a New Era Alternative to the Bottom-up Review* (Washington, DC: Project on Defense Alternatives, 1997), 6-7.

¹¹⁶ Richard Davis, *Bottom-up Review: Analysis of Key DOD Assumptions* (Washington, DC: United State General Accounting Office, 1995), 1-23.

¹¹⁷ Steven Metz, "American Strategy: Issues and Alternatives for the Quadrennial Defense Review," (Carlisle Barracks, PA: U.S. Army War College, Strategic Studies Institute, 2000), 22.

¹¹⁸ U.S. Department of Defense, Chairman, Joint Chiefs of Staff, *Joint Vision 2010* (Washington, DC: Joint Chiefs of Staff, 1996).

¹¹⁹ William S Cohen, *Report of the Quadrennial Defense Review* (Washington, DC: Department of Defense, 1997), 12, 17.

Armed Forces will channel the vitality and innovation of our people and leverage technological opportunities to achieve new levels of effectiveness in joint war-fighting.”¹²⁰ Again, the military acquiesced in a cut in overall strength (reductions were: active 6.2 percent, reserve 7.2 percent, and civilian 20 percent below 1997 levels) in order to maintain force structure and modernization.¹²¹ Although the QDR allowed for a \$60 billion a year commitment to procurement spending, it still was not enough to fund all the military’s technological preferences; and given the tight defense budgets that existed during the Clinton administration, inevitably some programs were cancelled.¹²² While the military was not the sole agent in the QDR process, its influence was strong enough such that its strategic recommendations/preferences were sustained with only minor modification. Additionally, the military was able to sustain, albeit somewhat truncated, its RDT&E and modernization efforts.¹²³

The military’s technologically-driven policy preferences have played an instrumental role in the conduct of U.S. foreign policy as well as national security strategy. For example, the military’s strategic recommendations from the Base Force strategy through the 1997 QDR have placed heavy reliance on allies and overseas presence.¹²⁴ In support of these strategic pillars the Department of State was asked to negotiate treaties providing U.S. forces with basing and overflight rights, as well as to

¹²⁰ Shalikashvili, *Joint Vision 2010*, 1.

¹²¹ Larson, Orletsky, and Leuschner, *Defense Planning in a Decade of Change*, 84.

¹²² *Ibid.*, xxiv, 105.

¹²³ *Ibid.*, 118-20.

¹²⁴ *Ibid.*, xv, xviii, xxiii.

update existing alliance treaties through memoranda of understanding with the signatories. During the Cold War, the Department of State negotiated 75 treaties -- four being major alliance treaties such as NATO (1949), ANZUS (1951), SEATO (1955), and CENTO (1958) -- in direct support of military strategy, plus 13 arms control treaties, and four treaties dealing with war crimes/criminals.¹²⁵ Since 1991, the State Department has negotiated 14 treaties involving the deployment of U.S. troops in peacekeeping operations, 15 arms control treaties, and continues to update previous treaties through memoranda of understanding with key states for basing and overflight rights.¹²⁶ For example, in 2002 the Department of State negotiated an update to air base access and overflight rights in both Morocco and Egypt.¹²⁷ Every year the Joint Chiefs of Staff, after consulting with the geographic combatant commanders, generate a list of basing and overflight routes for State to arrange for or update in order to support current military plans.

One of the State Department's chief diplomatic levers in the negotiations for bases and flight routes and, for that matter in executing the foreign policy of the United States, is the Military Assistance Program. This program consists of three subordinate programs: the International Military Education and Training program (IMET); Foreign Military Financing (FMF) (sometimes used interchangeably with the term Foreign Military Sales [FMS]), although FMS is technically a DOD-managed cash-for-weapons

¹²⁵ Department of State, *Treaties in Force: A List of Treaties and Other International Agreements of the United States in Force on January 1, 2002* (Washington, DC: Department of State, 2002), 365-67.

¹²⁶ Alan Axelrod, *American Treaties and Alliances* (Washington, DC: CQ Press, A Division of Congressional Quarterly, Inc., 2000), viii-ix.

¹²⁷ Department of State, *Treaties in Force: A List of Treaties and Other International Agreements of the United States in Force on January 1, 2002*, 169,99.

program, whereas FMF is a credit program); and peacekeeping operations (PKO).¹²⁸ The Military Assistance Program commands the largest share of the Department of State's operating budget for foreign assistance. In 2002 military assistance accounted for over \$4.4 billion while the next highest account, the Economic Support Fund (ESF) accounted for \$3.28 billion. For fiscal year 2004 the Department of State is forecasting expenditures of over \$4.6 billion for military assistance and \$2.54 billion for ESF. The largest sub-program of the Military Assistance Program is FMF.¹²⁹ It consists primarily of sales of discounted U.S. weapons systems to selected nations on a credit basis. Given the advanced technology associated with American weapons systems, this is a particularly attractive program to those states wanting to modernize their military. In many instances the State Department provides attractive discounted rates to those states that negotiate favorable basing and overflight agreements with the United States.¹³⁰ For example, since 1988 Egypt has been licensed to produce for its own forces the M1A1 tank, the most advanced tank in the world, in a joint venture with the U.S.¹³¹

Poland provides yet another example of the impact of American military technology. One of the conditions for Poland's acceptance into NATO was the requirement that it equip its armed forces with NATO-compatible equipment. For its air

¹²⁸ Department of State, *Congressional Budget Justification Foreign Operations: Fiscal Year 2004*, (Washington, DC: Department of State, 2003), 151-74.

¹²⁹ *Ibid.*, 564, 580.

¹³⁰ Duncan L. Clarke, Daniel B. O'Connor, and Jason D. Ellis, *Send Guns and Money: Security Assistance and U.S. Foreign Policy* (Westport, CT and London: Praeger Publishers, An imprint of Greenwood Publishing Group, Inc., 1997), 151-55.

¹³¹ Department of State, *Treaties in Force: A List of Treaties and Other International Agreements of the United States in Force on January 1, 2002*, 83.

force, Poland sought to replace its aging Soviet Mig fighters with advanced Western aircraft. Many countries vied for the jet fighter contract. Poland, however, chose the Lockheed Martin F-16. The State Department, in part at the military's behest, fashioned a lucrative agreement for Poland. The FMF loan package allows for Poland to make interest-only payments through 2010, with interest and principal payments between 2011 and 2015.¹³² Poland now produces many of the F-16's components (but not including avionics, radars, and weapon munitions) and assembles the plane in Poland, thus creating high-tech jobs for the new NATO ally.¹³³ Lockheed Martin on the other hand, keeps the Dallas-Fort Worth F-16 assembly line open (thus maintaining the jobs associated with it, especially engineers) and continues to improve subsequent "export" models with advanced technology. The U.S military benefits as well. Not only is the Polish air force increasingly interoperable with the U.S. Air Force and dependent on the U.S. for training and spare parts (avionics and munitions); but the U.S. Air Force benefits from the ongoing R&D on the F-16 that can be applied to its own F-16 and to other advanced fighter aircraft under development.

The discussion above is not meant to imply that the State Department exists to serve the military. But just as the military asks the State Department to support its weapons policy preferences; the State Department uses the military to further its own diplomatic objectives within the context of the foreign policy established by the nation's

¹³² "Lockheed Martin's F-16 Beats Gripen, Mirage 2000 For \$3.5 Billion Polish Order," *Defense Daily International* 3 January 2003: 1-2; "The World This Week: Politics," *The Economist*, January 4, 2003, 7.

¹³³ Neil Baumgardner, "Lockheed Martin Credits Offset Package, Loan For F-16 Win in Poland," *Defense Daily International*, January 10, 2003, 1-2.

leaders. However, with the end of the Cold War, the military element of power has been more closely intertwined with the diplomatic. At times it is difficult to determine whether the State Department or the Department of Defense has the lead in formulating and executing America's foreign policy. Also, the military element of power, specifically the technological aspects of it, plays an increasingly important role in the State Department's ability to execute the nation's foreign policy.¹³⁴

As a survey of current treaty negotiations reveals, basing and overflight rights, and combined military-to-military training events figure largely in the State Department's agenda. Recall that military assistance commands the largest portion of the State Department's budget for foreign operations.¹³⁵ Access to the latest U.S. military technology is a strong incentive for many states to cooperate with the United States. To a degree, the State Department and the military have always worked closely; however, except during war, the State Department was almost always the lead agency. World War II and the Cold War changed that as the military became more influential in foreign policy.¹³⁶ Now that the Cold War is over, there is little evidence to suggest that the military's influence has diminished.¹³⁷

The military's policy preferences have not been the sole determinant of U.S. foreign and national security policy in the post-Cold War era, but they have played a

¹³⁴ Jordan, Taylor, and Mazarr, *American National Security*, 192.

¹³⁵ Department of State, *Congressional Budget Justification Foreign Operations: Fiscal Year 2004*, 580.

¹³⁶ Jordan, Taylor, and Mazarr, *American National Security*, 64-88; Paul L. Miles Jr., *American Strategy in World War II: The Role of William D. Leahy* (Princeton, NJ: Ph.D., diss., Princeton University, 1999), 267.

¹³⁷ Rosati, *The Politics of United States Foreign Policy*, 117, 30-31, 36-38.

significant part. The military's technological preferences were a major factor in structuring the strategic recommendations it made, and that were subsequently incorporated into foreign and national security policy during the first decade of the post-Cold War era. Three of these preferences bear testament to the military's influence on policy during the post-Cold War era. First, the military advocated a strategy based on its ability to fight two Major Theater Conflicts (MTC) concurrently (later near simultaneously), which the nation's political leadership incorporated into policy.¹³⁸ This strategic recommendation has been a cornerstone of U.S. national security strategy from the Base Force until the present. The two-MTC strategy was heavily dependent upon an assumed American superiority in information, weapons, and transportation/mobility systems technology. This assumption becomes clear given that American land forces expect to be outnumbered initially in each of the theaters. For the military to fight and win in two theaters simultaneously while shifting resources as needed between those theaters, clearly requires technological superiority.

Second, the military was able to retain the force structure (albeit reduced) it needed to fight the two MTCs. The world environment at the end of the Cold War begged for a reorganization of America's armed forces in light of the new political and economic realities that emerged. Instead, the services retained a reduced version of their Cold War force structure based on enhanced versions of the same weapons systems they had developed during the Cold War. The technology associated with these weapons systems and the force structure designed to employ them drove the military's strategic

¹³⁸ Steven Metz, *American Strategy Issues and Alternatives for the Quadrennial Defense Review*, 99; Larson, Orletsky, and Leuschner, *Defense Planning in a Decade of Change*, xiii-xxx.

recommendations, i.e., a capability to fight two MTCs. Table 6-3, Changes in Military Force Structure, below shows the aggregate reductions in force structure over a period covering ten years and three major defense reviews.

Table 6-3. Force Structure Reductions 1990 -2001

	FY1990	1997 Base Force	1999 BUR Force	2003 QDR Force	FY 2001	1990-00 Percent Force Reduction
Air Force:						
TFW	24	15.3	13	12	12	-50
Bombers	228	181	184	187	181	-21
ICBMs	1000	550	550	550	550	-45
Navy:						
Carriers	15	12	11	11	12	-20
Ships	546	448	346	306	316	-42
Marines						
Divisions	3	3	3	3	3	None
Army						
Divisions	18	12	10	10	10	-45
End Strength (in thousands)						
	2070	1626	1418	1360	1382	-33

Sources: Rand. Defense Planning in a Decade of Change: Lessons from the Base Force, Bottom-Up Review, and Quadrennial Defense Review, 123, 2001; Cohen, William. Annual Report to the President and the Congress, 39-68, 2000.

Finally, despite the clamoring for deeper defense cuts, the military was able to sustain a relatively high level of investment in RDT&E and modernization (procurement) during a period that saw an overall decline in defense spending. Although, the military lost some programs to the budget knife, for the most part Congress sustained the military's key weapon system priorities. More importantly, the military retained the

autonomy to determine what future technologies to develop and procure.¹³⁹ As such, the military not only influenced current national security strategy but also future policy due to the extended development and fielding time associated with new weapons systems and the weapon system's service life once fielded . The military's technologically-driven strategic policy and force structure preferences, along with its continued autonomy over weapons system RDT&E and procurement ensured the military's continued role in policy development even after the Cold War ended.

Winning the Budget Battle

Defense spending must be judged in a broad politico-military context and is not always indicative of the military's influence in government. High defense budgets can reflect the political leadership's reaction to a perceived external threat or, in a downward spinning economy, they can be seen as a form of social welfare through the jobs created in the defense industry. Additionally, in a large expanding national economy defense spending may appear high, dwarfing that of other nations, yet when considered as a percent of Gross National Product can be less than what those other states are spending. In the absence of a significant threat to its interests and with pressing domestic social issues to deal with, relatively high spending on defense can indicate, in part at least, the strength and acceptance of the military's preferences. For example, in fiscal year 2003

¹³⁹ Long and Reppy, *The Genesis of New Weapons*, 15; Jordan, Taylor, and Mazarr, *American National Security*, 176, 327.

the U.S. will spend more than six-fold (\$399 billion) the amount of the next highest defense budget (Russia, with \$65 billion).¹⁴⁰

This section argues that even with a general reduction in defense spending, the U.S. military has retained relatively high defense budgets during the first decade of the post-Cold War era, which is one indicator of the acceptance of its policy recommendations/preferences and thus of its professional expertise. It also argues that the military's autonomy in determining how to allocate its funds allows it to sustain its policy preferences through the capabilities (and limitations) inherent in its weapons systems and force structure; and that by deciding what weapons systems to develop and procure, the military acquires a role in shaping (or limiting) future policy options as well.

The military's strategic recommendations, force structuring, and weapon acquisition proposals, once accepted by the nation's leadership, require funding to be realized. The old adage of "put your money where your mouth is" is very applicable to the appropriations process. Without money, the military's plans come to naught. The federal budget has essentially two components -- the mandatory and the discretionary.¹⁴¹ The mandatory portion of the budget covers those programs mandated by law such as Social Security, Medicare, etc., and accounts for approximately two-thirds of all government spending. The discretionary budget sustains all other government programs. Since the size of the discretionary budget is limited, funds allocated to defense come at the expense of other programs. Thus, the proportion of the discretionary budget that the

¹⁴⁰ Christopher Hellman, *Last of the Big Time Spenders: U.S. Military Budget Still the World's Largest and Growing* (Washington, DC: Center for Defense Information, 2003), 1, available at <http://www.cdi.org/budget/2004/world-military-spending.cfm>.

¹⁴¹ U.S. President, *Historical Tables, Budget of the United States Government-Fiscal Year 2001* (Washington, DC: The White House, 2000), 1-5.

military commands indicates not only the acceptance of its preferences, but also the priority of those preferences vis-à-vis other government programs.

Admittedly, the size of the discretionary budget allocated to defense could indicate the civilian leaderships' preference for a strong national defense capability; however, in American history a strong defense capability has normally been associated with an external threat. America's external threat disappeared in 1991; moreover, with the demise of the Soviet Union President Clinton's political agenda clearly favored domestic social issues over defense.¹⁴² Yet, as the various defense reviews indicate, the military was the driving force in developing the nation's national security strategy, establishing the force structure and acquiring the weapons systems that were the end products of the three reviews conducted during the 1990s. Along with having its preferences accepted during these reviews, the military was able to leverage the political leadership to sustain a relatively high appropriations level. That the military was able to sustain its share of the discretionary budget in light of the demands for even deeper defense cuts is a testament to the strength of the military in obtaining its preferences. Table 6-4 compares by percentage the relative influence of the defense budget on government spending and the economy from 1990 to 1999.

¹⁴² Ibid., see tables, especially for agencies other than defense.

Table 6-4. Comparison of Defense Spending to Government Spending and U.S. GDP

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Defense as % Of Discretionary Budget	59.2	58.6	53.8	50.1	48.6	50.3	50.5	49.5	48.6	47.1
Defense as % of Govt. Outlays	24.0	24.1	21.9	20.7	19.3	18.0	17.0	17.0	16.4	16.2
Defense as % of GDP	5.2	4.6	4.8	4.4	4.1	3.7	3.5	3.3	3.1	3.0

Source: Budget of the United States Government: Historical Tables, fiscal year 2001.

Analysis of table 6-4 reveals several insights into the defense budget. First, defense was clearly the bill-payer during the Clinton presidency, as he balanced the budget and created a budget surplus. From 1990 to 1999 DOD's share of the discretionary budget fell by 26 percent. But even with this decrease, the military still commanded the largest proportion of discretionary spending. For example, in 1999 over 28 departments and agencies competed for a share of the discretionary budget, with defense receiving 47.1 percent and the next highest, Human and Health Services, receiving only 7.1 percent.¹⁴³ Even after reductions, military spending accounted for 16.2 percent of all government programs both mandatory and discretionary. Between 1990 and 1999 government revenues nearly doubled, rising from \$1.03 trillion to \$1.83 trillion. Government outlays rose by nearly 50 percent from \$1.25 trillion to \$1.70 trillion (26.5 percent in discretionary outlays). Thus, while the military's share of the pot was smaller, the size of the pot was a lot bigger. Additionally, the need to cut defense spending even further was somewhat mitigated by the booming U.S. economy in the 1990s. The military's lower percentage in 1999 did not represent a decline in military spending as

¹⁴³ Ibid., 108.

much as it represented the expansion and strength of the American economy during the 1990s.

Even though the military had to reduce personnel and equipment, it still garnered the overwhelming share of the discretionary budget and was able to sustain its strategy, force structure, and weapons procurement preferences.¹⁴⁴ Given that the cost of mandatory programs rose consistently during the 1990s, had the nation's leadership not accepted the military's strategy and force structure recommendations, defense cuts might have been much deeper.¹⁴⁵ The national security strategies promulgated during the first decade after the Cold War reflect the military's strategic preferences and its penchant for technology, while the size of the defense budget indicates the political leadership's acceptance of those preferences and their willingness to underwrite them.

In addition to having the lion's share of the discretionary budget in the first decade after the Cold War, the military enjoyed a great deal of autonomy in the execution of their budget. This budget autonomy allowed the military to size the force in accordance with its near-term policy preferences, and to develop and procure future weapons systems that when fielded would impinge on foreign policy. Although the overall size of the armed forces shrank, the decrease in defense spending occurred at a much lower rate. Operating with a high degree of autonomy in the budget process, the military made a conscious decision to sacrifice force structure (i.e., the number of like units, not their internal organization), in order to maintain modernization and research

¹⁴⁴ Larson, Orletsky, and Leuschner, *Defense Planning in a Decade of Change*, 130-31.

¹⁴⁵ President, *Historical Tables, Budget of the United States Government-Fiscal Year 2001*, 74; Fred Thompson, "Reinventing the Pentagon: The Political Economy of Post-Cold War," *Public Administration Review* 53, no. 6 (1993).

and development. In offering up units for deactivation in the face of declining defense budgets, the military was able to maintain, for the most part, its readiness and its war-fighting capabilities.

From 1990-1999, the defense budget fell by 26 percent. However, over the same period personnel end strength fell 33 percent and force structure fell an average of 44 percent (see table 6-3 above). With appropriations decreasing at a slower rate than end strength and force structure, there was more money available to spend on the people and equipment that remained. Consequently, the military was able to sustain relatively high levels of spending on people (average 26.5 percent), RDT&E (on average 13 percent), and procurement (average 17 percent).¹⁴⁶ The defense budget's relatively slower rate of decline allowed the military to maintain fewer people and less equipment than it had during the Cold War, but it retained higher quality people and more sophisticated weapons. More important, the defense budgets slower decline and the autonomy the military enjoyed in executing it allowed the military to retain essentially the same internal coherence in its remaining force structure that it had during the Cold War. Table 6-5 below reflects how the military allocated its budget during the first decade of the post-Cold War era.

¹⁴⁶ President, *Historical Tables, Budget of the United States Government-Fiscal Year 2001*, various tables, passim.

Table 6-5. Partial Defense Budget Allocations by Program 1990-1999

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
% Defense Budget to RDTE	12.0	12.5	12.4	13.4	13.1	12.9	13.1	13.4	13.6	13.0
% Defense Budget to Procurement	26.8	24.8	21.3	18.8	16.8	16.3	15.9	15.8	16.5	17.4
% Defense Budget to Personnel	26.0	29.1	27.5	27.0	27.1	26.8	26.2	26.0	25.7	17.4
% Defense Budget to Operations and Maintenance	29.1	40.5	31.8	31.7	33.6	35.2	35.2	34.1	35.8	35.9

Source: Budget of the United States Government: Historical Tables 2001, various tables pages 76-78; Secretary of Defense, Annual Report to the President and the Congress various tables.

Table 6-5 shows by percentage how the military internally allocated its budget. As the military entered the post-Cold War era, it continued to field the weapons systems that had been researched and developed in the 1970s and had been fielded in the mid to late 1980s as part of the Reagan arms buildup. Although the military's budget was reduced, its autonomy in allocating funds was not constrained, nor for that matter seriously challenged. Ideally, the military would have liked to continue modernization at a rapid rate throughout the 1990s; however, the decrease in defense spending, the increased number of deployments, and the increased cost of maintaining aging equipment forced the military to transfer money from procurement to the operations and maintenance account (which pays for day-to-day business in times of both peace and war). In taking funds away from procurement, the military did not relinquish its weapon system preferences; rather, it extended their procurement time into the out years so that their cost could be spread out over a greater number of years. Moreover, the military was able to sustain a robust R&D program that ensured it would maintain a technological

advantage in the weapons systems it was developing, even if some of the systems never moved out of the prototype stage of development. By maintaining autonomy in the budgeting process, the military was able to determine what weapons systems to develop and procure, and what force structure to build around them; hence, it could channel foreign policy options. However, the military would not have been as successful in acquiring the technologically advanced weapons systems it wanted without support from external constituencies.

That the military has been able to sustain its weapons system and strategy preferences in the face of political opposition calling for deeper defense cuts is due in part to its allies in the political process, namely, Congress and defense firms. From 1996 to 2001 Congress added funding to the defense budget. In the face of Clinton's deep defense budget cuts in 1996 and 1997, Congress added \$7 billion and \$10 billion to the defense budget, respectively.¹⁴⁷ Congressional add-ons diminished between 1998 and 2000 in response to an increase in defense spending of approximately \$1.5 billion, but rose again for fiscal year 2001 to over \$3.6 billion.¹⁴⁸ Most of the add-ons were for high-technology weapons systems and munitions that the military wanted but could not afford to buy in the numbers it desired. For example, every year Congress budgets in excess of \$100 million for the F-16 fighter program; yet, the U.S. Air Force does not intend to buy

¹⁴⁷ Steven M Kosiak, *Analysis of the Fiscal Year 1998 Defense Budget Request* (Washington, DC: Center for Strategic and Budgetary Assessments, 1997), 1.

¹⁴⁸ Martin Calhoun, *Unrequested Funding Added by Congress to the Fiscal 1996 Military Budget* (Washington, DC: Center for Defense Information, 1996); available from <http://www.cdi.org/issues/add-ons.html>; Christopher Hellman, *Fiscal Year 1999 Add-Ons: Congress' Unrequested Spending for The Pentagon* (Washington, DC: Center for Defense Information, 1998); available from <http://www.cdi.org/issues/add-ons99.html>; Christopher Hellman, *Fiscal Year 2001 Add-Ons: Congress' Unrequested Spending for the Pentagon* (Washington, DC: Center for Defense Information, 2000); available from <http://www.cdi.org/issues/budget/add-ons01.html>.

another new F-16. Instead, it intends to acquire the F-22 advanced fighter and the Joint Strike Fighter (JSF).

Admittedly the F-16 add-ons support DOD and the State Department efforts to sell the F-16 abroad as part of the FMF program managed by State; but this continued funding supports pork-barrel politics too. Les Aspin once wrote: “Because of the nature of the information a Congressman gets, the Armed Services Committee is typically less concerned about the question of how much we are buying in defense than the question where we are buying it.”¹⁴⁹ Congress’s pro-defense spending is not surprising. DOD is the largest spending agency in the federal government. In 1996, DOD paid over \$72 billion dollars in salaries and wages to its employees in the various states and outlying areas. The total outlay of all other government agencies combined was \$96 billion. Additionally, DOD’s contract awards to the states and outlying areas accounted for over 60 percent of all government contracts or \$128 billion of \$200 billion in total contract awards.¹⁵⁰ Defense spending is a major factor in the U.S. economy and to ignore it is to court political ruin.¹⁵¹ Whether Congressmen are motivated to vote for weapons system add-ons due to their core beliefs, their concern for national security, or their desire to benefit their constituents is immaterial to the discussion here. What does matter is that since the beginning of the Cold War and the decision to offset Soviet quantity with American quality, the military has found in Congress a valued ally on specific defense

¹⁴⁹ Lindsay, “Congress and the Defense Budget: Parochialism or Policy?” 176.

¹⁵⁰ Gerard T. Keffer, et al., *Federal Expenditures by State for Fiscal Year 1996* (Washington, DC: Department of Commerce, 1996), 15, 24.

¹⁵¹ Mayer, *Elections, Business Cycles, and the Timing of Defense Contract Awards in the United States*, 212.

issues in the policy process, especially the procurement of high-technology weapons systems.¹⁵²

Business is another important ally of the military in the political process, albeit indirectly. In 2000, the top 15 defense industries accounted for over \$52.3 billion worth of contracts.¹⁵³ Further, some industries such as the aircraft industry are dependent on military contracts. Military technology and hardware have commercial spin-off potential, which makes government contracts all the more lucrative given that the government money the aircraft industry receives underwrites commercial R&D as well as military. Defense contractors maintain close liaison with Pentagon procurement and acquisition officials, and it is not unusual for senior officers and technical specialist in the DOD to go to work for a major defense contractor upon retirement.¹⁵⁴

Defense contractors often lobby Congressmen about their impending votes on defense RDT&E and procurement proposals. While lobbyists work the floor of Congress, businesses make political action committee (PAC) contributions to those members of Congress who by their voting record have already indicated a strong proclivity for defense spending. Often, both the military and business leaders attempt to obtain Congressional support for specific issues they are both interested in. For example, both the Air Force and Rockwell International teamed up to get the B-1 bomber into

¹⁵² Lindsay, "Congress and the Defense Budget: Parochialism or Policy?", 188-92.

¹⁵³ Christopher Hellman, *Top 15 U.S. Defense Contractors of FY 99* [Internet] (Department of Defense, March 9, 2000 [cited 4 September 2003]).

¹⁵⁴ This theme is pervasive in all the major works written on civil-military relations under the rubric of the "military industrial complex." However, empirical evidence does not support a conspiracy theory between business and the military. Instead, businesses often offer senior military leaders positions because of who they still know on active duty, and the segues they are capability of facilitating. In that sense, many of the retired officers become lobbyists for the defense industry.

production. One way they sought to influence Congress was by spreading the development of the aircraft by means of subcontracting to businesses in 33 states.¹⁵⁵ Development of the Army's Apache Helicopter by McDonnell Douglas Helicopter Company followed a similar pattern, with subcontracts going to 44 states.¹⁵⁶ Although there are stringent procedures that prohibit Congressional influence in the awarding of prime contracts, subcontracting is much less regulated and thus more open to Congressional manipulation.¹⁵⁷ Major defense contractors utilize subcontracting as a way to court support from those Congressmen who otherwise might not be ideologically inclined to support a specific weapons system. Additionally, subcontracting has a distributive effect, making everyone appear to be a winner as opposed to a more exclusive approach (redistributed) where there are winners and losers in the political process.

Although the military-industrial-congressional complex is not a permanent structure in the defense planning process, the participants in it do form loose policy subgroups within specific interest areas. Moreover, the members of the policy subgroup are not fixed; rather they change as the issue changes. Thus, the specific businesses, congressmen, and service that would be interested in the procurement of nuclear aircraft carriers are different from those interested in the procurement of armored combat vehicles. Yet, they all operate within the confines of the same policy subgroup. The cost associated with maintaining advanced weapons systems and the distributive economic

¹⁵⁵ Mayer, "Elections, Business Cycles, and the Timing of Defense Contract Awards in the United States," 221-23.

¹⁵⁶ *Ibid.*, 225.

¹⁵⁷ *Ibid.*, 219.

benefits these systems bring to business and the communities that produce them helps the military form issue specific political alliances with both Congress and business. Further, it is these alliances that assist the military in having its policy preferences reflected in national policy decisions; the national security strategy, the federal budget, and the Department of State's foreign policy operations.

The end of the Cold War, emerging technology, the absence of a viable threat to the nation, and the changing world situation should have caused America to fundamentally reassess its interests, its role in the world, and the resources needed to protect its interests. Had this reassessment occurred in a formalized, systematic manner, the military might not only have reduced its strength and force structure, but also transformed itself and the way it fought. Instead, the military chose to retain a scaled-down Cold War force structure. That the military retained the autonomy to decide whether, when, and how it would transform in the post-Cold War decade is indicative of its influence on policy.

As Table 6-5 indicates, the military made a conscious decision to retain its Cold War organizational structure, modernize, and maintain the R&D base. Although the number of personnel and units in the force structure fell, the units and organizations that constituted the force structure maintained their internal coherence. They were still organized, equipped, and trained to defeat a Soviet-style threat. To offset the decreased procurement of new weapons systems, the military retained its older systems and upgraded its capabilities with high-tech munitions. In the absence of a sophisticated threat to counter them, older U.S. weapons platforms such as the B-52 bomber when equipped with the high-technology munitions could be as effective as the new B-2

bomber. Moreover, many of the weapons systems that the military had on hand during the 1990s were fairly modern, having been recently fielded as part of the Reagan defense buildup. Consequently, the military was able retain its preferred Cold War force structure, weapons systems, and the policy formulations (two MRCs, overseas stationing, etc.). Table 6-6 shows the costs of selected conventional weapons systems and munitions the military obligated funds toward in the 1990s and before.

The fighters, bombers, aircraft carriers, and helicopters shown in the table below are updated versions of their Cold War predecessors. They represent a Cold War era strategic approach. They also represent the military's technological preferences. Given the weapons systems inherent limitations and capabilities, they helped shape the strategic recommendations the military offered to the nation's civilian leadership during the Base Force, Bottom-up Review, and Quadrennial Defense Review. As table 6-6 below shows, the military ended the first post-Cold War decade with a smaller but updated version of its Cold War force structure. With little or no long-term strategic guidance, the largest share of the discretionary budget, and virtual autonomy in its budget execution, the military acquired the weapons systems and force structure it wanted, but not necessarily what the nation needed.

The size of the discretionary budget that the military commanded coupled with its budget autonomy are important independent variables indicating the influence of the military on foreign and national security policy. First, the size of the discretionary budget allocated to the military indicates acceptance of the military's policy preferences by providing empirical evidence of the political leadership's willingness to fund them.

Table 6-6. Selected Weapons systems and Munitions Costs in Millions of Dollars

System/Munitions	Funding to Date	Funding Period	Quantity requested, FY 2001	Per Unit Cost FY 2001	Total Program Cost, FY 2001
F/A-18E/F Fighter	18,800	FY91-01	42	89.0	48,791.1
F-22 Fighter	25,800	FY 82-01	10	204.5	69,721.4
Joint Strike Fighter	4,300	FY'91-'01	-----	79.0	226,458.3
B-2 Bomber	44,000	FY79-01	-----	2,114.0	67,000.0
C-17 Transport	34,600	FY84-01	12	337.8	58,998.3
V-22 Osprey Aircraft	12,000	FY83-01	16	101.0	46,240.8
RAH-66 Comanche Helicopter	5,200	FY84-01	-----	39.5	47,905.6
Aircraft Carrier Replacement Program (CVNX)	21,580	FY76-01	1	4,362.0	77,000.0
Tactical Tomahawk Cruise Missile	10,322	FY78-01	-----	1.3	10,413.4
Joint Direct Attack Munitions (JDAM)	1,234	FY93-01	9,770	0.03	3,865.4
Joint Stand-off Weapon (JSOW)	1,528	FY93-01	810	0.37	7,07.2
Joint Air to Surface Stand-off Missile (JASSM)	744.0	FY96-01	-----	0.84	3,163.2

Sources: DOD *Procurement Programs*, and *Program Acquisition Costs by Weapons System* Fiscal Years 1976-2001, February, 2003; and Congressional Research Service compilation of various DOD and Congressional Budget Office data on select weapons systems, September, 2002.

Second, the military's autonomy in budget execution allows it to determine how it is equipped and organized; and thus, determine its own capabilities, which may or may not serve policy needs. Moreover, budget autonomy allows the military to decide on what future weapons and force structure to acquire, and hence determine its future capabilities irrespective of what future policy might require. The military's allies in the policy process helped mitigate the effects of budget reductions during the post-Cold War era through Congressional budget add-ons and by lobbying decision-makers for the weapons systems the military wanted.

Summary

This chapter began by examining the phenomenon of policy lag. Policy lag is the term herein used to describe the asynchrony between two systems: the political system, with its diffused actors, political compromises, and near-term focus, and the weapon acquisition system, with its narrower field of actors, circumscribed decision-making and long-term planning cycle. This asynchrony results in weapon-systems and force-structure decisions being made far in advance of political decisions, resulting in future administrations inheriting weapons systems and organizations that, given their inherent limitations and capabilities, may not suit policy needs at the time. An extreme example of the mismatch between weapon system acquisition and foreign policy was the development of the B-1B bomber. The military decided to develop the B-1 in 1960 and, despite criticism and one presidential attempt to cancel the B-1B, began fielding the aircraft in 1986 only to have it become obsolete three years later. Today, the B-1B is a conventional bomber, a role it can fulfill but was not designed for. Moreover, many other

aircraft can perform that role as well and for a fraction of the B-1B's \$242 billion cost. Due to its anticipated service life of over 40 years, the B-1B is destined to be in the inventory for another 25 years searching for a mission to justify its exorbitant costs while at the same time circumscribing future military options in support of foreign policy.

In addition to the long-term influence of the military on policy as a result of policy lag and its resultant legacy force structures, the military uses the benefits it derives from weapons technology to influence policy in the near term as well. Military expertise manifests itself in the strategic recommendations it makes and that civilian leadership accepts. During the first decade of the post-Cold War era, the nation conducted three strategic reviews: the Base Force, the Bottom-up Review, and the Quadrennial Defense Review. The military heavily influenced all of them. The concepts the military advocated were incorporated into national policy documents such as the *National Security Strategy of the United States* and the federal budget. Additionally, the military's policy preferences appeared in the State Department's plans as missions to acquire/retain basing rights overseas and as part of its military assistance program (monetarily, the largest portion of their budget). Likewise, the size of the defense budget portion funding the forces, equipment, and deployments that implement the military's strategic recommendations is indicative of the civilian leadership's acquiescence in the military's expertise and recommendations.

The size of the military's budget and its relatively free hand in managing it are indicative of the military's autonomy. As has been mentioned in previous chapters, the military's weapon system development decisions were seldom questioned, nor were they examined by the civilian leadership in light of long-term policy goals. While Congress

and the president cut defense funding, the military retained the autonomy and latitude to decide how to administer those reductions. Autonomy in the management of its budget allowed the military to determine what and how many weapons systems to develop and what force structure to maintain in the present and acquire in the future. During the 1990s, the military made a conscious decision to sacrifice personnel and equipment in order to maintain a robust research and development program and to continue modernization. However, by clinging to its Cold War weapons and force structure preferences, the military missed an opportunity to transform the way it was structured and equipped, and the way it fought, despite the clear evidence arguing for defense reform.

Autonomy in the budget process was one reason the military could resist change and maintain its preferences. The other two reasons were the relative newness of the equipment the military began the post-Cold War era with, and the allies the military enjoyed in the political process with both acting to soften the blow of defense cuts. The Reagan era saw the largest defense spending boom during peacetime in American history. Although much of the equipment purchased during the Reagan presidency had been in research and development for over a decade, full fielding did not begin until the mid-to-late 1980s. As a result, the military entered the post-Cold War era with mostly modern equipment, and it could afford to cut back on procurement of new systems in order to shift funds to sustain R&D and the operations and maintenance account to offset the cost of the increased troop deployments made during the Clinton presidency. Additionally, from 1997 on Congress felt that defense had been under-funded and added billions of dollars to the defense budget targeted for use in the development and procurement of the military's high-tech weapon preferences. These "add-ons" eased the

burden of the defense cuts, and ensured that specific weapons programs remained alive. While it is difficult to tie these Congressional increases to a specific member of Congress and his/her district or state, previous studies have established the correlation between votes for increase defense spending and expected benefit distribution in various districts.¹⁵⁸ Moreover, the Department of Defense spends more in each state (outside of mandatory programs) than any other single governmental department or agency. Several Congressional districts and states are heavily dependent on defense spending for employment and economic growth.¹⁵⁹ Nor does this include the second or third order economic benefits of government spending in the various districts or states, such as the restaurants and other service sectors that arise to support a defense enterprise. Allies in Congress and business have a parochial interest in seeing the military's weapons systems preferences met.

The enhanced prospects for battlefield success was another benefit the military derived from technology and one of the reasons the military embraces technology. Although Chapter 6 did not address this benefit directly, it is woven into the fabric of the next chapter. Chapter 7 examines the military's use of force in three conflict scenarios during the post-Cold War era. It raises several questions in the course of examining these conflicts, namely, what were the U.S. interests; what was its strategic approach as stated in the national security strategy; what means did it have available, especially what

¹⁵⁸ Ibid.

¹⁵⁹ Lori L. Taylor, "Estimating Regional Sensitivities to Defense Purchases," in *Defense Spending and Economic Growth*, eds. James E. Payne and Anandi P. Sahu (Boulder, San Francisco, and Oxford: Westview Press, Inc, 1993), 210-15. In her analysis, Taylor shows that states such as Washington, California, Connecticut, Kansas, Arizona, New Mexico, and Louisiana are very sensitive to defense spending.

military technologies; what impact did technology have on the conflict; were the political outcomes of the conflict the ones the U.S. expect to achieve going in; and was the military force, with its weapons and force structure, appropriate for the tasks it was given? Finally, Chapter 7 will assess what were the lessons learned and how were they applied to weapon system development, strategy, and policy?

CHAPTER 7
**THE GULF WAR, SOMALIA, AND KOSOVO: WEAPONS SYSTEMS
AND POLICY DECISIONS**

Strategy formulation, or the matching of ends, ways, and means, is always a difficult proposition. Ideally, political ends should determine the ways and the means used to obtain them. This construct operates best when the means are interchangeable. However, not all means have the same degree of fungibility. Military weapons systems and the force structure that develops around them have inherent limitations and capabilities. For example, military force may be capable of compelling a nation to adhere to economic sanctions, but it is not an adequate substitute for sanctions.¹ Moreover, the long development time and high cost associated with major weapons systems militate against simply discarding them in favor of the latest technological breakthrough. Different weapons systems and force structures come with different capabilities and limitations, and hence different implications for foreign policy and national security.

This chapter examines three signal instances of America's use of force in the post-Cold War era – the Gulf War, Somalia, and Kosovo -- and the impact that weapons system technology had on those conflicts. The chapter assesses whether the existing U.S. weapons systems and force structure were able to further or obtain the political

¹ Robert J. Art, "The Fungibility of Force," in *The Use of Force: Military Power and International Politics*, ed. Robert J. Art and Kenneth N. Waltz (Oxford, England: Rowman & Littlefield Publishers, Inc., 1999), 6-9.

objectives/goals that the U.S. set. Each case study seeks to answer the following questions: what were the U.S. interests, objectives, and strategies as they pertained to the conflict; what were the weapon system technologies the military used and how did they affect the military outcomes; did military technology enable or hinder political leaders in the pursuit of their objectives; what were the lessons learned and how were they applied to weapon system development, strategy, and policy?

The Gulf War

Arguably, the Gulf War was an instance where the nation's military was ideally equipped and organized to accomplish its foreign policy objectives in the Middle East. The Gulf War began just as the Cold War was ending. The Soviet Union was in economic and political turmoil with its vast dominion unraveling and its ability to counter U.S. military initiatives limited. Rather than oppose the U.S., the Soviet Union was more inclined to cooperate with America's military efforts in order to secure economic aid. Consequently, when Iraq invaded Kuwait there was little the Soviets could do to prevent a U.S. buildup in the region. Soviet conventional forces were in a state of decline and disarray while the U.S. military was at the height of its Cold War technological and operational prowess.

Having benefited from President Reagan's increased defense spending during the 1980s and renewed public support for the military, by 1990 the U.S. military was characterized by modern high-tech weapons systems and equipment; highly educated and trained service members (almost all were high school graduates); and operational methods and techniques that promoted its technological advantage. It was a force that

operationalized what Secretary of Defense Harold Brown had coined in the mid 1970s as the “Offset Strategy.”² Under Brown’s strategy, the West (NATO) had to gain technological superiority over the Soviets not just in weapons systems, but also in command, control, and communications, intelligence, and logistical systems as well. Brown felt that the synergy derived from developing superior operating techniques to employ all these systems in a coordinated and synchronized fashion would allow the U.S. and the West to overmatch Soviet quantity.³ America counted on the combined synergistic effect of its technological superiority across the full spectrum of operations and its superior operational techniques to deter and, if necessary, defeat the Soviet Union.⁴

It is uncertain whether Saddam Hussein was aware of the U.S. capabilities or whether he thought the U.S. would not use them when he invaded Kuwait. It appears that several factors prompted Hussein to take this risk. First, ten years of war against a Shiite, militant, and fundamentalist Islamic Iran had made Saddam Hussein’s Iraq and the U.S. strange bedfellows in the quest for regional stability.⁵ Moreover, Hussein perceived himself as the protector of the secular Arab world in the struggle against fundamentalist Islam. He felt that Iraq had carried the burden of the anti-fundamentalism struggle that

² William A. Owens, *Lifting the Fog of War* (New York: Farrar, Straus and Giroux, 2000), 81-82.

