The U.S. Army and the New National Security Strategy

Edited by Lynn E. Davis
and Jeremy Shapiro

Prepared for the
United States Army

RAND
ARROYO CENTER

The research described in this report was sponsored by the United States Army under Contract No. DASW01-01-C-0003.

Library of Congress Cataloging-in-Publication Data

The U.S. Army and the new national security strategy / Lynn Davis and Jeremy Shapiro, editors.
p. cm.
Includes bibliographical references.
"MR-1657."
ISBN 0-8330-3347-6 (alk. paper)
1. United States. Army. 2. United States—Military policy. 3. National security—United States. 4. World politics—21st century. I. Davis, Lynn E. (Lynn Etheridge), 1943– II. Shapiro, Jeremy.

UA25.U227 2003
355' .00973—dc21

2003001189

All three cover photos courtesy of Defense Technical Information Center website (http://www.dtic.mil)

Top photo in collage: U.S. Army Special Forces soldiers practice urban combat techniques. (U.S. Army file photo)

Middle photo in collage: Paratroopers from the 3rd Bn. 505th Parachute Infantry Regiment exit a C-17 and step out on to the runway at Kandahar Airfield, Afghanistan. Photo by Pfc. Matthew Acosta, 49th Public Affairs Detachment (Abn.)

Bottom Photo in collage: One of three Strykers rolls off the C-17 during a Stryker deployability demonstration at Andrews Air Force Base, Md., Oct. 16, 2002. Photo by Staff Sgt. Marcia T. Hart

Published 2003 by RAND
1700 Main Street, P.O. Box 2138, Santa Monica, CA 90407-2138
1200 South Hayes Street, Arlington, VA 22202-5050
201 North Craig Street, Suite 202, Pittsburgh, PA 15213-1516
RAND URL: http://www.rand.org/
To order RAND documents or to obtain additional information, contact Distribution Services: Telephone: (310) 451-7002; Fax: (310) 451-6915; Email: order@rand.org

PREFACE

The Army asked the RAND Arroyo Center in fall 2001 to look at the implications for the Army of the new national security strategy. This was exactly the right question, given the remarkable changes that are occurring in the world in terms of both advances in technologies and how the strategic environment is evolving. What we decided was to draw together a group of RAND researchers who have been working over the past few years on a variety of issues for the Army and use their research as a springboard for answering this question. The result is the chapters in this volume, which span the broad range of subjects that will be on the Army's future agenda—strategic, operational, programmatic, and budgetary. Each of the authors describes his or her view of the most critical issues facing the Army and then what the Army needs to do. The substantive analysis in this report was completed in February 2003, as the international community was still debating its future policies toward Iraq. What happens in Iraq will almost certainly add to the complexity of the strategic environment in which the U.S. Army will operate and could well bring more urgency to the changes that the authors of this report call on the Army to undertake.

Taken as a whole, the report provides the Army with a perspective on its ongoing transformation and where it needs refinement. In this way, the report aims to engage the broader defense community in the debate over which forces and capabilities the Army needs to be able to serve the nation in the future as well as it has in the past. The report should be of interest to anyone concerned about the future of the U.S. military in general and the U.S. Army in particular.

In the Army, this research was sponsored by the Office of the Deputy Chief of Staff for Operations and Plans (G-3). It was conducted in the Arroyo Center's Strategy, Doctrine, and Resources Program. The Arroyo Center is a federally funded research and development center sponsored by the United States Army.