³ Frank C. Carlucci, “Annual Report to the Congress,” (Washington, DC: Office of the Secretary of Defense, 1989), 11-31.

⁴ Aaron L. Friedberg, *In the Shadow of the Garrison State: America’s Anti-Statism and Its Cold War Grand Strategy* (Princeton, NJ: Princeton University Press, 2000), 303.

⁵ Michael R. Gordon and General Bernard E. Trainor, *The General’s War: The inside Story of the Conflict in the Gulf* (Boston, New York, Toronto and London: Little, Brown and Company, 1995), 8-9; Ronald Reagan, *National Security Strategy of the United States* (Washington, DC: The White House, 1988), 29.

other Gulf States had benefited from, but had refused to support with material resources. Additionally, ten years of war had left Iraq with a battle-tested and hardened military that was the fourth largest in the world. Second, Kuwait had once been a province of Iraq. In 1871, Kuwait had been part of the Basra province. The British had acquired Kuwait as a protectorate in 1899. When they departed Kuwait in 1961, they granted the country independence.⁶ Third, the Kuwaitis had been taking more oil out of the Rumailia fields that they share with Iraq than Hussein felt proper.⁷ In Saddam's view not only had the Kuwaitis failed to support Iraq during the struggle against Iran and militant Islam, but they were stealing natural resources from Iraq.

Last and perhaps most importantly, Hussein perceived that America was indifferent to Kuwait's fate. Bungled diplomacy on the part of both the U.S. and Iraq nurtured this perception. On July 25, 1990, Saddam Hussein had given the U.S. and its ambassador to Iraq, April Glaspie, strong indications that he was considering military action against Kuwait for what Hussein perceived as Kuwait's economic warfare against Iraq, i.e., driving down the price of oil through over production.⁸ Glaspie's response to Hussein in her meeting with Hussein intimated American indifference to Iraqi intentions. Although Glaspie has since been roundly criticized for her diplomatic failure, the blame is not all hers. Her guidance from the White House and State Department was equally

⁶ Alberto Bin, Richard Hill and Archer Jones, *Desert Storm: A Forgotten War* (West Port, CT and London: Praeger Publishing, 1998), 12-13, Gordon and Trainor, *The General's War*, 7.

⁷ Rick Atkinson, *Crusade: The Untold Story of the Persian Gulf War* (Boston and New York: Houghton Mifflin Company, 1993), 28. In fact, the Kuwaitis had been slant drilling oil out of the Iraqi portion of the oil field.

⁸ Gordon, *The General's War*, 21.

vague.⁹ Paul Wolfowitz at the Department of Defense was concerned about Glaspie's talks with the Iraqi leader and recommended that a stern warning be sent to Hussein advising him of the severe consequences if Iraq invaded Kuwait. Instead, the State Department drafted an ambiguous message for the President that Secretary of Defense Dick Cheney and others felt did not make the U.S. position clear to Hussein.¹⁰ In the end, the Department of Defense's misgivings were well founded. On August 2, at 1:00 A.M. Iraq invaded Kuwait.

The Iraqi armed forces that rolled into Kuwait on August 2, 1990, were largely equipped with advanced Soviet weapons systems. Their tactics and operational procedures, although culturally and situationally adapted, were also Soviet-based. As such, the Iraqis presented a regimented, centrally controlled, easily templated Soviet-style threat; but without the operational skill that the U.S. imputed to the Soviet Union. The Iraqis were exactly the type of opponent that the U.S. military had equipped and trained itself to defeat over the course of the Cold War.¹¹ As events would show, Iraq had the misfortune of challenging the most powerful military machine in the world at the height of its tactical and operational acumen.¹² It would be a mistake that brought Iraqi from the status of regional hegemon to one of military insignificance in the space of 43 days, and ultimately led to 13 years of hardship for the Iraqi people and a second Gulf War that

⁹ Atkinson, *Crusade: The Untold Story of the Persian Gulf War*, 52.

¹⁰ *Ibid.*, 52-54; Gordon and Trainor, *The General's War*, 23-24.

¹¹ Les Aspin and William Dickinson, *Defense for a New Era: Lessons of the Persian Gulf War* (Washington, New York and London: Brassey's (US), Inc., A Division of Maxwell Macmillan, Inc., 1992), 3.

¹² Robert H. Scales Jr., *Certain Victory: The U.S. Army in the Gulf War* (Washington and London: Brassey's (US), Inc., 1994), 1-39.

resulted in the toppling of the Hussein regime at the hands of an even more technologically advanced U.S. military.¹³ The following subsections examine how the military's weapons systems and force structure, most of it developed and inherited from the Cold War, supported U.S. policy options.

U.S. Interests, Objectives, and Strategy

In March 1990, the Bush Administration published its *National Security Strategy of the United States*. This document represented the first truly post-Cold War strategy, shifting America's strategic approach away from global confrontation with the Soviet Union to a regional approach emphasizing the importance of regional stability in promoting U.S. interests. In regard to the Middle East, the strategy identified three national interests:

- The security of Israel and the moderate Arab States.
- The uninterrupted flow of oil from the region.
- Non-production and non-proliferation of weapons of mass destruction.¹⁴

Militarily, the strategy set forth deterrence, strong alliances, forward defense, and force projection as key elements of the strategy and emphasized the importance of superior military technology as a critical ingredient for the strategy's success.¹⁵ The Iraqi invasion of Kuwait threatened all the interests stated above. First, it expunged Kuwait as an independent state and threatened the security of both Saudi Arabia (a moderate Arab

¹³ Les Aspin, "The Aspin Papers: Sanctions, Diplomacy, and War in the Persian Gulf," (Washington, DC: The Center for Strategic and International Studies, 1991), xvii, "The World This Week," *The Economist*, January 4, 2003, 6-7.

¹⁴ George Bush, *National Security Strategy of the United States* (Washington, DC: The White House, 1990), 13.

¹⁵ *Ibid.*, 22-24.

State) and Israel (Iraqi's long-time nemesis), thus undermining the security of the entire region. Second, Iraq's invasion of Kuwait disrupted the flow of oil and threatened to send oil prices soaring. Moreover, should Iraq push its forces into Saudi Arabia sufficiently to subdue that country, Iraq would control over 50 percent of the region's oil reserves. Additionally, many of America's staunchest allies such as Japan and Europe relied on Middle East oil for their energy needs. Third, Iraq was known to have been actively pursuing the development of nuclear weapons and had used chemical agents against Iran periodically during the ten years of their conflict.¹⁶

After Iraq's invasion of Kuwait, the U.S. established a set of national policy objectives to roll back Hussein's aggression and stabilize the region:

- Immediate, complete, and unconditional withdrawal of all Iraqi forces from Kuwait.
- Restoration of Kuwait's legitimate government.
- Security and stability of Saudi Arabia and the Persian Gulf.
- Safety and protection of the lives of American citizens abroad.¹⁷

To achieve these objectives, the U.S. sought and obtained Iraq's condemnation by the United Nations Security Council and obtained imposition of economic and political sanctions against Iraq (Resolutions 661 and 665); and deployed U.S. forces into the region to defend Saudi Arabia. Additionally, other Middle East states such as Egypt and Syria along with America's European allies provided forces for the defense of Saudi Arabia. Although the nations providing forces formed a coalition command, the U.S

¹⁶ Aspin, "The Aspin Papers," 12-13.

¹⁷ Richard Cheney, *Final Report to Congress: Conduct of the Persian Gulf War* (Washington, DC: Office of the Secretary of Defense, 1992), 31.

dominated it. The coalition assumed a defensive posture initially under operation plan Desert Shield. Desert Shield's objectives were to:

- Develop a defensive capability in the Gulf region to deter Saddam Hussein from further attacks;
- Defend Saudi Arabia effectively if deterrence failed;
- Build a militarily effective coalition and integrate coalition forces into operational plans; and finally,
- Enforce the economic sanctions prescribed by UNSC Resolution 661 and 665.¹⁸

Early on, it appeared that Desert Shield's defensive measures and the United Nations' economic sanctions would have little effect on Hussein. In fact, the Iraqis heavily reinforced Kuwait and the Western approaches into Kuwait. Iraqi deployed 43 divisions into the Kuwaiti theater and established an elaborate network of ground, air, and sea defense systems in an effort to ward off coalition attacks.¹⁹ From the coalition perspective, Saddam Hussein was prepared to stay in Kuwait, even if it meant fighting it out with the United States. Moreover, the sanctions imposed by the United Nations were slow in taking effect. In the late fall of 1990, Representative Les Aspin began a Congressional inquiry into the viability of sanctions as an economic and diplomatic weapon to get Iraq out of Kuwait. His study concluded that at best it would be two years before sanctions would have any real impact. Even then, the sanctions would affect Iraq's military only at the margins. They would not result in a regime change in Baghdad, and they would leave Iraq's military intact and still capable of threatening the stability of the region. More important, Iraq would have had two years to consolidate its hold over Kuwait and its oil reserves. Also, the U.S. would have had difficulty keeping

¹⁸ Ibid., 33.

¹⁹ Ibid., 83.

the coalition together and preventing other nations from circumventing the sanctions.²⁰

Given this assessment, the Bush Administration began lobbying both the Congress and its coalition partners for a military option to eject Iraq from Kuwait. This option supported the following U.S. strategic objectives:

- Isolate Iraq diplomatically and economically.
- Liberate Kuwait and restore a regime favorable to U.S. interests.
- Destroy the offensive capability of the Iraq armed forces, but leave them viable enough to counter Syria and Iran. (Implied)
- Eliminate any weapons of mass destruction and their production facilities (Implied).
- Regime changes in Baghdad (kill Hussein during the war or spark revolt or both) (Implied).
- Restore a regional balance of power favorable to U.S. interests.²¹

Military staffs, as part of their contingency planning, had been developing an offensive option to root Hussein out of Kuwait. Officially, the military and DOD kept this planning closely guarded, but in November 1990 when President Bush ordered the VII Corps from Europe to join the XVIII Airborne Corps in Saudi Arabia it became clear that the United States intended to pursue an offensive option.²² The offensive plan did not change America's policy objectives. They remained the same as Desert Shield's; however, the military objectives changed. The new plan, Operation Desert Storm, called for offensive operations that would:

- Neutralize Iraqi national command authority.
- Eject Iraqi armed forces from Kuwait.

²⁰ Aspin, "The Aspin Papers," 32-33; Bob Woodward, *The Commanders* (New York and London: Simon & Schuster, Inc., 1991), 228.

²¹ Aspin, "The Aspin Papers," 54; Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 31,33,73; Colin L. Powell with Joseph E. Persico, *My American Journey* (New York: Random House, 1995), 466,70; Woodward, *The Commanders*, 282.

²² Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 77.

- Destroy the Republican Guard.
- As early as possible, destroy Iraq's ballistic missile, and NBC capability.
- Assist in the restoration of the legitimate government of Kuwait.²³

The U.S. intended to pursue the above objectives, first, by obtaining the backing of the United Nations and the moderate Arab States in the region plus the active support of its NATO allies. Simultaneously, the U.S. sought to prevent the Russians from turning the crisis into the last of the East-West Cold War confrontations.²⁴ While this diplomatic effort was underway, the U.S. deployed forces into the region and, along with other nations, formed a coalition capable of defending Saudi Arabia but also capable of conducting offensive operations into Iraq. As additional U.S. forces flowed into the Gulf, the U.S. and its allies developed an offensive plan to pursue an air, land, and maritime campaign to destroy the Iraqi military in southern Iraq and liberate Kuwait, while hopefully causing the demise of Saddam Hussein in the process. Although the Iraqis outnumbered coalition forces almost two to one on the ground, technologically and operationally--particularly in the air--the U.S. was vastly superior.²⁵

Weapons systems, Force Structure, and Military Outcomes

President Bush entered the Gulf War with a military that he had inherited from previous administrations. It was equipped with Cold War weapons systems. Most of these systems had entered research, development, and testing in the late 1960s and early 1970s, and had been fielded in the early to mid-1980s as part of President Reagan's arms

²³ Ibid., 73.

²⁴ Ibid., xviii-xx.

²⁵ Ibid., 82-86.

build up.²⁶ Most of the major weapon system the armed forces employed had never been tested in combat, and it was far from certain whether the highly sophisticated and technologically complex equipment that characterized the U.S. military would withstand the rigors of war in a distant, austere, and harsh operating environment against a battle-tested opponent.

Each service embraced specific weapons systems that formed the nucleus of its force structure. The nuclear powered aircraft carrier with its specialized aircraft constituted the Navy's chief power projection weapons system and the centerpiece of the Navy's force structure--the Carrier Battle Group.²⁷ A typical carrier air wing consisted of 44 fighters, 16 fighter-bombers, five electronic warfare aircraft, five anti-submarine aircraft, five air refueling aircraft, and eight helicopters. There were six out of 15 carriers deployed in direct support of the Gulf War.²⁸ The Air Force's chief striking power was built around its bomber and fighter wings, which were the primary components of the Air Force's force structure. When the Gulf war began, the Air Force had 16 bomber wings equipped with the venerable B-52 (187) and the B-1B (90) for a total of 277 bombers; it also had 44 fighter and fighter-bomber (attack aircraft) wings featuring a combination of

²⁶ Ibid., 661-809.

²⁷ GAO, *Navy Carrier Battle Groups: The Structure and Affordability of the Future Force* (Washington, DC: Government Accounting Office, 1993), 94, Wilbur D. Jones Jr., *Arming the Eagle: A History of U.S. Weapons Acquisition since 1776* (Fort Belvoir, VA: Defense Systems Management College Press, 1999), 441.

²⁸ John Birkler et.al., *The U.S. Aircraft Carrier Industrial Base: Force Structure, Cost, Schedule, and Technology Issues for CVN 77* (Santa Monica, CA: Rand, 1998), 18; Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 84,110.

over 2,700 aircraft.²⁹ All told, the Air Force used over 30 bombers and 899 fighter/fighter-bomber aircraft during the conflict.³⁰ The Army's combat power featured the AH-64 Apache attack helicopter, the M1A1 Abrams tank, and the M2A2 Bradley fighting vehicle. The Army deployed over 267 AH-64 attack helicopters (out of 645 in the Army's inventory), 1,953 M1A1 Abrams tanks, and 1,654 M2 Bradley fighting vehicles for Desert Storm.³¹ This force constituted of over half of the Army's heavy divisions, the chief organization in the Army's force structure, and more than 60 percent of its total combat power.³² All in all, the U.S. military fielded a formidable force, one that the Iraqis could match on the ground. Tank for tank, fighting vehicle for fighting vehicle, artillery piece for artillery piece, the number of the Iraqi Army's Soviet systems exceeded for the most part those of the U.S. forces. What made the difference was U.S. technological and operational superiority.

Iraq's air and naval forces could not match those of the United States. Although Iraq possessed over 700 combat aircraft and had the largest air force in the Middle East, it had slightly less than 240 fighters that compared favorably with anything in the U.S. inventory.³³ With the U.S. deploying over 1,500 Air Force, Navy, and Marine first-line

²⁹ Richard Cheney, *Annual Report to the President and the Congress* (Washington, DC: Office of the Secretary of Defense, 1991), 70,115-16; Air War College, *U.S. Air Force Wing Force Structure* [Internet] (April 18, 2002 [cited August 22, 2002]); available from http://www.au.af.mil/au/afhra/wwwroot/usaf_wingforce_Structure, Jones, *Arming the Eagle: A History of U.S. Weapons Acquisition since 1776*, 438.

³⁰ Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 106-07.

³¹ GAO, *Combat Air Power: Assessment of Joint Close Support Requirements and Capabilities Is Needed* (Washington, DC: Government Accounting Office, 1996), 82.

³² Cheney, *Annual Report to the President and the Congress*, 61-62; Jones, *Arming the Eagle*, 440.

³³ Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 11.

fighters, the Iraqis were both qualitatively and quantitatively at a severe disadvantage.³⁴ Unable to contest the U.S. directly in the air, the Iraqis relied on an elaborate air defense system consisting of radar control missiles and anti-aircraft guns, deployed in a Soviet style multi-layered system to protect their forces and war-making infrastructure.³⁵ However, this air defense system was virtually destroyed during the first three days of the war, thus allowing the U.S. to achieve and maintain air supremacy throughout the conflict.

Likewise, the U.S. Navy easily routed Iraq's naval forces once hostilities began. Iraq's naval forces consisted of mine laying, amphibious, and missile-launching vessels. None of them could withstand the firepower of a U.S. Navy destroyer, let alone the combined effects of naval gunfire, airpower, and special operations forces. While Iraqi sea mines, especially floating ones that drifted out into the Gulf, did some damage, the Iraqi navy ceased to exist as a viable fighting force within weeks of the opening of hostilities on January 16, 1991.³⁶ With its air and sea routes of supply dominated by U.S. and coalition forces, the Iraqi leadership found it almost impossible to resupply and move its units on the battlefield. The longer the air and naval campaign continued the more isolated and less capable the Iraqi forces became.

In addition to its superior weapons systems, U.S. military operations during the air, naval, and land campaigns were facilitated by superior and technologically advanced

³⁴ Ibid., 106-11.

³⁵ Ibid., 12; Gordon and Trainor, *The General's War*, 103-10.

³⁶ Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 11, 223.

command, control, communications, computer, intelligence reconnaissance and surveillance systems (C4IRS). The U.S. employed secure communications at all levels and through a number of advanced communications systems that included super high frequency satellite terminals, ultra high frequency satellite terminals; single-channel tactical satellite (TACSAT) terminals; secure telephones that operated from any vehicle; multi-channel satellite relays; Global Positioning System (GPS) which allowed the U.S. forces to know their precise location, satellite imagery with near real time downloading capability, unmanned aerial vehicles (UAVs), and the Joint Surveillance And Target Attack Radar System (JSTARS) just to name the most prominent components of the U.S. command and control architecture.³⁷ Collectively, these systems provided U.S. forces with the information they needed to find, target, and destroy Iraqi forces before the Iraqis were even aware of their presence.

At the same time that U.S. command and control was being enhanced by superior technology, Iraq's command and control system was being severely degraded by U.S. precision munitions technology. Precision-guided munitions (PGMs) played a significant role in the U.S. and coalition victory in the Gulf, although not the dominant role that the public was led to believe by Pentagon propaganda. Mark-82 500 pound gravity bombs did most of the damage inflicted on the Iraqi forces during the war; however critical command and control nodes and war-making infrastructure sited in the midst of the civilian populace were attacked and destroyed by PGMs.³⁸ Among the most noteworthy

³⁷ Ibid., 73, 559, 573; Scales, *Certain Victory*, 167-71.

³⁸ Scott A Cooper, "The Politics of Airstrikes," *Policy Review*, no. No. 107 (June 2001): 5.

PGMs were the Air Launched Guided Missile (AGM-86C) fielded in 1988 and launched against power generation and electric transmission facilities and military communications sites; Laser Guided Bombs (LGBs) first fielded in the early 1970s of which over 9,300 were used against military targets in civilian-occupied areas because of their accuracy; Maverick Air-to-Ground Missiles used against armor, radar, and above-ground bunkers; Standoff Land Attack Missiles (SLAM), only seven of which were used against heavily defended targets; Tomahawk Land Attack Missiles (TLAM), 288 of which were launched against key command and control and air defense facilities; and the Hellfire Missile (anti-tank) and HARM (anti-radar) missile of which thousands were launched against Iraqi armor and air defense systems.³⁹ Collectively, these PGMs destroyed or degraded the Iraqi strategic and operational level command and control systems within the opening days and weeks of the war.

The operational techniques the U.S. employed further enhanced the effect of PGMs. Although the air, sea, and land campaigns occurred at different points in the war, the services fought each campaign jointly. The opening night of the war best illustrated this. Early in the morning of January 16, 1991, U.S. Army AH-64 helicopters crossed the aerial border into Iraq. Their mission was to fly under the Iraqi radar screen in order to engage and destroy key enemy radar installations and air defense command and control centers deep in the Iraqi air defense system. Air Force EF-111s, F-4 Wild Weasels, and Navy EA-6B Prowler aircraft that jammed and destroyed radars and surface-to-air missile

³⁹ Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 773-88; Thomas A. Keaney and Eliot A. Cohen, *Revolution in Warfare? Air Power in the Persian Gulf* (Annapolis, MD: Naval Institute Press, 1995), 189-91.

sites followed them. Simultaneous to this operation, F-117 stealth fighters penetrated Iraqi airspace undetected and headed toward Baghdad to hit sensitive leadership targets at the same time that over 100 cruise missile were enroute to targets in Iraq, launched from Navy ships in the Persian Gulf, the Red Sea and the Mediterranean Sea.⁴⁰ Every service participated in the opening attack in a synchronized and synergistic manner that struck the Iraqi military and its leadership through the depth of its structure and organization instantaneously. This strike resulted in a significant degradation of the Iraqi command and control infrastructure. This same mutual effort continued during the opening week of the war and produced a near operational paralysis among the Iraqi forces. Moreover, throughout the entire war the various services combat operations were synchronized in purpose and effect if not in time and space.

Finally, the high-technology weapons systems and the ability to synchronize them in purpose and effect were enabled by the quality of the men and women in the armed services and the state of their training. The troops that fought the Gulf war were overwhelmingly high school graduates. The lowest percentage of high school grads for any service was the Navy with 92 percent. On average, 95 percent of all service members were high school graduates and 97 percent of them ranked above average on aptitude when compared to national averages.⁴¹ Additionally, since the late 1970s each of the services had developed tough, realistic, no-holds-barred training centers. The Navy had the Top Gun School; the Army the National Training Center (NTC), Joint

⁴⁰ Atkinson, *Crusade: The Untold Story of the Persian Gulf War*, 15-20, Scales, *Certain Victory: The U.S. Army in the Gulf War*, 157-60.

⁴¹ Cheney, *Annual Report to the President and the Congress*, 38-40.

Readiness Training Center (JRTC), and Combined Maneuver Training Center (CMTC); and the Air Force had the Warrior Preparation Training Center and Red Flag exercises.⁴² For over ten years, units and individuals had been cycled through these centers against an unrelenting opposing force (OPFOR). The training centers, high quality people, and technologically advanced weapons systems were the component parts of a military juggernaut.

The military outcomes of the war were astonishing. In 43 days of combat (38 days for the air campaign, five days for the ground), U.S. and coalition forces decisively defeated the Iraqi military, destroying large amounts of its equipment and infrastructure. Enabled by its superior weapons, soldiers, and operational techniques the military accomplished its objectives in full measure. First, military operations neutralized the Iraqi National Command Authority by attacking the leadership and its control nodes. This resulted in the leadership's virtual isolation from the operational commanders, proving to be a significant hindrance to Iraq's authoritarian and highly centralized leadership. Second, Iraqi forces were ejected from Kuwait with significant losses in personnel and equipment (over 3,000 armored vehicles destroyed).⁴³ Third, Two Republican Guard armored divisions and two Republican Guard infantry divisions were destroyed. However, one Republican Guard armored division (the Hammurabi) in the Kuwaiti theater escaped destruction along with three other Republican Guard infantry divisions. The U.S. and coalition forces gained and maintained not just air superiority,

⁴² Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, passim; Scales, *Certain Victory: The U.S. Army in the Gulf War*, 19-28.

⁴³ Gordon and Trainor, *The General's War*, 430.

but air supremacy over Iraq. Fourth, while the U.S. did damage Iraq's ballistic missile and weapons of mass destruction capability, it did not destroy them. Last, by ejecting the Iraqi forces from Kuwait, the military played an instrumental role in the restoration of the legitimate government in that country. Over all, the military fully accomplished three of its five primary objectives and partially accomplished two others. However, in only partially accomplishing the destruction of the Republican Guard (Saddam's basis of political power) and his ability to threaten other states in the region and support terrorism, the U.S. laid the seeds for a second confrontation with Iraq.⁴⁴

Political Objectives -- Obtained or Hindered?

This section examines whether military technology was instrumental in obtaining or furthering the political/policy objectives that the Bush administration sought in the conflict with Iraq. Before getting to the question proper, a point of clarification is warranted. Weapons systems of and in themselves do not obtain policy objectives. Depending on the context in which force is applied, weapon system technologies can enable the military to achieve its objectives more effectively and efficiently. A highly trained, efficient, and effective military force enables political leaders to use the military element in conjunction with the other elements of power to obtain policy objectives. The play of the other elements of power was essential to achieving the U.S. objectives in the Gulf War. The analysis that follows examines how well the military's technological prowess contributed to the American attempt to achieve those objectives.

⁴⁴ Atkinson, *Crusade: The Untold Story of the Persian Gulf War*, 488-500.

America's armed forces appeared ideally suited for the foreign policy objectives that U.S. political leaders wanted to obtain in the Persian Gulf.⁴⁵ President Bush's decision to use force in a military campaign to eject Iraqi forces from Kuwait reflected his faith in the superiority of the American military and its equipment, untested though they were. Bush had an extremely powerful tool available to him, one whose capabilities seemed perfectly suited for obtaining the objectives he sought. Richard Betts quotes Graham Allison as saying: "Capabilities created to increase the government's options by generating information and alternatives that would otherwise be unavailable, also, and of necessity, create interests in, and lobbies for, the use of these capabilities. The creation of a capability brings with it officials commissioned to search for instances in which that capability might be appropriately used [and] groups with interests in the exercise of that capability. . . . Ready options dominate potential but not-so-available alternatives. . . . Capabilities create demands. . . . Capabilities can create Temptations."⁴⁶ Generally, the military was successful in obtaining most of the political aims of the war; however as the discussion below will show, not all of them.

Of the six strategic objectives mentioned above, the military's high technology capability played an important role in obtaining them. The first objective mentioned was to isolate Iraq diplomatically and economically. Admittedly, the U.S. military had a minor role in accomplishing this objective. President Bush's diplomatic team carried most of the effort as they negotiated with Iraq's trading partners and the UN to have that

⁴⁵ Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, xx-xxvi.

⁴⁶ Richard K. Betts, *Soldiers, Statesman, and Cold War Crises*, (New York and Oxford: Columbia University Press, 1991), 95.

organization formally condemn Iraq's aggression against Kuwait, impose economic sanctions against Iraq, authorize or at least condone the use of force to defend Saudi Arabia, and later eject Iraq from Kuwait by force.⁴⁷ However, the military's role was important. It enforced the quarantine against Iraq that prevented Iraq from acquiring additional military capabilities. U.S. space-based and other intelligence sources tracked potential arms transfers headed toward Iraq, which were then intercepted by the U.S. and coalition naval forces.⁴⁸ Still, overland transfers of arms and equipment were possible, and there was little the military could do to stop them short of violating another state's sovereignty. That arms transfers did not occur through Syria, Iran, or Jordan on a significant scale is due primarily to President Bush's successful diplomatic effort to isolate Iraq.

The military played a dominant role in obtaining the second objective; namely, liberating Kuwait and restoring a regime favorable to U.S. interests. The U.S. and coalition air and naval forces isolated the Kuwaiti theater of operations, prevented the Iraqi armed forces from reinforcing their units in Kuwait, and destroyed much of their mobile armored reserves along with the a great portion of Iraq's air defense and communications capabilities. The ground campaign destroyed vast amounts of Iraqi equipment and numerous units while forcing Iraq to evacuate Kuwait. The combined efforts of the military's operations on land, air, and sea coupled with its technological superiority resulted in the liberation of Kuwait and the imposition of an armistice on Iraq

⁴⁷ Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, xviii-xx.

⁴⁸ *Ibid.*, 57-62.

that reflected U.S. and coalition terms. In the process of accomplishing this objective, the military was able to further accomplishment of the third objective.

U.S. policy during the war did not envision the total destruction of Iraq's military capability. That would have left a power vacuum in the Middle East, which either Syria or a militant and extremist Iran could have exploited. Both of these countries were known to actively support terrorism, and they both worked against U.S. efforts to further the peace process in the Middle East. Additionally, the idea was to prevent Iraq from flying apart centrifugally, with the Kurds and Shiites each seizing portions of the country and declaring their independence. Therefore, Iraq had to be left with enough force to prevent either of these nations from dominating the politics of the region, and to protect its oil reserves. Consequently, Bush sought to destroy the offensive capability of the Iraqi armed forces, but leave them with enough combat power to counter any threat to their sovereignty. The military was generally successful in obtaining this objective, but not to the degree that it thought at first. Coalition and U.S. intelligence capability was wanting when it came to assessing just how much equipment and men the Iraqis had in Kuwait and in assessing the damage that the air campaign inflicted on them.⁴⁹ In fact, battle damage assessment was a glaring weakness in the U.S. high tech panoply of capabilities. As a result, many already destroyed targets were struck repeatedly, thus wasting valuable munitions and leaving other targets operational.⁵⁰ In testimony before

⁴⁹ Atkinson, *Crusade: The Untold Story of the Persian Gulf War*, 440, Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 180, Gordon and Trainor, *The General's War: The inside Story of the Conflict in the Gulf*, *passim*.

⁵⁰ Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 180.

Congress in June 1991, General Schwarzkopf claimed that all the Iraqi divisions in the Kuwaiti theater, some 42, had been destroyed. Later assessments by the Army revealed that about one third of all enemy forces escaped, including at least half of the Republican Guards.⁵¹ There is little doubt that the military could have completed the destruction of the Iraqi forces in the Kuwaiti theater; however, President Bush, at the urging of General Powell and others, halted the U.S. ground forces' advance short of Basra.⁵² While this decision was probably the humane thing to do, it prevented U.S. forces from forcing the complete capitulation of all Iraqi forces in the theater, and it forfeited the opportunity to destroy their equipment. Although Hussein was left incapable of threatening his neighbors with conventional military forces in the near term, the decision to end the ground war short of Basra left Hussein with the capability to fully sustain his power within Iraq. As events played out, allowing Saddam Hussein to retain this capability worked against the other U.S. policy objectives.

The U.S.-led coalition's fourth political objective of the war was to eliminate weapons of mass destruction and their production facilities. Again, military technology allowed the U.S. to make significant headway toward obtaining this objective, but it did not obtain this objective by itself. Although, the U.S. was aware of Iraq's nuclear and chemical weapons programs, the U.S. intelligence services were unaware of their extent. Consequently, the Air Force's bombing campaign targeted and attacked on the basis of

⁵¹ Atkinson, *Crusade: The Untold Story of the Persian Gulf War*, 494-96.

⁵² Gordon and Trainor, *The General's War: The inside Story of the Conflict in the Gulf*, 439. Undoubtedly, the risk of increased casualties and coalition unity (especially with the Arab States) must have weighed heavily in the decision too.

incomplete data. PGMs performed superbly, but to be effective they required precision intelligence. For example, just before the war ended, U.S. forces struck a nuclear weapons development facility at Al Athir, which they were unaware of previously. When the war ended and UN inspectors arrived in Iraq to enforce the armistice terms concerning weapons of mass destruction, they found that over 100 Scud missiles and at least 19 mobile launchers, along with tons of nerve and mustard gas, had survived six weeks of non-stop air attack.⁵³ Ultimately, it would be a low-tech solution that provided the intelligence on Hussein's weapons of mass destruction program--Iraq's occupation in a war 13 years later, and a physical search throughout Iraq conducted by soldiers on the ground.

The fifth U.S. objective, regime change in Baghdad, was never formally stated as a war aim, but it was strongly implied and hoped for throughout the planning and execution of the war, and during the immediate postwar aftermath. Given Saddam Hussein's intransigence toward the U.S. and its interests, it was inconceivable that the Middle East generally, and Persian Gulf specifically, could be stable or secure as long as Hussein remained in power. The elder President Bush realized this and authorized the Central Intelligence Agency to conduct covert operations to overthrow Saddam Hussein by supporting and training Iraqi dissidents willing to undertake the risk.⁵⁴ Moreover, once the war began Saddam Hussein became a legitimate military target. If the U.S. military had had the chance to kill him, they would have. But, as with weapons of mass

⁵³ Atkinson, *Crusade: The Untold Story of the Persian Gulf War*, 495-96; Gordon and Trainor, *The General's War: The inside Story of the Conflict in the Gulf*, 474.

⁵⁴ Woodward, *The Commanders*, 282.

destruction, the U.S. needed precise intelligence on Hussein's location in order to employ PGMs. In theory, the U.S. could have carpet-bombed Baghdad, but this would have caused tens of thousands of civilian casualties and would have been incompatible with the Bush administration's declared policy, i.e., that the War was not with the Iraqi people, but with a corrupt regime.⁵⁵ That Hussein survived the air campaign is a tribute to his canniness, U.S. intelligence shortcomings, and a reluctance to increase the scope of collateral casualties (Iraqi civilians). Weapons technology might have been able to kill Saddam Hussein, but that was no guarantee that a new regime would be any more favorable toward U.S. interests in the region than Hussein's regime was.⁵⁶

Finally, the U.S. sought to restore a regional balance of power favorable to its interests. Arguably, this was the overarching objective of the war. Did weapons technology as employed by the U.S. and coalition forces make inroads toward obtaining this objective? Weapons technology allowed the U.S. to achieve a stunning victory over a defiant Iraq in a relative short time and with phenomenally low casualties (only 146 combat-related deaths).⁵⁷ Iraq's armed forces had been reduced by nearly 50 percent, with most of the armored forces severely depleted. The Iraqi air force ceased to exist, and Iraq's weapons of mass destruction program had been significantly reduced. Iraq was no longer an offensive threat to its neighbors. Kuwait was completely liberated and its government restored. Additionally, the Arab States had shown a willingness

⁵⁵ Atkinson, *Crusade: The Untold Story of the Persian Gulf War*, 499.

⁵⁶ Powell, *My American Journey*, 527.

⁵⁷ Atkinson, *Crusade: The Untold Story of the Persian Gulf War*, 492; Gordon and Trainor, *The General's War: The inside Story of the Conflict in the Gulf*, 457.

cooperate with one another within a collective security endeavor for something other than an anti-Israeli cause. Moreover, the Kurds in the North and Shiites in the South rose up against Saddam Hussein's regime. On the surface it appeared that the military with its high-technology weapons systems had accomplished nearly all of the tasks that it was given.

However, after the conclusion of the armistice talks, Saddam Hussein began to tighten his grip over Iraq and its people.⁵⁸ The U.S. got the uprisings it wanted against Saddam Hussein in both Northern and Southern Iraq, but then simply watched as Hussein's still formidable military brutally suppressed them. Only after being prompted by its European allies did the U.S. become involved in operation Northern Watch, which was implemented to prevent Hussein from conducting genocide against the Iraqi Kurdish population. Additionally, Hussein reorganized his armed forces, and he began an extensive rebuilding program to restore all the services and buildings that the coalition forces had destroyed during the war. These measures further strengthened his position in Iraq. Over time the utility of sanctions became more questionable. Saddam's defiance of the United States helped moderate Arab public opinion toward him, and soon he became a symbol of Arab defiance to perceived America imperialism. His survival and the alleged suffering of the Iraq people under what many states began to perceive as harsh U.S. enforced sanctions gradually softened world opinion toward Iraq's government. Though regime change may not have been an explicit objective; failure to support regime change when Iraqi dissidents attempted it prolonged the tension and instability in the

⁵⁸ Atkinson, *Crusade: The Untold Story of the Persian Gulf War*, 497.

Persian Gulf region for another 12 plus years, and fostered increased dissent among former coalition members over how to deal with Iraq.

In the end, the military's weapons systems and force structure were well suited for a military showdown with Iraq. That the military did not fully accomplish all the tasks assigned to it was not so much a function of inadequate weapons systems and force structure as much as it was the assignment of some tasks that were inappropriate for military force and the unwillingness of both military and political leaders to prosecute the war to its fullest extent. Prior analysis should have revealed that as long as Saddam Hussein remained in power, he would attempt to thwart U.S. efforts to contain him. If his regime remained intact, he would reconstitute his armed forces at the earliest opportunity, seek to produce/acquire weapons of mass destruction, and generally leverage conditions in the region to his advantage. This meant regional instability as long as he was in power. Yet, despite having the capability to drive on Baghdad, and in fact having developed a contingency plan to do so, the two most senior U.S. military commanders, General Powell and General Schwarzkopf, refused to consider it or even show the plan to the Department of Defense staff.⁵⁹ According to former Secretary of Defense Cheney, the U.S. and coalition political leaderships were not inclined to pursue the war further.⁶⁰ In the main, they did not want to spoil their immaculate victory with the prospect of

⁵⁹ Gordon and Trainor, *The General's War: The inside Story of the Conflict in the Gulf*, 452-55; Powell, *My American Journey*, 527-28.

⁶⁰ Gordon and Trainor, *The General's War: The inside Story of the Conflict in the Gulf*, 476; Adam Meyerson, "Calm after Desert Storm," *Policy Review*, no. No. 65 (Summer 1993): 1-2.

prolonged conflict and potential of increased casualties.⁶¹ But by taking counsel of their fears and their unwillingness to jeopardize the heroic image forming around them, they forfeited the chance to use the weapons systems and force structure they had to oust Hussein and restore a balance of power capable of promoting regional stability in the Persian Gulf.

Lessons Learned

The United States came out of the Gulf War with both its political and military leadership in almost total agreement on four chief lessons learned. First, they were convinced of the efficacy of high technology weapons systems in all services, especially precision-guided munitions. Second, they believed that air power had been the decisive force in the conflict having enabled both the ground and the naval campaigns by isolating the battlefield, degrading the Iraqi command and control capability, eliminating Iraq's weapons of mass destruction, and destroying vast amounts of Iraqi weapons systems. Third, they felt that the U.S. had demonstrated superior operational technique that maximized the synergism of fighting jointly, and further, that this synergism was due in large part to measures legislated in the Goldwater-Nichols Defense Reform Act of 1986.⁶² Last, they felt that all the operational successes were made possible by the high quality men and women of the armed service. There were other lessons learned to be

⁶¹ Gordon, *The General's War: The inside Story of the Conflict in the Gulf*, 476-77.

⁶² Aspin, *Defense for a New Era: Lessons of the Persian Gulf War*, 42.

sure, but the ones mentioned above were paramount, serving as guiding principles for the military after the war.

Only ten percent of all munitions dropped during the Gulf War were precision munitions, meaning that “dumb” bombs visited most of the destruction on Iraq. Precision-guided munitions, nevertheless, were used for the most sensitive targets and the ones that made the biggest impact on the news media. After the war, the services renewed their effort to acquire advanced weapons systems and munitions, and to upgrade those systems already in the inventory.⁶³ For example, the Navy and Marine Corps equipped their aircraft with night vision/target acquisition capabilities (LANTRIN) and the electronic packages that would give them the capability to employ laser-guided bombs, Mavericks, and the next generation of PGMs, the Joint Direct Attack Munitions (JDAMs).⁶⁴ The Army upgraded its AH-64 Apache helicopter to the Longbow variant, which gave it increased killing power at greater standoff distances.⁶⁵ Additionally, each service promoted the development of a new generation of Unmanned Aerial Vehicles (UAVs) for both reconnaissance and attack. Stealth technology had proven its worth during the war and all the services allocated funds for the development of stealth technology. The Army developed the Comanche Helicopter, the Air Force continued the

⁶³ Lawrence J. Korb, “The Impact of the Persian Gulf War on Military Budgets and Force Structure,” in *After the Storm: Lessons from the Gulf War*, eds. Joseph S. Nye Jr. and Roger K. Smith (Lanham, New York and London: Madison Books and the Aspen Strategy Group of the Aspen Institute, 1992), 233-37.

⁶⁴ Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 180.

⁶⁵ GAO, *Longbow Apache Helicopter: Key Factors Used to Measure Progress in Development Need to Be Changed* (Washington, DC: General Accounting Office, 1991), 8.

development of the B-2 Bomber and the FY-22 advanced fighter, and the Air Force, Navy, and Marines jointly continued development of the Advanced Strike Fighter.⁶⁶

The services pursued complementary and supporting technologies as well. Secure communications systems and their interoperability among the services constituted another area of research and development that each service funded.⁶⁷ Despite the success of operations in Desert Storm, the services still had trouble communicating and exchanging intelligence in a timely fashion among the combatants actually engaged.⁶⁸ The same was true for intelligence systems. JSTARS was a big improvement, but the data it picked up could not be transmitted to an attacking weapons system (shooter) in a timely manner. Consequently, many identified targets escaped by the time a weapon system received the targeting data needed to engage them. The services began developing a system of systems, one that would allow them a real-time strike capability by allowing for target data to be sent almost immediately to the on board fire control computer in the attacking platforms.⁶⁹ In the 1980s, Soviet General Ogarkov characterized America's movement to acquire this capability as a reconnaissance strike complex, predicting it would be a revolutionary development.⁷⁰ Communications, intelligence targeting, and the ability to strike targets precisely, undetected, and out of the

⁶⁶ Les Aspin, *Annual Report to the President and the Congress* (Washington, D.C.: Department of Defense, 1994), 75, 94-95, 161.

⁶⁷ *Ibid.*, 235-49.

⁶⁸ Owens, *Lifting the Fog of War*, 114.

⁶⁹ *Ibid.*, 98-102. This would later be coined as Network Centric Warfare.