For more information on the RAND Arroyo Center, contact
the Director of Operations, (310) 393-0411, extension 6500,
or visit the Arroyo Center's Web site at
http://www.rand.org/organization/ard/

CONTENTS

FIGURES

TABLES

ACKNOWLEDGMENTS

RAND's research on the U.S. Army is by nature and design wide-ranging and diverse. RAND researchers are even more so. The editors could not conceivably have fit that research into a volume with any coherence without extraordinary assistance both from the contributors themselves and from a number of other colleagues. Special thanks are owed to Lauri Zeman, Zalmay Khalilzad, Tim Liston, David Oaks, Thomas Szayna, and Donna Betancourt. We also thank Michael O'Hanlon, Mike Hix, Kevin Pollpeter, David Ochmanek, Alan Vick, Jim Quinlivan, and Fran Lussier for their expert reviews. For their fierce devotion to effective communication and proper English usage, thanks are also owed Jerry Sollinger and Dan Sheehan. Thanks too to Stephen Bloodsworth for his design of the cover and artwork throughout the report. For their support and guidance, we would like to thank many in the Army and especially Gen. John M. Keane, Maj. Gen. John R. Wood, and Maj. Gen. David H. Huntoon. Finally, our greatest thanks go to Lue Pope without whose limitless patience and efficient administrative assistance this report would not have been possible.

ACRONYMS

AFB	Air Force base
AFPAM	Air Force Pamphlet
AI	Air interdiction
APOD	Aerial port of debarkation
APOE	Aerial port of embarkation
ARSOF	Army Special Operations Forces
ATACMS	Army Tactical Missile System
ATO	Air Tasking Order
BAI	Battlefield air interdiction
BCT	Brigade combat team
CAOC	Combined Air Operations Center
CASCOM	Combined Arms Support Command
CBO	Congressional Budget Office
CBRNE	Chemical, biological, radiological, nuclear, (conventional high-)explosive (weapons)
CENTCOM	(U.S.) Central Command
CIA	Central Intelligence Agency
CJCS	Chairman of the Joint Chiefs of Staff
CJTF	Combined joint task force
CONUS	Continental United States

CSS	Combat service support
CST	Combat support team
CTC	Combat Training Center
DoD	Department of Defense
EAF	Expeditionary Air Force
ECI	Employment Cost Index
ETS	End of Term of Service
FCS	Future Combat Systems
FM	Field manual
FORSCOM	(U.S. Army) Forces Command
FOUO	For official use only
FSS	Fast Sealift Ship
FY	Fiscal year
GAO	General Accounting Office
GDP	Gross domestic product
IBCT	Interim Brigade Combat Team
IISS	International Institute for Strategic Studies
JROC	Joint Requirements Oversight Council
LCC	Land component commander
LD/HD	Low density/high demand
LMSR	Large Medium-Speed Roll-On/Roll-Off (ship)
MARC	Manpower requirements criteria
MCO	Major combat operation
MLRS	Multiple-Launch Rocket System
MOG	Maximum on ground (aircraft)
MTW	Major theater war

NATO	North Atlantic Treaty Organization
NORAD	North American Aerospace Defense Command
NORTHCOM	U.S. Northern Command
O&O	Organization and operations
OCS	Officer Candidate School
OMB	Office of Management and Budget
OSD	Office of the Secretary of Defense
PAA	Primary aircraft authorized
PCS	Permanent Change of Station
QDR	Quadrennial Defense Review (Report)
QRMC	Quadrennial Review of Military Compensation
R&D	Research and development
RDT&E	Research, development, test, and evaluation
ROTC	Reserve Officer Training Corps
SAM	Surface-to-air missile
SBCT	Stryker Brigade Combat Team
SEAD	Suppression of enemy air defenses
SOF	Special operations forces
SSC	Smaller-scale contingency
TAI	Total active inventory
TOA	Total Obligational Authority
TRADOC	(U.S. Army) Training and Doctrine Command
UA	Unit of action
UE	Unit of employment
USAFE	U.S. Air Forces in Europe
WMD	Weapons of mass destruction

Chapter One

INTRODUCTION

Lynn E. Davis and Jeremy Shapiro

The Bush administration issued *The National Security Strategy of the United States* in fall 2002, a little more than a year after the September 11 terrorist attacks and as it was gathering an international coalition to disarm Iraq. As in past national security strategies, the document describes lofty goals and principles but is vague with regard to how these will be achieved. The strategy assigns a myriad of new and demanding tasks to the military while relieving it of precious few old ones. It offers little specific guidance, stipulating only the need to acquire capabilities for intelligence warning, remote sensing, and long-range precision strike and to emphasize expeditionary forces and joint operations. What these capabilities call for in terms of forces and programs remains a matter of considerable debate.