⁷⁰ *Ibid.*, 82-85.

engagement range of the enemy was the direction of technology development in the America military after the Gulf War. Many military and political leaders felt that American high technology systems would allow U.S. forces, particularly air forces, to attack targets with surgical precision and thus avoid friendly casualties while minimizing enemy civilian casualties.⁷¹

Air power played a vital role during the Gulf War. The Air Force claimed that it could win the war through airpower alone, a promise it was not able to deliver on.⁷² Nonetheless, airpower did prove decisive. The Air Force conducted round-the-clock operations against strategic centers in Baghdad while simultaneously attacking Iraqi operational forces in the Kuwait theater. Iraq's air force was eliminated during the first few days of the war. Additionally, by most intelligence estimates, the Air Force destroyed approximately 30 to 40 percent of Iraq's heavy armor during the air campaign.⁷³ However, air power was not without its shortcomings. For example, it did not cause the overthrow of Saddam Hussein's regime, nor did it operate smoothly with the other services.⁷⁴ Both the Marines and the Navy had significant differences with the Air Force over the conduct of the air campaign and the operational use of its air assets.⁷⁵ Moreover, the Army consistently had its target requests either ignored or placed much

⁷¹ Aspin, *Defense for a New Era: Lessons of the Persian Gulf War*, 93.

⁷² Gordon and Trainor, *The General's War*, 473-74.

⁷³ Aspin, *Defense for a New Era: Lessons of the Persian Gulf War*, 7-8; Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 138-45.

⁷⁴ Owens, *Lifting the Fog of War*, 92-94.

⁷⁵ Gordon and Trainor, *The General's War*, 471-72.

lower on the priority list than the Army felt warranted.⁷⁶ Still, the Air Force came away from that war with a well-deserved reputation for effectiveness and a claim on the lion's share of the post-Cold War era's defense budgets.⁷⁷

Joint war-fighting synergism was another lesson learned from the Gulf War. There was a belief that America's success in the war was due to the ability of the armed services to operate almost seamlessly. While all phases of the campaign featured the synchronization of service efforts, joint operations were far from perfect. Communications, targeting procedures/priorities, and operational employment techniques often required joint operations to be separated in time and space.⁷⁸ For example, the Air Force divided the Kuwait theater into ten-kilometer square target boxes.⁷⁹ A joint attack would feature the Air Force hitting targets in two boxes while the Army fired long-range missiles into another and Navy and Marine air struck targets in yet another box. Seldom did the services attack a series of targets within one box; if they did their attacks were separated in time. Nonetheless, the services had made vast strides in interoperability when compared with their performance during the invasion of Grenada just nine years previously. One reason for their improvement was the quality of the service members that made up the armed forces.

⁷⁶ Scales, *Certain Victory: The U.S. Army in the Gulf War*, 368-69.

⁷⁷ Aspin, *Annual Report to the President and the Congress*, B-2.

⁷⁸ Owens, *Lifting the Fog of War*, 91-95.

⁷⁹ Cheney, *Final Report to Congress: Conduct of the Persian Gulf War*, 135-36.

The quality of the armed forces has been previously mentioned, as has their training. However, high quality men and women, high technology weapons, and realistic and demanding training are resource-intensive. In the period following the Gulf War, the services drew down the numbers of people, but continued to put more money toward the people they retained. Consequently, pay went up, as did quality of the living and working environment along with health care.⁸⁰ To sustain this spending level on people and also on research and development, the services sacrificed training and maintenance in their budgets (See table 6-5 in the previous chapter). For the most part, this budgetary strategy was successful in recruiting and retaining quality people, but increased deployments and time away from home began to work against the services' personnel programs.

That the chief lessons America learned from the Gulf War were the importance of high-tech weapon-systems, airpower, joint operational techniques, and quality people is not surprising given the American penchant for technological solutions and its emphasis on individuality. They were the right lessons to learn. However, they were also highly contextual, and possibly unique. Les Aspin, while on the House Armed Services Committee quoted a senior U.S. commander after the war:

Desert Storm was the perfect war with the perfect enemy. The enemy leader was universally despised and his troops offered very little resistance. We had the perfect coalition, the perfect infrastructure and the perfect battlefield. We should be careful about the lessons we draw from the war.⁸¹

⁸⁰ Ibid., 41-47.

⁸¹ Aspin, *Defense for a New Era: Lessons of the Persian Gulf War*, 3.

The Department of Defense's report on the conduct of the Persian Gulf War echoed these sentiments in detail. While these lessons were valid for the Gulf War, how to translate them into weapons systems and force structure and then apply them in future conflicts is a difficult proposition. It is especially difficult when the weapons systems are very costly and their development time lengthy. It requires an ability on the services' part to anticipate what capabilities future conflicts will call for, and then have the courage to begin transforming a proven force structure now for a future capability that may or may not be required. Caught in the euphoria of their recent victory during the Gulf War, the services were slow to realize this challenge.⁸² As the next two case studies will illustrate, the U.S. military's technological prowess would have little impact in the streets of Mogadishu and only partial success in Kosovo.

Somalia: Operation Restore Hope

In October 1993 the global news networks broadcast the film footage of a dead American soldier being dragged through the streets of Mogadishu, in Somalia by an angry mob. The film footage was graphic leaving many Americans wondering how 18 U.S. soldiers could be killed and another 78 wounded in what was supposed to be a humanitarian mission to feed starving Somalis.⁸³ After all, was not the American-led UN intervention in Somalia a peacekeeping mission? Humanitarian missions were supposed to save lives, not take them. What went wrong? Within days of the tragic fight in

⁸² Owens, *Lifting the Fog of War*, 85.

⁸³ Kenneth Allard, *Somalia Operations: Lessons Learned* (Washington, DC: National Defense University Press, 1995), 19.

Mogadishu, President Clinton made the decision to pull U.S. forces out of Somalia. The U.S. decision triggered the withdrawal of the other major UN contingents as well. Six months later as the last U.S. troops departed, the UN intervention in Somalia collapsed and the country reverted back to tribal anarchy.⁸⁴ How had the policy objectives of the United States, the most powerful nation on earth with the most technologically advanced and formidable military in the world, been stymied by a factional, anarchic, and agrarian-based society dominated by clan strongmen and armed mobs? To answer this question this section begins by describing U.S. national interests at the global level and how they pertained to the Horn of Africa region; and then examines the specific policy objectives associated with the phases of the United States military's intervention in Somalia. The remaining sections follow the same order as the Gulf War case study above: military forces and technology available, assessment of the utility of the military force in accomplishing its assigned objectives, assessment of whether the political leadership's policy options were hindered or facilitated by the force structure and weapons systems available to it, and the lessons learned.

⁸⁴ Mark Bowden, *Black Hawk Down: A Story of Modern War* (New York: Atlantic Monthly Press, 1999), 333.

U.S. Interests, Objectives, and Strategy

Flushed with the euphoria of having defeated communism during the Cold War and about to inflict a stunning defeat on Iraqi dictator Saddam Hussein, President Bush's administration articulated a vision for a new world order:

We have a vision of a new partnership of nations that transcends the Cold War. A partnership based on consultation, cooperation, and collective action, especially through international and regional organizations. A partnership united by principle and the rule of law and supported by an equitable sharing of both cost and commitment. A partnership whose goals are to increase democracy, increase prosperity, increase the peace, and reduce arms.⁸⁵

The world's overwhelming condemnation of Iraqi's aggression, the coalition victory in the Gulf War, and the willingness of the major industrial nations of the world to help pay for the conflict seemed to confirm that the New World Order Bush envisioned was becoming a reality. As a result, the U.S. national security strategy (NSS) began to reflect the administrations views on future world order. The NSS specifying U.S. interests in Somalia was published in January 1993.⁸⁶ This document listed the broad overarching interests of the United States and then specified the regional interests and objectives. It identified four major national interests:

- Global and Regional stability, which encourages peaceful change and progress.
- Open Democratic and representative political systems worldwide.

⁸⁵ George Bush, "The UN: World Parliament of Peace," *Dispatch* 1, no. 6 (1990): 152.

⁸⁶ Allard, *Somalia Operations: Lessons Learned*, 15; George Bush, *The National Security Strategy of the United States* (Washington, DC: The White House, 1993), 1-39.

- An open international trading and economic system, which benefits all participants.
- An enduring global faith in America – that it can and will lead in a collective response to the world’s crisis.⁸⁷

Within the African region the National Security Strategy further identified specific steps that the U.S. should take an active role in the UN peacekeeping and humanitarian relief planning and support in order to:

- Assist the Organization of African Unity.
- Promote the rule of law.
- Improve the self-defense capabilities of U.S. African allies.
- Maintain and improve U.S. crisis response capabilities.⁸⁸

In January 1991, Somalia became a failed state. Rival political factions representing the various clans (14 in all) that constituted the Somali societal structure overthrew Siyad Barre, the Somalian head of state.⁸⁹ Organized government ceased to exist and from then on the country descended into internecine warfare among the various clans. The fighting brought an end to public services and civil institutions in Somalia, precipitating a humanitarian disaster. The Somalian people had to rely on the good graces of powerful local warlords like Mohamed Farah Aideed for their livelihood. As a result of the breakdown of government, the economy, and the ongoing unrest in the

⁸⁷ Bush, *The National Security Strategy of the United States*, 7-8.

⁸⁸ *Ibid.*, 8, 20, 44-45.

⁸⁹ Norman L. Cooling, “Operation Restore Hope in Somalia: A Tactical Action Turned Strategic Defeat,” *Marine Corps Gazette* 85, no. 9 (2001): 92-93.

country, Somalia experienced a self-induced famine.⁹⁰ Although Somalia produced enough food to feed the population, the collapse of the state and its institutions prevented products from reaching the markets. Local warlords and bandits' confiscated food, medicine, and other essential staples in an effort to expand their control over the populace and enhance their position vis-à-vis their political rivals.⁹¹ Humanitarian organizations worldwide responded to the Somalia crisis; however, without the benefits of a secure operating environment they too were at the mercy of Somalia's' tribal chiefs.⁹² Media coverage brought home the Somali's suffering in a graphic and inescapable way 24 hours a day.⁹³

American intervention in Somalia was almost a foregone conclusion given the elder President Bush's vision of a new world order, the integration within the new national security strategy of idealist goals, the mounting concern of world opinion whipped up by the international media, and America's stature as the world's sole super power. Although U.S. prestige might be at issue, the humanitarian disaster in Somalia

⁹⁰ Andrew S. Natsios, "Humanitarian Relief Intervention in Somalia: The Economics of Chaos," in *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, eds. Walter Clarke and Jeffrey Herbst (Boulder, CO: Westview Press, A Member of Perseus Books, L.L.C., 1997), 78-79.

⁹¹ John Drysdale, "Foreign Military Intervention in Somalia: Root Cause of the Shift from UN Peacekeeping to Peacemaking and Its Consequences," in *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, eds. Walter Clarke and Jeffrey Herbst (Boulder, CO: Westview Press, A Member of Perseus Books, L.L.C., 1997), 124.

⁹² David Halberstam, *War in a Time of Peace: Bush, Clinton, and the Generals* (New York, London, Toronto, Sydney, and Singapore: Scribner, 2001), 251; Richard W. Stewart, *The United States Army in Somalia: 1992-1994* (Washington, DC: U.S. Army Center of Military History, 2002), 6-7; James L. Woods, "U.S. Government Decision-making Processes During Humanitarian Operations in Somalia," in *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, eds. Walter Clarke and Jeffrey Herbst (Boulder, CO: Westview Press, A Member of Perseus Books, L.L.C., 1997), 154-58.

⁹³ Duncan L. Clarke, Daniel B. O'Connor, and Jason D. Ellis, *Send Guns and Money: Security Assistance and U.S. Foreign Policy* (Westport, CT, and London: Praeger Publishers, An imprint of Greenwood Publishing Group, Inc., 1997), 8; Halberstam, *War in a Time of Peace*, 250.

did not threaten U.S. national interests or even U.S. interests in the region. Somalia seemed to have imploded, and while refugees from Somalia constituted an irritant to neighboring countries such as Ethiopia, Eritrea, and Kenya, the security of those countries was not threatened.⁹⁴ Moreover, international relief organizations were much better suited to assist the Somalian refugees fleeing into neighboring countries than they were in Somalia proper. Still, one could argue that the situation in Somalia flew in the face of America's value-laden interest, such as those promulgated in the national security strategy: "Open, democratic and representative political systems worldwide; Human Rights; and, An enduring global faith in America – that it can and will lead in a collective response to the world's crisis."⁹⁵

The decision to intervene in Somalia involved several factors. Although American interests were not directly threatened, President Bush's and American prestige were. Bush's policy team had deep reservations as to the wisdom of sending troops into Somalia. Most notably Bush's national security advisor, Brent Scowcroft, predicted that the U.S. could stabilize the country enough to deliver supplies, but that once U.S. troops departed, Somalia would revert to anarchy. Scowcroft summed up his position in a meeting with the President: "We can get in, but how do we get out?"⁹⁶ Despite this reservation, the President felt obligated to act. Bush made the decision to have the U.S.

⁹⁴ Natsios, "Humanitarian Relief Intervention in Somalia: The Economics of Chaos," 85,95.

⁹⁵ Bush, *The National Security Strategy of the United States*, 7-8.

⁹⁶ Halberstam, *War in a Time of Peace: Bush, Clinton, and the Generals*, 252.

lead the UN intervention in Somalia with over 28,000 U.S. and 10,000 UN soldiers.⁹⁷ His decision was heavily influenced by the military's view of the proposed intervention in Somalia. Adm. David Jeremiah, the Deputy Chairman, Joint Chiefs of Staff, stated at a deputies meeting of the Nation Security Council in November 1992: "If you think U.S. forces are needed, we can do the job."⁹⁸ Although this position ran counter to the military's previous stance on humanitarian interventions and surprised the other members present, it provided President Bush with the expert backing he needed to commit U.S. forces in light of the doubt expressed by his other advisors. Bush, heedful of Scowcroft's warning, planned to commit the force for just over a month. However, both Secretary of Defense Richard Cheney and Chairman of the Joint Chiefs of Staff General Colin Powell advised him that it would take a month just to get all the forces earmarked for the operation into Somalia and that the operation would take at the least several months to conduct.⁹⁹

Weapons systems, Force Structure, and Military Outcomes

The U.S. military was in the process of a force reduction in accordance with the Base Force plan when it received the mission to deploy to Somalia. With the exception of precision munitions, there had been no substantial changes in the military's acquisition

⁹⁷ Cooling, "Operation Restore Hope in Somalia: A Tactical Action Turned Strategic Defeat," 94; Kevin M. Kennedy, "The Relationship between the Military and Humanitarian Organizations in Operation Restore Hope," in *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, eds. Walter Clarke and Jeffrey Herbst (Boulder, CO: Westview Press, A Member of Perseus Books, L.L.C., 1997), 103.

⁹⁸ Halberstam, *War in a Time of Peace: Bush, Clinton, and the Generals*, 251; Woods, "U.S. Government Decision-making Processes During Humanitarian Operations in Somalia," 158.

⁹⁹ Powell, *My American Journey*, 565.

efforts. Both the Army and the Marine Corps were in the process of fielding a new fire-and-forget anti-tank weapon named the Javelin, while the Air Force and Navy were fielding a family of precision munitions consisting of eight different bombs.¹⁰⁰ Even though the Soviet Union had disappeared and the likelihood of another Gulf War on the scale of the one fought in 1991 was almost nil, the services continue to maintain their Cold War weapons systems and force structure preferences.¹⁰¹

The Army's force structure had been reduced in the aggregate, but internal organization changed little. The Army had a total of 14 divisions (down from 18): seven heavy divisions, i.e., either mechanized or armored, and seven infantry divisions consisting of one airborne, one air assault, and five light divisions. The main striking power of these divisions centered on their armored vehicles, attack helicopters, and field artillery weapons systems. Additionally, the Army's RDT&E effort for 1992 through 1996 reflected this heavy bias with the majority of the army's R&D funds going into helicopter and artillery systems.¹⁰²

Like the Army, the Navy's force structure and weapons systems preferences still bore the Cold War imprint. In 1992, the Navy had 14 aircraft carrier battle groups and a total of 448 battle force ships (down over 20 percent from its Cold War high). Although the Navy was experimenting with other surface organizations such as surface action

¹⁰⁰ U.S. Congress, Research Service, *Weapon systems Data* (Washington, DC: U.S. Congress, 2002), 1-3,7.

¹⁰¹ Richard Cheney, *Annual Report to the President and the Congress* (Washington, DC: Department of Defense, 1993), 74-86.

¹⁰² *Ibid.*, 77-78.

groups, the Navy's force structure and operational strategy still remained centered on the carrier battle group.¹⁰³ Navy RDT&E for the years 1992 through 1996 featured new attack submarines, Tomahawk missiles, two new types of destroyers, helicopters, and a new nuclear-powered aircraft carrier.¹⁰⁴

Like its sister services, the Air Force remained firmly wed to a mid to high intensity warfare scenario. Despite the loss of over 25 percent of its force structure, the Air Force still had over 2,070 combat aircraft organized into 80 wings.¹⁰⁵ Most of the Air Force's RDT&E effort was focused on the further development of Cold War-era weapons systems such as the B-2 bomber, F-22 advanced fighter, and stealth technology aircraft.¹⁰⁶

In spite of its 25 percent overall force reduction, the U.S. armed forces were still the most technologically advanced and powerful military force in the world. Although it was drawing down and losing weapons systems in the aggregate, the military offset its losses with more precise and lethal weapons systems, thus making it more formidable than ever. However, it did suffer from some weaknesses that an adept opponent could exploit. First, because it was so technologically dependent, the U.S. military tended to rely on electronic, digital, and space-based systems to provide its forces with the

¹⁰³ GAO, *Navy Carrier Battle Groups: The Structure and Affordability of the Future Force*, 50, 64-67.

¹⁰⁴ Cheney, *Annual Report to the President and the Congress*, 81-85.

¹⁰⁵ Ibid., 87, Air War College, *Usaf Wing Force Structure* [Internet] (May, 2002 [cited August 22 2002]); available from http://www.au.af.mil/au/afhra/wwwroot/usaf_wingforce_structure/1940s.htm.

¹⁰⁶ Cheney, *Annual Report to the President and the Congress*, 89.

intelligence they needed.¹⁰⁷ As a result, its human intelligence or HUMINT capabilities atrophied.¹⁰⁸ Additionally, the increased engagement range (standoff range) and precision strike capability of its weapons systems fostered casualty adverse attitudes within the military.¹⁰⁹ Casualty aversion drove units to abandon intelligence-gathering techniques such as patrolling that would have been operationally beneficial. Precision weapons required precise intelligence. In Somalia, where almost everyone was armed and the enemy was not only the warlords' armed militias but also at times the entire population, precise intelligence was virtually unobtainable through electronic and overhead means. The enemy could not be stereotyped, his communications could rarely be intercepted or jammed, and on a daily basis it was almost impossible to distinguish a militiaman from an ordinary citizen. Often they were the same.¹¹⁰ One way to gather the intelligence necessary to use precision weapons was to penetrate the warlords' organization through an informant. Another way was to conduct extensive patrolling and civil action projects to gain the people's trust, ferret out the militiamen among them, and erode the warlords' political base. However, patrolling was a decidedly low-tech and a potentially dangerous operation. Thus, UN and U.S. commanders tended to avoid it.¹¹¹

¹⁰⁷ Ibid., 91-98.

¹⁰⁸ Allard, *Somalia Operations: Lessons Learned*, 74; Owens, *Lifting the Fog of War*, 100-02.

¹⁰⁹ Max Boot, *The Savage Wars of Peace: Small Wars and the Rise of American Power* (New York: Basic Books, A Member of the Perseus Books Group, 2002), 239; Halberstam, *War in a Time of Peace*, 265; Owens, *Lifting the Fog of War*, 189.

¹¹⁰ Cooling, "Operation Restore Hope in Somalia: A Tactical Action Turned Strategic Defeat," 100.

¹¹¹ Allard, *Somalia Operations: Lessons Learned*, 74-77; Cooling, "Operation Restore Hope in Somalia: A Tactical Action Turned Strategic Defeat," 97, 103.

The purely military outcomes of the intervention in Somalia were favorable and the U.S. military accomplished most of the military missions they were assigned. During Phase I, Operation Provide Relief (UNOSOM I), the U.S. military organized a joint task force to conduct an emergency airlift of food and supplies into Somalia and Northern Kenya. To accomplish this task, the U.S. Air Force deployed four C-141 aircraft and eight C-130 aircraft to Mombassa and Wajir, Kenya to provide daily relief sorties into Somalia during daylight hours to locations offering access and a safe environment. Although at times the aircraft received small arms fire, there were no casualties, and they were able to fly 20 sorties a day and deliver 150 metric tons of supplies. By the end of Phase I in December, the joint task force had delivered over 28,000 metric tons.¹¹² While the units performing this mission were able to secure themselves and their immediate vicinity, they had no control over the supplies once they left the airhead. Supply convoys operated at the whim of the warlord whose area their route traversed. The warlords and bandits intercepted and pilfered the relief convoys. As a result, the agony of the Somali people deepened and the news media made sure the world knew it. The anarchic environment and increased suffering precipitated a more robust intervention on the part of the U.S.¹¹³ Operation Restore Hope briefly remedied this situation.

Operation Restore Hope or United Task Force (UNITAF) in UN parlance, the second phase of the U.S. /UN intervention, began on December 9, 1992. The U.S. forces involved (28,000 on the ground) were well equipped and had armored scout vehicles,

¹¹² Allard, *Somalia Operations: Lessons Learned*, 14-15.

¹¹³ Stewart, "The United States Army in Somalia: 1992-1994," 7-8.

attack and lift helicopters, indirect fire systems, and some armored personnel carriers and tanks. They were supported off shore by an aircraft carrier battle group centered on the USS Ranger (later the USS Lincoln) and by U.S. Air Force airlift units out of Kenya and Europe.¹¹⁴ Operation Restore Hope's missions were to:

- Secure Mogadishu port and airfield.
- Secure lines of communication to the interior
- Provide security escorts for relief supply convoys and relief organization operations.
- Assist the United Nations nongovernmental organizations in providing humanitarian relief under UN auspices.
- Establish a secure environment for uninterrupted relief operations.¹¹⁵

Restore Hope supplanted the U.S. humanitarian airlift support of United Nations Operation Somalia I (UNOSOM I) that had begun the preceding August.¹¹⁶ Restore Hope fell under the control of the U.S. Central Command (CENTCOM). CENTCOM specified its mission as, "CENTCOM will conduct joint/combined military operations in Somalia to secure the major air and sea ports, key installations, and food distributions points, to provide open and free passage of relief supplies, provide security for convoys and relief organization operations, and assist UN/NGOs in providing humanitarian relief under UN auspices. Upon establishing a secure environment for uninterrupted relief operations USCINCCENT terminates and transfers relief operations to UN peacekeeping

¹¹⁴ Allard, *Somalia Operations: Lessons Learned*, 15-18.

¹¹⁵ *Ibid.*, 16; Kennedy, "The Relationship between the Military and Humanitarian Organizations in Operation Restore Hope," 101.

¹¹⁶ Allard, *Somalia Operations: Lessons Learned*, 15.

forces.”¹¹⁷ The Combined Joint Task Force Commander (CJTFC) for this operation was Marine Lt. Gen. Robert B. Johnson. He was teamed with Robert B. Oakley, a former ambassador to Somalia and now President Bush’s special envoy to Somalia.¹¹⁸ The warrior and diplomat formed an effective team, working well together to accomplish their assigned missions. Oakley convinced Aideed and the other Somali warlords not to oppose the U.S. intervention, and he brokered a truce between Aideed and his chief rival in Mogadishu, Ali Hahdi.¹¹⁹ Moreover, they secured the routes out of Mogadishu so that the humanitarian supplies reached their destination unimpeded. Over 100,000 metric tons of relief supplies in 154 long haul convoys reached their destination in the interior, and the U.S. and UN forces provided hundreds of security escorts to relief organizations. Moreover, combat engineers repaired over 1,800 kilometers of road. Most importantly, by April 1993 the suffering of the Somali people had abated.¹²⁰ In the process of securing these routes, U.S. and UN forces captured many weapons caches, disarmed some clan forces, and coerced the warlords into moving their heavy weapons out of the city and voluntarily impounding them.¹²¹ Neither Johnson nor Oakley felt it was in their charter to disarm the Somali warlords or conduct sustained nation-building operations.¹²²

¹¹⁷ Ibid., 16.

¹¹⁸ Stewart, “The United States Army in Somalia: 1992-1994,” 9.

¹¹⁹ Robert B Oakley, “Operation Restore Hope,” *Joint Force Quarterly* (Autumn 1993), 46.

¹²⁰ Kennedy, “The Relationship between the Military and Humanitarian Organizations in Operation Restore Hope,” 106-08.

¹²¹ Oakley, “Operation Restore Hope,” 51.

¹²² Drysdale, “Foreign Military Intervention in Somalia: Root Cause of the Shift from UN Peacekeeping to Peacemaking and Its Consequences,” 128-29.

Oakley knew that any attempt to disarm the militias would directly threaten the warlords' power base and involve U.S. forces in direct combat with the Somali warlords.¹²³

However, the UN Secretary General, Boutros Boutros-Ghali, and other agencies operating in Somalia looked for much more. They wanted the U.S. to lead the UN in an effort to disarm the clans and initiate nation-building in Somalia, a mission the U.S. military resisted.¹²⁴ The UN attempted to delay the departure of the U.S. forces, but the U.S. military began redeployment in April, and by May 4, 1993, had handed the mission over to a UN force. The U.S. contingent of the UN force consisted of a small combat force and some combat support troops. United Nations Operations Somalia (UNOSOM II) began with a greatly reduced U.S. combat presence. Nonetheless, Boutros Ghali was undeterred from his self-appointed mission to break the power of the warlords and rebuild Somalia. But Aideed rose to this challenge to his power.

By May 4, 1993, when Phase III (UNOSOM II) began, the U.S. had approximately 4,200 soldiers operating with, but not under, UN command. With the exception of the 1,200 man 10th Mountain Division reaction force, the remainder of the troops consisted of support personnel.¹²⁵ The U.S. expected their forces in conjunction with the UN to continue the same missions as UNITAF had done in Phase II, Operation Restore Hope. However, on March 26, 1993, the UN Security Council passed Security Council Resolution 814. This was the first time the Security Council had mandated

¹²³ Oakley, "Operation Restore Hope," 48.

¹²⁴ Boot, *The Savage Wars of Peace: Small Wars and the Rise of American Power*, 322; Halberstam, *War in a Time of Peace*, 251-55.

¹²⁵ Stewart, "The United States Army in Somalia: 1992-1994," 16.

peacekeeping operations under Chapter VII of the United Nations Charter. This resolution included the requirement to disarm the Somali clans. Further, it explicitly endorsed rehabilitating the political institutions and economy of Somali. Also, it called for establishing a secure environment throughout Somali to include the Northern Region, which had declared its independence, “When directed UNOSOM II Force Command conducts military operations to consolidate, expand, and maintain a secure environment for the advancement of humanitarian aid, economic assistance, and political reconciliation in Somalia.”¹²⁶ As a permanent member of the Security Council, the U.S. could have blocked this measure. The U.S. did not do so because of a foreign policy mishap within the Clinton Administration. This U.S. - UN disconnect proved troublesome as events in Somalia developed.

Aideed viewed UN Resolution 814 as a direct challenge to his power. He began to test the resolve, commitment, and authority of the UN forces. The level of violence grew, and with it the animosity between the UN peacekeepers and the people they were sent to help. During Operation Restore Hope, U.S. forces had operated with the acquiescence if not the help of Aideed and other warlords. When Aideed’s militia attacked and killed 24 Pakistani soldiers on June 5, 1993, the U.S. and UN forces unwittingly transitioned from peacekeeping to combat operations.¹²⁷ In this environment, the U.S. forces achieved tactical successes against Aideed’s militia, but ultimately failed

¹²⁶ Allard, *Somalia Operations: Lessons Learned*, 18, 20.

¹²⁷ Drysdale, “Foreign Military Intervention in Somalia: Root Cause of the Shift from UN Peacekeeping to Peacemaking and Its Consequences,” 131-32.

to accomplish their overarching tasks. The environment was less secure, relief convoys were being intercepted again, and the plight of the Somali people worsened.

Three factors contributed to the overall mission failure. First, there were mission incongruities between what the UN intended to do and what the U.S. Central Command Commander told the U.S. military commander in Somalia, Lt. Gen. Montgomery, to do. Second, the chain of command was confusing and worked against unity of effort. Last, the U.S. did not have the right weapons systems and force structure present to accomplish its mission. To Boutros-Ghali, a “secure environment” meant disarmed Somalis, whereas to a U.S. military commander a secure environment meant being able to operate unimpeded. The U.S. would engage and disarm only those Somalis who threatened their security or hindered their mission. U.S troops had no intention of disarming the entire country as Boutros Ghali envisioned.¹²⁸ Finally, the U.S. military did not intend to participate in nation-building, at least not on the scale that the UN wanted.

Fearful of entering a quagmire, the U.S. exacerbated an already confusing command situation by refusing to take the military lead in Somalia and by refusing to place their remaining forces under direct UN control.¹²⁹ This confusing command and control situation was difficult to work through on a daily basis. However, it proved disastrous on October 2-3, 1993, when Task Force Ranger, consisting of elite U.S. Special Forces, was sent to capture Aideed’s top aides. Marine Major General (later

¹²⁸ Ibid., 128, 131.

¹²⁹ Allard, *Somalia Operations: Lessons Learned*, 56-61.

General) Zinni, the deputy CENTCOM commander for operations, described how confusing the situation was during those days:

We had a UN operation. We had General Bir [Turkey] in charge of the UN Forces. The U.S. forces were really under his deputy, LTG Montgomery, but when General Montgomery [did not have] operational command authority [of those forces]. The CinC, General Hoar, provided the forces in some sort of tactical control, but obviously never relinquished command. That's another myth; the command was never relinquished to UN forces, so all but U.S. forces were under this UN command and control. I think there were forces on the ground that was under Chapter VI instructions. I think you might find the Germans and others that were there under Chapter VII. There were forces off the coast that would come in and react that had another chain of command, Marines and naval forces. You had the special operation forces and Task Force Ranger there that had another kind of direct chain of command that really was not under Montgomery even though they were U.S. forces. It became very confusing, and in part I think caused a problem with intelligence, whose intelligence was being used, how the reporting chain went. There is a principle of war that says unity of command is desirable in any kind of conflict; it certainly was not there between the U.S. and UN and even within the U.S. structure.¹³⁰

In addition to the conflicting mission statements and the confusing chain of command, the U.S. did not have the right amount or mix of forces it needed to do either the UN mission or the U.S. mission. 1,200 hundred lightly armed combat troops simply were not enough to undertake the type of combat operations the U.S. conducted after June 5, 1993.¹³¹ Lt. Gen. Montgomery had requested armored reinforcements previously, but Les Aspin, the new Secretary of Defense, was afraid of a deeper involvement in

¹³⁰ Cooling, "Operation Restore Hope in Somalia: A Tactical Action Turned Strategic Defeat," 98-99.

¹³¹ Walter Clarke and Jeffrey Herbst, "Somalia and the Future of Humanitarian Intervention," in *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, eds. Walter Clarke and Jeffrey Herbst (Boulder, CO and Oxford: Westview Press, A Member of Perseus Books, L.L.C., 1997), 244,252; Cooling, "Operation Restore Hope in Somalia: A Tactical Action Turned Strategic Defeat," 98.

Somalia and denied the request.¹³² After the fact, it was clear the U.S. needed M1A1 tanks, Bradley fighting vehicles, armored vehicles, and additional troops. Belatedly, they arrived in Mogadishu, but only to insure that U.S. forces would not be troubled as they conducted very limited missions prior to leaving in March 1994.¹³³

The military outcomes of the U.S. involvement were generally mixed, especially in Phase III (UNOSOM II). The military was frustrated by the conditions they operated under in Somalia and they were uncertain over their role as peacekeepers. However, the conditions affecting their mission were political decisions and largely out of their control. What they did control was the transport and security of relief supplies and the security of the humanitarian workers who distributed them. This mission, perhaps the most important of all, they accomplished. By May 1993, five months after the major U.S. force entered Somalia, the famine was officially over. Hundreds of thousands of Somalis were given a second chance at life, if only for a little while.¹³⁴

Political Objectives Obtained or Hindered?

The U.S. intervened in Somalia primarily for humanitarian reasons and to a lesser degree because of its national interest.¹³⁵ Whether the starvation of hundreds of thousands of Somalis constituted a world crisis or not did not matter, the news media

¹³² Halberstam, *War in a Time of Peace: Bush, Clinton, and the Generals*, 261.

¹³³ Ibid., 264; Stewart, "The United States Army in Somalia: 1992-1994," 24, Woods, "U.S. Government Decision-making Processes During Humanitarian Operations in Somalia," 165.

¹³⁴ Allard, *Somalia Operations: Lessons Learned*, xviii; Kennedy, "The Relationship between the Military and Humanitarian Organizations in Operation Restore Hope," 106-07.

¹³⁵ Bush, *The National Security Strategy of the United States*, 7-8.

made it one.¹³⁶ Presidents Bush and later Clinton appeared to have three political objectives in Somalia: to provide humanitarian support and relief to Somali's starving populace, to provide a stable environment for the conduct of relief operations in Somalia, and to promote multilateralism and burden-sharing by working with and under the auspices of the United Nations in providing humanitarian support to Somalia.¹³⁷ These objectives were not fully identified at the beginning of the U.S. involvement; rather, they evolved over the course of it. The ability of the U.S. military to attain them was a function of the political leadership's ability to balance ends (objectives), ways (concepts), and means (resources, i.e. weapons systems and force structure).

During Phase I, Operation Provide Relief (UNOSOM I), the U.S. forces were successful in airlifting supplies into Mogadishu, but due to inadequate ground forces they were unable to provide security outside of the airport. As a result, most of the supplies destined for the victims of the famine fell into the hands of the tribal/clan warlords and the plight of the suffering Somalis worsened. This was not due to inadequate force structure or equipment. It was due to a political decision not to become embroiled in a Somali civil war. Phase II of Operation Restore Hope was designed to remedy that situation.¹³⁸ Table 7-1 below provides a comparison of U.S. strategies during the various phases of the U.S. involvement in Somalia.

¹³⁶ Halberstam, *War in a Time of Peace: Bush, Clinton, and the Generals*, 250-51.

¹³⁷ Allard, *Somalia Operations: Lessons Learned*, 13-20; Kennedy, "The Relationship between the Military and Humanitarian Organizations in Operation Restore Hope," 100.

¹³⁸ Allard, *Somalia Operations: Lessons Learned*, 17, Stewart, "The United States Army in Somalia: 1992-1994," 8.

During Operation Restore Hope, the political objectives were expanded to include providing a secure environment in which to dispense humanitarian relief. The military forces that intervened in Somalia as part of Operation Restore Hope generally accomplished their objectives. The airport and seaport in Mogadishu were made operational. UN and U.S. force deployed to the interior of Somalia and opened up the lines of communication. The military escorted and secured humanitarian relief workers as they moved about their tasks. Although the humanitarian organizations complained that the U.S.-led forces only partially accomplished the last task, they accomplished much more under the security of the U.S. forces than they had previously.¹³⁹ To accomplish the first three tasks, the U.S. used a combination of a military show of force, aggressive patrolling, and adroit diplomacy to intimidate the warlords and persuade them that it would be to their best interest to cooperate with the U.S.-led UN forces.¹⁴⁰ But if success is measured against lasting results, the short duration of Operation Restore Hope (barely five months) and its limited mandate precluded any long-term benefits from taking hold. As with Phase I, it was the political decision to limit the tasks that the military force performed and the time they had to

¹³⁹ Kennedy, "The Relationship between the Military and Humanitarian Organizations in Operation Restore Hope," 108-11.

¹⁴⁰ Oakley, "Operation Restore Hope," 45-46.

Table 7-1: Comparison of Ends, Ways, and Means.

Phases of U.S Effort	Political Objective (Ends)	Ways (Concepts)	Means (Resources)	Military Tasks	Political Objective /Military Tasks met?
Phase I: Provide Relief/UNOSOM I	Provide humanitarian aid to Somali people and NGOs	Intra-theater airlift from Kenya	Joint Task Force built around 12USAF aircraft	Airlift supplies to sites in Somalia	No/ Yes
Phase II: Restore Hope	Provide humanitarian aid to Somali people and NGOs. Promote Stable environment in Somalia. Promote multilateral approach and burden-sharing.	Massive military intervention	2 U.S. division equivalents. 1 carrier battle group. 1 UN-provided division equivalent. Air transport support	Secure airports and ports. Secure lines of communication to interior. Provide security for convoys and relief workers. Assist UN and NGOs in providing humanitarian relief.	Yes (qualified)/ Yes
Phase III: (UNOSOM II)	Same as Phase II for U.S. UN added nation-building objectives.	Disarm country; develop economy; develop a political system	4,200 personnel (only 1,200 combat troops). Air transport support	Same tasks as Phase II plus: disarm clans and establish police function throughout the countryside.	No/partial

Sources: Richard W. Stewart, *The United States Army in Somalia: 1992-1994* (Washington, DC: U.S. Army Center of Military History, 2002), 1-26; Walter Clarke and Jeffrey Herbst. "Somalia and the Future of Humanitarian Intervention." In *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, edited by Walter Clark and Jeffrey Herbst (Boulder, CO and Oxford: Westview Press, A Member of Perseus Books, L.L.C., 1997), passim; Kenneth Allard, *Somalia Operations: Lessons Learned* (Washington, DC: National Defense University Press, 1995), passim.

perform them--not the military's weapons systems and force structure--that ultimately ensured that Operation Restore Hope would have few positive lasting effects. Whether the political objectives were appropriate for the conditions in Somalia is questionable; however, during Operation Restore Hope the U.S. had enough forces to ensure success, even if their force structure and weapons systems were not ideally suited to the conditions they faced in Somalia.¹⁴¹

Phase III (UNOSOM II) was destined to fail from the beginning. Instead of picking up where Phase II left off, as the U.S. envisioned, this UN-led phase sought to pursue an ambitious agenda of peace enforcement and nation-building in Somalia.¹⁴² It was a mission that the Somali leaders were not prepared to support let alone participate in, and one that the U.S. political leadership did not buy into. Hence, the U.S. would not provide the resources in order to ensure its success. By the end of May 1993, the U.S. had reduced its forces by 80 percent. Moreover, after a series of bloody exchanges with the Somali clans, Boutros-Ghali and Admiral Howe, the chief UN military representative, personalized the conflict by committing UN and U.S. forces in a hunt for Aideed.¹⁴³ They lost sight of the mission to relieve the suffering of the Somali people and in the

¹⁴¹ Drysdale, "Foreign Military Intervention in Somalia: Root Cause of the Shift from UN Peacekeeping to Peacemaking and Its Consequences," 130.

¹⁴² Thomas G Weiss, "Rekindling Hope in Un Humanitarian Intervention," in *Learning from Somalia*, eds. Walter Clarke and Jeffrey Herbst (Boulder, CO: Westview Press, A Member of Perseus Books, L.L.C., 1997), 214.

¹⁴³ Powell, *My American Journey*, 584.

process elevated the prestige of Aideed among the people.¹⁴⁴ This forlorn mission ended in a pitched battle between Aideed's militia and the elite U.S. Special Forces. The U.S. forces were forced to withdraw under fire. Although the casualty figures were low compared to an average day during the Vietnam War, in recent experience, it was the U.S. military's bloodiest day, and it triggered the end of the U.S. and, subsequently the UN involvement in Somalia.¹⁴⁵ In the final analysis, the advanced weapons systems, precision munitions, and high technology intelligence systems proved unable to produce a favorable political outcome.¹⁴⁶

Somalia Lessons Learned

The U.S. military's inability to obtain the administration's policy objectives in Somalia resulted from a number of factors. The two most important were that neither the military nor the civilian leadership conducted a thorough mission analysis, and that the U.S. did not have the force structure and weapons systems that military operations in Somalia called for. Although the military did accomplish most of the tasks it was assigned in Somalia, especially during Operation Restore Hope, it did so by forming ad hoc task forces and units. Given the social, political, and operational context of Somalia,

¹⁴⁴ Drysdale, "Foreign Military Intervention in Somalia: Root Cause of the Shift from UN Peacekeeping to Peacemaking and Its Consequences.", Woods, "U.S. Government Decisionmaking Processes During Humanitarian Operations in Somalia," 163.

¹⁴⁵ Bowden, *Black Hawk Down: A Story of Modern War*, 314.

¹⁴⁶ Halberstam, *War in a Time of Peace*, 261-63.

the military was not organized, trained, or equipped to perform the missions it was given.¹⁴⁷

In the media generated rush to “do something,” President Bush’s administration failed to conduct a thorough analysis of the environment and the tasks that would have to be performed in order to provide for a stable setting in which to provide humanitarian relief to the Somali people.¹⁴⁸ For example, contrary to the images received on the nightly news, the Somali famine was not entirely induced by drought and crop failure. It was largely the result of fighting during Somalia’s civil war that resulted in the fall of Somalia leader Siad Barre in January 1991, and the country’s subsequent slip into anarchy and clan warfare.¹⁴⁹ Moreover, the effects of this self-induced famine were felt primarily in the urban population centers, where powerful armed warlords like Aideed controlled the food supply and distribution. People who supported and fought for Aideed were fed, those who did not starved. As long as Aideed and the other warlords were armed, they were politically powerful and thus capable of shaping their environment and influencing the actions of any outside agency attempting to operate within it.¹⁵⁰ Any move to disarm them would almost certainly meet with violent resistance, since the militias constituted the source of the warlords’ power base. As long as the U.S.

¹⁴⁷ Bowden, *Black Hawk Down: A Story of Modern War*, 339-42; Clarke, “Somalia and the Future of Humanitarian Intervention,” 244; Cooling, “Operation Restore Hope in Somalia: A Tactical Action Turned Strategic Defeat,” 102.

¹⁴⁸ Weiss, “Rekindling Hope in UN Humanitarian Intervention,” 218.