The strategic environment is evolving, presenting a variety of threats that span the globe. The nation now calls for military forces capable of responding to multiple, different kinds of contingencies, often involving small numbers of specialized forces in unforeseen and largely unprepared locales, both at home and abroad. Emerging technologies—above all information technologies—are also changing the way military power is organized and applied. This requires the military services to rethink how they operate together on the battlefield and, more fundamentally, what their respective roles will be.

In this context, the U.S. Army possesses critical and unique capabilities and competencies. The Army also brings an incomparable wealth of experience with the effective application of military force on the ground to the contemporary challenges. Indeed, the primary role of the U.S. Army is, and will remain, to achieve dominance on the ground and thereby contribute to deterring the use and even the creation of large-scale land forces on the part of adversaries. During the past decade, the Army has also shown its ability to undertake small and multiple deployments at home and abroad.

At the same time, the Army struggles to define itself in this new environment. Its victory in Panama has receded into the annals of history. Its role in Operation Desert Storm has been overshadowed by the remarkable success of the air campaign. It bears the brunt of the Somalia debacle for bad political decisions in Washington. The Army was never used in the Kosovo war and has been reluctant to shift its attention to Asia.

The Army, in a manner similar to the other services, has responded to the changes in both the strategic and technological environments by embarking on a program of self-described transformation—that is, a more or less radical reshaping of the military instrument to confront new challenges. Transformation in the Army, guided by a vision set forth by Chief of Staff Gen. Eric K. Shinseki, focuses on smaller units (brigades), rapid deployment, lighter-weight platforms (to facilitate movement), and reduced logistics burdens.

Significant impediments to realizing this transformation have appeared, as well as important questions about its appropriateness for addressing America's strategic problems. Indeed, it is becoming clearer and clearer that the Army must make a more fundamental and somewhat different transformation than is currently envisaged.

The purpose of this report is to suggest to the Army and the broader defense community possible ways ahead. Each of the authors approaches the issue of how the U.S. Army fits into the new national security strategy from a different functional perspective, and each assesses the strengths and weaknesses of the Army and the Army's transformation plans for coping with the challenges identified.

Jeremy Shapiro and Lynn Davis begin by setting the scene—that is, by describing the evolving strategic environment, using as its organizing structure the main elements in the new national security strategy. They go on to describe the principal ways in which the Bush administration seeks to change the U.S. military by enhancing operational flexibility, ensuring a power projection capability, achieving a balance between operational freedom and coalition support, and giving priority to homeland security. The chapter concludes by introducing the Army's vision of its own transformation.

Bruce Nardulli in Chapter Three then explores the characteristics of the offensive war on terrorism and finds the Army facing two types of new demands. One will involve more-frequent and increased long-term deployments overseas, including new types of peace operations. The other will be a demand for different kinds of combat capability combined with extremely high responsiveness. In his view, the Army will need to expand the light-medium end of the Army force structure and prepare in new ways for very quick counterterrorism operations.

Lynn Davis in Chapter Four proposes a way for the Army to define its homeland security needs. These needs have changed and expanded to such a degree that she urges the Army to abandon its traditional approach of depending on forces structured for warfighting. She is skeptical too that the reserves can play the major role that DoD is currently envisioning, given the potential tasks could require substantial forces ready to act quickly. Davis calls on the Army in the short term to plan for having some number of Army active-duty soldiers available at all times for homeland security.