¹⁴⁹ Kennedy, “The Relationship between the Military and Humanitarian Organizations in Operation Restore Hope,” 100.

¹⁵⁰ Clarke, “Somalia and the Future of Humanitarian Intervention,” 241-42.

maintained a strong military presence in Somalia and did not directly challenge the warlords' power, the humanitarian relief operations were successful. However, the long-term stable environment the U.S. sought to establish could be maintained only by a negotiated disarmament, which the warlords had refused to do, or through forcible disarmament, which is essentially what the U.S. tried to do in its hunt for Aideed.¹⁵¹

An analysis of the mission forcibly to disarm the Somalia warlords should have revealed several ripple effects. First, disarmament either negotiated or forcible would have threatened the clan warlords' power base, would have been resisted with force, thus would have thrust the peacekeeping force into combat operations in an urban environment. Second, combat operations in the Somalia urban areas would have drawn resources away from the relief efforts and inflicted potentially tens of thousand more casualties on the Somali population as well as further disrupted the social and what was left of the economic and political infrastructure in Somalia. Third, the suffering of the Somali people would have increased substantially. Finally, the resolve and commitment of the participating UN states would have been severely tested, especially if they sustained the heavy number of casualties normally associated with urban combat, and that in fact were inflicted on UN and U.S. forces on June 5, 1993, and October 3-4, 1993, respectively.¹⁵² If this level of analysis had been conducted, and a decision had been made to disarm all or a portion of the Somali clans, the U.S. could have at least ensured

¹⁵¹ Ibid., 241-43.

¹⁵² Ibid.; Halberstam, *War in a Time of Peace*, 257-58; Woods, "U.S. Government Decision-making Processes During Humanitarian Operations in Somalia," 158,69. See also Jonathan T Howe, "Relations between the United States and United Nations in Dealing with Somalia," in *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, eds. Walter Clarke and Jeffrey Herbst (Boulder, CO and Oxford: Westview Press, A Member of Perseus Books, L.L.C., 1997), 178-84.

that it had the requisite forces present to do the task. Instead, they significantly reduced their military presence while simultaneously slipping into the type of mission they had successfully avoided during Phase II, Operation Restore Hope.¹⁵³ In addition to not having enough forces for the tasks they undertook in phase III, the weapons systems and force structure the U.S. relied upon was not suited for the type of combat conditions the U.S. encountered in Somalia because it lacked sufficient armor.

The same high technology weapons systems and force structure that proved so successful in the Gulf War were largely ineffective in Somalia.¹⁵⁴ Much of their ineffectiveness was due to the situation they were employed in. Urban combat negated the effectiveness of many of America's high tech weapons systems.¹⁵⁵ The strength of the U.S. military rested on its ability to identify, locate, and deliver precision weapons systems against fixed targets at great standoff distances. This type of warfare minimized U.S. casualties while destroying the target and reducing collateral damage. In Somalia, the warlords' militia was indistinguishable from the populace they were interspersed among. Moreover, much of the populace was armed, and on any given day could be either compliant or hostile. As a result, identifying the enemy, let alone finding him, was difficult.¹⁵⁶ On those occasions when the militias did show themselves, they were invariably surrounded by scores of civilians whom they often used as human shields.

¹⁵³ Howe, "Relations between the United States and United Nations in Dealing with Somalia," 178-80.

¹⁵⁴ Halberstam, *War in a Time of Peace*, 261-62.

¹⁵⁵ Bowden, *Black Hawk Down: A Story of Modern War*, 340.

¹⁵⁶ Cooling, "Operation Restore Hope in Somalia: A Tactical Action Turned Strategic Defeat," 101.

Finding and engaging these targets with the precision weapons systems the U.S. had in its inventory was difficult. Additionally, given that context, engaging the enemy was sure to cause excessive collateral damage, which would have negated the overall purpose of the mission--saving Somali lives.¹⁵⁷

The conditions in Somali required a strategy that used low-technology operational methods along with high-technology resources. Combat in cities requires extensive patrolling by soldiers on the ground, civic action programs, constabulary operations, and the ability to cordon off a portion of the urban area in order to conduct combat operations in a more conventional manner.¹⁵⁸ But to accomplish this, the U.S. would have had to task organize its force structure differently. Armored and mechanized infantry units were often too cumbersome and over-powered for patrolling and small-unit actions that occurred in Somalia, yet some armor was needed. Light infantry units, on the other hand, while perfectly suited for patrolling, but did not have enough combat power to defeat heavily armed and determined resistance.¹⁵⁹ The U.S. needed a force capable of using patrolling and civic action to identify the enemy, locate, and target him, and then to destroy him through the use of precision munitions delivered by modern tanks, helicopters, aircraft, and shoulder-launched systems. Had the U.S. decided to stay in Somalia for the long term, it had in its inventory the weapons and forces it needed.

¹⁵⁷ Bowden, *Black Hawk Down: A Story of Modern War*, 12 ,23, 340.

¹⁵⁸ Cooling, "Operation Restore Hope in Somalia: A Tactical Action Turned Strategic Defeat," 102.

¹⁵⁹ Howe, "Relations between the United States and United Nations in Dealing with Somalia," 181-83.

However, they were not organized or structured for the conditions they encountered in Somalia.¹⁶⁰

In an odd twist of events, the power of the U.S. military that made intervention in Somalia possible in the first place ultimately proved incapable of obtaining U.S. policy objectives. Had the U.S. political and military leaders conducted a more thorough mission analysis in light of Somalia's conditions, they would have seen that a long-term solution required stability, that stability would only come about through disarmament, that disarmament required combat operations and a different force structure and weapons mixture, and that even with this ad hoc force structure combat in urban areas invariably entails higher casualties. Armed with this analysis, America's leaders could have made a more rational decision to become involved in Somalia. Instead, they were blinded by hubris following America's stunning victory in the Gulf War. Compelled to intervene by its position as the world's only superpower, the hype of the media, and its possession of the most advanced and potent military in the world, the U.S. entered Somalia at the head of a UN force convinced its military would quickly overcome resistance, eliminate the suffering of the Somali people, and restore stability. It was wrong. The U.S. military involvement in Somalia ended in uncertainty and frustration. The U.S. experienced uncertainty over the role of its military's involvement in peacekeeping operations, and frustration in working with and under the auspices of the United Nations. The military was not structured for the conditions it faced in Somalia. It needed different weapons systems, force structure, and operational techniques to succeed. Failing that, the political

¹⁶⁰ Woods, "U.S. Government Decision-making Processes During Humanitarian Operations in Somalia," 157.

leadership should have adjusted the military objectives to more closely match its capabilities. However, this was not the lesson most U.S. leaders took away from the intervention in Somalia.

Instead, the U.S. decided that humanitarian relief operations, especially those conducted under the auspices of the UN should be avoided. President Clinton issued Presidential Decision Directive 25, which stated that U.S. forces participating in UN operations would remain under U.S. operational command. For the uninformed this demonstrated enlightened resolve. However, U.S. forces in Somalia had routinely been under U.S. control. U.S. internal command and control procedures along with a lack of policy coordination more than anything else contributed to the debacle of Phase III. Additionally, America's subsequent involvement, or non-involvement as the case may be, in Haiti, Bosnia, and Kosovo were attributable to its learning the wrong lessons from Somalia.¹⁶¹ Contributing to the reluctance of the U.S. to get involved in humanitarian missions was the putative desire to avoid casualties. The Clinton administration's political and military leaders carried away the lesson from Somalia that the American people would not tolerate casualties. Casualties would erode public support, it was felt, which equated to mission failure and hence political failure.¹⁶²

The military relied on the Powell doctrine and its application of overwhelming force to avoid casualties. Many public leaders feel that the American public expects the

¹⁶¹ Halberstam, *War in a Time of Peace*, 266.

¹⁶² Boot, *The Savage Wars of Peace: Small Wars and the Rise of American Power*, 392; Halberstam, *War in a Time of Peace*, 292; Owens, *Lifting the Fog of War*, 189.

U.S. military with its high technology equipment, weapons, and training to win decisively and quickly with minimal casualties.¹⁶³ However, humanitarian missions, especially those that involve nation-building, do not lend themselves to overwhelming force and quick resolution. They require tailored forces, and not just military ones. Moreover, they involve the risk of sustained casualties especially if fought in an environment that negates many of America's technological advantages.

The lesson that U.S. military and political leaders should have learned from Somalia was that while high technology works, it doesn't work in every situation. Over-reliance on technology can expose weaknesses that a foe can exploit. Aided demonstrated this in October 1993, much as the North Vietnamese had 20 years previously. Asymmetric warfare in 'peacekeeping' operations negates U.S. technological advantages.¹⁶⁴ Moreover, technology cannot offset poor political decisions and poorly executed policies.¹⁶⁵ This is not to advocate a U.S. military de-emphasis of technology or discard of current capabilities. Rather, the military should develop some weapons system technologies and a force structure for the more frequent low-intensity conflicts that historically the United States finds itself engaged in.

Even though the military provided the encouragement necessary for the U.S. to get involved in Somalia, it left that situation convinced that nation-building was suspect,

¹⁶³ Robert M. Stein, "Program Requirements and the Role of Defense Industry," in *Ethnic Conflict and Regional Instability: Implications for U.S. Policy and Army Roles and Missions.*, eds. Robert L. Pfaltzgraff, Jr. and Richard H. Shultz, Jr. (Carlisle Barracks, PA: U.S. Government Printing Office, 1996), 318.

¹⁶⁴ Owens, *Lifting the Fog of War*, 30.

¹⁶⁵ *Ibid.*, 181.

that the UN was inept at controlling military operations, and that military intervention for purely humanitarian reasons without a vital interest at stake was dubious and risky at best. The military left Somalia wed to its Cold War force structure and technology, a doctrine that called for the use of overwhelming force, and more influence in policy-making than before. The U.S. involvement in Kosovo would again demonstrate the military's abiding faith in technology and its influence on policy.

Kosovo: Operation Allied Force

Even as America's involvement in Somalia was ending, events in the Balkans were building toward America's eventual involvement in a major armed conflict in Kosovo. The U.S. experience in Somalia shaped America's approach to conflict scenarios throughout the remainder of the two terms of the Clinton Presidency. Although the United States continued to support humanitarian missions, it did so primarily with logistical support. After Somalia, the U.S. assiduously avoided sending ground forces unless the threat to them was minimal.¹⁶⁶ If the use of force became inevitable, the U.S. preferred to rely on air power and precision-guided munitions to engage the enemy. In theory, surgical precision provided the U.S. with the capability to destroy a target with one strike, while minimizing collateral damage (destruction of non-military property or killing/harming of innocent civilians). The extended ranges of precision weapons provided U.S. forces with standoff capability. Standoff gave U.S. weapons systems the capability to deliver devastatingly powerful strikes on the enemy at ranges beyond his

¹⁶⁶ Ivo H. Daadler and Michael E. O'Hanlon, *Winning Ugly: Nato's War to Save Kosovo* (Washington, D.C.: Brookings Institution Press, 2000), 2.

ability to strike back or counter the U.S. capability. Potentially, this meant few if any U.S. casualties. Moreover, using air power as the chief instrument of a military campaign meant that the U.S. could disengage, if the situation warranted, much easier than it could if ground troops were involved in direct combat.¹⁶⁷

Additionally, since Somalia, U.S. political and military leaders were reluctant to engage in coalition warfare unless the U.S. was the lead nation and thus had the major role in shaping the goals and objectives of the coalition. Interventions in Rwanda and Haiti failed to meet these stringent criteria, and were undertaken by the U.S. in a half-hearted and overly cautious manner. Both interventions demonstrated an uncertainty and ineptness in U.S. foreign policy and did nothing to bolster confidence in U.S. resolve and leadership by either friend or foe.¹⁶⁸

The crisis in Kosovo was an extension of the ethnic conflict and religious strife that erupted in the Balkans at the end of the Cold War. From the time the Ottoman Turks invaded the region over 800 years before until the present, it has always been rife with contention. Strong political rulers who could suppress the hatred and keep the violence in check aimed no higher than simply maintaining peace and order. In 1991, ethnic strife exploded into multi-factional civil war. The conflict raged for over four years until a U.S.-led NATO brokered peace accord among the warring factions was signed in Dayton, Ohio. The Dayton Accords and subsequent NATO occupation brought peace, but sowed

¹⁶⁷ Stephen Biddle, "The New Way of War? Debating the Kosovo Model," *Foreign Affairs*, May/June 2002, 139; Bruce R. Nardulli et.al., *Disjointed War: Military Operations in Kosovo, 1999* (Santa Monica, Arlington, Pittsburgh: RAND, 2002), 11.

¹⁶⁸ Halberstam, *War in a Time of Peace*, 264.

the seeds of future unrest.¹⁶⁹ Serbian power and prestige were diminished as a result of the accords, and it was not long before President Milosevic sought to reestablish his political authority and stature in Serbia by revoking the semi-autonomous political status of Kosovo, a state inhabited largely by Muslims. His efforts to marginalize the authority and autonomy of the Kosovo people soon erupted in violence that provided Milosevic with the excuse to uproot large portions of the Muslim population. Milosevic used his military and para-military to prosecute a campaign of ethnic cleansing that resulted in the death of thousands of civilians and the displacement of hundreds of thousands more into neighboring countries and provinces. The ensuing humanitarian crisis was broadcast to the world, and the U.S. and NATO felt compelled to act. At Rambouillet, France the U.S. and NATO half-heartedly attempted to obtain a political settlement. However, the Rambouillet accords were tantamount to an ultimatum, and Serbia rejected them, knowing that NATO was prepared to implement them by military force if necessary.¹⁷⁰

On the surface, Kosovo appeared to meet all the conditions the U.S. established for military involvement. There was a bonafide humanitarian crisis occurring within the Federal Republic of Yugoslavia (FRY) province of Kosovo as acknowledged by the United Nations. Milosevic, the Serbian leader, had all the qualities of an evil, bloodthirsty tyrant. His army was armed with Soviet equipment, could be tempted against Soviet operating norms, and was subject to the destructive effects of air power as

¹⁶⁹ Daadler and O'Hanlon, *Winning Ugly: Nato's War to Save Kosovo*, 6-8.

¹⁷⁰ Anthony H. Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo*. (Westport, CT.: Praeger Publishers, 2001), 5-16; Daadler, *Winning Ugly: Nato's War to Save Kosovo*, 69-84; Christopher Layne, "Miscalculations and Blunders Lead to War," in *NATO's Empty Victory: A Postmortem on the Balkan War*, ed. Ted Galen Carpenter (Washington, DC: Cato Institute, 2000), 14-18.

was the country's economic infrastructure. Moreover, an alliance/coalition was already in existence, i.e., the North Atlantic Treaty Organization (NATO), in which the U.S. had been the major player since 1949. Conditions seemed ideal for using America's, and to a lesser degree NATO's, high technology military might to force President Milosevic and the Serbian leadership that dominated the FRY into acceding to NATO's political demands. The U.S. political and military leadership, along with NATO's leaders, believed the military campaign would be brief.¹⁷¹ However, actual events soon dispelled America's anticipation of a quick campaign. Although victory eventually ensued, the Kosovo campaign demonstrated the incongruity between current policy goals, on the one hand, and weapons systems technology and force structure on the other.¹⁷² As with the two previous case studies, this one begins with an examination of U.S. interests and objectives.

U.S. Interests, Objectives, and Strategy

America's intervention in Kosovo during 1999 came at the halfway mark of President Clinton's second term in office. Published in October 1998, the national security strategy was titled *A National Security Strategy For A New Century*.¹⁷³ The strategy specified America's interests, organizing them into three intensity levels: vital, important, and humanitarian/other interests. Interests considered "vital" affected the

¹⁷¹ Wesley K. Clark, *Waging Modern War: Bosnia, Kosovo, and the Future of Combat* (New York: Public Affairs, a member of the Perseus Books Group, 2001), 208; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 2; Owens, *Lifting the Fog of War*, 184.

¹⁷² Owens, *Lifting the Fog of War*, 188, 194.

¹⁷³ William J. Clinton, *A National Security Strategy for a New Century* (Washington, DC: The White House, 1998).

survival of the nation, thus constituting interests the U.S. would not hesitate to use force to protect.¹⁷⁴ National interests considered “important” did not affect the survival of the nation, but did affect its well-being and the character of the world stage. Use of force to obtain important interests was always an option, but not a foregone conclusion. The third category, consisting of humanitarian/other interests, did not affect the survival or well-being of the state; rather, they reflected the nation’s broad set of values and beliefs.¹⁷⁵ Although the use of force to obtain humanitarian interests was not ruled out, its strategic formulation--“the force of our example bolsters support for our leadership in the world”--suggested rather the importance of diplomacy, moral suasion, and reliance on other governments, international institutions, and non-governmental organizations.¹⁷⁶

The Clinton national security strategy emphasized the importance of a multi-lateral approach in America’s foreign policy, calling for the U.S. to engage and, in many instances, lead the world in addressing the plethora of issues that characterize international relations in an era of increased globalization. Specifically, the strategy sought to attain the interests stated above by creating a stable and peaceful international security environment; promoting respect for democratic values, human rights, and the rule of law; fostering growth in the global economy through open international trade; and

¹⁷⁴ Ibid., 5.

¹⁷⁵ Ibid., 6.

¹⁷⁶ Ibid.

seeking a cleaner global environment.¹⁷⁷ It is these stated interests and global goals that provide the policy context in which to assess the U.S. intervention in Kosovo.

As with Somalia, the situation in Kosovo did not threaten a U.S. vital interest. Nor did the situation in Kosovo threaten the vital interests of any of the NATO nations.¹⁷⁸ President Clinton characterized Kosovo as a vital interest in order to justify U.S. intervention. He stated that the U.S. and its allies were obliged to “act to prevent a wider war; to diffuse a powder keg at the heart of Europe that has exploded twice before in this century with catastrophic results.”¹⁷⁹ But the President’s remarks were thus embellished as a means for garnering public approval for his action and preempting Congressional opposition, rather than as a means preparing the nation for war. The U.S. intervention in Kosovo occurred primarily for humanitarian purposes, although an important interest was legitimately at issue, namely, “maintenance and strengthening of alliances and multi-lateral organizations,” in this case NATO.¹⁸⁰ Kosovo became a litmus test of Clinton’s foreign policy and NATO’s viability. President Clinton further underscored the humanitarian and alliance maintenance aspects of the intervention when he stated the objective of the U.S. and NATO military intervention:

¹⁷⁷ Ibid., 5.

¹⁷⁸ Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, xiv.

¹⁷⁹ Eliot A. Cohen, “Kosovo and the New American Way of War,” in *War over Kosovo: Politics and Strategy in a Global Age*, eds. Andrew J. Bacevich and Eliot A. Cohen (New York: Columbia University Press, 2001), 46.

¹⁸⁰ Clinton, *A National Security Strategy for a New Century*, 5-6; Cohen, “Kosovo and the New American Way of War,” 51; James Kurth, “First War of the Global Era: Kosovo and U.S. Grand Strategy,” in *War over Kosovo: Politics and Strategy in a Global Age*, eds. Andrew J. Bacevich and Eliot A. Cohen (New York: Columbia University Press, 2001), 74-76.

Our strikes have three objectives: First to demonstrate the seriousness of NATO's opposition to aggression and its support for peace. Second, to deter President Milosevic from continuing and escalating his attacks on helpless civilians by imposing a price for those attacks. And third, if necessary to damage Yugoslavia's capacity to wage war against Kosovo in the future by seriously diminishing its military capabilities.¹⁸¹

Almost simultaneous with President Clinton's speech NATO's secretary general, Javier Solano, echoed Clinton's humanitarian rationale for the intervention: "We must stop the violence and bring an end to the humanitarian catastrophe now taking place in Kosovo."¹⁸²

With no vital interest at stake and only one important interest affected, the U.S. led NATO's military intervention in Kosovo. President Clinton did express a caveat regarding his employment of force: "I don't intend to put our troops in Kosovo to fight a war."¹⁸³ But how did the U.S. and NATO intend to pursue the conflict with Yugoslavia if they did not intend to deploy ground forces? The answer: they planned to cow Milosevic with a dazzling display of American and, to a lesser extent NATO, high technology warfare in the form of airpower. Once Serbia experienced the force of America's high-tech arsenal, Milosevic would acquiesce to NATO's demands in a matter of days, at most a week or two, or so it was expected. Madeleine Albright, the U.S. Secretary of State and the strongest advocate for the use of force, stated the night the air attacks began: "I don't see this as a long-term operation."¹⁸⁴ Despite the numerical

¹⁸¹ William J. Clinton, Speech, March 24, 1999.

¹⁸² Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 21-22.

¹⁸³ *Ibid.*, 22-23.

¹⁸⁴ Benjamin S. Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment* (Santa Monica, CA; Arlington, VA; Pittsburgh, PA: RAND, 2001), 20.

advantage and technological superiority of U.S. and NATO forces, however, the air campaign against Milosevic took much longer than anticipated and produced questionable results.

Weapons systems, Force Structure, and Military Outcomes

The forces the U.S. military employed in Operation Allied Force, the air campaign against Milosevic, were structured essentially as they had been during the Gulf War.¹⁸⁵ However, they were pared down substantially as a result of the Base Force Strategy, Bottom Up Review, and the 1997 Quadrennial Defense Review. The Army had ten divisions (down from 18 in 1990), the Navy had eleven active carriers and 314 battle force ships (down from 17 and 574, respectively), and the Air Force had 20 fighter and 3 bomber wings (down from 44 and 16, respectively).¹⁸⁶ But what these forces lacked in quantity they made up for quality. To maintain its technological edge in the post-Cold War era, the military had continued to commit a relatively high percentage of its budget (over 13 percent) to RDT&E. Further, it extended weapons systems procurement timelines in order to spread development costs out over future years in an effort to ensure that specific weapons programs such as the Joint Strike Fighter and the Comanche attack helicopter remained viable.¹⁸⁷ Current weapons systems such as the Abrams tank and the

¹⁸⁵ Owens, *Lifting the Fog of War*, 194.

¹⁸⁶ Carlucci, *Annual Report to the Congress*, 128-68; William S Cohen, *Annual Report to the President and the Congress*, (Washington, D.C.: Office of the Secretary of Defense, 1999), 39-49; Air War College, *U.S. Air Force Wing Force Structure*, passim.

¹⁸⁷ Cohen, *Annual Report to the President and the Congress*, B-1.

Navy's F-14 and F-18 fighters were upgraded to enhance their capability to operate in all weather conditions and to deliver precision guided munitions. The Navy had continued to develop advanced attack submarines such as the Seawolf class and the Virginia class, both of which were capable of launching conventional or nuclear-armed Tomahawk Land Attack Missiles (TLAMs).¹⁸⁸ Operation Allied Force featured the debut of the Air Force's B-2 Stealth bomber in combat.¹⁸⁹ With the success of stealth technology in the Desert Storm, all the services had invested heavily in stealth technology. Stealth weapon system in the development cycle included the Air Force's F-22 fighter, the Joint Strike Fighter, and the Army's Comanche attack/scout helicopter.¹⁹⁰

But more important than the weapons systems development was the military's continued development and procurement of advanced precision guided munitions. From the end of the Gulf War in March 1991 to Kosovo and the present, the military continued to develop and procure more lethal and precise munitions. Table 7-2 below represents only a fraction of the cost the military paid for munitions during the 1990s. Nonetheless, the dollar amounts are significant for this representative sampling. The military procured approximately 12,526 precision-guided munitions at a cost of \$5.069 billion, or roughly \$400,678.00 per munition. These figures are not significant in themselves, considering that the average size of the defense budget during this period was around 265 billion

¹⁸⁸ Ibid., 57.

¹⁸⁹ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 89.

¹⁹⁰ Cohen, "Annual Report to the President and the Congress," 50-53,61.

Table 7-2. Post Gulf War Precision Guided Munitions Development and Procurement

Munitions	Purpose	Year RDT&E Began	# Procured by 1999	Total Cost, RDT&E and Procurement (in Millions)
Joint Direct Attack Mmunition (JDAM)	Aircraft launched, GPS equipped, Satellite guided bomb	1993	4,339	557.0
Sensor Fused Weapons (SFW)	Top attack on enemy armor	1991	1,972	773.0
Wind Corrected Mmunition Dispenser	Guidance system for high altitude delivery of Cluster Bombs	1995	280	152.0
Joint Air-to-Surface Missile (JASSM)	Autonomous targeting, enhances aircraft standoff	1996	0	477.0
Standoff Land Attack Missile (SLAM)	Precise, Enhanced and modified version of Harpoon missile used to engage point targets on land	1999	102	62.0
Joint Standoff Weapons (JSOW)	Precise Long range glide bomb with autonomous navigation	1993	380	920.0
Short Range Antitank Weapon	Fire and Forget Top Attack system	1998	0	20.0
Sense and Destroy Armor Mmunition	Artillery delivered top attack	1995	1190	301.0
Javelin	Fire and Forget Medium Range Antitank missile	1989	4,263	1,807.0

Sources: Congressional Research Service, *Acquisition Costs of Selected Weapons Programs FY 1975 - 2003*, 2002; Cohen, William S. *Annual Report to the President and the Congress*, pages 37-75, 1999.

dollars.¹⁹¹ But compared to the cost of a 500-pound MK-82 iron bomb--approximately \$3,000--and what they were used against in Kosovo, in some instances a \$5,000 Russian-made truck, the money spent on high technology further substantiates the military's embrace of technology, even if a more cost-efficient option, albeit it low-tech, was available. Putting cost efficiency aside, the military began combat operations against Milosevic and Yugoslavia with the most advanced and high-tech command and control, intelligence, weapons systems, and munitions in the world.

The military's campaign planning and execution were limited by three factors. First, President Clinton had foreclosed the option of using ground troops. This deprived the military of a valuable strategic option. Not having to mass his forces to counter a NATO ground threat, Milosevic was able to disperse his troops in an effective ethnic cleansing campaign unimpeded. The dispersion made finding and targeting Serbian forces for air strikes extremely difficult.¹⁹² Second, U.S. and NATO political leaders decided to apply force gradually in hopes that Milosevic would capitulate before too much collateral damage had occurred.¹⁹³ However, gradual escalation allowed Milosevic to adapt. He dispersed his forces making them harder to acquire and hit, and he preserved his air defense system so that it remained a threat to NATO aircraft throughout the campaign.¹⁹⁴ Moreover, gradual escalation and precision weapons allowed the

¹⁹¹ Ibid., B-1.

¹⁹² Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 43-48; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 22-23.

¹⁹³ Lambeth, *The Transformation of American Air Power*, 183-85.

¹⁹⁴ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 37; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 2, 28, 47-49.

citizens of Yugoslavia to prepare for a protracted campaign secure in the knowledge that they were not targets. Third, there were often serious disagreements among the allies over target priorities and specific target selection. These political disagreements affected the coherence of the air campaign plan and allowed fleeting targets to escape.¹⁹⁵ Moreover, they contributed to Milosevic's belief that if he held on long enough NATO's resolve would crumble.

NATO conducted a three-phased air campaign. Phase I of Operation Allied Force began on the evening of March 24, 1999. It featured attacks by 250 U.S. aircraft, four U.S. surface ships, and two attack submarines launching precision-guided bombs and cruise missiles against military and infrastructure targets in Kosovo. A total of 55 cruise missiles were launched on the first night of the campaign. President Clinton and the NATO leaders fully expected President Milosevic to be overawed by these attacks and to agree to NATO's demands.¹⁹⁶ However, after three nights of attacks, Milosevic was anything but cowed. To the dismay of Clinton and the military, the Serbs had stepped up the intensity of their ethnic cleansing operations in Kosovo. Serbian armed forces were interspersed among the refugees along the crowded roads, making the targeting of the enemy almost impossible. As a result, Clinton authorized the military to proceed to Phase II.¹⁹⁷

¹⁹⁵ Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 47-48.

¹⁹⁶ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 20-21,24.

¹⁹⁷ *Ibid.*, 23-35.

Phase II expanded the target set to include military and limited infrastructure targets outside of Kosovo and closer to the Yugoslavian capital of Belgrade.¹⁹⁸ However, after five additional days of intensified attacks, the U.S. and NATO were no closer to forcing Milosevic's capitulation or stopping his ethnic cleansing campaign in Kosovo. Consequently, the military entered Phase III on Day 9 of the war. Phase III gradually expanded the target list to include key infrastructure targets whose loss or disruption would directly impact on Milosevic's ability to govern and on the livelihood of Yugoslavian people.¹⁹⁹ Moreover, it introduced the option of employing ground forces against Yugoslavia by ordering the deployment of U.S. attack helicopters and a ground task force into neighboring Albania. The gradual expansion of this phase of the operation eventually persuaded Milosevic to accede to NATO's demands on June 3, 1999.²⁰⁰

The air campaign succeeded, but not without problems. First, even with America's high-technology dominance, the Serbian air defense system was never eliminated, remaining a threat throughout the campaign. In fact, it brought down a vaunted F-117 stealth fighter, the first ever lost in combat.²⁰¹ Second, there were limits to what air power and precision weapons could do. Despite the claims of NATO's supreme military commander, General Wesley Clark, the Yugoslavian armed forces were only

¹⁹⁸ Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo.*, 26-29; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 37.

¹⁹⁹ Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 31-36.

²⁰⁰ Stephen T. Hosmer, *The Conflict over Kosovo: Why Milosevic Decided to Settle When He Did* (Santa Monica, Arlington, Pittsburgh: RAND, 2001), 49-64; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 38,66.

²⁰¹ Clark, *Waging Modern War: Bosnia, Kosova, and the Future of Combat passim*; Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 105,16-17.

minimally attrited during 78 days of intensive bombing.²⁰² President Clinton and General Clark claimed that the Serbian armed forces' offensive capability had been significantly reduced during the air campaign. In fact, the Serbs lost only 9 of 1,025 main battle tanks, 20 of 787 armored fighting vehicles, and 36 of 1,246 artillery pieces.²⁰³ The air campaign's attacks on the fixed targets that constituted the Yugoslavian infrastructure were more successful.²⁰⁴ However, these targets were located in population centers and in attacking them NATO aircraft killed more than five hundred civilians.²⁰⁵ Moreover, the disagreement over what category of targets to attack produced an intense debate between General Clark, the supreme commander who wanted military targets attacked, and Lieutenant General Short, the air component commander, who advocated attacks on the infrastructure at the onset.²⁰⁶ This internal conflict was exacerbated by the disagreement among the NATO allies over target priorities.²⁰⁷

Also, the late addition of a ground option highlighted the problems associated with America's Cold War-era force structure. The deployment of a ground force with

²⁰² Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo*, 212.

²⁰³ Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 55.

²⁰⁴ Lambeth, *The Transformation of American Air Power*, 188.

²⁰⁵ Biddle, "The New Way of War? Debating the Kosovo Model," 140; Gian P. Gentile, *How Effective Is Strategic Bombing? Lessons Learned from World War II to Kosovo* (New York and London: New York University Press, 2001), 192; Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, xx.

²⁰⁶ Daadler and O'Hanlon, *Winning Ugly: Nato's War to Save Kosovo*, 198; Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 189-91; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 34.

²⁰⁷ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 180; Lambeth, *The Transformation of American Air Power*, 219.

attack helicopters took an inordinately long time.²⁰⁸ As a result, the Apache helicopters were never used in combat. Two factors contributed to the Apache's not being used. One was the time required to get the aircraft into Albania and to train the crews for the mission they would undertake.²⁰⁹ The second was the inability of the Air Force and the Army to transmit targeting data to one another, coupled with differences in the operational planning and employment of airpower.²¹⁰ The Navy and Marine air wings that participated in the operation encounter similar problems operating within the Air Force's planning system.²¹¹ Despite Congressional efforts to promote joint war fighting procedures within the military, each service continued to pursue its own separate weapons systems procurement, force structure, and operating procedures.²¹²

In addition to the problems associated with attack helicopter employment, the military had other force structure difficulties as well. The Army lacked the flexibility and strategic mobility in its force structure that would have allowed it to participate in Allied Force earlier. The Marines lacked the capability to project sustainable combat power that far inland. In the Army's case, the organizing echelon of its force structure was and is the division. The Army had two types: the heavy division with its 70-ton Abrams tanks

²⁰⁸ Lambeth, *The Transformation of American Air Power*, 207-08; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 95-97.

²⁰⁹ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 155-56.

²¹⁰ Lambeth, *The Transformation of American Air Power*, Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 88-90.

²¹¹ Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 48.

²¹² Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo.*, 284-85; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 113.

that consumed 250 gallons of fuel every eight hours, but had superb tactical mobility and were the most lethal weapons system on the battlefield; and light divisions which could be rapidly air transported almost anywhere in the world, but lacked the fire power and tactical mobility to overcome all but similarly equipped opponents.²¹³ What the army needed in Kosovo was a force capable of rapidly deploying to remote areas, but with enough protection, fire power, and tactical mobility to allow it to defeat the threats it might encounter.²¹⁴ General Eric Shinseki, the Army's Chief of Staff, summed up the Army's problem immediately after the Kosovo campaign: "Our heavy forces are too heavy and our light forces lack the staying power. Heavy forces must be more strategically deployable and more agile with a smaller logistical footprint, and light forces must be more lethal, survivable, and tactically mobile. Achieving this paradigm will require innovative thinking about structure, modernization efforts, and spending."²¹⁵

The Marines, on the other hand, have armored vehicles including tanks and wheeled armored personnel carriers, but not a lot of them. Their units are strategically more agile than Army heavy divisions and have more combat power and tactical mobility than an Army light division.²¹⁶ But the Marines do not have the capability in their force structure to sustain themselves once they moved in land. Marine logistics operate from ship to shore via helicopter or water transport and then in land for relatively short distances via helicopter or truck. If the Marines anticipate fighting an extended land

²¹³ Owens, *Lifting the Fog of War*, 195.

²¹⁴ Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 119-20.

²¹⁵ Lambeth, *The Transformation of American Air Power*, 212.

²¹⁶ Owens, *Lifting the Fog of War*, 60-61.

campaign, as they did during the Gulf War, they are given an area of operations close to the sea to facilitate their logistical support, or Army assets augment them. For example, during the Gulf War the Marines were reinforced with an Army armored brigade and an Army corps support group. If used in Kosovo, the Marines would have had to rely on Army support, which, due to the remote staging area that Army forces flowed into and the difficulty the Army had getting its own support infrastructure established, would have been problematic at best.²¹⁷

Although President Clinton was reluctant to initiate ground operations, if he had chosen to do so at the onset his options would have been limited by the force structure and weapons systems the ground forces were built around. Contributing to the Army's lack of strategic mobility was the Air Force's and Navy's reluctance to invest their budget dollars in strategic lift assets such as the C-17 cargo plane and the SL-7 fast sea lift ship.²¹⁸ Instead, each of these services preferred to put their limited funds into fighters, bombers, and aircraft carriers. Moreover, the strategic lift assets they do have in their inventory are used primarily to support their self-deployments. Instead of having a joint expeditionary capability, the military fostered independent and redundant capabilities that were costly Cold War legacies, ultimately limiting policy options.²¹⁹

²¹⁷ Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo*. See also Joint Pub 3-33, pages II-5 to II-7

²¹⁸ *Ibid.*, 398-01.

²¹⁹ *Ibid.*, 307-07, Owens, *Lifting the Fog of War*, 63,69.

Political Objective Obtained or Hindered?

Operation Allied Force successfully coerced Milosevic into accepting NATO's demands, but not without a price. In the long term, Operation Allied Force furthered U.S. interests. However, in the near term allied bombing increased the suffering of the Albanian Kosovars. The refugee flow out of Kosovo and into neighboring provinces and states increased, which increased the suffering of the refugees and placed additional hardships on the states that offered them sanctuary.²²⁰ Although many of these displaced people later returned to Kosovo, often they returned to damaged, burned-out, and looted homes. Moreover, the economic infrastructure they relied on had been significantly damaged. As a result, these formerly autonomous wage earners became dependent on the governmental and non-governmental agencies for succor until they could rebuild their communities.²²¹ Although near-term suffering increased, Operation Allied Force did force Milosevic to capitulate and provided a stable environment in which to rebuild Kosovo.²²²

Operation Allied Force also promoted an important U.S. national interest. The military campaign helped to maintain and strengthen the NATO alliance. With the end of the Cold War and the demise of the Soviet Union, the primary *raison d'être* for NATO disappeared. NATO became an alliance in search of a mission. The Balkans and Kosovo

²²⁰ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 226-28. See also Dempsey, 2000 59-70.

²²¹ Layne, "Miscalculations and Blunders Lead to War," 51-52.

²²² John E. Peters et. al., *European Contributions to Operation Allied Force: Implications for Transatlantic Cooperation* (Santa Monica, CA and Arlington, VA: Rand, 2001), 53-55.

helped define NATO's future. NATO demonstrated that it could operate outside of its territory in a peacekeeping and peace-enforcing role. Although there were often political disagreements on the objectives of the campaign and problems with military interoperability and capabilities during the conduct of combat operations, the alliance remained united. NATO's renewed viability offered the promise that America might not have to shoulder the burden of maintaining global and regional stability alone.²²³

As formidable and lethal as the U.S. arsenal was, it could only partially attain the three political objectives that President Clinton laid down on March 24, 1999. The first objective was "to demonstrate the seriousness of NATO's opposition to aggression."²²⁴ Certainly aerial bombardment signals seriousness, but so can economic sanctions, trade embargoes, and diplomatic isolation. Moreover, the gradual escalation strategy portrayed NATO as hesitant and indecisive. Eschewing the use of a ground option early on also signaled a lack of resolve on NATO's part and encouraged Milosevic to wait out the air strikes. A RAND study of the campaign characterized the way it was conducted as follows:

- A failure to exploit air power's inherent shock potential and to instill in Milosevic an early fear of worse consequences yet to come.
- The encouragement the initial lack of a NATO ground threat gave enemy troops to disperse and hide while they had time.

²²³ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 219-23, 25; Peters, *European Contributions to Operation Allied Force: Implications for Transatlantic Cooperation*, 92,93,94-99.

²²⁴ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 19.

- The virtual carte blanche that lack [of a ground threat] gave Milosevic for accelerated atrocities in Kosovo.
- The relinquishment of the power of the initiative to the enemy.²²⁵

Ultimately, the air campaign demonstrated the seriousness of NATO's opposition, but only after a ground option had been added, the target list had been repeatedly expanded, and the Russians had withdrawn their support for Milosevic.²²⁶

President Clinton's second objective was "to deter President Milosevic from continuing and escalating his attacks on helpless civilians"²²⁷ Attainment of this objective was not furthered by the weapons systems and force structure used to pursue the campaign. Instead, Milosevic stepped up the ethnic cleansing as the bombing increased.²²⁸ Although the U.S. and NATO ruled out ground operations in the beginning, when it became apparent that a ground option was necessary, the absence in the force structure of a rapidly deployable organization with enough ground combat power and sustainability to defeat the Yugoslavian military in Kosovo hindered the U.S. ability to attain this objective.²²⁹ The air-only option using PGMs would have been effective against the Yugoslavian ground forces if they had massed. However, they operated in small and scattered units that were interspersed among the population as they pursued

²²⁵ Ibid., xxiii.

²²⁶ Hosmer, *The Conflict over Kosovo: Why Milosevic Decided to Settle When He Did*, 42-48.

²²⁷ Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 22.

²²⁸ Ibid., 50.

²²⁹ Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo.*, 303-306.

their ethnic cleansing campaign. Thus they were hard to locate and even harder to engage with precision weapons without the undue risk of civilian casualties.²³⁰ Eventually, military operations forced Milosevic to yield, but not before he had significantly increased the level of the humanitarian disaster in Kosovo.

The President's last objective was "to damage Yugoslavia's capacity to wage war against Kosovo in the future by seriously diminishing its military capabilities."²³¹ If one considers "military capabilities" to be the economic and transportation infrastructure, then the U.S. and NATO were successful. However, if "military capabilities" means the enemy's military weapons systems and force structure, i.e., the forces that can wage war now and in the future, then the air campaign was significantly less than successful. The Yugoslavian army pursued its campaign in Kosovo virtually unimpeded by allied air might. Moreover, the claims made by Secretary of Defense Cohen on June 10, 1999, that "we severely crippled the military forces in Kosovo by destroying more than 50 percent of the artillery and more than one-third of the armored vehicles," proved false. Yugoslav annual data exchanges as part of the sub-regional arms control protocol revealed only miniscule losses. Lending credibility to this protocol was the report of the Allied Force Munitions Effectiveness Assessment Team, which could not find the destroyed hulks that would have backed Cohen's claim.²³² Additionally, the Yugoslavian air defense system

²³⁰ Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 7.

²³¹ *Ibid.*, 221.

²³² *Ibid.*, 50,54-56.

remained intact. At the end of the conflict, the Yugoslavian armed forces remained a viable fighting force.

Although the military intervention in Kosovo advanced U.S. interests writ large, the campaign's specific objectives were only partially attained. The U.S. lacked a strategically agile and tactically powerful ground capability that could intervene in Kosovo even if President Clinton had finally decided to employ a ground option. This deficiency became apparent when air power and PGMs proved unable to stop the Yugoslavian army's ethnic cleansing campaign.²³³ Airpower was effective in significantly damaging the economic, communication, and transportation infrastructure in Yugoslavia. Could airpower have been more decisive as its promoters claim? This is doubtful given the political constraints imposed during the war. The U.S. and NATO went to extraordinary lengths to avoid civilian casualties.²³⁴ Moreover, there was never any intention to overthrow the government or destroy the Yugoslavian armed forces.²³⁵ Kosovo was a limited war, for limited objectives. It required a force structure and weapons systems other than one designed to defeat a numerically superior Soviet threat. Because Operation Allied force ultimately ended in success in the sense that Milosevic did capitulate, the military and political leaders were hesitant to heed its lessons.²³⁶

²³³ Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo.*, 302-06; Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, xvi-xvii.