The prospect of regional conflicts across all of Asia as well as a modernizing China lead Roger Cliff and Jeremy Shapiro in Chapter Five to urge the Army to shift its attention to Asia over the next quarter century. In their view, the Army must prepare for a variety of new contingencies that could range from providing humanitarian assistance to imposing order within such countries as Indonesia and the Philippines. To do this, the Army needs to look for ways to increase its presence in Asia and create the capabilities necessary to deploy combat power across great distances and to operate far from bases in areas with minimal infrastructure.

In Chapter Six, Nora Bensahel addresses the issues involved in coalition operations. The United States has a long history of fighting in coalitions, and current political conditions imply that this trend will only strengthen in the coming years. At the same time, as she documents, the challenges associated with coalition operations are becoming ever greater as the capabilities gap between the U.S. military and the forces of even its most capable allies grows. The increasing number and type of potential coalition partners, as well as Army transformation itself, exacerbates these problems. Bensahel, therefore, warns that without adequate preparation many of the operational benefits of transformation may have to be sacrificed to achieve the higher political goal of maintaining coalition cohesion and efficacy. She proposes a number of mechanisms through which Army operations, exercises, and planning processes can better account for the possibility, or more accurately probability, of coalition operations.

The report focuses next on how the modern battlefield is changing and what this will mean for future Army operations. Bernie Rostker in Chapter Seven draws lessons from the joint campaigns in the Gulf War, Kosovo, and Afghanistan to make the case for the Army to rethink the way it operates with the other services, particularly the Air Force, on the modern battlefield. He expresses concern that current Army transformation plans do not adequately factor in the improved capabilities of the other military services in the design of its new doctrine and new combat systems.

Bruce Pirnie in Chapter Eight picks up on the theme of jointness and offers ways to instill true jointness in Army operations, through innovative methods of making the Army more expeditionary and sharing responsibilities with the Air Force. He cautions that the ambitious goals of Army transformation—from rapid deployability to dispersed operations—can only be accomplished by tight integration and seamless interoperability with the other services. More fundamentally, the issue of whether air or land forces are the dominant mode of warfare has become entirely irrelevant. For the U.S. military to effectively exploit the possibilities of transformative technologies, it must form a true air-land partnership that does not subordinate either land or air forces but rather utilizes their complementary strengths.

Rapid deployability is perhaps the key element in the Army's transformation plan. After demonstrating how difficult it will be for the Army to accomplish the deployability goals it has established, John Gordon and David Orletsky in Chapter Nine call on the Army to rely less on airlift and arbitrary time lines and more on a shrewd combination of basing, prepositioning, and relatively modest investments in fast sealift to satisfy the nation's requirement for rapid deployment.

New doctrine and technology are important for ensuring the continued relevance and efficacy of the Army. As Sue Hosek points out in Chapter Ten, however, they will be worth little unless the Army can in the process of transformation maintain its traditional steady flow of high-quality personnel to operate its equipment, maintain its complex machinery, ensure its capacity to deploy rapidly, and provide for rotations of units to a wide variety of contingencies. She disputes the popular notion that the Army currently faces a personnel crisis, but she does warn that too little is known about the factors that affect the Army's ability to recruit and retain high-quality personnel. Unless the Army does more to understand the impact of the radical changes that transformation will occasion on its personnel, that crisis will be an ever-present possibility.

The Army faces another major challenge in adapting its logistics system to the new strategic environment. During the Cold War, the Army evolved into a powerful force, but not necessarily a powerful *projection* force. While the Army cannot avoid big wars using heavy forces, as the deployment to Iraq attests, the present era requires an Army that can move a powerful military force to distant, perhaps unprepared, theaters quickly. And it needs a logistics system to match those requirements. Eric Peltz and John Halliday in Chapter Eleven detail the key strategies the Army is employing to shrink the logistics footprint of its new combat forces to make them operationally more mobile. The authors proceed to suggest how this transformation process can be usefully extended to the rest of the Army's forces.