²³⁴ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, xvii.

²³⁵ Andrew J Bacevich, "Neglected Trinity: Kosovo and the Crisis in U.S. Civil Military Relations," in *War over Kosovo: Politics and Strategy in a Global Age*, eds. Andrew J. Bacevich and Eliot A Cohen (New York: Columbia University Press, 2001), 156.

²³⁶ Owens, *Lifting the Fog of War, 200-2001*. See also Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo*.

Kosovo Lessons Learned

There were many lessons that came out of Operation Allied Force. However, there are three key ones that warrant mentioning: the difficulties of pursuing alliance/coalition warfare; the dominance of high-technology weapons systems, munitions, and intelligence systems; and the preeminence of airpower within the military's overall force structure. These lessons formed the foundation for the military's budgetary, development and procurement, and policy recommendations going into the 21st century.²³⁷

Even though NATO had been in existence for 50 years, both political and military leaders in America and Europe discovered difficulties pursuing alliance/coalition warfare. These difficulties fell chiefly within four areas. First, NATO's political leaders disagreed over how to pursue the air campaign and the priority of target selection. The Europeans, for the most part, favored a more gradual escalation that would allow time to negotiate in between rounds of the air campaign.²³⁸ On the other hand, U.S. military leaders from the beginning wanted a much more massive effort to be made up front. This difference affected their targeting priorities as well. The Europeans wanted major infrastructure targets struck only as a last resort, while the U.S. leaders wanted them struck almost

²³⁷ This assertion is covered throughout the following works: Biddle, "The New Way of War? Debating the Kosovo Model."; Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo*; Daadler, *Winning Ugly: Nato's War to Save Kosovo*; Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*; Owens, *Lifting the Fog of War*.

²³⁸ Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 94.

immediately.²³⁹ These differences manifested themselves in a disjointed air campaign, which provided Milosevic with a potential weakness he could exploit.²⁴⁰

Second, U.S. weapons systems and munitions technology was far superior to almost everything the Europeans had. This posed interoperability problems, requiring the U.S. to fly over 75 percent of all the missions during the campaign.²⁴¹ More important, it meant that U.S. and European aircraft could not operate together unless they were separated by type mission profile, space, or time.²⁴² These different technological capabilities were apparent in night operations and operations in inclement weather. Most European aircraft could not operate in these conditions.²⁴³ Third, there was a command, control, and communications difference between the U.S. and its NATO allies. Again, U.S. systems were digital-based with extensive satellite downlink capabilities. This allowed U.S. aircraft to fly in all weather conditions and to use munitions that were terminally guided by satellite-based Global Positioning Systems, a capability all but the British and to a limited extent the French lacked.²⁴⁴ Last, the U.S. had developed sophisticated operating procedures to leverage their technological advantage. Without the technology, the command and control systems, and advanced munitions it was

²³⁹ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, xx-xxii, Peters, *European Contributions to Operation Allied Force: Implications for Transatlantic Cooperation*, 103.

²⁴⁰ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, xxiii.

²⁴¹ Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo.*, 64; Daadler, *Winning Ugly: Nato's War to Save Kosovo*, 143-50.

²⁴² Lambeth, *The Transformation of American Air Power*, 213-14.

²⁴³ Peters, *European Contributions to Operation Allied Force: Implications for Transatlantic Cooperation*, 100-03.

²⁴⁴ Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 47-48.

difficult for the U.S. to integrate the European air forces into the air campaign. The real rub was that the disparity seemed likely to remain well into the future. Most European nations thought it was cost-prohibitive to maintain technological parity with the U.S.²⁴⁵ As a result, the U.S. was almost certain to have operational difficulties in any future conflict in which it participated as part of NATO.²⁴⁶

Kosovo demonstrated the superiority of America's technologically advanced arsenal. Stealth fighters and bombers carrying PGMs flew over heavily defended areas to deliver pinpoint attacks against critical targets and returned unscathed mission after mission. Advanced space-based technology provided the U.S. with the locations of the enemy's military facilities and production centers and facilitated U.S. attacks on key Serbian command centers and infrastructure targets. Moreover, because the weapons and munitions were so precise and had such extended range, they could be launched from greater distances and thus keep U.S. crews out of harm's way. Due to their accuracy, these weapons minimized civilian casualties.²⁴⁷ U.S. military and political leaders had an unwavering faith in the effectiveness of precision weapons despite the fact that empirical evidence argued otherwise. Battle Damage Assessment (BDA) remained largely guess

²⁴⁵ Ibid., 120, Peters, *European Contributions to Operation Allied Force: Implications for Transatlantic Cooperation*, 100.

²⁴⁶ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 166-70.

²⁴⁷ During World War II, Korea, and Vietnam civilian casualties due to bombing had been much higher. See Tami Davis Biddle, *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas About Strategic Bombing, 1914-1945*. (Princeton, NJ and Oxford: Princeton University Press, 2002); For a more detail discussion of the effects of Strategic bombing see Gentile, *How Effective Is Strategic Bombing? Lessons Learned from World War II to Kosovo*.

work.²⁴⁸ Often, the lack of target resolution engendered multiple strikes on the same target merely to account for the probability that it may have survived previous attacks. Just prior to Milosevic's unexpected capitulation, the Air Force had expended all but 100 of its JDAM munitions and had less than 80 of its cruise missiles left.²⁴⁹ Intelligence-gathering in Kosovo suffered from the same high-technology limitations that it did in Somalia. There was no way to digitally downlink real-time intelligence from the sensor to the attacking platform in order to engage fleeting targets.²⁵⁰ Additionally, overhead systems could not sort friend from foe in Kosovo with enough fidelity for U.S. planners to identify and target them.²⁵¹ Still, U.S. military and political leaders remained firmly wed to technology. They viewed the demonstrated limitations of the intelligence and weapons systems as an anomaly associated with operations in Kosovo.²⁵²

Thus, in the minds of many political and military leaders, the success of the air campaign validated the supremacy of airpower in modern warfare.²⁵³ U.S. fighter, bomber, transport, and refueling aircraft embodied the very essence of technology. The Air Force self-deployed to the Kosovo theater of operations in a matter of days as compared with the months it took for the Army. In the case of the B-2 Bomber, its

²⁴⁸ Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo.*, 157-62; Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 130.

²⁴⁹ Owens, *Lifting the Fog of War*, 192.

²⁵⁰ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 158-61; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 115.

²⁵¹ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 164-66.

²⁵² Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo.*, 338-39, 44-47.

²⁵³ Cohen, "Kosovo and the New American Way of War," 53, Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 221-24.

extended range, coupled with the Air Force's extensive in-flight refueling capability, allowed it to operate from bases in the United States.²⁵⁴ Moreover, once the decision was made to use force, airpower from either airbases or carriers struck targets in a matter of hours, lending credibility to the President's policy statements. Also, airpower was self-limiting, capable of being applied in discrete doses; it did not imply the lengthy commitment that land power did.²⁵⁵ Operating from distant bases, aircraft dropped precision-guided munitions on specific targets and returned to an environment of relative safety and comfort.²⁵⁶ At any given point in the operation, the U.S. could disengage with minimal entanglements. If a few planes and pilots were lost, the cost in terms of human life would be small. Political leaders could more easily justify the loss of one life and a 20 million dollar aircraft to the public than they could 20 lives and ten thousand dollars worth of equipment. Ground force employment, on the other hand, implied commitment and the potential of high casualties. It took a lot longer to get ground forces into action and to disengage them.²⁵⁷ They needed bases in the country, plus local logistical and infrastructure support. Whole industries developed around the logistical needs of U.S. ground forces. Given the time, dollars, and commitment that a ground force option entailed, it is small wonder the nation's political leaders balked at it. With the pall of Vietnam omnipresence, nothing could be worse for a political leader than to have the world watch the ignominious withdrawal of U.S. ground forces without having achieved

²⁵⁴ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 89-94.

²⁵⁵ Kurth, "First War of the Global Era: Kosovo and U.S. Grand Strategy," 86.

²⁵⁶ Bacevich, "Neglected Trinity: Kosovo and the Crisis in U.S. Civil Military Relations," 181-82.

²⁵⁷ Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 23.

their objectives. Airpower, on the other hand, played much better with the press. With airpower, it was much easier to declare victory and fly away.

In addition to promoting the Air Force's preeminence within the Department of Defense, Kosovo also highlighted the importance of joint interoperability among the services. The services had yet to develop a joint expeditionary capability. Expeditionary forces require strategic lift, both sea and air, to get them into the fight and to sustain them. These forces must have the mobility and lethality to defeat any threat they encounter. During Operation Allied Force, each service possessed pieces of the necessary characteristics of such a force; however, they had not melded their capabilities. The Army was the most dependent of the services on deployment support. The experience of Task Force Hawk in deploying to Albania during the latter stages of Operation Allied Force illustrated the limitations of force structure on policy. The Army was incapable of deploying forces rapidly enough to make a difference in the campaign. Although the deployment of Task Force Hawk signaled American resolve, its relative strategic immobility limited President Clinton's policy options by hamstringing a viable ground option earlier in the campaign.²⁵⁸

Some analysts have argued that Operation Allied Force was the first war won solely by airpower. That simply is not the case. Although airpower was the dominant component, land and naval power were present too. Navy carriers provided fighter and fighter-bomber aircraft for strikes against targets in Yugoslavia, and Navy surface ships

²⁵⁸ Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo*, 295-312; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 119-20; Owens, *Lifting the Fog of War*, 194-200.

and submarines struck numerous targets with Tomahawk cruise missiles.²⁵⁹ A ground force was present also. What little success the allied air campaign had against the Yugoslavian army in Kosovo resulted from the pressure put on Milosevic's forces by the Kosovo Liberation Army (KLA).²⁶⁰ While the United States did not directly aid the KLA in their attacks on the Yugoslavian forces, each side's actions were certainly complementary.²⁶¹ Finally, with respect to the threat of increased air attacks or the loss of Russian backing it is questionable as to which of the two finally persuaded Milosevic to accede to NATO's demands.²⁶² Russia had been tacitly supporting the Yugoslavians, but the highly publicized ethnic cleansing campaign in Kosovo convinced the Russians to break with Milosevic.²⁶³ In all likelihood Milosevic's decision to end the hostilities was a combination of both factors.

Conclusions

The Gulf War, Somalia, and Kosovo all illustrate the influence of weapons systems technology and force structure in military strategy and on foreign and national security policy. The weapons systems used by the military to fight these conflicts were developed 15 to 20 years previously. Due to the differences in planning horizons

²⁵⁹ Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 20; Nardulli, *Disjointed War: Military Operations in Kosovo, 1999*, 31.

²⁶⁰ Lambeth, *The Transformation of American Air Power*, 190.

²⁶¹ Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo.*, 249-55.

²⁶² Lambeth, *The Transformation of American Air Power*, 191-94.

²⁶³ Hosmer, *The Conflict over Kosovo: Why Milosevic Decided to Settle When He Did*, 42-47.

between weapons systems development (15-20 years) and foreign policy development (two to six years), policy tends to lag behind weapons systems development. This means that political leaders have to make do with the weapons systems and force structure they inherited from a previous era. The chances that the military will have the right mix of weapons and force structure that policy requires at some point in the distant future is thus problematic at best. Rather, policy choices are limited by the existing weapons systems and force structure and the operational strategy designed to employ them.²⁶⁴

Generally, the weapons systems and force structure available to President Bush during the Gulf War supported his policy options. Still, weapons systems, force structure, and the military's advice limited Bush's policy options. For example, it took over five and a half months to assemble the necessary force to launch an offensive operation to expel Saddam Hussein from Kuwait. Had President Bush attempted a punitive strike against Iraq earlier, he might have prompted Iraq to strike at Saudi Arabia before the U.S. had assembled enough strength to repulse him. Additionally, target opportunities in Baghdad were both facilitated and limited by U.S. weapons technology. Technologically advanced munitions enhanced the probability of precisely striking and destroying the infrastructure targets in heavily populated areas while simultaneously minimizing the extent of collateral damage.²⁶⁵ But technology also limited U.S. operations through its inability to locate and strike fleeting targets such as mobile

²⁶⁴ Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo.*, 80-81.

²⁶⁵ Gordon and Trainor, *The General's War*, 210-13.

command posts and Scud missile launchers.²⁶⁶ Moreover, munitions procurement decisions made by the military in the late 1970s and early 1980s limited the number of advanced weapons and aircraft capable of employing them at the beginning of the war. These decisions, made 15 years previously, constrained the target set the U.S. was willing to strike in built-up areas. America's qualitative advantage and superb training and operational skill accounted for America's stunning victory, but at the same time conditioned the form of that victory.

Somalia offers an example of weapons systems and force structure incongruence with policy objectives. Except for delivering supplies, the Air Force's technologically advanced weapons systems were inappropriate for the conditions the military faced in Somalia. The Army and the Marine Corps units that deployed to Somalia, though capable of creating a stable and secure environment, could not do so under the engagement criteria and time constraints imposed on them by the policy objectives. Additionally, the forces were not structured properly for the type of conflict they encountered in the streets of Mogadishu as the events of October 3-4, 1993, so aptly demonstrated. In the end, the military's superb technology and force structure could not avert a foreign policy setback.²⁶⁷

Kosovo's Operation Allied Force provides another example of how weapon technology influences the conduct of a military campaign and the ability of America to obtain its objectives. Under a steady attack from U.S. and NATO airpower, the

²⁶⁶ Ibid., 246-47.

²⁶⁷ Owens, *Lifting the Fog of War*, 181.

Yugoslavian leadership eventually yielded to NATO's demands. However, the capitulation occurred much later than anticipated and only after Milosevic had completed ethnic cleansing operations in Kosovo. Airpower was very effective at hitting infrastructure targets in heavily populated areas in Yugoslavia, but at a cost of 500 civilian casualties.²⁶⁸ In theory, ground forces would have been able to force the Yugoslavian military to desist sooner. Unfortunately, the Army, and to a lesser extent the Marine Corps, labored with a force structure that was not conducive to rapid and sustained operations in a remote tactical environment.²⁶⁹ Thus, force structure decisions made during the Cold War and manifest in the military's force structure during Operation Allied Force hindered a timely and viable ground force option.

Additionally, the military's technologically driven expertise influenced policy decisions. During Desert Storm, both Generals Powell and Schwarzkopf heavily influenced the Presidential decision to stop the war 96 hours into the ground campaign.²⁷⁰ Likewise in Somalia, Marine Lieutenant General Johnson made the decision not to disarm the warlords or expand the secure areas beyond the troop lodgments, UN distribution points, and road corridors into the country. This decision enabled the warlords to retain their heavy weapons and contest UN operations after the U.S. withdrew the bulk of its combat elements.²⁷¹ In Kosovo, both Generals Clark and Short

²⁶⁸ Daadler and O'Hanlon, *Winning Ugly: Nato's War to Save Kosovo*, 122; Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 226.

²⁶⁹ Owens, *Lifting the Fog of War*, 191.

²⁷⁰ Gordon, *The General's War: The inside Story of the Conflict in the Gulf*, 415.

²⁷¹ Drysdale, "Foreign Military Intervention in Somalia: Root Cause of the Shift from Un Peacekeeping to Peacemaking and Its Consequences," 128.

heavily influenced the decision to escalate the air campaign to include attacking vital infrastructure targets in and around Belgrade.²⁷²

Throughout all of these conflicts three technologically driven trends were in evidence. First, there was a move to develop increasingly advanced and precise weapons.²⁷³ In theory PGMs, if employed properly, destroy the target during the first attack. They allow political leaders the capability to strike an enemy's key vulnerable targets, destroy them, seriously weaken the enemy's capability to resist, and even cause him to collapse/capitulate after only a few attacks. Second, technology allowed the military to engage the enemy undetected and/or outside of his engagement range. This minimized the risk of incurring friendly casualties, and thus made military intervention easier to sell to Congress and the public. Third, technology minimizes the risk of collateral damage and civilian casualties. Precision weapons allow political leaders to personalize the war ("Our war is not with the Iraqi people, but with Saddam Hussein,") by attacking those targets that support the regime. Minimizing civilian casualties and suffering are very marketable to the public, making it easier to garner support both at home and abroad.²⁷⁴

Taken together advanced weapons systems employing PGMs, casualty avoidance, and minimal collateral damage form a subtly stated Holy Trinity of President George

²⁷² Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo*, 51; Lambeth, *Nato's Air War for Kosovo: A Strategic and Operational Assessment*, 33-36, 193-94.

²⁷³ Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo*, 338-44.

²⁷⁴ *Ibid.*, 99-108.

Bush's preventive war national security strategy.²⁷⁵ In an era of increasingly diverse threats to American security and interests, the nation's military technology appears to have promoted the use of force over diplomacy. In the process, the military has become more influential in both policy planning and execution. Regional Combatant Commanders (formerly called Commanders in Chiefs, or CINC's) have taken on the role and functions of plenipotentiaries.²⁷⁶ Rather than buttressing civilian control over the military, weapons systems technology is promoting military involvement in areas once reserved for civilian leaders and in the process eroding the principle of civilian control. The next and final chapter will discuss the implications of this trend for both foreign policy and the principle of civilian control over the military.

²⁷⁵ George W. Bush, *The National Security Strategy of the United States* (Washington, DC: The White House, 2002), 6,14,15,16,29,30.

²⁷⁶ Cohen, "Kosovo and the New American Way of War," 56-59.

CHAPTER 8

EPILOGUE AND CONCLUSION

Secure in their barren mountain redoubts Taliban and al Qaeda fighters were confident of their ability to defeat the American forces if they were foolish enough to make the same mistake Soviets had and invade Afghanistan. However, the American armed forces of 2001 bore no resemblance to the 1980s Soviet Army with its conscript-based force and meat-fisted tactics. The Taliban and al Qaeda forces had little appreciation of the U.S. military's technological sophistication and the overwhelming power it could bring to bear - they soon found out. Beginning on Oct 7, 2001, U.S. forces employing a synergistic mix of both high-tech and low-tech weapons subjected the Taliban and al Qaeda fighters to a devastating assault. U.S. operating methods were not predictable. The U.S. employed a mix of technologies and tailored their operational/tactical approaches to the situations they encountered. By December 2001 U.S. and coalition forces had confined the once pervasive Taliban and al Qaeda forces to isolated pockets of resistance and the people of Afghanistan began experiencing their first breath of freedom in decades.

Operations in Afghanistan and later in Iraq illustrate the influence of the military's high-tech capabilities on foreign policy decisions. This chapter has two parts. The first part assesses the impact of the military's weapons systems on the decisions to

invade Afghanistan and Iraq, the conduct of the campaigns, and their importance for the armed service's transformation. The second part addresses the implications that weapons system technology has for foreign policy, civilian control of the military, and for the military profession. It ends with concluding remarks on weapon technology and the influence it has on policy and civilian control of the military.

Operations Enduring Freedom and Iraqi Freedom

The impact of the September 11, 2001, terrorist attacks on the American psyche were enormous. Within a week of nine-eleven President Bush articulated the conceptual framework of a new foreign and national security policy. In a globally broadcast speech before a joint session of Congress, President Bush announced a clear break from the multilateralism of the Clinton administration when he told the other nations of the world that: "Every nation, in every region, now has a decision to make. Either you are with us, or you are with the terrorists. From this day forward, any nation that continues to harbor or support terrorism will be regarded by the United States as a hostile regime."¹ Bush's speech implied that in the future, America would take a unilateralist approach in its foreign policy. Although America would utilize all the elements of power available to it to implement its new strategy, it was clear that American military power would have the dominant role in future foreign and national security policies. Within a month of September 11, the U.S. military attacked al Qaeda and Taliban forces in Afghanistan.²

¹ George H.W. Bush, *Speech to Joint Session of Congress: War on Terror* [Internet] (The White House, Office of the Press Secretary, 2001 [cited October 7 2003]); available from <http://www.globalsecurity.org/military/library/news/2001/09/mil-010920-usia01.htm>.

² George H.W. Bush, *Statement by the President: President Bush Announces Military Strikes in Afghanistan* [Internet] (The White House, Office of the Press Secretary, October 7, 2001 [cited October 7

Many experts, citing the British experience in Afghanistan during the nineteenth century and the Soviet experience in the 1980's, expected American forces to suffer heavy casualties, if not a defeat.³ Instead, in a matter six months American forces and their Afghan allies completely routed the Taliban and al Qaeda forces. Thousands of enemy combatants died while U.S and Afghan civilian casualties were minimal. Osama Bin Laden escaped, but his terrorist network suffered a heavy blow.⁴

The U.S. military's capabilities largely influenced President Bush's decision to invade Afghanistan. Combining high technology weapons systems with innovative operational techniques, the U.S. military demonstrated an unmatched strategic prowess during the Afghanistan campaign. With the world's most powerful military at its disposal, the Bush administration articulated its strategic approach in *The National Security Strategy of the United States* published in September 2002.⁵ The events of September 11, 2001, weighed heavily in the formulation of Bush's national security strategy, but it was the military's capabilities that underscored it. The strategy emphasized a unilateralist approach to foreign policy. Although Bush's strategy addressed the importance of alliances in maintaining international stability and prosperity, it clearly placed America's national values, interests, and security above the needs of any other state or organization. Given the proliferation of weapons of mass

2003]); available from <http://www.globalsecurity.org/military/library/news/2001/10/mil-011007-usia01.htm>.

³ Bruce D. Berkowitz, *War in the Information Age* (Hoover Institute, 2002 [cited April 15, 2003]); available from <http://www-hoover.stanford.edu/publications/digest/022/berkowitz.html>.

⁴ Michael E. O'Hanlon, "A Flawed Masterpiece," *Foreign Affairs* 81, no. 3 (2002): 51.

⁵ George W. Bush, "The National Security Strategy of the United States," (Washington, DC: The White House, 2002).

destruction and their accessibility by terrorists, the Bush administration felt that America could not afford to be caught off guard again. Therefore, the strategy explicitly stated that America would act unilaterally to preempt terrorist regardless of where they operated from before they developed the capability to strike America.⁶ President Bush, in his preamble to *The National Security Strategy*, stated: "...we will not hesitate to act alone, if necessary, to exercise our right of self-defense by acting preemptively against such terrorist, to prevent them from doing harm against our people and our country and denying further sponsorship, support, and sanctuary to terrorists by convincing or compelling states to accept their sovereign responsibilities."⁷

Many scholars and political commentators feel that this strategy constitutes the most significant change in U.S. national security policy since NSC 68.⁸ A key factor influencing the development of this "pre-emptive strategy" was America's superior military technology. Inherited from the last decade of the Cold War and enhanced by long-range precision munitions and intelligence gathering technologies in the interim, the military's weapons systems and force structure provided the nation's civilian leadership with the capability to locate and attack targets anywhere in the world. Precision munitions launched from weapon platforms outside an enemy's response envelope minimized collateral damage and U.S. casualties. The military's weapons systems

⁶ Keith Epstein, *Bush's 1st Strike Strategy Breaks Tradition* (The Tampa Tribune, 2003 [cited October 9 2003]); available from http://www.nexis.com/research/search/documentDisplay?_docnum=23&_ansset=W-WD-...

⁷ Bush, *The National Security Strategy of the United States*, 6.

⁸ John Lewis Gaddis, "Bush's Security Strategy," *Foreign Policy*, no. 133 (2002); G. John Ikenberry, "America's Imperial Ambition," *Foreign Affairs* 81, no. 5 (2002); Joseph S. Nye Jr., "U.S. Power and Strategy after Iraq," *Foreign Affairs* 82, no. 4 (2003); Thomas E. Ricks and Vernon Loeb, *Preemption to Be Military Policy* (Washington Post, 2002 [cited June 13, 2002]); available from <http://ebird.dtic.mil/Jun2002/e20020610preemption.htm>.

provided the U.S. political leadership with a military capability of unprecedented lethality, precision, and global reach.⁹

Throughout the first decade of the post-Cold War era, the military maintained its major weapons systems preferences. The Navy continued to procure new aircraft carriers, the Air Force new bombers and fighter-bombers, and the Army new attack helicopters. While resembling their Cold War counterparts in appearance, these weapons systems had significantly enhanced capabilities. Many of these systems now featured radar-defeating technology (stealth) and carried a new and advanced family of precision munitions. Additionally, they were linked to an array of overhead intelligence/target gathering platforms that were interconnected by secure computers, which provided various users at different command levels with a common view of the battlespace.¹⁰ American superiority in emerging information/intelligence gathering and precision strike technology allowed America's leaders to detect threats, identify targets, and quickly strike them. If attacked, the accuracy and power of the munitions virtually ensured the target's destruction. The military codified this type of warfare in the term Network Centric Warfare (NCW).¹¹ According NCW's authors:

⁹ Kim Burger et. al., *What Went Right?* (Jane's Defence Weekly, 2003 [cited October 9, 2003]); available from <http://www4.janes.com/K2/docprint.jsp?KeDocKey=/content1/janesdata/mag/jdw/jdw04..>; J. Michael Waller, *High-Tech Tools of War* (News World Communications, Inc. Insight on the News, 2003 [cited October 9, 2003]); available from <http://www.nexis.com/research/search/documentDisplay?-docnum=18&-ansset=W-WD-...>

¹⁰ Frederick W Kagan, "War and Aftermath," *Policy Review* (2003); Department of Defense, *Dictionary of Military and Associated Terms* (Washington, DC: U.S. Government Printing Office, 2001), 51. The Department of Defense defines battlespace as, "The environment, factors, and conditions that must be understood to successfully apply combat power, protect the force, or complete the mission. This includes the air, land, sea, space, and the included enemy and friendly forces; facilities; weather; terrain; the electromagnetic spectrum; and the information environment within the operational areas and areas of interest."

¹¹ *Ibid.*: 3.

We define NCW as an information superiority-enabled concept of operations that generates increased combat power by networking sensors, decision makers, and shooters to achieve shared awareness, increased speed of command, higher tempo of operations, greater lethality, increased survivability, and a degree of self-synchronization. In essence, NCW translates information superiority into combat power by effectively linking knowledgeable entities in the battlespace.¹²

Network Centric Warfare encapsulates four capabilities that the military has pursued for over twenty-five years, and whose recent development technology has accelerated. The first is information dominance. All militaries seek to gain intelligence on their potential enemies in order to determine their size, equipment, capabilities, and intentions. Simultaneously, they have attempted to deny the enemy information on themselves. Knowledge is power and its acquisition or lack thereof vis-à-vis the enemy often determines victory or defeat in combat. America's dominance in space based and aerial high-resolution intelligence systems provides it with an unmatched information acquisition capability. Second, the military has continuously sought to increase the accuracy of the weapons systems it employs. One round--one hit--one kill is a goal the military has sought for some time.¹³ Precision munitions not only ensure enemy targets are destroyed, but also they minimize collateral damage (the damage done to non-combatants).¹⁴ In theory, precision munitions are more economical and efficient, thus freeing weapons systems to strike multiple enemy targets simultaneously, and or reducing the overall number of weapons systems in the force structure. For example, during

¹² Ibid.: 4.

¹³ Berkowitz, *War in the Information Age* ([cited]).

¹⁴ Christopher M. Bourne, Robert J. Smullen, and Thomas J. Impellitteri, "Air Delivered Fires in Support of Maneuver," *Marine Corps Gazette* 87, no. 4 (2003).

Desert Storm only nine percent of the munitions used were “smart” or precision munitions.¹⁵ Consequently, the Air Force allocated ten or more aircraft to each target. Twelve years later during operation Iraqi Freedom precision munitions accounted for over 70 percent of the bombs dropped and the Air Force was able to allocate just two aircraft per target.¹⁶ Although the military’s overall force structure shrunk during the first decade of the post-Cold War era, due to the advent of enhanced precision weapons the military’s overall capability, lethality, and effectiveness increased.

Third, the military emphasized speed in the conduct of its operations. Besides being able to move, shoot, and communicate faster than the enemy, the armed forces had to think and decide faster than their opponents too. During the Cold War, the military invested in weapons systems that were faster, more maneuverable, more mechanically reliable, and more survivable than anything the Soviet Union could field. However, the drive for technological superiority did not stop with the end of the Cold War. Instead, scientific advances in computer and space-based systems propelled weapon system development forward. Speed of operations encompasses more than fast equipment, it describes how the U.S. plans to pursue its military campaigns. The military intends to use the enhanced capabilities of its weapons, intelligence, and command and control systems to conduct operations simultaneously and continuously against an enemy’s

¹⁵ O’Hanlon, “A Flawed Masterpiece,” 56.

¹⁶ *Operation Enduring Freedom* [Internet] (Global Security.org, June 24, 2003 [cited July 10, 2003]); available from <http://www.globalsecurity.org/military/ops/enduring-freedom.htm>.

political, economic, military, and social-psychological-informational centers of power.¹⁷ Information dominance and the ability to share it in real time at all levels from the White House to the battalion level provides leaders with a common view of the battlespace. This capability allows leaders to employ their weapons systems to achieve synergism in time, space, purpose, and effect.¹⁸ Together, enhanced weapons systems combined with precision munitions, information dominance, and the ability to decide and act rapidly provides the U.S. with a decisive edge over any potential enemy attempting to challenge it symmetrically.¹⁹

Additionally, the military has continued to emphasize the importance of air and space based weapons systems in its strategic and operational approach to warfare. Airpower has several attractive features. First, it can self-deploy to a theater of operations and operate from nearby bases in the region, or in the case of naval aviation, operate from an aircraft carrier. B-2 bombers, with aerial refueling en-route and return, can launch their attacks from the continental United States; thus, obviating the need for overseas bases. Second, air power can be used almost immediately after political leaders decide that a military response is necessary. Third, air power, supported by space and ground based intelligence systems capable of providing digitally transmitted target data to aircraft weapons systems in real time, provides political leaders and senior military

¹⁷Rowan Scarborough, "*Decisive Force*" Now Measured by Speed, Not Troop Numbers [Internet] (The Washington Times-May 7, 2003 [cited October 9, 2003]); available from http://www.nexis.com/research/search/documentDisplay?_docnum=19&_ansset=W-WD-...

¹⁸ Burger, *What Went Right?* ([cited]).

¹⁹ Nick Cook, *Effects-Based Air Operations - Cause and Effect* [Internet] (Jane's Defense Weekly - June 18, 2003, 2003 [cited October 9, 2003]); available from <http://www4.janes.com/K2/docprint.jsp?K2DocKey=/content1/janesdata/mags/jdw/jdw05...>

commanders with a much-enhanced target discriminating capability.²⁰ Instead of leveling an entire section of a residential or industrial area to destroy a target, the aircraft equipped with Joint Direct Attack Munitions (JDAMS) can land a bomb with feet of the exact aim point. Additionally, formerly difficult targets are now vulnerable. Consequently, air power's precision capabilities minimize civilian casualties and suffering.²¹ Last, extended-range precision munitions allow aircraft to deliver their attack outside of an enemy's air defense capability. Add to this a stealth capability and the Air Force has the ability to remain undetected as well. The cumulative effects of long-range precision munitions, high-resolution overhead target acquisition, and radar defeating technologies provide the Air Force with a "stand off" advantage (the ability to hit the enemy without being hit in return), and minimizes the probability of U.S. casualties.²² During the Clinton administration, air power and cruise missiles (launched from ships and planes) were the primary response to terrorist threats and attacks against U.S. interests.²³

²⁰ Nick Cook, *The Air Campaign - Trends and Developments* [Internet] (Jane's Defence Weekly - March 26, 2003 [cited October 9 2003]); available from <http://www4.janes.com/K2/doc.jsp?K2DocKey=/content1/janesdata/mags/jdw/jdw04189.h..>; John Diamond, *A Campaign to Control the Afghan Skies* (October 8, 2003) [Internet] (Chicago Tribune, 2003 [cited October 9 2003]); available from http://www.nexis.com/research/search/documentDisplay?_docnum=6&_ansset=W-WW-..; Michael Knights, *Air Power over Iraq* [Internet] (Jane's Intelligence Review - March 01, 2003, 2003 [cited October 9, 2003]); available from <http://www4.janes.com/K2/docprint.jsp?K2DocKey=/content1/janesdata/mags/jir/jir00548..>; Russell D. Shaver, and others, *The Case for Airpower Modernization* [Internet] (Air Force Magazine - February, 1994 [cited April 11 2003]); available from http://www.nexis.com/research/search/documentDisplay?_docnum=3&_ansset=W-WA-A-WZ-..

²¹ *Operation Enduring Freedom* ([cited]).

²² Kagan, "War and Aftermath," 8-10.

²³ Bob Woodward, *Bush at War* (New York: Simon & Schuster, 2002), 20.

Collectively, the capabilities/trends identified above are manifest in the weapons systems and force structure of the U.S. military. They have helped shape the U.S.'s foreign policy as it has been applied to both Afghanistan and Iraq. Relying on its superior weapons technology, the military responded rapidly and effectively to the president's decision to defeat the al Qaeda and Taliban forces in Afghanistan.²⁴

Within hours of the terrorist attacks on September 11, 2001, the Bush administration began to assess the source of the attack and how to strike it. Although America intended to use all of its elements of power in the Global War On Terror (GWOT), the military had the lead. President Bush and his advisors vowed to hunt down terrorist organizations everywhere, but first they had to deal with al Qaeda and the Taliban regime that hosted them in Afghanistan. However, the military had no contingency plans for a conflict in Afghanistan.²⁵ Bush and Secretary of Defense Donald Rumsfeld pushed the military to develop a plan. The military responded with an innovative campaign plan that leveraged its technological advantage to overcome the seemingly insurmountable difficulties associated with conducting a military campaign in Afghanistan's remote, inhospitable, and desolate environment. The military's plan centered on the capabilities of its Special Operations Forces, information dominance, airpower, precision munitions, and speed of operations.²⁶

²⁴ Bush, *Statement by the President: President Bush Announces Military Strikes in Afghanistan* ([cited]).

²⁵ Woodward, *Bush at War*, 25.

²⁶ *Operation Enduring Freedom* ([cited]).

Working with Central Intelligence Agency (CIA) operatives, U.S. Special Operating Forces (SOF) began infiltrating into Afghanistan and established liaison with the rebel forces fighting against the Taliban.²⁷ Equipped with satellite based communications equipment, computers, global position devices, digital message devices, and hand held laser designators; these teams gathered information and intelligence on the enemy. The data they accumulated was networked with space-based, aerial, and communications intercept technologies to identify and target enemy troop dispositions, key leader locations, and facilities.²⁸ Additionally, the SOF teams trained and helped equip the forces of the Northern Alliance while providing health, medical, and food assistance to the Afghan people. Largely undetected, the SOF teams prepared for the start of combat operations.

On October 7, 2001, President Bush announced the initiation of hostilities in Afghanistan and the U.S. objectives in the fight against al Qaeda and the Taliban Regime. The president stated, “These carefully targeted actions are designed to disrupt the use of Afghanistan as a terrorist base of operations, and to attack the military capability of the Taliban regime.”²⁹ Later that day in a Department of Defense news briefing, Secretary of Defense Rumsfeld expanded on the President’s remarks, “U.S. objectives were to make clear to the Taliban leaders that harboring of terrorist is unacceptable, to acquire intelligence on al Qaeda and Taliban resources, to develop relations with groups opposed

²⁷ Kagan, “War and Aftermath,” 7.

²⁸ *Operation Enduring Freedom* ([cited]).

²⁹ Bush, *Statement by the President: President Bush Announces Military Strikes in Afghanistan* ([cited]).

to the Taliban, to prevent the use of Afghanistan as a safe haven for terrorist, and to destroy the Taliban military allowing opposition forces to succeed in their struggle. Finally, military force would help facilitate the delivering of humanitarian supplies to the Afghan people.”³⁰

Within days American airpower employing a variety of air- and sea-launched precision munitions eliminated the Taliban’s air force, air defense system, and key communications systems.³¹ Simultaneously, Afghan opposition forces supported by U.S. SOF teams and close air support launched a ground offensive against the Taliban and al Qaeda forces. The military used air power and precision munitions to isolate the enemy on the battlefield, prevent him from reinforcing his positions, deny him information on U.S. and allied forces, and ultimately to destroy him.³² In December 2001, with the battlefield isolated and the Northern alliance pressing the Taliban and al Qaeda fighters, the U.S. began deploying U.S. Marines (later Army forces) from the carrier battle groups located in the Indian Ocean to secure key airheads and lodgment areas in Afghanistan.³³ In addition to direct combat operations, the U.S. distributed thousands of tons of medical and food supplies to the Afghan people. These humanitarian operations were part of a psychological operations campaign to convince the Afghan people that U.S. combat operations were targeted against the Taliban and al Qaeda forces, and not the people of

³⁰ *Operation Enduring Freedom* ([cited]).

³¹ *Ibid.* ([cited]).

³² Bourne, “Air Delivered Fires in Support of Maneuver.” Kagan, “War and Aftermath,” 7.

³³ O’Hanlon, “A Flawed Masterpiece,” 51.

Afghanistan.³⁴ The military conducted its operations with dazzling speed. American aircraft operated around the clock. In the space of two years, the targeting cycle for Tomahawk land attack missiles (TLAM's or cruise missiles) had been reduced from 101 minutes during operations in Kosovo to 19 minutes in Enduring Freedom (Afghanistan).³⁵ U.S. forces moved about the country by air to rapidly close with identified enemy forces. In less than six months, the Taliban had been removed from power and the al Qaeda network in Afghanistan had been largely destroyed.³⁶

The military's success in Afghanistan demonstrated its technological superiority and the influence it had on the nation's foreign policy. The campaign was fought differently than previous conflicts. Operations in Afghanistan featured surrogate ground forces, U.S. airpower, information dominance, and precision munitions.³⁷ The unique mix and synchronization of these elements during the fighting encouraged some observers to categorize the Afghan operations as a "New American Way of War."³⁸ President Bush was clearly impressed by the military's weapons systems and operational prowess. In a December 2001 speech at the Citadel, President Bush declared, "Afghanistan has been a proving ground for this new approach. These past two months have shown that an innovative doctrine and high-tech weaponry can shape and then

³⁴ *Operation Enduring Freedom* ([cited]).

³⁵ *Ibid.* ([cited]).

³⁶ O'Hanlon, "A Flawed Masterpiece," 50-52, *Operation Enduring Freedom* ([cited]).

³⁷ Donald H Rumsfeld, "Transforming the Military," *Foreign Affairs* 81, no. 3 (2002): 21-22.

³⁸ Stephen Biddle, "Afghanistan and The future of Warfare: Implications for Army and Defense Policy," (Carlisle, PA: Strategic Studies Institute, United States Army War College, 2002), 2, [fn3]; Kagan, "War and Aftermath," 1.

dominate an unconventional conflict...The conflict in Afghanistan has taught us more about the future of our military than a decade of blue ribbon panels and think-tank symposiums...When all of our military can continuously locate and track moving targets --with surveillance from space--warfare will be truly revolutionized.”³⁹ Critics of the Bush administration’s conduct of the war in Afghanistan argue that the president and his team have relied too heavily on the military’s high-tech capabilities to attain political objectives that might have been better served by other instruments of power.⁴⁰ Frederick Kagan in “War and Aftermath” claims that President Bush’s vision of war: “...focuses on destroying the enemy’s armed forces and his ability to command them and control them. It does not focus on the problem of achieving political objectives. The advocates of a ‘new American way of war,’ Secretary of Defense Donald Rumsfeld and Bush chief among them, have attempted to simplify war into a targeting drill. They see the enemy as a target set and believe that when all or most of the targets have been hit, he [the enemy] will inevitably surrender and American goals will be achieved.”⁴¹

In the aftermath of September 11, Bush by his own nature and by pressure (perceived or real) from the media, the public, and neo-conservative hawks in the administration felt compelled to strike al Qaeda, the Taliban, and other terrorist organizations.⁴² Although he lacked a comprehensive strategy for his proclaimed Global War on Terror, the Bush administration had the military means to do something

³⁹ Kagan, “War and Aftermath,” 2.

⁴⁰ Ibid, O’Hanlon, “A Flawed Masterpiece,” 48.

⁴¹ Kagan, “War and Aftermath,” 1.

⁴² Woodward, *Bush at War*, 97-99.

quickly.⁴³ Military operations began on October 7, 2003 and strategy followed. Bush had other options: he could have delayed military operations in Afghanistan until he exhausted political negotiations, he could have ordered the launching of cruise missiles against known al Qaeda and Taliban troop and command positions, and/or he could have prepared for an extensive land invasion of Afghanistan. However, none of these alternative courses of action suited President Bush's personal disposition, the views of other administration officials, or Bush's perceived views of what Congress and the American people expected.⁴⁴

What type of war did America enter into in Afghanistan and what were the political objectives that governed U.S. military action? Answering this question is an essential step to establishing a sound strategy and identifying the means (resources) to employ. That the means should influence the ends is axiomatic. However, in Afghanistan, it appears that military action became an end in itself. War, some observers say, is about killing people and breaking things. This trite statement is wrong. Combat operations are about killing people and breaking things; however, war is an act of policy and entails much more than military operations.⁴⁵ Clausewitz states that each war has its own nature, and it is wise to know the nature of the war you are about to enter before undertaking it.⁴⁶ Even with the most high-tech military in the world, the U.S. military was unable to kill or capture Osama bin Laden and many of his lieutenants (a strong

⁴³ Bush, *Speech to Joint Session of Congress: War on Terror* ([cited]).

⁴⁴ Woodward, *Bush at War*, 16, 39, 44, 96, 206-07.

⁴⁵ Kagan, "War and Aftermath," 6.

⁴⁶ Carl Von Clausewitz, *On War*, ed. Michael and Peter Paret Howard, trans. Michael and Peter Paret Howard, Indexed ed. (Princeton, NJ: Princeton University Press, 1976), 88-89.

tacitly implied mission in Bush's decision to invade Afghanistan). Moreover, Afghanistan is still not stable. President Karzai's central government has almost no extractive capability outside of Kabul, and its political legitimacy depends heavily on the continued presence of U.S. military forces.⁴⁷ Currently, the Taliban is staging a resurgence in the countryside and fighting continues against pockets of Taliban and al Qaeda resistance.⁴⁸ In light of these developments, it is reasonable to question whether U.S. leaders ever considered the nature of the war they led America into or if they simply relied on the military's technological capabilities as a substitute for cogent foreign policy objectives. The decision to topple Hussein's regime before combat operations began in Afghanistan, further supports the claim asserted here that the military's high-tech weapons systems and capabilities heavily influence America's approach to national security and foreign policy.⁴⁹

The decision to invade Iraq on March 19, 2003, and the reasons for that decision are complex, controversial, and hotly debated as of this writing. What is not being debated is the revalidation of America's military supremacy. The U.S.-led invasion featured Special Forces, omnipresent airpower, precision munitions delivered from the air and sea, four Army division equivalents, and a space-based computer-driven intelligence/targeting system that provided all the U.S. forces with the same near real

⁴⁷ Kagan, "War and Aftermath," 2.

⁴⁸ Reuters, *Taliban Resurgence Undermining UN Afghan Aid Work* [Internet] (The New York Times, 2003 [cited October 25 2003]); available from <http://www.nytimes.com/reuters/international/international-afghan-un.html?pagewanted=...>

⁴⁹ Tim Ripley, *Planning for 'Iraqi Freedom'* [Internet] (Jane's Intelligence Review - July 01, 2003 [cited October 9 2003]); available from <http://www4.janes.com/K2/doc.jsp?K2DocKey=/content1/janesdata/mags/jir/jir00640.htm..>; Woodward, *Bush at War*, 49.

time picture of the battlespace.⁵⁰ Using advanced weapons systems and bold operational maneuver, the U.S. and British forces conquered Iraq in just over six weeks. As with Afghanistan, the U.S. Air Force and Navy quickly destroyed what remained of the Iraqi Air Force and its air defense system. Simultaneously, a U.S Army mechanized infantry division and a Marine infantry division raced toward Baghdad on either side of the Euphrates River while a British mechanized division seized the critical port city of Basra and its nearby oil fields.⁵¹ The Air Force supported each of these ground thrusts with vast amounts of close air support armed with precision munitions such as JDAMS and Paveway bombs.⁵² Although, the Iraqi armed forces were a shadow of their pre-Desert Storm selves, they still outnumbered the America forces in ground troops by a factor of almost four to one.⁵³ Iraqi resistance was stiff at times, and bypassed pockets of Iraqi soldiers and Fedayeen interfered with U.S. lines of supply causing temporary supply delays. Nevertheless, the combination of high-tech weapons systems delivering precision munitions, airpower, information dominance, and the speed of U.S. operations overwhelmed and defeated the Iraqi armed forces.⁵⁴

⁵⁰ Burger, *What Went Right?* ([cited), Martin Streetly, *Airborne Surveillance Assets Hit the Spot in Iraq* [Internet] (Jane's Intelligence Review - July 01, 2003 [cited October 9 2003]); available from <http://www.4janes.com/K2/doc.jsp?K2DocKey=/content1/janesdata/mags/jir/jir00641.htm...>

⁵¹ Waller, *High-Tech Tools of War* ([cited).

⁵² Burger, *What Went Right?* ([cited), Christian Lowe, *The New Art of War* [Internet] (The Daily Standard - April 3, 2003 [cited October 9 2003]); available from http://www.nexis.com/research/search/documentDisplay?_docnum=11&_ansset=W-WD-..., Waller, *High-Tech Tools of War* ([cited).

⁵³ Scarborough, "*Decisive Force*" *Now Measured by Speed, Not Troop Numbers* ([cited).

⁵⁴ Burger, *What Went Right?* ([cited), Scarborough, "*Decisive Force*" *Now Measured by Speed, Not Troop Numbers* ([cited).

As brilliant as the American victory was, peace enforcement and the reconstruction of Iraq are proving much harder to obtain.⁵⁵ Weapons of mass destruction have yet to be found and a definitive link between Saddam Hussein, Osama bin Laden, and the events of September 11, 2001 has not been established.⁵⁶ However, Operation Iraqi Freedom provided the world and especially the Arab states with an awesome display of American military power.⁵⁷ Unquestionably, the military's high-tech weapons systems, information systems, and the capabilities they represent were a major influence on Bush's decision to topple Hussein. In a speech at United Defense Industries' Santa Clara, CA plant on May 2, 2003, Bush talked to the importance of weapon technology. Using Nazi Germany as an example, he said that previously "Military power was used to end a regime by breaking a nation." However, weapons technology had exponentially progressed since then, such that during Operation Iraqi Freedom the U.S. targeted the Hussein regime and not the civilian population.⁵⁸ The swiftness of the attack sent a strong ominous signal to other states in the region that harbor terrorists.⁵⁹ However, as events in the Middle East and Iraq have shown, military action no matter how deftly conducted is a poor substitute for a comprehensive foreign policy and grand strategy.⁶⁰

⁵⁵ Kagan, "War and Aftermath," 6.

⁵⁶ Kenneth M Pollack, "Next Stop Baghdad?" *Foreign Affairs* 81, no. 2 (2002): 38.

⁵⁷ George Friedman, "The Next Phase of the War," *The STRATFOR Weekly*, October 16 2003.

⁵⁸ Debra J Saunders, *Victory Lap Interrupted* (Final Edition) [Internet] (The San Francisco Chronicle, 2003 [cited October 9 2003]); available from http://www.nexis.com/research/search/documentDisplay?_docnum=20&_ansset=W-WD-...

⁵⁹ Friedman, "The Next Phase of the War."

⁶⁰ Thomas L Friedman, *Free Advice to G.O.P* [Internet] (The New York Times-October 23, 2003 [cited October 24 2003]); available from <http://www.nytimes.com/2003/10/23/opinion/23FRIE.html?ex=1067996468&ei=1&en=c...>

President Bush has hinted that Iraq may not be the last state to undergo regime change at the hands of the U.S. military.⁶¹ To ensure the U.S. has the means to execute President Bush's foreign policy, Bush and Rumsfeld accelerated the military's transformation program they had begun upon entering office. In Rumsfeld's view, U.S. forces were structured to fight the Soviet Union, a threat that no longer existed. From Rumsfeld's perspective, the armed services were hidebound, too heavy to deploy rapidly, still individual service centric and not joint centric, and wedded to out dated operational concepts.⁶² Although transformation of the services has just begun, U.S. operations in Afghanistan and Iraq are steps in the right direction and appear to validate the direction that Bush and Rumsfeld see military operations heading. In the future speed, air power, precision munitions, and rapidly processed (and shared) information will be the hallmarks of U.S. operations.⁶³ As mention previously, Network Centric Warfare (NCW) is the concept that articulates how the U.S. will fight future conflicts. To implement that concept all the services must shed the vestiges of the past. The Army will have to discard much of its heavy armor in favor of weapons systems that are rapidly deployable by air, have greater lethality and range (over the horizon) than the vehicles they replace, and that rely on speed and near-perfect intelligence of the enemy for protection instead of heavy steel. The Air Force will have to leverage space-based weapons systems and unmanned aerial vehicles (UAV's) at the expense of manned aircraft. And for its part, the Navy

⁶¹ Kagan, "War and Aftermath," 6.

⁶² Woodward, *Bush at War*, 22-23, 135, 320-21.

⁶³ Scarborough, "*Decisive Force*" *Now Measured by Speed, Not Troop Numbers* ([cited]).

must move away from operations based on carrier battlegroups and look, instead to surface action groups and arsenal ships.⁶⁴

None of these changes sit well with the military. However, to date the army has been the only service to feel Rumsfeld's squeeze. Rumsfeld tasked all the services to reduce their strength in order to pay for new defense technologies, but he looked especially hard at the Army.⁶⁵ The cancellation of the Army's new artillery system, the Crusader, was one of several policy battles the Army lost with the Secretary of Defense. Another was Rumsfeld's announcement a year and half before General Shinseki's term as Chief of Staff ended that his replacement had been identified.⁶⁶ The other services have weathered Rumsfeld's challenges more successfully, mainly because their force structure and weapons systems are more congruent with Bush and Rumsfeld's ideas on warfare. Consequently, the Navy received authorization and appropriations for a new nuclear carrier and the Air Force sustained its B-2 stealth bomber program (albeit reduced), its FY-22 fighter, and Joint Strike Fighter programs.⁶⁷ Despite these pre-NCW acquisition victories, "All the services are working hard to implement the technical concepts of Network-Centric Warfare in their systems [acquisitions], and even to retrofit older systems with the new technology."⁶⁸

⁶⁴ Waller, *High-Tech Tools of War* ([cited]).

⁶⁵ Peter J Boyer, *A Different War; Is the Army Becoming Irrelevant?* [Internet] (The New Yorker- July 1, 2002 [cited April 11 2003]); available from http://www.nexis.com/research/search/documentDisplay?_docnum=1&_ansset=W-WA-A-W-A-...; Kagan, "War and Aftermath," 17.

⁶⁶ Boyer, *A Different War; Is the Army Becoming Irrelevant?* ([cited]).

⁶⁷ Kagan, "War and Aftermath," 9, Shaver, *The Case for Airpower Modernization* ([cited]).

⁶⁸ Kagan, "War and Aftermath," 9.

At issue is not whether the military should transform or acquire new technologies-it must. Rather, the question is what long term foreign and national security policies should the military be transforming to support and what types of technologies will provide the military the capabilities that these policies require? The weapon technology and force structure that are the bedrock of NCW have enabled the Bush administration to implement its unilateral foreign policy and preventive war national security strategy, and have been instrumental in promoting regime change. The Bush administration is so enamored with technology that Secretary of Defense Rumsfeld is pushing the military to transform faster in order to implement NCW faster.⁶⁹ Although Rumsfeld and the Defense Department are attempting to shorten the acquisition cycle, most complex weapons systems still require ten plus years to develop and field.⁷⁰ Which begs the question: in 2015 to 2020 when these systems are fielded, will America's foreign policy still be centered on unilateralism, preventive war, pre-emption, and regime change; if not, will these weapons systems and force structure be adequate for the whatever policy is in place or will they limit future policy options? These questions are especially relevant in light of the technological limitations and operational difficulties that American operations in Afghanistan and Iraq have exposed.

As successful as military technology and force structure have been in furthering Bush's foreign policy to date, NCW is not without its shortcomings.⁷¹ A smaller, faster,

⁶⁹ Boyer, *A Different War; Is the Army Becoming Irrelevant?* ([cited]).

⁷⁰ Donald H Rumsfeld, "Transformation Planning Guidance," (Washington, DC: Department of Defense, 2003), 6-7.

⁷¹ Kagan, "War and Aftermath," 15.

more lethal, and high-tech force operating with total battlespace awareness may be good at toppling state-centric regimes, but it has yet to prove very successful in building legitimate replacement governments, fighting an insurgency, or in establishing democratic and market reforms within them.⁷² Nor has this unmatched military force, despite its information dominance, proven capable of toppling the more amorphous terrorist regimes. Secretary Rumsfeld feels that the military must transform even faster if it is to win the war on terror.⁷³ But as events in Afghanistan have shown, when a disciplined, determined, well-trained opponent expertly uses the terrain and his relatively low-tech weapons systems, NCW does not work quite as its proponents purport. Al Qaeda fighters in the Bai Beche and Tora Bora battles were not cowed by American airpower.⁷⁴ Most often they repelled initial American and Northern Alliance attacks and were defeated only when American and Northern Alliance forces used traditional infantry-based fire and maneuver to close with the al Qaeda fighters to kill or capture them in their positions.⁷⁵ Likewise, despite its overwhelming technological superiority and crushing victory in the combat phase of Operation Iraqi Freedom, American forces have been unable to prevent or defeat the guerrilla insurgency that has emerged in Iraq.⁷⁶

⁷² Ibid: 8, 11-13.

⁷³ Donald H Rumsfeld, Memorandum, October 16 2003.

⁷⁴ Biddle, "Afghanistan and The future of Warfare: Implications for Army and Defense Policy," vii-viii.

⁷⁵ Ibid., 25, 27-29, 35.

⁷⁶ Friedman, "The Next Phase of the War.", Friedman, *Free Advice to G.O.P* ([cited]; Michael R Gordon, *Reality Check in Iraq: U.S. Faces a Long Stay* [Internet] (The New York Times-October 19, 2003 [cited October 27 2003]); available from <http://www.nytimes.com/2003/10/19/international/middleeast/19MILI.html?ei=5070&en...>

However, these are not the lessons the military and many of the civilian leaders in the Defense Department are heeding from operations in Afghanistan and Iraq. Focused on the direct combat part of war, they are set on acquiring weapon technologies that will be instrumental in transforming the armed forces into a smaller, more lethal, more strategically agile, and thus they argue, a more capable force.⁷⁷ Yet, empirical evidence indicates that most of America's conflicts have been and will continue to lie in the shadow land between peace and war.⁷⁸ In order to support America's foreign policy objectives the military must be capable of executing the high-tech tasks of network centric warfare as well as the equally demanding and important low-tech tasks such as peacekeeping, occupation, and nation building.⁷⁹ With its reduced force levels, the Army is straining under the occupation and nation building missions it has received, while attempting to maintain an equitable rotation policy in and out of combat zones, sustain the combat readiness of its forces for the next contingency mission, and at the same time, transform itself.⁸⁰ Without a doubt, the military should aggressively pursue new technologies and transformation programs. But those technological and transformation choices should be informed by future policy direction and the military capabilities it requires.⁸¹ Instead, the U.S. military and the Department of Defense appear to be

⁷⁷ Burger, *What Went Right?* ([cited]).

⁷⁸ Max Boot, *The Savage Wars of Peace: Small Wars and the Rise of American Power*. (New York: Basic Books, A Member of the Perseus Books Group, 2002).

⁷⁹ O'Hanlon, "A Flawed Masterpiece," 9.

⁸⁰ Kagan, "War and Aftermath.,"; Fred Kaplan, "He Saw It Coming; The Former Bushie Who Knew Iraq Would Go to Pot," *New York Times*, August 5, 2003; James Kitfield, "Army Troops, Budget Stretched to the Limit," *National Journal* (2003).

⁸¹ Kagan, "War and Aftermath," 17-18.

developing a force, which will have unmatched capabilities for conventional direct combat i.e., killing people, breaking things, and toppling regimes; but, which are generally unsuited for low intensity conflict scenarios such as peacekeeping, peace enforcement, and nation building missions.⁸²

Implications

Technological innovation will remain a trademark of the U.S. Military. The systemic institutionalization of technological development within the military that began during World War II and was accelerated by the events of the Cold War has not abated in the post-Cold War era. Nor has the military's influence on foreign policy lessen. If anything, the military's emphasis on technologically advanced weapons systems has increased along with its role in foreign policy. Recent combat operations during the Global War On Terrorism have further underscored the military's affinity for high-tech weapons systems. Although not without difficulties, the application of America's technological prowess during combat operations in Afghanistan and Iraq was stunning.⁸³ Currently, all branches of the military are increasing the acquisition of advanced technologies as they transform. Additionally, the Bush administration is pursuing a very

⁸² Burger, *What Went Right?* ([cited]); Kagan, "War and Aftermath"; O'Hanlon, "A Flawed Masterpiece," 9.

⁸³ Kagan, "War and Aftermath," 1; Scarborough, "*Decisive Force*" *Now Measured by Speed, Not Troop Numbers* ([cited]).

aggressive unilateral foreign policy that relies heavily on the technological capabilities of the military.⁸⁴

The military's continued acquisition of increasingly sophisticated weapons systems and the technological specialization that those systems require has several implications. Generally, these implications fall within one of three areas: foreign and national security policy, civil control over the military, and the future of the military profession in the United States. Depending on one's perspective, these implications have both negative and positive connotations. Nevertheless, if the trends in weapons system development continue (precision, dominant information environment, speed of operations, and the pre-eminence of aerial and space-based platforms) the likelihood of these trends continuing will be high.⁸⁵

Implications for Foreign Policy

The military's increased reliance on weapon system technology has two major implications for American foreign policy. The first involves the capabilities of the military to support foreign policy. The second derives from how the international system reacts to the United States' demonstrated military superiority. Unless reconciled, the differences in the planning horizons between weapons systems acquisition and foreign policy will continue to promote policy lag and present future leaders with inherited weapons systems and force structure. Thus, the military will continue to affect future policy options. Since the end of the Cold War, American presidents have used the

⁸⁴ Bush, *The National Security Strategy of the United States*, 16, 29-30; Robert Jervis, "The Compulsive Empire," *Foreign Policy*, no. 137 (2003).

⁸⁵ Rumsfeld, "Transformation Planning Guidance."

military extensively in support of foreign policy objectives.⁸⁶ But as the case studies previously mentioned indicate, the military's weapons systems and force structure (hence, its capabilities) have not always been suited for the missions it has received. Thus, the military's ability to attain the policy objectives assigned it has been questionable. This trend will most likely continue. Because it takes 12-15 years (or more) to develop and field a weapon system, national leaders will continue to have their policy options affected by weapon system acquisitions made a decade or more previously. However, the speed with which information moves, the amount of it, and the interaction between peoples and societies that technology and globalization promote leave little time for national leaders to develop a measured response for pressing international situations. The media, world leaders, the Congress, and American citizens clamor for an immediate response from the nation's leadership.⁸⁷ The military provides the president with a unique capability. Whether used to deliver relief supplies or bombs, the military can respond almost immediately. Although the military's weapons and force structure may not be ideally suited for a particular situation, its high-tech capabilities make military action a matter of first choice instead of last for the nation's leadership.⁸⁸

In the post-Cold War era, the military's technologically-driven combat capabilities, coupled with the absence of a peer competitor, have been instrumental in

⁸⁶ William S Cohen, "Annual Report to the President and the Congress," (Washington, D.C.: Office of the Secretary of Defense, 1999); Grimmitt, "Instances of Use of United States Armed Forces Abroad, 1798-2001," (Washington, DC: Congressional Research Service, 2002), 23-34.

⁸⁷ Paul Brace and Barbara Hinckley, *Follow the Leader: Opinion Polls and the Modern Presidents* (New York: Basic Books, A Division of HarperCollins Publishers, Inc., 1992), 1-3, 45-47, 109-14.

⁸⁸ Epstein, *Bush's 1st Strike Strategy Breaks Tradition* ([cited]).

promoting a unilateral U.S. foreign policy that relies heavily on military power to preempt potential threats to U.S. interests.⁸⁹ The military's weapons systems provide it with unmatched direct combat capabilities that it can project almost anywhere in the world. Moreover, with its emphasis on precision munitions, speed of operations, information dominance, and aerial/space systems, the military can single out individual military, economic, and political entities for destruction while simultaneously minimizing the risk of U.S. casualties and collateral damage.⁹⁰ This capability allowed the Bush administration to topple regimes in both Afghanistan and Iraq. Additionally the administration has been able to use the military's capabilities to intimidate/persuade other states (e.g., Libya and Syria) with links to terrorist organizations to cooperate more fully in the War on Terror.⁹¹

As enabling as the military's technological capabilities are in one sense, in another they are debilitating. In many instances, the military can best serve policy in ways other than direct combat. Humanitarian relief, peacekeeping, peace enforcement, counter-insurgency, insurgency, and foreign military training (all under the rubric of Military Operations Other Than War [MOOTW]) are operations that require technological systems and force structures different from those needed for high intensity conventional combat. High-tech U.S. combat forces can accomplish both the direct combat and the MOOTW missions, but not simultaneously. MOOTW missions require

⁸⁹ M. Elaine Bunn, "Preemptive Action: When, How, and to What Effect?," *Strategic Forum*, July 2003, Nye, "U.S. Power and Strategy after Iraq," 65.

⁹⁰ Burger, *What Went Right?* ([cited]; Waller, *High-Tech Tools of War* ([cited]).

⁹¹ Bunn, "Preemptive Action: When, How, and to What Effect?," 6-8.

specialized training. Prolonged employment of high-tech forces in MOOTW missions degrades the combat readiness of the high-tech forces involved. A more robust force structure with the capability to perform both high and low intensity missions simultaneously would help. However, the military, with the full endorsement of the Bush administration, is transforming into a smaller, faster, more information dominant, and combat capable force.⁹² Although this force structure may be superbly equipped for interstate conflict, in the future the majority of the missions that the U.S. military most likely will perform will be MOOTW missions.⁹³ As discussed previously, military operations in Somalia, Kosovo, Afghanistan, and Iraq have shown both the capabilities and limitations of high-technology weapons systems in pursuit of policy objectives.⁹⁴

In order to mitigate the difficulties of aligning the military's weapons systems and force structure acquisitions with national strategy and policy objectives, the military must acquire capabilities which allow it to fight effectively across the full spectrum of conflict. This does not mean the military should prepare for all contingencies equally. Rather, it should weight its capabilities in light of future policies and prioritize the tasks it will most likely have to accomplish. For example, the military's future force structure may include a relatively small number of very high-tech and high-cost combat units designed primarily for state-centric warfare (the most dangerous, but least likely contingency), and a large number of relatively low-tech and medium-cost combat and combat support units

⁹² Kagan, "War and Aftermath," 11-12, 18-19.

⁹³ Boot, *The Savage Wars of Peace: Small Wars and the Rise of American Power*.

⁹⁴ U.S. House of Representatives Armed Services Committee, *Operation Iraqi Freedom: Outside Perspectives*, October 21 2003, 1-14.

designed for humanitarian and low intensity warfare (the least dangerous, but most likely contingency). Steven Metz and Raymond Millen caution against embracing a single operational concept:

If the United States reaches a point where all that it can undertake are rapid decisive operations relying heavily on standoff strikes, it will be like a 16th century armored knight or mid-20th century battleship--extremely adept at a type of combat that has declining strategic relevance. Winning 21st century armed conflicts will require more than servicing targets. American military strategy should thus seek rapid decisive operations but also retain the ability to prevail in protracted, complex, ambiguous, and asymmetric warfare. To do this requires the versatility of landpower.⁹⁵

During the conventional phase of combat in Afghanistan and Iraq network centric warfare showed great promise; but in subsequent phases the technology and operational concepts have been of little utility in fighting insurgencies and terrorist movements. To support the nation's policies effectively, the military must continue to pursue a wide range of emerging technologies and not become so enamored with a single technological concept that it forsakes other capabilities.

The military's technological dominance has indirect implications for American foreign policy as well; namely in how other actors in the international system perceive America's military power. Advances in weapon-system technology along with the absence of a global competitor have obviated the need for many overseas facilities. Preferring to rely on its force projection capabilities, the military has shifted away from foreign bases to posts in the United States.⁹⁶ As prudent and economically sound as this trend appears, it has several negative implications for U.S. foreign and national security

⁹⁵ Steven Metz and Raymond Millen, *Future War/Future Battlespace: The Strategic Role of American Landpower*, (Carlisle Barracks, PA: U.S. Government Printing Office, 2003), 21.

⁹⁶ Kagan, "War and Aftermath," 8.

policy. First, it calls into question the utility of maintaining certain alliances in their current form. For example, why should the U.S. continue to underwrite NATO's operational capability when the Soviet threat has vanished and the military can respond just as easily from the U.S. to a European contingency?⁹⁷ Many lawmakers in the Congress are asking the same question.⁹⁸ However, a withdrawal from or reduced participation in NATO would lessen the frequency of military to military contacts, lessen the opportunities for combined training, denigrate interoperability with our allies (acquired through combined training and operations), and weaken one of the major planks in the State Departments foreign policy platform.⁹⁹ As part of its operations, the State Department utilizes military-to-military exchanges and training missions to promote democratic reforms such as the principle of civilian control over the military in states transitioning to democracy.¹⁰⁰ Additionally, foreign military financing and sales helps to stimulate economic growth by providing alliance members with contracts and loans to produce U.S. weapons systems for their armed forces, which in turn creates jobs and stimulates economic growth. U.S. withdrawal from or diminishment of its alliances

⁹⁷ Michael E. O'Hanlon, "Can High Technology Bring U.S. Troops Home," *Foreign Policy*, no. 113 (1999): 73.

⁹⁸ Robert Wilkie, "Fortress Europa: European Defense and the Future of the North Atlantic Alliance," *Parameters* XXXII, no. 4 (2002): 35; "Military strategy: The next American empire," *Economist* 20 March 2004, Vol. 370, No. 8367, 34-35.

⁹⁹ Ryan C Hendrickson, "Expanding NATO: The Case for Slovenia," *Parameters* XXXII, no. 4 (2002).

¹⁰⁰ Deborah Avant, "Privatizing Military Training: A challenge to U.S. Army Professionalism," in *The Future of the Army Profession*, ed. Lloyd J. Matthews (New York: McGraw-Hill Primis Custom Publishing, A Division of The McGraw-Hill Companies, 2002), 187.

would have significant implications for how America pursues its foreign policy, and in the advent of September 11, 2001, might push it even further toward unilateralism.¹⁰¹

A unilateralist approach toward foreign policy combined with unequaled military power and the willingness to use it may foster a number of different reactions by states within the international system. In addition to outright opposition to the United States (direct or indirect), states may attempt to balance U.S. power while others bandwagon with the U.S. America's use of military power in operations Enduring Freedom and Iraqi Freedom has produced both.¹⁰² France's, Germany's, and Russia's opposition to the U.S. invasion of Iraq, although vilified in the United States, can be viewed as an attempt to balance the power of the United States not only in the Middle East but in European affairs as well.¹⁰³ Developed and less dependent on U.S. trade, investment, and military security most European states were suspect of the U.S. rationale for invading Iraq. Many worried about the future political consequences of U.S. military hegemony.¹⁰⁴ The states that backed the U.S. military action and bandwaggoned with America did so to court American favor.¹⁰⁵ Neither of these responses bode well for American foreign policy. Those states that balanced against the United States were the ones most capable of providing military and economic assistance to the U.S. effort. While those states that sided with the U.S. were the least capable of providing support. As result, the United

¹⁰¹ Jervis, "The Compulsive Empire."

¹⁰² Ibid.

¹⁰³ Ronald D. Asmus, "Rebuilding the Atlantic Alliance," *Foreign Affairs* 82, no. 5 (2003); "How Deep Is the Rift?," *The Economist*, February 15 2003.

¹⁰⁴ James P. Rubin, "Stumbling into War," *Foreign Affairs* 82, no. 5 (2003): 60-66.

¹⁰⁵ Jervis, "The Compulsive Empire," 84-87.

States invaded Iraq with only Britain providing any measurable assistance. Even now, eight months after Iraq's conquest, the European Union voted to provide a paltry 254 million dollar aid package to rebuild Iraq while the U.S. alone will provide 89 billion dollars.¹⁰⁶ Despite its superb military capability and a willingness to use it, America cannot afford to shun its alliances and go it alone, at least not for long. Nor can America afford to neglect the other "softer" elements of power, even though these elements of power require a more multi-lateral approach and extended time to take effect. American will find it increasingly difficult to get other states to share the burden of maintaining international stability when the U.S.'s military capabilities help to promote what other states perceive as an aggressive policy of pre-emption and regime change.¹⁰⁷

In addition to the implications for foreign policy and national security policy, the military's weapons system technology has implications for civilian control over the military. These implications derive mainly from the specialization that technology promotes within the military and they contribute negatively to the military's relationship with civilian leadership.

Implications for Civilian Control

Since World War II, weapons systems technology has promoted an increased role for the military in foreign and national security policy. Further, the military's greater influence in foreign and national security policy often has occurred at the expense of

¹⁰⁶ Andrew Moravcsik, "Striking a New Transatlantic Bargain," *Foreign Affairs* 82, no. 4 (2003): 88.

¹⁰⁷ *Ibid.*: 88-89; Nye, "U.S. Power and Strategy after Iraq," 72-73. An old saying goes: "When all you have is a hammer (in your tool kit) every problem looks like a nail."

civilian control. Regardless of whether civilian leadership deferred to military advice because of the exigencies of the Cold War or felt constrained by the weapons systems and the force structure the military made available to them, the military's influence in foreign policy grew.¹⁰⁸ The constitutional and direct aspects of civilian control of the military are not at issue. The military is clearly subordinate to civilian leadership. It is the indirect aspects of civilian control that technology effects. The military's increased reliance on technology has two subtle implications for civilian-control. The first involves the quality of advice the civilian leadership receives. The second affects the civilian leadership's ability to exercise control over a bureaucratic organization whose technological capabilities and operational employment it does not understand.¹⁰⁹

The more technologically dependent the military becomes, the narrower its advice to senior political leaders is likely to be. Technology drives the military to become more specialized, expert, and arcane. Increased technological complexity engenders a greater division of labor and specialization.¹¹⁰ As the military becomes more technologically advanced and specialized, the officer corps will focus more of its time and energy mastering the intricacies of its weapons systems and developing operational procedures to employ them. This leaves less time for the future senior military leaders to acquire the

¹⁰⁸ Amos A. Jordan, William J. Jr. Taylor, and Michael J. Mazarr, *American National Security*, 5th Ed. (Baltimore: The Johns Hopkins University Press, 1999), 178-80, 333.

¹⁰⁹ *Ibid.*, 111, 93-94.

¹¹⁰ Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge and London: The Belknap Press of Harvard University Press, 1957), 32, 195-203; Max Weber, *From Max Weber: Essays in Sociology*, ed. H.H. Gerth and C. Wright Mills, trans. H.H. and C. Wright Mills Gerth (New York: Oxford University Press, 1946), 114-21.

knowledge and skill sets required of national security professionals.¹¹¹ President Kennedy in a national security action memorandum articulated his concern about the absence of broad policy-oriented expertise among the senior military leadership. The memorandum stated, “While I look to the Chiefs to present the military factor without reserve or hesitation, I regard them to be more than military men and expect their help in fitting military requirements into the overall context of any situation, recognizing that the most difficult problem in Government is to combine all assets in a unified, effective pattern.”¹¹²

Although the military has produced senior leaders such as George C. Marshall, Dwight D. Eisenhower, Maxwell Taylor, and Colin Powell that have met Kennedy’s expectations, they have been the exception rather than the rule.¹¹³ Most military men do not rise to the top of their service without first mastering its technical, tactical, and operational requirements.¹¹⁴ To do otherwise would be to run the risk of providing flawed or inadequate military advice to civilian leadership, not to mention failing the men and women in the services entrusted to their care. But a career spent mastering these skills does not leave much time to develop the intellectual rigor and interagency

¹¹¹ Marybeth Peterson Ulrich, “Infusing Civil-Military Relations Norms in the Officer Corps,” in *The Future of the Army Profession*, ed. Lloyd J. Matthews (New York: McGraw-Hill Primis Custom Publishing, A Division of the McGraw-Hill Companies, 2002), 246-47.

¹¹² Peter J. Roman and David W. Tarr, “Military Professionalism and Policymaking: Is There a Civil-Military Gap at the Top? If So, Does It Matter?,” in *Soldiers and Civilians: The Civil-Military Gap and American National Security*, ed. Peter D. Feaver and Richard H. Kohn (Cambridge, MA and London: MIT Press, 2002), 409-10.

¹¹³ Jordan, Taylor, and Mazarr, *American National Security*, 193-94.

¹¹⁴ Roman and Tarr, “Military Professionalism and Policymaking: Is There a Civil-Military Gap at the Top? If So, Does It Matter?,” 413, Sam C. Sarkesian, John Allen Williams, and Stephen J. Cimbiala, *U.S. National Security: Policymakers, Processes, and Politics* (Boulder, CO, Singapore, and Sydney: Lynne Rienner Publishers, Inc., 2002), 140-41.

experience required at the highest echelons of the national security process.

Consequently, the military's advice to the civilian leadership while technically expert may be too parochial for the political context that the civilian leadership operates in.¹¹⁵

Yet with the speed with which information moves, the connectivity of seemingly disparate events due to the effects of globalization, and the rise of ethnic/religious conflict, the civilian leadership needs more broadly based military advice than ever.¹¹⁶

Ideally, civilian leadership should be able to discern narrow or inappropriate military advice and demand other alternatives. However, that assumes that civilian leadership has adequate knowledge of the military's inner workings.¹¹⁷ Unfortunately, civilian leaders do not have the time or the inclination to master the details of military weapons systems and operation art.¹¹⁸ Not having the technological or operational expertise in military matters makes it more difficult for elected leaders to determine the appropriateness of the military's advice, especially in the areas of weapons acquisition, force structure, and strategy.¹¹⁹ For example, President George H. W. Bush and later President Clinton deferred to the military on the force structure and strategy inherent in

¹¹⁵ Eliot A. Cohen, "The Unequal Dialogue: The Theory and Reality of Civil-Military Relations and the Use of Force," in *Soldiers and Civilians: The Civil-Military Gap and American National Security*, ed. Peter D. and Richard H. Kohn Feaver (Cambridge, MA and London: MIT Press, 2002), 436-30, 57; Roman, "Military Professionalism and Policymaking: Is There a Civil-Military Gap at the Top? If So, Does It Matter?," 415-16.

¹¹⁶ Roman and Tarr, "Military Professionalism and Policymaking: Is There a Civil-Military Gap at the Top? If So, Does It Matter?," 410.

¹¹⁷ Cohen, "The Unequal Dialogue: The Theory and Reality of Civil-Military Relations and the Use of Force," 456.

¹¹⁸ Sarkesian, *U.S. National Security: Policymakers, Processes, and Politics*, 296.

¹¹⁹ Roman and Tarr, "Military Professionalism and Policymaking: Is There a Civil-Military Gap at the Top? If So, Does It Matter?," 414-18.

the Base Force. Clinton later deferred to military advice on intervention in Bosnia and the conduct of the campaign in Kosovo.¹²⁰ Enticed by the lure of precision weapons and the promises of Network Centric Warfare, President George H. Bush and Secretary Rumsfeld seemed unable (or unwilling) to evaluate the effectiveness of network centric warfare when applied to other than high-intensity operations. While high-tech weapons were effective during the first stages of the campaigns in Afghanistan and Iraq, their utility in the nation building stage is suspect.

These two trends: the narrow technological focus of the military's advice and the lack of military expertise on the part of the civilian leadership do not bode well for foreign policy. On one hand, the military may recommend against using force when it is warranted; on the other, the civilian leadership may employ military force for missions and in situations, which are inappropriate for military action.

Implications for the Military Profession

Samuel Huntington in *The Soldier and the State* outlines the three attributes of a profession: expertise, responsibility, and corporateness.¹²¹ Huntington then explains how the military meets these criteria and concludes that the officer corps uniquely fulfills each of them, but especially in its field of expertise: the management of violence.¹²² The management of violence, which includes the organization, equipping and training of the

¹²⁰ Cohen, "The Unequal Dialogue: The Theory and Reality of Civil-Military Relations and the Use of Force," 454-57; Roman, "Military Professionalism and Policymaking: Is There a Civil-Military Gap at the Top? If So, Does It Matter?," 422-24.

¹²¹ Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations*, 1-18.

¹²² *Ibid.*

military; the planning of its activities; and the direction of its operations in and out of combat defines the uniqueness of the military profession and constitutes its area of legitimate jurisdiction.¹²³ However, technology now threatens the military's jurisdictional area and its claim to be the state's sole agent for the management of violence.

The trend within the U.S. military has been toward a more high-tech, smaller, and lethal force. In the process of transforming itself, the military has put aside or minimized some of its low-tech capabilities such as armored vehicle development, artillery systems, and infantry organizations. However, the missions that these capabilities were acquired for have not diminished, if anything they have multiplied. Increasingly, the government with the consent of the overburdened military is authorizing and even contracting with Private Military Firms (PMFs) to perform missions once the exclusive jurisdiction of the armed services.¹²⁴ Teaching and training foreign militaries are two areas in which PMF's have made significant inroads. Military Professional Resources, Inc. (MPRI), a U.S. based military corporation, helped train, organize, and some maintain plan the Croatian army's offensive in Bosnia during 1995 that defeated the Serbs and helped bring Milosevic to the bargaining table.¹²⁵ Likewise, the military is contracting out some of its internal training to private firms. MPRI is currently teaching

¹²³ James Burk, "Expertise, Jurisdiction, and Legitimacy of the Military Profession," in *The Future of the Army Profession*, ed. Lloyd J. Matthews (New York: McGraw-Hill Primus, A Division of The McGraw-Hill Companies, 2002), 19-35; Huntington, *The Soldier and the State*, 11-12.

¹²⁴ P.W Singer, *Corporate Warriors: The Rise of the Privatized Military Industry* (Ithaca and London: Cornell University Press, 2003), 8.

¹²⁵ Avant, "Privatizing Military Training: A challenge to U.S. Army Professionalism," 189-92, David Shearer, "Outsourcing War," *Foreign Policy*, no. 112 (1998): 74; Singer, *Corporate Warriors: The Rise of the Privatized Military Industry*, 5, 11-12.

Army Reserve Officer Training Corps (ROTC) instruction on numerous campuses across the country. The Army is entrusting the development and selection of its future leaders to a civilian firm, albeit run by retired military personnel.¹²⁶ Additionally, civilian “think tanks” such as Rand, under contract with the military, develop much of the military’s future organizational and war-fighting concepts. Although contracting civilian firms to perform traditional military functions may be cost effective, it is more a lack of people that precludes the military from performing these tasks. Defense spending continues to support the acquisition of high-tech weapons systems vice the recruitment of high quality personnel in the numbers needed to perform the missions assign to the military. The military is increasingly ceding its expertise and jurisdiction to civilian enterprises that do not have the same sense of corporateness or responsibility to society that the military profession has inculcated into it.

Similarly, technology has promoted the proliferation of civilian contractors throughout the military, including on the battlefield. Many of the high-tech weapons systems and munitions require semi-permanent locations to assembly and/or repair them. Additionally, they require special tools, which are not transportable on the battlefield; thus, the services must transport the inoperable weapons systems to civilian staffed rear area facilities for repair. But civilian technicians are not relegated just to the rear areas. They are forward with combat units, repairing equipment and gathering data on the effectiveness of the weapons systems they helped develop. NCW does not require military members to man and service the vast array of satellites, sensors, and computers that form the framework of the system. In fact, government or contract civilian

¹²⁶ Avant, “Privatizing Military Training: A challenge to U.S. Army Professionalism,” 182-84.

employees perform most of that work. Yet, they are directly involved in the “management of violence,”¹²⁷ an area that was almost exclusively domain of the military.

The influx of civilian personnel into the training, equipping, and organizing of military forces; the planning for their use; and civilian involvement in direct combat has implications for how the military views itself as a profession, its members (what constitutes a military professional), and its jurisdiction. It may be that the management of violence is accomplished by technicians (military and civilian) behind computers that are linked to space-based sensors and weapons systems and that control an array of unmanned air, sea, and land vehicles that identify and attack targets. Soldiers, sailors, and airmen, as we know them now, in the future may be relegated to constabulary duties.¹²⁸ Regardless of what roles and jurisdiction the military will acquire in the future, technology will profoundly affect how the military defines itself and its relationship to civil authority.

Concluding Remarks

The U.S. military has never directly challenged the principle of civil control. The military has been and continues to be subordinate to civilian leadership. Moreover, with few exceptions the military prior to World War II has had little influence on U.S. foreign policy. But, the global scope of World War II and the exponential growth in weapons technology thrust the military into a prominent role in the development of foreign policy.

¹²⁷ Elizabeth A. Stanley-Mitchell, “The Digital Battlefield: What Army Transformation Efforts Say About Its Future Professional Jurisdiction,” in *The Future of the Army Profession*, ed. Lloyd J. Matthews (New York: McGraw-Hill Primus, A Division of The McGraw-Hill Companies, 2002), 132-36.

¹²⁸ *Ibid.*, 127-48.

Weapon system development is not the only independent variable affecting the military's role in foreign and national security policy; however, it is a variable that has grown in importance. If current U.S. operations in Afghanistan and Iraq are a guide, high-tech conventional weapons systems will continue to influence foreign policy.¹²⁹

There are several other factors that helped promote the military's influence in the post-Cold War era. First, there is no check to America's exercise of power. With the demise of the Soviet Union, the U.S. remains the world's sole super power. America's super power status resides not just in its military arsenal, but also across the other elements of power: economic, political, socio-psychological, and informational. Except for the French, German, and Russian opposition to the U.S. invasion of Iraq in March 2003, no other country or group of countries seems inclined to attempt to check the application of U.S. power.¹³⁰ The U.S. can apply its military power against terrorists, tyrants, and prop up dubious allies with little risk of serious interference from other states. Second, the high-technology characteristics of modern military equipment and force structure provide civilian leaders with the capability to employ military force decisively and quickly while minimizing U.S. and enemy casualties. Precision weapons launched from great distances (even from the U.S. in the future) against exact targets provide political leaders the capability to topple hostile regimes in a matter of days or weeks vice years. This is an especially valuable capability to have considering the speed with which events are transmitted around the world and the leadership's perceived need to respond decisively to a crisis. However, civilian leadership needs the expert advice of

¹²⁹ Sarkesian, *U.S. National Security: Policymakers, Processes, and Politics*, 271-73.

¹³⁰ "How Deep Is the Rift?," 11.

the military to employ its capabilities, and therefore welcomes if not encourages the military's increased participation in the foreign and national security policy process.¹³¹

Third, the military's high-technology capabilities appeal to the American public. The U.S. military is drawn from a society that has a special affinity for technology and technological solutions to its problems. The tenets of network centric warfare mentioned above are congruent with America's penchant for technology, its need to resolve issues expeditiously, and its moral approach to warfare. American's are not adverse to casualties provided they understand the reason they may occur. But if conflict is inevitable, American's prefer to get it over with as soon as possible with a minimum of friendly and enemy casualties.¹³²

Finally, although the military is normally the last to recommend the employment of its forces in combat, it constantly strives to enhance its capabilities. The benefits the military accrues from technology (expertise, autonomy, battlefield success, and allies in the policy process) allow the military's policy preferences to be included in national policy decisions while simultaneously increasing its bureaucratic autonomy. This autonomy is manifest in the military's selection of which weapons systems to develop and in the relatively free hand it has to execute its budget.¹³³ Consequently, the military

¹³¹ Cohen, "The Unequal Dialogue: The Theory and Reality of Civil-Military Relations and the Use of Force," 456-57.

¹³² Peter D. Feaver and Richard H. Kohn, "Conclusion: The Gap and What It Means for American National Security," In *Soldiers and Civilians: The Civil-Military Gap and American National Security*, eds., Peter D. Feaver and Richard H. Kohn, (Cambridge, MA and London, MIT Press, 2001), 467.

¹³³ Roman and Tarr, "Military Professionalism and Policymaking: Is There a Civil-Military Gap at the Top? If So, Does It Matter?," 414-15.

determines its own capabilities and the means that can limit or enhance present and future foreign policy ends.¹³⁴

The difficulty of relating military means to foreign policy ends is exacerbated by differences in the planning horizons of the military's weapons acquisition/force structure development process and the foreign and national security policy process. Weapons systems are planned twelve to twenty years in advance while foreign policy normally does not extend beyond four to six years. The resultant "policy lag" results in weapons systems and force structure that will be fielded in the future for a policy that does not exist yet. Due to the inherent capabilities and limitations of these weapons systems, they may constrain future policy options. Presidents inherit military weapons systems and force structure that long since retired military officers developed. Currently, Secretary of Defense Rumsfeld is attempting to reform the acquisition process in order to speed up the development and delivery of new weapons systems and transform the military into a true network centric warfare capable force. But Rumsfeld's efforts are only part of the equation. Because his efforts focus primarily on acquisition of systems and not on the decisions over which systems to develop, who should make those decisions, or how the systems will support policy ends, they likely will meet with limited success.

In one sense, given the current differences in planning horizons between weapons development and foreign policy, it makes no difference if military or civilian leadership decides which weapons systems to develop. Weapons systems will continue to influence foreign policy. To a large degree, future administrations will have to live with the weapons systems and force structure (military capabilities) they inherited from previous

¹³⁴ Sarkesian, *U.S. National Security: Policymakers, Processes, and Politics*, 273-76.

administrations. However from a civilian control perspective, it does make a difference whether the civilian or military leadership decides which weapons systems to develop and acquire. Only the elected civilian leadership is chartered by the Constitution with determining the nation's foreign policy and providing for its common defense. It can delegate authority to the military to develop and procure weapons systems, but it must not abdicate responsibility, even if that abdication is unintentional. With the exponential growth in weapons systems technology, the civilian leadership must be involved in deciding which technologies to research and develop and which to acquire. In this process, they must ask how these capabilities will support policy now, in the mid-term, and in the long-term. Moreover, the decision process should expand beyond the White House, the Department of Defense, and the armed services. Congress must exercise its oversight responsibilities beyond the purely budgetary realm and into the realm of foreign policy and national strategy.¹³⁵ Other government agencies with a stake in national security as well as major defense contractors, the research and development base, and civilian think tanks must be involved too.

To leave the weapons systems development process almost solely to the armed services promotes a greater military role in foreign policy and lessens civil control over the military. Moreover, it unfairly places a heavy burden on the military to predict future foreign policy and develop the weapons systems and the force structure that will support it. As this dissertation has shown, the cost associated with high-tech weapons systems is not trivial. Money spent on defense is money that is not available for the twenty-seven other programs funded within the discretionary budget such as education, health,

¹³⁵ Jordan, Taylor, and Mazarr, *American National Security*.

Department of State, Department of Transportation, etc. The American taxpayer should not have to fund trillion dollar weapons systems that are obsolete upon fielding.

However, matching means to ends is more than good economic policy, it is also vital to the security of the nation. While the nation's economy is robust enough to afford blunders of the B-1B bomber variety, it cannot afford to have its policy options curtailed or to risk defeat on some future battlefield due to inadequate weapons systems, force structure, and strategy. The American people deserve leadership, both civilian and military that can fulfill the precepts of the Constitution to "...provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Prosperity."¹³⁶

¹³⁶ U.S. Constitution, preamble.

SELECTED BIBLIOGRAPHY

- Abramo, Peter Mansfield. "The Economic and Military Potential of the United States: Industrial Mobilization Planning 1919-1945." Ph.D. diss., Temple University, 1995.
- Air War College. *U.S. Air Force Wing Force Structure* [Internet]. April 18, 2002 [cited August 22, 2002]. Available from http://www.au.af.mil/au/afhra/wwwroot/usaf_wingforce_Structure.
- . *USAF Wing Force Structure* [Internet]. May 2002 [cited August 22 2002]. Available from http://www.au.af.mil/au/afhra/wwwroot/usaf_wingforce_structure/1940s.htm.
- Allard, Kenneth. *Somalia Operations: Lessons Learned*. Washington, DC: National Defense University Press, 1995.
- Appleman, Roy E. *South to the Naktong, North to the Yalu*. Edited by Stetson Conn, *United States Army in the Korean War*. Washington, DC: U.S. Government Printing Office, 1961.
- Arnold, R. Douglas. *The Logic of Congressional Action*. New Haven and London: Yale University Press, 1990.
- Art, Robert J. "The Fungibility of Force." In *The Use of Force: Military Power and International Politics*, edited by Robert J. and Kenneth N. Waltz Art. Oxford, England: Rowman & Littlefield Publishers, Inc., 1999.
- . *Strategy and Management in the Post-Cold War Pentagon*. U.S. Army War College, Carlisle, PA: U.S Government Printing Office, 1992.
- Asmus, Ronald D. "Rebuilding the Atlantic Alliance." *Foreign Affairs* 82, no. 5 (2003): 20-31.

Aspin, Les. *Annual Report to the President and the Congress*. Washington, D.C.: Department of Defense, 1994.

———. *The Aspin Papers: Sanctions, Diplomacy, and War in the Persian Gulf*. Washington, DC: The Center for Strategic and International Studies, 1991.

———. *Report on the Bottom-up Review*. Washington, DC: Office of the Secretary of Defense, 1993.

Aspin, Les and William Dickinson. *Defense for a New Era: Lessons of the Persian Gulf War*. Washington, New York and London: Brassey's (US), Inc., A Division of Maxwell Macmillan, Inc., 1992.

Atkinson, Rick. *An Army at Dawn: The War in North Africa, 1942-1943*. 3 vols. Vol. 1. New York: Henry Holt and Company, LLC, 2002.

———. *Crusade: The Untold Story of the Persian Gulf War*. Boston and New York: Houghton Mifflin Company, 1993.

Avant, Deborah. "Privatizing Military Training: A Challenge to U.S. Army Professionalism." In *The Future of the Army Profession*, edited by Lloyd J. Matthews. New York: McGraw-Hill Primis Custom Publishing, A Division of The McGraw-Hill Companies, 2002.

Axelrod, Alan. *American Treaties and Alliances*. Washington, DC: CQ Press, A Division of Congressional Quarterly, Inc., 2000.

Bacevich, Andrew J. "Neglected Trinity: Kosovo and the Crisis in U.S. Civil Military Relations." In *War over Kosovo: Politics and Strategy in a Global Age*, edited by Andrew J. Bacevich and Eliot A. Cohen. New York: Columbia University Press, 2001.

Bailey, Ronald H. *The Home Front: USA*. Edited by William K. Goolrick, *World War II*. Alexandria, VA: Time-Life Books, Inc., 1977.

Barlow, Jeffrey G. *Revolt of the Admirals: The Fight for Naval Aviation, 1945-1950*. Washington, DC: U.S. Government Printing Office, 1994.

- Baucom, Donald R. *Technological War: Reality and the American Myth* [Internet]. Air War College, April 18, 2002 [cited October 26, 2001]. Available from <http://www.airpower.maxwell.af.mil/airchronicles/aureview/1981/sep-oct/baucom.htm>.
- Baumgardner, Neil. "Lockheed Martin Credits Offset Package, Loan for F-16 Win in Poland." *Defense Daily International* 3, no. 2 (2003): 1-2.
- Baumgartner, Frank R. and Bryan D. Jones. *Agendas and Instability in American Politics*. Edited by Benjamin I. Page, *American Politics and Political Economy*. Chicago and London: The University of Chicago Press, 1993.
- Beisner. *From the Old Diplomacy to the New: 1865-1900*. Edited by John Hope and Abraham S. Eisenstadt Franklin. Second ed, *The American History Series*. Arlington Heights, IL: Harlan Davidson, Inc, 1986.
- Beltz, Donald F. *The Role of the Military Professional in U.S. Foreign Policy*. New York, Washington and London: Praeger Publishers, 1972.
- Berkowitz, Bruce D. *War in the Information Age* Hoover Institute, 2002 [cited April 15, 2003]. Available from <http://www-hoover.stanford.edu/publications/digest/022/berkowitz.html>.
- . "Warfare in the Information Age." In *In Athena's Camp*, edited by John Arquilla and David Ronfeldt. Santa Monica, CA and Washington, DC: Rand, 1997.
- Betts, Richard K. *Military Readiness: Concepts, Choices, Consequences*. Washington, D.C.: The Brookings Institution, 1995.
- . *Soldiers, Statesman and Cold War Crises*. Morningside ed. New York and Oxford: Columbia University Press, 1991.

- Biddle, Stephen. "Afghanistan and The Future of Warfare: Implications for Army and Defense Policy." 1-58. Carlisle, PA: Strategic Studies Institute, United States Army War College, 2002.
- . "The New Way of War? Debating the Kosovo Model." *Foreign Affairs*, May/June 2002, 138-44.
- Biddle, Tami Davis. *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas About Strategic Bombing, 1914-1945*. Princeton, NJ and Oxford: Princeton University Press, 2002.
- Bin, Alberto, Richard Hill and Archer Jones. *Desert Storm: A Forgotten War*. Westport, CT. and London: Praeger Publishing, 1998.
- Birkler, John et.al. *The U.S. Aircraft Carrier Industrial Base: Force Structure, Cost, Schedule, and Technology Issues for CVN 77*. Santa Monica, CA: Rand, 1998.
- Blackwell, James. "Prospects and Risks of Technological Dependency." Paper presented at the United States Army Third Annual Strategy Conference, Carlisle Barracks, Carlisle PA, February 13-14, 1992, 1992.
- Blair, Clay. *Hitler's U-Boat War: The Hunted 1942-1945*. New York: Random House, Inc., 1998.
- Boies, John L. *Buying for Armageddon: Business, Society, and Military Spending since the Cuban Missile Crisis*. Edited by Teresa A. Sullivan, *Rose Monograph Series*. New Brunswick, NJ: Rutgers University Press, 1994.
- Bonin, John A. "Helicopters and Intervention: The Impact of Military Technology on U.S. Foreign Policy in Vietnam." MA Thesis, Duke, 1982.
- Boot, Max. *The Savage Wars of Peace: Small Wars and the Rise of American Power*. New York: Basic Books, A Member of the Perseus Books Group, 2002.
- Bourne, Christopher M. "The Unintended Consequences of the Goldwater-Nichols Act." *Joint Force Quarterly* no.18, (Spring 1998): 99-108.

- Bourne, Christopher M., Robert J. Smullen, and Thomas J. Impellitteri. "Air Delivered Fires in Support of Maneuver." *Marine Corps Gazette* 87, no. 4 (2003): 30-31.
- Bowden, Mark. *Black Hawk Down: A Story of Modern War*. New York: Atlantic Monthly Press, 1999.
- Bowie, Robert R. "Bowie's Commentary." In *American Cold War Strategy: Interpreting NSC 68*, edited by Ernest R. May. Boston and New York: Bedford Books of St. Martin's Press, 1993.
- Boyer, Peter J. *A Different War; Is the Army Becoming Irrelevant?* [Internet]. The New Yorker-July 1, 2002 [cited April 11 2003]. Available from http://www.nexis.com/research/search/documentDisplay?_docnum=1&_ansset=W-WA-A-W-A-...
- Brace, Paul and Barbara Hinckley. *Follow the Leader: Opinion Polls and the Modern Presidents*. New York: Basic Books, A Division of HarperCollins Publishers, Inc., 1992.
- Bracken, Paul. "Reconsidering Civil-Military Relations." In *U.S. Civil-Military Relations: In Crisis or Transition?*, edited by Don M. Snider and Miranda A. Carlton-Carew. Washington, D.C: The Center For Strategic & International Studies, 1995.
- Brandes, Stuart D. *Warhogs: A History of War Profits in America*. Lexington, KY: The University Press of Kentucky, 1997.
- Braybrooke, David and Charles E. Lindblom. *A Strategy of Decision: Policy Evaluation as a Social Process*. New York: Free Press, 1963.
- Broder, John M and Robin Wright. "An Adventure with All the Earmarks of Doom, Somalia: Dispatching Elite Troops Will Lock in the Mission's Big-Power Profile, Making a Solution More Elusive. Four Ways to Withdraw Gracefully." *Los Angeles Times*, August 29, 1993, 2.
- Brown, Michael E. *Flying Blind: The Politics of the U.S. Strategic Bomber Program*. Edited by Robert J. Art and Robert Jervis, *Cornell Studies in Security Affairs*. Ithaca and London: Cornell University Press, 1992.

- Builder, Carl H. *The Masks of War: American Military Styles in Strategy and Analysis*. Edited by RAND Corporation, *A Rand Corporation Research Study*. Baltimore and London: The Johns Hopkins University Press, 1989.
- Bunn, Elaine M. "Preemptive Action: When, How, and to What Effect?" *Strategic Forum*, July 2003, 1-8.
- Burger, Kim et. al. *What Went Right?* *Janes' Defence Weekly*, 2003 [cited October 9, 2003]. Available from <http://www4.janes.com/K2/docprint.jsp?KeDocKey=/content1/janesdata/mag/jdw/jdw04..>
- Burk, James. "Expertise, Jurisdiction, and Legitimacy of the Military Profession." In *The Future of the Army Profession*, edited by Lloyd J. Matthews. New York: McGraw-Hill Primus, A Division of The McGraw-Hill Companies, 2002.
- Bush, George. *National Security Strategy of the United States*. Washington, DC: The White House, 1990.
- . *The National Security Strategy of the United States*. Washington, DC: The White House, 1993.
- . *National Security Strategy of the United States: 1991-1992*. Washington, DC: Brassey's (US), Inc. A Division of Maxwell Macmillan, Inc., 1991.
- . "The U.N.: World Parliament of Peace." *Dispatch* 1, no. 6 (1990): 152.
- Bush, George W. *Speech to Joint Session of Congress: War on Terror* [Internet]. The White House, Office of the Press Secretary, 2001 [cited October 7 2003]. Available from <http://www.globalsecurity.org/military/library/news/2001/09/mil-010920-usia01.htm>.
- Bush, George W. *Economic Report of the President*. Washington, DC: The White House, 2003.
- . *The National Security Strategy of the United States*. Washington, DC: The White House, 2002.

Bush, George W. *Statement by the President: President Bush Announces Military Strikes in Afghanistan* [Internet]. The White House, Office of the Press Secretary, October 7, 2001 [cited October 7 2003]. Available from <http://www.globalsecurity.org/military/library/news/2001/10/mil-011007-usia01.htm>.

Calhoun, Martin. "Unrequested Funding Added by Congress to the Fiscal 1996 Military Budget." 2. Washington, DC: Center for Defense Information <http://www.cdi.org/issues/add-ons.html>, 1996.

Cambrone, Steven A. "Ballistic and Cruise Missile Threats." In *To Insure Domestic Tranquility, Provide for the Common Defence*. edited by Max G. Manwaring. Carlisle, PA: US Government Printing Office, 2000.

Carlucci, Frank C. *Annual Report to the Congress*. Washington, DC: Office of the Secretary of Defense, 1989.

Cary, James. *Tanks and Armor in Modern Warfare*. New York: Franklin Watts Inc., 1966.

Cheney, Dick. *Annual Report to the President and the Congress*. Washington, DC: Office of the Secretary of Defense, 1991.

———. *Annual Report to the President and the Congress*. Washington, DC: Office of the Secretary of Defense, 1992.

———. *Annual Report to the President and the Congress*. Washington, DC: Department of Defense, 1993.

———. *Final Report to Congress: Conduct of the Persian Gulf War*. Washington, DC: Office of the Secretary of Defense, 1992.

Chun, Clayton K.S. *Aerospace Power in the Twenty-First Century: A Basic Primer*. Colorado Springs, CO: U.S. Government Printing Office, 2001.

Citina, Robert M. *Armored Forces*. Westport, CT: Greenwood Press, 1994.

- Clark, Wesley K. *Waging Modern War: Bosnia, Kosovo, and the Future of Combat*. New York: Public Affairs, a member of the Perseus Books Group, 2001.
- Clarke, Duncan L, Daniel B. O'Connor and Jason D. Ellis. *Send Guns and Money: Security Assistance and U.S. Foreign Policy*. Westport, CT and London: Praeger Publishers, An imprint of Greenwood Publishing Group, Inc., 1997.
- Clarke, Walter and Jeffrey Herbst. "Somalia and the Future of Humanitarian Intervention." In *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, edited by Walter Clarke and Jeffrey Herbst. Boulder, CO and Oxford: Westview Press, A Member of Perseus Books, L.L.C., 1997.
- Clausewitz, Carl Von. *On War*. Translated by Michael Howard and Peter Paret. Edited by Michael Howard and Peter Paret. Indexed ed. Princeton, NJ: Princeton University Press, 1976.
- Clinton, William J. *A National Security Strategy for a Global Age*. Washington, DC: The White House, 2000.
- . *A National Security Strategy for a New Century*. Washington, D.C.: The White House, 1998.
- . *A National Security Strategy of Engagement and Enlargement*. Washington, DC: The White House, 1995.
- . Speech, March 24, 1999.
- "Closing Pandora's Box." *The Economist*, January 4, 2003, 29-31.
- Clotfelter, James. *The Military in American Politics*. New York: Harper & Row Publishers, 1973.
- Coffman, Edward M. "The Constitution and the U.S. Army Officer." In *The Constitution and the U.S. Army*, edited by Rod. Paschall. Carlisle, PA: U. S. Government Printing Press, 1988.
- Cohen, Eliot A. "A Tale of Two Secretaries." *Foreign Affairs* 81, no. 3 (2002): 33-46.

- . “The Unequal Dialogue: The Theory and Reality of Civil-Military Relations and the Use of Force.” In *Soldiers and Civilians: The Civil-Military Gap and American National Security*, edited by Peter D. Feaver and Richard H. Kohn. Cambridge, MA and London: MIT Press, 2002.
- Cohen, Eliot A. “Kosovo and the New American Way of War.” In *War over Kosovo: Politics and Strategy in a Global Age*, edited by Andrew J. Bacevich and Eliot A. Cohen. New York: Columbia University Press, 2001.
- . “Why the Gap Matters.” *The National Interest* 41, no. Fall, 2000 (2000): 38-48.
- Cohen, William S. *Annual Report to the President and the Congress*. Washington, D.C.: Office of the Secretary of Defense, 1999.
- . *Report of Secretary of Defense to the President and Congress-2000*. Washington, D.C.: Department of Defense, 2000.
- . *Report of the Quadrennial Defense Review*. Washington, DC: Department of Defense, 1997.
- Coleman, John. *Party Decline in America: Policy, Politics, and the Fiscal State*. Edited by Ira Katznelson; Martin Shefter; and Theda Skocpol, *Princeton Studies in American Politics: Historical, International, and Comparative Perspectives*. Princeton, New Jersey: Princeton University Press, 1996.
- Coneta, Carl and Charles Knight. *Framework for Constructing a New Era Alternative to the Bottom-up Review*. Washington, DC: Project on Defense Alternatives, 1997.
- Constant, Edward W. II. *The Origins of the Turbojet Revolution*. Baltimore and London: The Johns Hopkins University Press, 1980.
- Cook, Nick. *The Air Campaign - Trends and Developments* [Internet]. Janes Defence Weekly - March 26, 2003 [cited October 9 2003]. Available from <http://www4.janes.com/K2/doc.jsp?K2DocKey=/content1/janesdata/mags/jdw/jdw04189.h...>

- . *Effects-Based Air Operations - Cause and Effect* [Internet]. Janes Defense Weekly - June 18, 2003, 2003 [cited October 9, 2003]. Available from <http://www4.janes.com/K2/docprint.jsp?K2DocKey=/content1/janesdata/mags/jdw/jdw05...>
- Cooling, Norman L. "Operation Restore Hope in Somalia: A Tactical Action Turned Strategic Defeat." *Marine Corps Gazette* 85, no. 9 (2001): 92-106.
- Cooper, Scott A. "The Politics of Airstrikes." *Policy Review* June 2001, no. No. 107: 1-9.
- Corbet, Julian S. "Some Principles of Maritime Strategy." In *Roots of Strategy, Book 4: 4 Military Classics*, edited by David Jablonsky. Mechanicsburg, PA: Stackpole Books, 1999.
- Corbett, Julian Stafford. "Theory of the Object: Command of the Sea." In *Strategic Schools*, edited by Raymond Alexander, 63-76. Carlisle, PA: U.S. Government Printing Office, 1988. Reprint, *Some Principles of Maritime Strategy*, Naval Institute Press, 1988.
- Cordesman, Anthony H. "Compensating for Smaller Forces: Adjusting Ways and Means through Technology." Paper presented at the United States Army Third Annual Strategy Conference, Carlisle Barracks, Carlisle, PA, February 13-14, 1992.
- . *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo*. Westport, CT.: Praeger Publishers, 2001.
- Craig, Gordon A. and Felix Gilbert. "Reflection on Strategy in the Present and Future." In *Makers of Modern Strategy: From Machiavelli to the Nuclear Age.*, edited by Peter Paret. Princeton, NJ: Princeton University Press, 1986.
- Crane, Conrad C. *American Airpower Strategy in Korea, 1950-1953*. Lawrence, KS: University Press of Kansas, 2000.
- . "Avoiding Vietnam: The U.S. Army's Response to Defeat in Southeast Asia." 25. Carlisle, PA: U.S. Army War College, Strategic Studies Institute, 2002.

- Crippen, Dan L. *Budget Operations for National Defense*. Washington, DC: Congress of the United States, 2000.
- Daadler, Ivo H. and Michael E. O'Hanlon. *Winning Ugly: Nato's War to Save Kosovo*. Washington, D.C.: Brookings Institution Press, 2000.
- Dahl, Robert A. *A Preface to Democratic Theory*. Chicago and London: The University of Chicago Press, 1956.
- Dallek, Robert. *Franklin D. Roosevelt and American Foreign Policy, 1932-1945*. With Afterword ed. New York and Oxford: Oxford University Press, 1995.
- Davis, Jacquelyn K. *Aircraft Carriers and the Role of Naval Power in the Twenty-First Century*. Cambridge, MA and Washington, DC: Institute For Foreign Policy Analysis, 1993.
- Davis, Norman C. "An Information-Based Revolution in Military Affairs." In *In Athena's Camp: Preparing for Conflict in the Information Age.*, edited by John and David Ronfeldt Arquilla. Santa Monica, CA and Washington, D.C.: Rand, 1997.
- Davis, Richard. *Bottom-up Review: Analysis of Key DOD Assumptions*. Washington, DC: United State General Accounting Office, 1995.
- De Tocqueville, Alexis. *Democracy in America*. Translated by George Lawrence. Edited by J.P. Mayer. New York: Harper & Row, 1966.
- Deighton, Len. *Blitzkrieg: From the Rise of Hitler to the Fall of Dunkirk*. New York: Ballantine Books, a division of Random House, Inc., 1979.
- Deitchman, Seymour J. *Military Power and the Advance of Technology: General Purpose Military Forces for the 1980's and Beyond*. Revised ed, *Westview Special Studies in Military Affairs*. Boulder, CO: Westview Press, Inc., 1983.
- Derian, Jean-Claude. *America's Struggle for Leadership in Technology*. Translated by Severen Schaeffer. English ed. Cambridge, MA and London: The MIT Press, 1990.

- Desch, Michael C. *Civilian Control of the Military: The Changing Security Environment*. Baltimore and London: The Johns Hopkins University Press, 1999.
- D'Este, Carlo. *Patton: A Genius for War*. New York: HarperCollins Publishers, Inc., 1995.
- Diamond, John. *A Campaign to Control the Afghan Skies* (October 8, 2003) [Internet]. Chicago Tribune, 2003 [cited October 9 2003]. Available from http://www.nexis.com/research/search/documentDisplay?_docnum=6&_ansset=W-WW-...
- Dixon, James H. et. al. *National Security Policy Formulation: Institutions, Processes, and Issues*. Washington, DC: U.S. Government Printing Office, 1984.
- Doubler, Michael D. *Closing with the Enemy: How GI's Fought the War in Europe, 1944-1945*. Lawrence, KS: University of Kansas Press, 1994.
- . *I Am the Guard: A History of the Army National Guard 1636-2000*. Washington, D.C.: U.S. Government Printing Office, 2001.
- Drysdale, John. "Foreign Military Intervention in Somalia: Root Cause of the Shift from Un Peacekeeping to Peacemaking and Its Consequences." In *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, edited by Walter Clarke and Jeffrey Herbst. Boulder, CO: Westview Press, A Member of Perseus Books, L.L.C., 1997.
- Duffield, John S. "Commentary: Progress, Problems, Prospects." *Diplomatic History* 22, no. 3 (1998): 431-37.
- Dupree, Hunter A. "National Security and the Post-War-Science Establishment in the United States." *Nature* 323 (1988): 214.
- Dupuy, R. Ernest and Trevor N. Dupuy. *The Encyclopedia of Military History from 3500 to the Present*. Second Revised Edition ed. New York: Harper & Row, Publishers, 1986.

- Dyson, Freeman J. *Weapons and Hope*. New York: Harper & Row, Publishers, 1984.
- Eisenhower, Dwight D. Speech, 1961.
- Eisenhower, John S.D. *Agent of Destiny: The Life and Times of General Winfield Scott*. New York: Free Press, a Division of Simon & Schuster, Inc., 1997.
- . *Intervention! The United States and the Mexican Revolution 1913-1917*. New York and London: W.W. Norton & Company, Inc., 1993.
- Epstein, Keith. *Bush's 1st Strike Strategy Breaks Tradition* The Tampa Tribune, 2003 [cited October 9 2003]. Available from http://www.nexis.com/research/search/documentDisplay?_docnum=23&_ansset=W-WD-...
- Evangelista, Matthew. "Commentary: The Soviet Threat": Intentions, Capabilities, and Context." *Diplomatic History* 22, no. 3 (1998): 439-49.
- . "Stalin's Postwar Army Reappraised." *International Security* 7 (1983): 110-38.
- Everett-Heath, John. *Helicopters in Combat: The First Fifty Years*. London and New York: Villiers House, distributed in the USA by Sterling Publishing Co. Inc., 1992.
- Fairchild, Byron R. and Walter S. Poole. *The Joint Chiefs of Staff and National Policy 1957-1960*. Edited by David A. Armstrong. Vol. VII, *History of the Joint Chiefs of Staff*. Washington: U.S. Government, 1986.
- Feaver, Peter D. "The Civil-Military Problematique: Samuel Huntington, Morris Janowitz and the Question of Civilian Control." *Armed Forces and Society* 23, no. Winter 1996: 149-78.
- . *Guarding the Guardians: Civilian Control of Nuclear Weapons in the United States*. Ithaca, NY: Cornell University Press, 1992.

- Feaver, Peter D., and Richard H. Kohn. "Project on the Gap between the Military and Civilian Society: Digest of Findings and Studies." Durham, N.C. and Chapel Hill, N.C.: Triangle Institute for Security Studies, 2000.
- Feaver, Peter. "Crisis as Shirking: An Agency Theory Explanation of the Souring of American Civil-Military Relations." *Armed Forces and Society* 24, no. Spring 1998: 407-34.
- Finer, S.E. *The Man on Horseback: The Role of the Military in Politics*. Revised ed. Baltimore, Harmondsworth, Ringwood, Markham and Auckland: Penguin Books Inc., 1976.
- Flint, Roy K. "Task Force Smith and the 24th Division: Delay and Withdrawal, 5-19 July 1950." In *America's First Battles 1776-1965*, edited by Charles E. Heller and William A. Stroff. Lawrence, KS: University Press of Kansas, 1986.
- . "The Truman-MacArthur Conflict: Dilemmas of Civil-Military Relations in the Nuclear Age." In *The United States Military under the Constitution of the United States, 1789-1989*, edited by Eliot A. Cohen. New York and London: New York University Press, 1991.
- Friedberg, Aaron L. *In the Shadow of the Garrison State: America's Anti-Statism and Its Cold War Grand Strategy*. Princeton, N.J.: Princeton University Press, 2000.
- Friedman, George. "The Next Phase of the War." *The STRATFOR Weekly*, October 16 2003.
- Friedman, George and Meredith Friedman. *The Future of War: Power, Technology, and American World Dominance in the 21st Century*. New York: St Martin's Griffin Press, 1996.
- Friedman, Lawrence. "The First Two Generations of Nuclear Strategist." In *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, edited by Peter Paret. Princeton, NJ: Princeton University Press, 1986.
- Friedman, Norman. *The Fifty-Year War: Conflict and Strategy in the Cold War*. Annapolis, Maryland: Naval Institute Press, 2000.

Friedman, Thomas L. *Free Advice to G.O.P* [Internet]. The New York Times-October 23, 2003 [cited October 24 2003]. Available from <http://www.nytimes.com/2003/10/23/opinion/23FRIE.html?ex=1067996468&ei=1&en=c...>

Fukuyama, Francis. "The End of History?" *The National Interest*, no. Summer, 1989 (1989).

Futrell, Robert Frank. *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force 1907-1960*. 2 vols. Vol. I. Maxwell Air Force Base, AL: U.S. Government Printing Office, 1989.

Gaddis, John Lewis. "Bush's Security Strategy." *Foreign Policy*, no. 133 (2002): 50-57.

———. *Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy*. New York: Oxford University Press, 1982.

———. *We Now Know: Rethinking Cold War History*. New York: Oxford University Press Inc., 1997.

GAO. "Aircraft Acquisition: Affordability of DOD's Investment Strategy." 36. Washington, DC: U.S. General Accounting Office, 1997.

———. "Combat Air Power: Assessment of Joint Close Support Requirements and Capabilities Is Needed." 1-32. Washington, DC: U.S. General Accounting Office, 1996.

———. "Combat Air Power: Joint Mission Assessments Needed before Making Program and Budget Decisions." 1-96. Washington, DC: U.S. General Accounting Office, 1996.

———. "Kosovo Air Operations: Army Resolving Lessons Learned Regarding the Apache Helicopter." 1-24. Washington, DC: U.S. General Accounting Office, 2001.

———. "Kosovo Air Operations: Need to Maintain Alliance Cohesion Resulted in Doctrinal Departures." 1-32. Washington, DC: U.S. General Accounting Office, 2001.

- . “Longbow Apache Helicopter: Key Factors Used to Measure Progress in Development Need to Be Changed.” 1-26. Washington, DC: U.S. General Accounting Office, 1991.
- . “Navy Aircraft Carriers: Cost-Effectiveness of Conventionally and Nuclear-Powered Carriers.” 192. Washington, DC: U.S. General Accounting Office, 1998.
- . “Navy Carrier Battle Groups: The Structure and Affordability of the Future Force.” 147. Washington, DC: U.S. General Accounting Office, 1993.
- . “Operation Desert Storm: Evaluation of the Air Campaign.” 1-195. Washington, DC: U.S. General Accounting Office, 1997.
- Garden, Timothy. *The Technology Trap: Science and the Military*. London and New York: Brassey’s Defence Publishers Ltd, A member of the Maxwell Pergamon Publishing Corporation, 1989.
- Gentile, Gian P. *How Effective Is Strategic Bombing? Lessons Learned from World War II to Kosovo*. New York and London: New York University Press, 2001.
- Gentry, John A. “Doomed to Fail: America’s Blind Faith in Military Technology.” *Parameters* XXXII, no. 4 (2002): 88-103.
- Gibson, Christopher P. and Don M. Snider. “Civil-Military Relations and the Potential to Influence: A Look at the National Security Decision-Making Process.” *Armed Forces and Society*, no. Winter, 1999.
- Gilbert, Felix. *To the Farewell Address: Ideas of Early American Foreign Policy*. Princeton, NJ: Princeton University Press, 1961.
- Gilroy, Curtis L. “Civil-Military Operations and the Military Mission: Differences between Military and Influential Elites.” In *U.S. Civil-Military Relations: In Crisis or Transition?*, edited by Don M Snider and Miranda A. Carlton-Carew. Washington, D.C.: The Center For Strategic & International Studies, 1995.
- Glatthaar, Joseph T. *Partners in Command: The Relationships between Leaders in the Civil War*. New York, London, Toronto, Tokyo, Singapore: The Free Press, A Division of Simon & Schuster Inc., 1994.

- Goodpaster, Andrew J., and Samuel P. Huntington, eds. *Civil-Military Relations*. Washington, D.C.: American Enterprise Institute for Public Policy Research, 1977.
- Gordon, Michael R. *Reality Check in Iraq: U.S. Faces a Long Stay* [Internet]. The New York Times-October 19, 2003 [cited October 27 2003]. Available from <http://www.nytimes.com/2003/10/19/international/middleeast/19MILI.html?ei=5070&en...>
- Gordon, Michael R. and General Bernard E. Trainor. *The General's War: The inside Story of the Conflict in the Gulf*. Boston, New York, Toronto and London: Little, Brown and Company, 1995.
- Gray, Colin S. *Modern Strategy*. Oxford and New York: Oxford University Press, 1999.
- . *Policy, Strategy, and Military Technology*. Lawrence, KS: University Press of Kansas, 1993.
- . *Weapons Don't Make War: Policy, Strategy, and Military Technology*. Lawrence, KS: University Press of Kansas, 1993.
- Greider, William. *Fortress America: The American Military and the Consequences of Peace*. New York: Public Affairs, 1998.
- Grimmett, David. *Instances of Use of United States Armed Forces Abroad, 1798-2001*. Washington, DC: Congressional Research Service, 2002.
- Gropman, Alan L. "Mobilizing U.S. Industry in World War II." In *McNair Paper*, 167. Washington, DC: National Defense University, 1996.
- Halberstam, David. *War in a Time of Peace: Bush, Clinton, and the Generals*. New York, London, Toronto, Sydney, and Singapore: Scribner, 2001.
- Hamilton, Alexander, John Jay, and James Madison. *The Federalist; a Commentary on the Constitution of the United States*. Modern Library College Editions ed. New York: Random House, Inc., 1941.

- Heinricks, Waldo. *Threshold of War: Franklin D. Roosevelt and American Entry in World War II*. New York and Oxford: Oxford University Press, 1988.
- Hellman, Christopher. "Fiscal Year 1999 Add-Ons: Congress' Unrequested Spending for Te Pentagon." 2. Washington, DC: Center for Defense Information <http://www.cdi.org/issues/add-ons99.html>, 1998.
- . "Fiscal Year 2001 Add-Ons: Congress' Unrequested Spending for the Pentagon." 1-3. Washington, DC: Center for Defense Information <http://www.cdi.org/issues/budget/add-ons01.html>, 2000.
- . "Last of the Big Time Spenders: U.S. Military Budget Still the World's Largest, and Growing." 1-3. Washington, DC: Center for Defense Information, <http://www.cdi.org/budget/2004/world-military-spending.cfm>, 2003.
- . *Top 15 U.S. Defense Contractors of FY 99* [Internet]. Department of Defense, March 9, 2000 [cited 4 September 2003].
- Hendrickson, Ryan C. "Expanding NATO: The Case for Slovenia." *Parameters* XXXII, no. 4 (2002): 64-76.
- Holsti, Ole R. "A Widening Gap between the U.S. Military and Civilian Society? Some Evidence, 1976-96." *International Security* 23, no. Winter 1998-99: 197-213.
- Hooks, Gregory Michael. *Forging the Military-Industrial Complex: World War II's Battle of the Potomac*. Urbana and Chicago: University of Illinois Press, 1991.
- Horne, Alistair. *A Savage War of Peace: Algeria, 1954-1962*. New York: Viking Press, 1977.
- Hosmer, Stephen T. *The Conflict over Kosovo: Why Milosevic Decided to Settle When He Did*. Santa Monica, Arlington, Pittsburgh: RAND, 2001.
- "How Deep Is the Rift?" *The Economist*, February 15 2003, 11, 23-25.
- Howarth, Stephen. *To Shining Sea: A History of the United States Navy, 1775-1991*. New York: Random House, Inc., 1991.

- Howe, Jonathan T. "Relations between the United States and United Nations in Dealing with Somalia." In *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, edited by Walter Clarke and Jeffrey Herbst. Boulder, CO and Oxford: Westview Press, A Member of Perseus Books, L.L.C., 1997.
- Hughes, Thomas Alexander. *Overlord: General Pete Quesada and the Triumph of Tactical Air Power in World War II*. New York: The Free Press, A Division of Simon & Schuster Inc., 1995.
- Hughes, Thomas P. "Machines, Megamachines, and Systems." In *In Context: History and the History of Technology: Essays in Honor of Melvin Kranzberg*, edited by Stephen H. Cutcliffe, and Robert C. Post. Bethlehem, PA and London: Lehigh University Press, 1989.
- Huntington, Samuel P. "American Military Strategy: Policy Paper in International Affairs, No. 28." Berkeley, California 1986.
- . *The Common Defense: Strategic Programs in National Politics*. New York: Columbia University Press, 1961.
- . "An Exchange on Civil-Military Relations: Four Reactions to Richard H Kohn's Article in the National Interest Spring 1994 Issue." *National Interests* no. 36, no. Summer 1994: 23-31.
- . *Political Order in Changing Societies*. New Haven and London: Yale University Press, 1968.
- . *The Soldier and the State: The Theory and Politics of Civil-Military Relations*. Cambridge and London: The Belknap Press of Harvard University Press, 1957.
- . *Changing Patterns of Military Politics*. Edited by Heinz Eulau. New York: The Free Press of Glencoe, Inc. A Division of the Crowell-Collier Publishing Company, 1962.
- Huston, James A. *The Sinews of War: Army Logistics 1775-1953*. Edited by Stetson Conn, *Army Historical Series*. Washington, DC: U.S. Government Printing Office, 1966.

- Huzar, Elias. *The Purse and the Sword: Control of the Army by Congress through Military Appropriations 1933-1950*. Ithaca, NY.: Cornell University Press, 1950.
- Ikenberry, G. John. "America's Imperial Ambition." *Foreign Affairs* 81, no. 5 (2002): 44-60.
- Immerman, Richard H, and Robert R. Bowie. *Waging Peace: How Eisenhower Shaped an Enduring Cold War Strategy*. New York and Oxford: Oxford University Press, 1998.
- Isenberg, David. *The Pentagon Fraudulent Bottom-up Review*. Washington, DC: CATO Institute, 1994.
- Jablonsky, David, ed. *Roots of Strategy, Book 4: 4 Military Classics*. Mechanicsburg, PA: Stackpole Books, 1999.
- Jaffe, Lorna S. *The Development of the Base Force: 1989-1992*. Washington, DC: Office of the Chairman of the Joint Chiefs of Staff, 1993.
- James, D. Clayton. *Refighting the Last War: Command and Crisis in Korea 1950-1953*. New York: The Free Press, A Division of Simon & Schuster Inc., 1993.
- Janowitz, Morris. *The Professional Soldier: A Social and Political Portrait*. New York: The Free Press, A Division of the Macmillan Company, 1971.
- Jentleson, Bruce W. *American Foreign Policy: The Dynamics of Choice in the 21st Century*. New York & London: W.W. Norton & Company, 2000.
- Jervis, Robert. "The Compulsive Empire." *Foreign Policy*, no. 137 (2003): 83-87.
- Johe, Richard E. "The American Military Establishment: An Investigation of a Conservative Enclave in Liberal America." In *Duke University, N.C., Political Science, general*, 365. Ann Arbor, M.I., 1974.
- Johnson, David E. *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army 1917-1945*. Ithaca, NY and London: Cornell University Press, 1998.

- Johnston, Eric, ed. *America Unlimited*. Edited by Richard Polenberg. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1968.
- Jones, Archer. *Civil War Command and Strategy: The Process of Victory and Defeat*. New York, London, Toronto, Sydney, Tokyo, Singapore: The Free Press, A Division of Simon & Schuster Inc., 1992.
- Jones, Wilbur D. Jr. *Arming the Eagle: A History of U.S. Weapons Acquisition since 1776*. Fort Belvoir, VA: Defense Systems Management College Press, 1999.
- Jordan, Amos A., William J. Taylor Jr., and Michael J. Mazarr. *American National Security*. 5th Ed. Baltimore: The Johns Hopkins University Press, 1999.
- Kagan, Frederick W. "War and Aftermath." *Policy Review* (2003).
- Kammerer, Joseph T. *United States Air Force Statistical Digest FY 1998*. Washington, DC: Department of the Air Force, 1998.
- Kaplan, Fred. "He Saw It Coming; the Former Bushie Who Knew Iraq Would Go to Pot." *New York Times*, August 5, 2003.
- Kaplan, Lawrence S. *Thomas Jefferson: Westward the Course of Empire*. Wilmington, DE: Scholarly Resources Inc., 1999.
- Kapstein, Ethan Barnaby. *The Political Economy of National Security*. Columbia, SC: University of South Carolina Press, 1992.
- Karber, Phillip A. and Jerald A. Combs. "The United States, NATO, and the Soviet Threat to Western Europe: Military Estimates and Policy Options 1945-1961." *Diplomatic History* 22, no. 3 (1998): 399-429.
- Karsten, Peter, ed. *The Military in America*. New, Revised Edition ed. New York: The Free Press, A Division of Macmillan, Inc., 1986.
- Keaney, Thomas A and Eliot A Cohen. *Revolution in Warfare?: Air Power in the Persian Gulf*. Annapolis, MD: Naval Institute Press, 1995.

- Keffer, Gerard T, et al. *Federal Expenditure by State for Fiscal Year 1996*. Washington, DC: Department of Commerce, 1996.
- Kennedy, Kevin M. "The Relationship between the Military and Humanitarian Organizations in Operation Restore Hope." In *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, edited by Walter Clarke and Jeffrey Herbst. Boulder, CO: Westview Press, A Member of Perseus Books, L.L.C., 1997.
- Kennedy, Paul. *The Rise and the Fall of the Great Powers*. New York: Random House, Inc., 1987.
- Kinder, Hermann. *The Anchor Atlas of World History: From the French Revolution to the American Bicentennial*. Translated by Ernest A. Menze. 2 vols. Vol. II. New York, London, Toronto, Sydney, Auckland: Doubleday, a division of Bantam Doubleday Dell Publishing Group, Inc., 1978.
- Kirkpatrick, Charles E. *An Unknown Future and a Doubtful Present: Writing the Victory Plan of 1941*. Washington, D.C.: U.S. Government Printing Office, 1992.
- Kissinger, Henry. *Diplomacy*. New York: Simon & Schuster, 1994.
- Kitfield, James. "Army Troops, Budget Stretched to the Limit." *National Journal* (2003).
- Knaack, Marcelle Size. *Post-World War II Bombers 1945-1973*. Vol. II, *Encyclopedia of U.S. Air Force Aircraft and Missile Systems*. Washington, DC: U.S. Government Printing Office, 1988.
- Knights, Michael. *Air Power over Iraq* [Internet]. Janes Intelligence Review - March 01, 2003, 2003 [cited October 9, 2003]. Available from <http://www4.janes.com/K2/docprint.jsp?K2DocKey=/content1/janesdata/mags/jir/jir00548...>
- Kohn, Richard H. "The Constitution and National Security: The Intent of the Framers." In *The United States Military under the Constitution of the United States, 1789-1989*, edited by Richard H. Kohn. New York and London: New York University Press, 1991.

———. *Eagle and Sword: The Federalist and the Creation of the Military Establishment in America, 1783-1802*. New York: The Free Press, A Division of Macmillan Publishing Co., Inc, 1975.

———. “Out of Control: The Crisis in Civil-Military Relations.” *National Interest* no. 35, no. Spring 1994 (1994): 3-17.

Koistinen, Paul A. C. “The Industrial-Military Complex in Historical Perspective: The Inter-War Years.” *Journal of American History* (1970): 819-39.

———. *Planning War, Pursuing Peace: The Political Economy of American Warfare, 1920-1939*. Edited by Theodore A. Wilson, *Modern War Studies*. Lawrence, KS: University Press of Kansas, 1998.

Koistinen, Paul A.C. *Mobilizing for Modern War: The Political Economy of American Warfare, 1865-1919*. Lawrence, KS: University Press of Kansas, 1997.

Koltz, Nick. *Wild Blue Yonder: Money, Politics, and the B-1 Bomber*. New York: Pantheon Books, A Division of Random House, Inc., 1988.

Korb, Lawrence J. “The 1991 Defense Budget and the 1991-95 Defense Program.” In *Facing the Future: American Strategy in the 1990s*. Aspen, Co.: Aspen Institute, 1991.

———. “The Impact of the Persian Gulf War on Military Budgets and Force Structure.” In *After the Storm: Lessons from the Gulf War*, edited by Joseph S. Nye Jr. and Roger K. Smith. Lanham, New York and London: Madison Books and the Aspen Strategy Group of the Aspen Institute, 1992.

———. “The Secretary of Defense and The Joint Chiefs of Staff: The Budgetary Process.” In *The Military-Industrial Complex: A Reassessment*, edited by Sam C Sarkesian, 301-40. Beverly Hills and London: Sage Publications, Inc., 1972.

Kosiak, Steven M. *Analysis of the Fiscal Year 1998 Defense Budget Request*. Washington, DC: Center for Strategic and Budgetary Assessments, 1997.

- Kossiakoff, Alexander. "Conception of New Defense Systems and the Role of Government R&D Centers." In *The Genesis of New Weapons: Decision Making for Military R&D*, edited by Franklin A. and Judith Reppy Long. New York: Pergamon Press, 1980.
- Kovacic, William E. "The Sorcerer's Apprentice: Public Regulation of the Weapons Acquisition Process." In *Arms, Politics and the Economy: Historical and Cotemporary Perspectives*, edited by Robert Higgs. New York and London: Holmes & Meier Publishers, Inc., 1990.
- Krepinevich, Andrew F. Jr. *The Army and Vietnam*. Baltimore and London: The Johns Hopkins University Press, 1986.
- Kurth, James. "First War of the Global Era: Kosovo and U.S. Grand Strategy." In *War over Kosovo: Politics and Strategy in a Global Age*, edited by Andrew J. Bacevich and Eliot A Cohen. New York: Columbia University Press, 2001.
- Kutter, Wolf, et. al. *Army Budget Fiscal Year 2000: An Analysis*. Arlington, VA: Association of the United States Army: Institute of Land Warfare, 1999.
- LaFeber, Walter. *The Cambridge History of American Foreign Relations: The American Search of Opportunity, 1865-1913*. Edited by Warren I. Cohen. Vol. II, *The Cambridge History of American Foreign Relations*. Cambridge, UK and New York: Cambridge University Press, 1993.
- Lambeth, Benjamin S. *Nato's Air War for Kosovo: A Strategic and Operational Assessment*. Santa Monica, CA; Arlington, VA; Pittsburgh, PA: RAND, 2001.
- . *The Transformation of American Air Power*. Ithaca and London: Cornell University Press, 2000.
- Larson, Eric V, David T. Orletsky, and Kristin Leuschner. *Defense Planning in a Decade of Change: Lessons from the Base Force, Bottom-up Review, and Quadrennial Defense Review*. Santa Monica, CA: Rand, 2001.
- Layne, Christopher. "Miscalculations and Blunders Lead to War." In *Nato's Empty Victory: A Postmortem on the Balkan War*, edited by Ted Galen Carpenter. Washington, D.C.: Cato Institute, 2000.

- Lender, Mark Edward. "The Social Structure of the New Jersey Brigade: The Continental Line as an American Standing Army." In *The Military in America: From the Colonial Era to the Present*, edited by Peter Karsten. New York: The Free Press, A Division of Macmillan, Inc., 1986.
- Lichtenberg, Frank R. "Contributions to Federal Election Campaigns by Government Contractors." In *Arms, Politics, and the Economy*, edited by Robert Higgs. New York and London: Holmes and Meier Publishers, Inc, 1990.
- Lieberson, Stanley. "An Empirical Study of Military-Industrial Linkages." In *The Military-Industrial Complex: A Reassessment*, edited by Sam C Sarkesian, 53-94. Beverly Hills and London: Sage Publications, 1972.
- Lindblom, Charles E. "The Science of Muddling Through." *Public Administration Review*, no. Spring 1959 (1959): 79-88.
- Lindsay, James M. "Congress and the Defense Budget: Parochialism or Policy?" In *Arms, Politics and the Economy*, edited by Robert Higgs. New York and London: Holmes & Meier Publishers, Inc., 1990.
- Locke, John. *Second Treatise of Government*. Edited by C.B. McPherson. Indianapolis and Cambridge: Hackett Publishing Company, Inc., 1980.
- "Lockheed Martin's F-16 Beats Gripen, Mirage 2000 for \$3.5 Billion Polish Order." *Defense Daily International* 3, no. 1 (2003): 1-2.
- Long, Franklin A. and Judith Reppy, ed. *The Genesis of New Weapons: Decision Making for Military R&D*. New York, Oxford, Toronto, Sydney, Frankfurt, and Paris: Pergamon Press, 1980.
- Lovelace, Douglas. *Unification of the United States Armed Forces: Implementing the 1986 Department of Defense Reorganization Act*. Carlisle, PA: Strategic Studies Institute, United States Army War College, 1996.
- Lovelace, Douglas C. Jr. and Thomas Durell-Young. "U.S. Department of Defense Strategic Planning: The Missing Nexus." 1-42. Carlisle, PA: United States Army Strategic Studies Institute, 1995.

- Lowe, Christian. *The New Art of War* [Internet]. The Daily Standard - April 3, 2003 [cited October 9 2003]. Available from http://www.nexis.com/research/search/documentDisplay?_docnum=11&_ansset=W-WD-...
- Lowi, Theodore. "American Business, Public Policy, Case Studies and Political Theory." *World Politics* 56 (1964): 676-715.
- Lurie, Jonathan. "The Role of the Federal Judiciary in the Governance of the American Military: The United States Supreme Court and "Civil Rights Supervision" over the Armed Services." In *The United States Military under the Constitution of the United States, 1789-1989*, edited by Richard H. Kohn. New York and London: New York University Press, 1991.
- Luttwak, Edward N. *The Pentagon and the Art of War: The Question of Military Reform*. New York: Simon and Schuster, 1984.
- MacIsaac, David. "Introduction." In *Strategic Bombardment*, edited by R. Cargill Hall. Washington, D.C.: U.S. Air Force, 1998.
- . "Voice from the Blue: The Airpower Theorist." In *The Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, edited by Peter Paret. Princeton, NJ: Princeton University Press, 1986.
- Mahan, Alfred Thayer. *The Influence of Sea Power Upon History 1660-1783*. Dover ed. New York: Dover Publications, Inc., 1987. Reprint, 5.
- Mallin, Maurice A. *Tanks, Fighters and Ships: U.S. Conventional Force Planning since WW II*. Washington, New York, and London: Brassey's (US), Inc., 1990.
- Mandales, Mark D. *The Development of the B-52 and Jet Propulsion: A Case Study in Organizational Innovation*. Maxwell Air Force Base, AL: Air University Press, U.S. Government, 1998.
- Mansoor, Peter R. *The G.I. Offensive in Europe: The Triumph of American Infantry Divisions*. Lawrence, KS: University Press of Kansas, 1999.

- Manuel, Anja and P.W. Singer. "A New Model Afghan Army." *Foreign Affairs* 81, no. 4 (2002): 44-59.
- Marx, Leo. *The Machine in the Garden: Technology and the Pastoral Ideal in America*. London, Oxford, and New York: Oxford University Press, Inc., 1964.
- Matloff, Maurice. "The 90-Division Gamble." In *Command Decisions*, edited by Kent Roberts Greenfield. Washington, D.C.: U.S. Government, 1987.
- May, Ernest R. "The Development of Political-Military Consultation in the United States." *Political Science Quarterly*, June, 1955, 174-75.
- May, Ernest R., ed. *American Cold War Strategy: Interpreting NSC 68*. Edited by Ernest R May, *Bedford Books in American History*. Boston and New York: Bedford Books of St. Martin's Press, 1993.
- Mayer, Kenneth R. "Elections, Business Cycles, and the Timing of Defense Contract Awards in the United States." In *The Political Economy of Military Spending in the United States*, edited by Alex Mintz. London and New York: Routledge Publishers, Inc., 1992.
- McDougall, Walter A. *Promised Land, Crusader State: The American Encounter with the World since 1776*. New York: Houghton Mifflin Company, 1997.
- McFarland, Stephen L. and Wesley Phillips Newton. "The American Strategic Air Offensive against Germany in World War II." In *Strategic Bombardment*, edited by R. Cargill Hall. Washington, D.C.: U.S. Government, 1998.
- McMaster, H.R. *Dereliction of Duty: Lyndon Johnson, Robert McNamara, the Joint Chiefs of Staff, and the Lies That Led to Vietnam*. New York: HarperCollins Publishers, Inc., 1997.
- McPherson, James M. *Ordeal by Fire: The Civil War and Reconstruction*. Third ed. New York: McGraw-Hill Companies, Inc., 1982.
- Metz, Steven. *American Strategy: Issues and Alternatives for the Quadrennial Defense Review*. Carlisle, PA: U.S. Army War College, Strategic Studies Institute, 2000.

- Metz, Steven and Raymond Millen. *Future War/Future Battlespace: The Strategic Role of American Landpower*. Carlisle Barracks, PA: U.S. Government Printing Office, 2003
- Meyerson, Adam. "Calm after Desert Storm." *Policy Review* Summer 1993, no. No. 65 (1993): 1-10.
- Miles, Paul L. Jr. "American Strategy in World War II: The Role of William D. Leahy." Ph.D. Diss., Princeton University, 1999.
- "Military Strategy: The next American empire." *Economist*. March 20, Vol. 370 no. 8367, (2004), 34-35.
- Millett, Allan R. "The United States Armed Forces in the Second World War." In *Military Effectiveness: The Second World War*, edited by Allan R. and Williamson Murray Millett. Boston, London, Sydney, and Wellington: Allen & Unwin Inc., 1988.
- Millett, Allan R., and Peter. Maslowski. *For the Common Defense: A Military History of the United States of America*. Revised and Expanded ed. New York: The Free Press, a Division of Macmillan, Inc., 1994.
- Millis, Walter. *Arms and Men: A Study in American Military History*. New Brunswick, NJ: Rutgers University Press, 1981. Reprint, Rutgers Paperback.
- Millis, Walter., Harvey C. Mansfield, and Harold. Stein. *Arms and the State: Civil-Military Elements in National Policy*. New York: Twentieth Century Fund, Inc, 1958.
- Mills, Wright. *The Power Elite*. New York: Oxford University Press, 1956.
- Milward, Alan S. *War, Economy and Society, 1939-1945*. Berkeley and Los Angeles: University of California Press, 1977.
- Moravcsik, Andrew. "Striking a New Transatlantic Bargain." *Foreign Affairs* 82, no. 4 (2003): 74-89.

- Morris, Richard B. "The Origin and Framing of the American Constitution." In *The United States Military under the Constitution of the United States, 1789-1989*, edited by Richard H. Kohn. New York and London: New York University Press, 1991.
- Moskos, Charles C. Jr. "The Military-Industrial Complex: Theoretical Antecedents and Conceptual Contradictions." In *The Military-Industrial Complex: A Reassessment*, edited by Sam C. Sarkesian, 3-23. Beverly Hills and London: Sage Publications, Inc., 1972.
- Mowery, David C., and Nathan Rosenberg. *Paths of Innovation: Technological Change in 20th-Century America*. Cambridge, New York, and Melbourne: Cambridge University Press, 1998.
- Murray, Williamson and Allan R. Millett. *A War to Be Won: Fighting the Second World War*. Cambridge, MA and London: The Belknap Press of Harvard University Press, 2000.
- Musciano, Walter A. *Warbirds of the Sea: A History of Aircraft Carriers & Carrier-Based Aircraft*. Atglen, PA: Schiffer Publishing, Ltd., 1994.
- Nagel, Paul C. *John Quincy Adams: A Public Life, a Private Life*. New York: Alfred A Knopf, Inc., 1997.
- Nardulli, Bruce R., Walter L. Perry, Bruce Pirnie, John Gordon IV, and John G. McGinn. *Disjointed War: Military Operations in Kosovo, 1999*. Santa Monica, Arlington, Pittsburgh: RAND, 2002.
- Natsios, Andrew S. "Humanitarian Relief Intervention in Somalia: The Economics of Chaos." In *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, edited by Walter Clarke and Jeffrey Herbst. Boulder, CO: Westview Press, A Member of Perseus Books, L.L.C., 1997.
- Newland, Samuel J. "The National Guard: State Versus National Control." *Public Administration Review* January/February 1989 (1989): 68-73.
- Nielsen, Suzanne C. "Rule of the Game? The Weinberger Doctrine and the American Use of Force." In *The Future of the Army Profession*, edited by Lloyd J. Mathews. New York: McGraw-Hill Primis Custom Publishing, 2002.

- Nye, Joseph S. Jr. "U.S. Power and Strategy after Iraq." *Foreign Affairs* 82, no. 4 (2003): 60-73.
- Oakley, Robert B. "Operation Restore Hope." *Joint Force Quarterly* Autumn 1993 (1993): 45-55.
- Ogorkiewicz, Richard M. *Technology of Tanks I*. 2 vols. Vol. I. Surrey, England: Janes Information Group Limited, Sentinel House, 1991.
- O'Hanlon, Michael E. "Can High Technology Bring U.S. Troops Home." *Foreign Policy*, no. 113 (1999): 72-86.
- . "A Flawed Masterpiece." *Foreign Affairs* 81, no. 3 (2002): 47-63.
- Operation Enduring Freedom* [Internet]. Global Security.org, June 24, 2003 [cited July 10, 2003]. Available from <http://www.globalsecurity.org/military/ops/enduring-freedom.htm>.
- Owens, Bill. *Lifting the Fog of War*. New York: Farrar, Straus and Giroux, 2000.
- Palmer, John McAuley. "The Military Policy of the United States." edited by Army War College Editorial Staff. Washington, D.C.: The Army War College, 1928.
- . *Washington, Lincoln, Wilson: Three War Statesmen*. Garden City, NY: Doubleday, Doran & Company, Inc., 1930.
- . "Washington's National Defense Plan." 3-12. New York: R.O.T.C. Association of the United States, 1935.
- Pearlman, Michael. *Warmaking and American Democracy: The Struggle over Military Strategy, 1700 to the Present*. Lawrence, KS: University Press of Kansas, 1999.
- Peleg, Ilan. "Models of Arms Transfer in American Foreign Policy: Carter's Restraint and Regan's Promotion, 1977-1987." In *Arms, Politics, and the Economy*, edited by Robert Higgs. New York and London: Holmes & Meier Publishers, Inc, 1990.

- Perkins, Bradford. *The Cambridge History of American Foreign Relations: The Creation of a Republican Empire, 1776-1865*. Edited by Warren I. Cohen. 4 vols. Vol. I, *The Cambridge History of American Foreign Relations*. Cambridge, New York, and Melbourne: Cambridge University Press, 1993.
- Perret, Geoffrey. *A Country Made by War: From the Revolution to Vietnam-the Story of America's Rise to Power*. New York and Toronto: Random House, Inc., 1989.
- Perry, Robert. "American Styles of Military R&D." In *The Genesis of New Weapons: Decision Making for Military R&D*, edited by Franklin A. and Judith Reppy Long. New York: Pergamon Press, 1980.
- Peters, John E, Stuart Johnson, et. al. *European Contributions to Operation Allied Force: Implications for Transatlantic Cooperation*. Santa Monica, CA and Arlington, VA: Rand, 2001.
- Peterson, Peter G. and James K. Sebenius. "The Primacy of the Domestic Agenda." In *Rethinking America's Security: Beyond Cold War to New World Order*, edited by Graham Allison and Gregory F. Treverton. New York and London: W.W. Norton & Company, 1992.
- Pitch, Anthony S. *The Burning of Washington: The British Invasion of 1814*. Annapolis, MD, Naval Institute Press, 1998.
- Plato. *Republic*. Translated by G.M.A. Grube. 2nd ed. Indianapolis, IN: Hackett Publishing Company, Inc., c. 380 B.C. Reprint, Reeve, C.D.C.
- Pogue, Forrest C., ed. *The Decision to Halt at the Elbe*. Edited by Kent Roberts Greenfield, *Command Decisions*. Washington, DC: U.S. Government Printing Office, 1960.
- Pollack, Kenneth M. "Next Stop Baghdad?" *Foreign Affairs* 81, no. 2 (2002): 32-47.
- Poole, Walter S. *The Joint Chiefs of Staff and National Policy, 1950-1952*. Vol. IV, *History of the Joint Chiefs of Staff*. Washington, DC: U.S. Government Printing Office, 1986.

- Porter, Bruce D. *War and the Rise of the State: The Military Foundations of Modern Politics*. New York, London, Toronto, Sydney, Tokyo, Singapore: The Free Press, A division of Simon & Schuster Inc., 1994.
- Powell, Colin L. with Joseph E. Persico. *My American Journey*. New York: Random House, 1995.
- Powell, Colin. "An Exchange on Civil-Military Relations." *National Interest* no. 36, no. Summer 1994 (1994): 23-31.
- Prados, John. *The Soviet Estimate: U.S. Intelligence Analysis and Soviet Strategic Forces*. Princeton, NJ: Princeton University Press, 1982.
- Previdi, Robert. *Civilian Control Versus Military Rule*. New York: Hippocrene Books Inc., 1988.
- Reagan, Ronald. *National Security Strategy of the United States*. Washington, D.C.: The White House, 1988.
- Record, Jeffrey. *Bounding The Global War On Terrorism*. Carlisle Barracks, PA: U.S. Government Printing Office, 2003.
- Reppy, Judith. "Military Research and Development and International Trade Performance." In *The Political Economy of Defense: Issues and Perspectives*, edited by Andrew L. Ross. New York, Westport, CN, and London: Greenwood Press, 1991.
- Reuters. *Taliban Resurgence Undermining Un Afghan Aid Work* [Internet]. The New York Times, 2003 [cited October 25 2003]. Available from <http://www.nytimes.com/reuters/international/international-afghan-un.html?pagewanted=...>
- Ricks, Thomas E. "The Widening Gap between the Military and Society." *The Atlantic Journal* 280, no. 1 (1997): 66-78.
- Ricks, Thomas E. and Vernon Loeb. *Preemption to Be Military Policy* Washington Post, 2002 [cited June 13, 2002]. Available from <http://ebird.dtic.mil/Jun2002/e20020610preemption.htm>.

- Ridgeway, Matthew B. *Soldier: The Memoirs of Matthew B. Ridgeway*. New York: Harper, 1956.
- Ripley, Tim. *Planning for 'Iraqi Freedom'* [Internet]. Jane's Intelligence Review - July 01, 2003 [cited October 9 2003]. Available from <http://www4.janes.com/K2/doc.Jsp?K2DocKey=/content1/janesdata/mags/jir/jir00640.htm...>
- Roman, Peter J. and David W. Tarr. "Military Professionalism and Policymaking: Is There a Civil-Military Gap at the Top? If So, Does It Matter?" In *Soldiers and Civilians: The Civil-Military Gap and American National Security*, edited by Peter D. Feaver and Richard H. Kohn. Cambridge, MA and London: MIT Press, 2002.
- Romijn, Peter. "Did Soldiers Become Governors? Liberators, Resistance, and the Reconstruction of Local Government in the Liberated Netherlands, 1944-1945." In *World War II in Europe: The Final Year*, edited by Charles F. Brower. New York: St. Martin's Press, 1999.
- Romjue, John L. *American Army Doctrine for the Post-Cold War*. Washington, DC: U.S. Government Printing Office, 1996.
- . *From Active Defense to Airland Battle: The Development of Army Doctrine, 1973-1982*. Washington, DC: U.S. Government Printing Office, 1984.
- Rosati, Jerel A. *The Politics of United States Foreign Policy*. Orlando, FL: Harcourt Brace Jovanovich College Publishers, 1993.
- Rosenberg, David Alan. "Toward Armageddon: The Foundation of United States Nuclear Strategy, 1945-1961." Ph.D. diss., University of Chicago, 1983.
- Ross, Andrew L. "The International Arms Market: A Structural and Behavioral Analysis." In *The Political Economy of Defense*, edited by Andrew L. Ross. New York, Westport, and London: Greenwood Press, 1991.
- "Royal Air Force Dropped More Than 400 Enhanced Paveway Bombs During O.I.F." *Defense Daily International*, July 11 2003, 1.

Royster, Charles. *A Revolutionary People at War: The Continental Army and American Character, 1775-1783*. Chapel Hill, NC: The University of North Carolina Press, 1979.

Rubin, James P. "Stumbling into War." *Foreign Affairs* 82, no. 5 (2003): 46-66.

Rumsfeld, Donald H. Memorandum, October 16 2003.

———. *Transformation Planning Guidance*. Washington, DC: Department of Defense, 2003.

———. "Transforming the Military." *Foreign Affairs* 81, no. 3 (2002): 20-32.

Russett, Bruce. *Controlling the Sword: The Democratic Governance of National Security*. Cambridge and London: Harvard University Press, 1990.

Sapin, Burton M. and Richard C. Snyder. *The Role of the Military in American Foreign Policy*. Garden City, N.Y.: Doubleday & Company, Inc., 1954.

Sarkesian, Sam C. "The Military Must Find Its Voice." *Orbis* 42, no. 3 (1998): 423-37.

Sarkesian, Sam C., John Allen Williams, and Stephen J. Cimbiala. *U.S. National Security: Policymakers, Processes, and Politics*. Boulder, CO, Singapore, and Sydney: Lynne Rienner Publishers, Inc., 2002.

Saunders, Debra J. *Victory Lap Interrupted* (Final Edition) [Internet]. The San Francisco Chronicle, 2003 [cited October 9 2003]. Available from http://www.nexis.com/research/search/documentDisplay?_docnum=20&_ansset=W-WD-...

Scales, Robert H. Jr. *Certain Victory: The U.S. Army in the Gulf War*. Washington and London: Brassey's (US), Inc., 1994.

- Scarborough, Rowan. "Decisive Force" Now Measured by Speed, Not Troop Numbers [Internet]. The Washington Times-May 7, 2003 [cited October 9, 2003]. Available from http://www.nexis.com/research/search/documentDisplay?_docnum=19&_ansset=W-WD-...
- Schattschneider, E.E. *The Semisovereign People: A Realist's View of Democracy in America*. New York, London, Montreal, Sydney, and Tokyo: Harcourt Brace Jovanovich College Publishers, 1960.
- Schnabel, James F. *The Joint Chiefs of Staff and National Policy 1945-1947*. Vol. I, *History of the Joint Chiefs of Staff*. Washington, DC: U.S. Government Printing Office, 1986.
- Segal, Howard P. *Future Imperfect: The Mixed Blessings of Technology in America*. Amherst, MA: The University of Massachusetts Press, 1994.
- Shaver, Russell D. et. al. *The Case for Airpower Modernization* [Internet]. Air Force Magazine - February, 1994 [cited April 11 2003]. Available from http://www.nexis.com/research/search/documentDisplay?_docnum=3&_ansset=W-WA-A-WZ-...
- Shearer, David. "Outsourcing War." *Foreign Policy*, no. 112 (1998): 68-81.
- Sherman, William T. *Memoirs of General W.T. Sherman*. Second ed, *The Library of America*. New York: Library Classics of the United States, 1990. Reprint, The Library of America.
- Shinseki, Eric K. *United States Army Transformation Campaign Plan*. Washington, DC: U.S. Government Printing Office, 2001.
- Shy, John. *A People Numerous and Armed: Reflections on the Military Struggle for American Independence*. Revised ed. An Arbor: The University of Michigan Press, 1990.
- Simon, Herbert A. *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organizations*. 2d ed. New York: Free Press, 1957.

- Singer, P.W. *Corporate Warriors: The Rise of the Privatized Military Industry*. Ithaca and London: Cornell University Press, 2003.
- Skolnikoff, Eugene B. *The Elusive Transformation: Science, Technology, and the Evolution of International Politics*. Princeton, New Jersey: Princeton University Press, 1993.
- Smith, Louis. *American Democracy and Military Power: A Study of Civil Control of the Military Power in the United States*. Chicago: The University of Chicago Press, 1951.
- Smith, R. Ellberton. *The Army and Economic Mobilization*. Edited by Kent Roberts Greenfield, *United States Army in World War II*. Washington, D.C.: U.S. Government Printing Office, 1958.
- Snider, Don M. *U.S. Civil-Military Relations and Operations Other Than War*. Carlisle Barracks, PA: U.S. Government Printing Office, 1996.
- Snider, Don M and Miranda A. Carlton-Carew. "The Current State of U.S. Civil-Military Relations: An Introduction." In *U.S. Civil-Military Relations: In Crisis or Transition?*, edited by Don M Snider and Miranda A. Carlton-Carew. Washington, D.C.: The Center For Strategic & International Studies, 1995.
- "Special Report: A Year On." *Economist*, 7th - 13th September 2002, 22-24.
- Staff. "Powell's Doctrine, in Powell's Words." *The Washington Post*, October 7, 2001, 1.
- Stanley, Elizabeth A. "Evolutionary Technology in the Current Revolution in Military Affairs: The Army Tactical Command and Control System." 1-67. Carlisle, PA: United States Army Strategic Studies Institute, 1998.
- Stanley-Mitchell, Elizabeth A. "The Digital Battlefield: What Army Transformation Efforts Say About Its Future Professional Jurisdiction." In *The Future of the Army Profession*, edited by Lloyd J. Matthews. New York: McGraw-Hill Primus, A Division of The McGraw-Hill Companies, 2002.

- Stein, Robert M. "Program Requirements and the Role of Defense Industry." In *Ethnic Conflict and Regional Instability: Implications for U.S. Policy and Army Roles and Missions.*, edited by Robert L. Pfaltzgraff, Jr. and Richard H. Shultz, Jr. Carlisle, PA: U.S. Government, 1996.
- Stein, Robert M. and Kenneth N. Bickers. *Perpetuating the Pork Barrel: Policy Subsystems and American Democracy.* Cambridge, New York and Melbourne: Cambridge University Press, 1995.
- Stephanson, Anders. *Manifest Destiny: American Expansion and the Empire of Right.* New York: Hill and Wang, A division of Farrar, Strauss and Giroux, 1995.
- Stewart, Richard W. *The United States Army in Somalia: 1992-1994.* Washington, DC: U.S. Army Center of Military History, 2002.
- Stoler, Mark A. *Allies and Adversaries: The Joint Chiefs of Staff, the Grand Alliance, and U.S. Strategy in World War II.* Chapel Hill, NC and London: The University of North Carolina Press, 2000.
- Streetly, Martin. *Airborne Surveillance Assets Hit the Spot in Iraq* [Internet]. Jane's Intelligence Review - July 01, 2003 [cited October 9 2003]. Available from <http://www.4janes.com/K2/doc.jsp?K2DocKey=/content1/janesdata/mags/jir/jir00641.htm..>
- Taylor, Maxwell, D. *The Uncertain Trumpet.* New York: Harper&Brothers, Publishers, 1959.
- Taylor, Lori L. "Estimating Regional Sensitivities to Defense Purchases." In *Defense Spending and Economic Growth*, edited by James E. and Anandi P. Sahu Payne. Boulder, San Francisco, and Oxford: Westview Press, Inc, 1993.
- Thompson, Fred. "Reinventing the Pentagon: The Political Economy of Post-Cold War." *Public Administration Review* 53, no. 6 (1993): 570-82.
- Tolson, John T. *Airmobility 1961-1971.* Edited by Verne L Bowers, *Vietnam Studies.* Washington, DC: U.S. Government Printing Office, 1973.

- Trask, Roger R. and Alfred Goldberg. *The Department of Defense 1947-1997: Organization and Leaders*. Washington, DC: U.S Government Printing Office, 1997.
- Tucker, Robert C. "The Cold War in Stalin's Time: What the New Sources Reveal." *Diplomatic History* 21, no. 2 (1997): 273-81.
- Tucker, Robert W. and David C. Hendrickson. *Empire of Liberty: The Statecraft of Thomas Jefferson*. New York and Oxford: Oxford University Press, 1990.
- Twight, Charlotte. "Department of Defense Attempts to Close Military Bases: The Political Economy of Congressional Resistance." In *Arms, Politics, and the Economy*, edited by Robert Higgs. New York and London: Holmes & Meier Publishers, Inc, 1990.
- "U.S. Urges 3 Nato Countries to Buy U.S. Fighters." *Arms Control Today* 32, no. 1 (2002): 41-42.
- Ulrich, Marybeth Peterson. "Infusing Civil-Military Relations Norms in the Officer Corps." In *The Future of the Army Profession*, edited by Lloyd J. Mathews. Boston, New York, San Francisco, London, Madrid, Mexico City, Seoul, Singapore, Sydney, Taipei and Toronto: McGraw-Hill Primis Custom Publishing, 2002.
- Upton, Emory. *The Military Policy of the United States*. New York: Greenwood Publishers, 1904.
- U.S. Army. "Army Planning Programming Budgeting Execution System (PPBS) - an Executive Primer." In *Course 5: DOD-Organization, Planning, and Strategy - Lesson 3*, edited by James Pierce. Carlisle, PA: U.S. Government Printing Office, 1999.
- . *Field Manual 100-3, Operations*. Washington, D.C.: U.S. Government, 1993.
- U.S. Department of Commerce. *Federal Expenditures by State for Fiscal Year 2002*. Washington, DC: U.S. Government Printing Office, 2002.

- U.S. Congress, "Special Committee to Study Problems of American Small Business." In *The Military Industrial Complex*, edited by Carroll W. Pursell Jr. New York: Harper & Row, Publishers, 1972.
- U.S. Congress, Congressional Research Service, *Weapon Systems Data*. Washington, DC: Congressional Research Service, 2002.
- U.S. Congress. House. Armed Services Committee. *Operation Iraqi Freedom: Outside Perspectives*, Report prepared by Stephen Biddle, October 21 2003.
- U.S. Department of Defense. Chairman, Joint Chiefs of Staff. *Joint Vision 2010*. Washington, DC: U.S. Government Printing Office, 1996.
- U.S. Department of Defense. Chairman, Joint Chiefs of Staff. *National Military Strategy of the United States of America: Shape, Respond, Prepare Now: A Military Strategy for a New Era*. Washington, DC: U.S. Government Printing Office, 1997.
- U.S. Department of Defense. Colin L. Powell. *National Military Strategy*. Washington, DC: Chairman, U.S. Government Printing Office, 1992.
- . Colin L. Powell. *Roles, Missions, and Functions of the Armed Forces of the United States*. Washington, DC: U.S. Government Printing Office, 1993.
- U.S. Department of Defense. *Program Acquisition Costs by Weapon System*. Washington, DC: Department of Defense, 2003.
- U.S. Department of Defense. The Joint Chiefs of Staff. *The Joint Warfighting Capabilities Assessment; Chairman of the Joint Chiefs of Staff Instruction - 3137.01a*. Washington, D.C.: Department of Defense, 1999.
- U.S. Department of Defense. The Joint Staff. *The Department of Defense Dictionary of Military and Associated Terms*. Washington, D.C.: U.S. Government, 2001.
- U.S. Department of the Navy. *1998 Department of the Navy Posture Statement: Forward... From The Sea: Anytime, Anywhere*. Washington, DC: U.S. Government Printing Office, 1998.

U.S. Department of State. *Congressional Budget Justification Foreign Operations: Fiscal Year 2004*. Washington, DC: Department of State, 2003.

———. *Treaties in Force: A List of Treaties and Other International Agreements of the United States in Force on January 1, 2002*. Washington, DC: U.S. Government Printing Office, 2002.

———. *U.S. Department of State Strategic Plan (2000)*. Washington, DC: U.S. Department of State, 2000.

———. *United States Strategic Plan for International Affairs*. Washington, DC: U.S. Department of State, 1999.

U.S. President. *Budget of the United States Government 1955*. Washington, DC: U. S. Government, Executive Branch, 1955.

———. *Budget of the United States Government, 1950*. Washington, DC: U.S. Government, Executive Branch, 1950.

———. *Budget of the United States Government, 1960*. Washington, DC: U.S. Government, Executive Branch, 1960.

———. *Budget of the United States Government, 1965*. Washington, DC: U.S. Government, Executive Branch, 1965.

———. *Budget of the United States Government, 1970*. Washington, DC: U.S. Government, Executive Branch, 1970.

———. *Budget of the United States Government, 1975*. Washington, DC: U.S. Government, Executive Branch, 1975.

———. *Budget of the United States Government, 1980*. Washington, DC: U.S. Government, Executive Branch, 1980.

———. *Budget of the United States Government, 1985*. Washington, DC: U.S. Government, Executive Branch, 1985.

———. *Historical Tables, Budget of the United States Government-Fiscal Year 2001*. 284. Washington, D.C.: The White House, 2000.

U.S. War Department. *United States Strategic Bombing Survey, 1944-45*. Washington, DC: U.S. Government Printing Office, 1945.

Van Creveld, Martin. *Technology and War: From 2000 B.C. To the Present*. New York: The Free Press, A Division of Macmillan, Inc., 1989.

Waller, J. Michael. *High-Tech Tools of War* News World Communications, Inc. Insight on the News, 2003 [cited October 9, 2003]. Available from <http://www.nexis.com/research/search/documentDisplay?-docnum=18&-ansset=W-WD-...>

Waltz, Kenneth N. "Nuclear Myths and Political Realities." In *The Use of Force: Military Power and International Politics*, edited by Robert J. and Kenneth N. Waltz Art. Lanham, Boulder, New York, and Oxford: Rowman & Littlefield Publishers, Inc., 1999.

Watson, Robert J. *The Joint Chiefs of Staff and National Policy 1953-1954*. Edited by Willard J. Webb. Vol. V, *History of the Joint Chiefs of Staff*. Washington, DC: U.S. Government Printing Office, 1986.

Wayne, Leslie. "Polish Pride, American Profits." *New York Times*, January 12, 2003, 3.1.

Weber, Max. *From Max Weber: Essays in Sociology*. Translated by H.H. Gerth and C. Wright Mills. Edited by H.H. and C. Wright Mills Gerth. New York: Oxford University Press, 1946.

Weigley, Russell F. "The American Civil-Military Cultural Gap: A Historical Perspective, Colonial Times to the Present." In *Soldiers and Civilians: The Civil-Military Gap and American National Security*, edited by Peter Feaver and Richard Kohn. Cambridge, MA and London: MIT Press, 2001.

———. "The American Military and the Principle of Civilian Control from McClelland to Powell." *Journal of Military History* 57, no. October 1993 (1993): 27-58.

- . *The American Way of War: A History of United States Military Strategy and Policy.*, *Wars of the United States Series*. Bloomington, IN: Indiana University Press, 1973.
- . *Eisenhower's Lieutenants: The Campaign of France and Germany 1944-1945*. Bloomington, IN: Indiana University Press, 1981.
- . *History of the United States Army*. Enlarged ed. Bloomington: Indiana University Press, 1984.
- . *Towards an American Army: Military Thought from Washington to Marshall*. New York: Columbia University Press, 1962.
- Weiss, Thomas G. "Rekindling Hope in Un Humanitarian Intervention." In *Learning from Somalia*, edited by Walter Clarke and Jeffrey Herbst. Boulder, CO: Westview Press, A Member of Perseus Books, L.L.C., 1997.
- Westad, Odd Arne. "Secrets of the Second World: The Russian Archives and the Reinterpretation of Cold War History." *Diplomatic History* 21, no. 2 (1997): 259-71.
- Wheeler, Keith. *War under the Pacific*. Edited by Gerald Simons. Vol. 23, *World War II*. Alexandria, VA: Time-Life Books Inc., 1980.
- Wiener, Frederick Bernays. "The Militia Clause of the Constitution." *Harvard Law Review* LIV, no. 2 (1940): 181-220.
- Wilkie, Robert. "Fortress Europa: European Defense and the Future of the North Atlantic Alliance." *Parameters* XXXII, no. 4 (2002): 34-47.
- Wilson, James Q. *Bureaucracy: What Government Agencies Do and Why They Do It*. New York: Basic Books, A Subsidiary of Perseus Books, L.L.C., 1989.
- Winik, Jay. *April 1865: The Month That Save America*. New York: HarperCollins Publishers Inc., 2001.

- Wise, Sydney F. "The Constitution and the U.S. Army: The Antecedents to the Military Clauses in the U.S. Constitution." In *The Constitution and the United States Army*, edited by Rod. Paschall. Carlisle, PA: United States Army War College and the United States Army Military History Institute, 1988.
- Wohlforth, William C. "New Evidence on Moscow's Cold War: Ambiguity in Search of Theory." *Diplomatic History* 21, no. 2 (1997): 229-42.
- Wolf, Charles Jr. "Military-Industrial Simplicities, Complexities and Realities." In *The Military-Industrial Complex: A Reassessment*, edited by Sam C Sarkesian, 25-52. Beverly Hills and London: Sage Publications, Inc., 1972.
- Woods, James L. "U.S. Government Decision-making Processes During Humanitarian Operations in Somalia." In *Learning from Somalia: The Lessons of Armed Humanitarian Intervention*, edited by Walter Clarke and Jeffrey Herbst. Boulder, CO: Westview Press, A Member of Perseus Books, L.L.C., 1997.
- Woodward, Bob. *Bush at War*. New York: Simon & Schuster, 2002.
- . *The Commanders*. New York and London: Simon & Schuster, Inc., 1991.
- "The World This Week." *The Economist*, January 4, 2003, 6-7.
- Yarmolinsky, Adam. "The President, the Congress and Arms Control." In *The Military-Industrial Complex: A Reassessment*, edited by Sam C Sarkesian, 277-99. Beverly Hills and London: Sage Publications, 1972.
- Yarmolinsky, Adam. *The Military Establishment: Its Impacts on America Society*. New York: Harper and Row, Publishers, 1971.
- Ziemke, Earl F. "Military Effectiveness in the Second World War." In *Military Effectiveness: The Second World War*, edited by Allan R. Millett and Williamson Murray. Boston, London, Sydney, and Wellington: Allen & Unwin Inc., 1988.