In Chapter Twelve, David Kassing addresses the issue that, from a practical standpoint, will dominate discussion of any effort to transform the U.S. Army: money. First, he lays out what the effect will be on the Army's budget of the new requirements to fight the war on terrorism and defend the American homeland. Next, he assesses what resources will likely be available to the Army to implement its transformation plans. With all the necessary caveats, he concludes that the Army's current plans for transformation, while ambitious from a budgetary standpoint, are nonetheless affordable.

Finally, Thomas McNaugher concludes by drawing on the analysis in the preceding chapters to assess the overall efficacy and viability of Army Transformation in the context of the new national security strategy. He argues that the stark vision of transformation as laid out by General Shinseki has been important for breaking the Army out of many of its deeply rooted habits and mindsets. Now into its fourth year, the basic concepts of Army Transformation are in need of significant refinement, both to profit from the lessons learned and to take into account the alterations in the strategic environment since transformation began. McNaugher weaves together a variety of the recommendations contained in this report to articulate how he believes the Army should proceed.

This report has many voices and offers the Army a wide variety of different ideas. Nonetheless, within this cacophony of perspectives and recommendations, it is remarkable the degree of consensus that emerged around the need for the Army to proceed differently from its current planning. These authors also make clear that the types of changes being proposed will be far more difficult than many inside and outside the Army have thus far appreciated.

In the end, the most basic task of the Army and all of the military services is to provide political leaders with options in the uncertain world that lies ahead. As each of the chapters in this report implies, if transformation is to maintain and expand the Army's ability to do so in today's rapidly evolving strategic environment, it will require specific changes that may threaten deeply held Army beliefs and require the resolution of issues of extreme sensitivity within the Army. This report is dedicated to helping the Army in that difficult task.

Chapter Two

THE NEW NATIONAL SECURITY STRATEGY

Jeremy Shapiro and Lynn E. Davis

The Bush administration arrived in Washington in January 2001 contemplating dramatic changes in the U.S. national security strategy. During the campaign, candidate Bush had articulated the view that the existing security strategy lacked coherence and focus. In this view, a failure to prioritize had led the previous administration to excessive use of the military for nonwarfighting tasks while neglecting key areas of the world, such as Mexico and India. As a result, the U.S. military had become overstretched and underfunded with no appreciable benefit for U.S. security. The administration intended therefore to shift the nation's priorities toward dealing with new security threats, particularly the threat of ballistic missiles and weapons of mass destruction while refocusing the military on warfighting tasks and restructuring it around new technologies to achieve a "revolution in the technology of war" (Bush, 1999).

Once in power, however, the administration found it difficult to advance this agenda in the face of effective political opposition and budgetary constraints. The September 11 terrorist attacks on Washington and New York soon drew attention from longer-term issues of policy, but they simultaneously reinforced the need for a new approach to U.S. security and for a more effective military tool along the lines they had already envisioned.

As a result, it was not until September 2002 and the issuance of *The National Security Strategy* that those views received any degree of official and definitive expression.[1] The strategy provides little specific guidance for the U.S. military and can hardly serve as a basis for detailed or long-term military planning. Nonetheless, the document is significant as the first official elaboration of a variety of post–September 11 changes in the direction and tone of U.S. security

[1]This document was issued in accordance with the congressional requirement for an annual report to Congress detailing the U.S. national security strategy as contained in the Goldwater-Nichols Department of Defense Reorganization Act of 1986, although this was the first such report issued by the Bush administration. See *National Security Strategy* (2002).

policy. As such, it merits special attention, although as with all U.S. security strategies, it is often frustratingly vague and certainly not the final word on U.S. national security strategy.

Special prominence is given in the strategy to dealing with the threats posed by terrorists and rogue states, though it also focuses on defusing regional conflicts, preventing threats from weapons of mass destruction, developing cooperative actions with other major powers, and expanding economic growth and the infrastructure of democracy. This *National Security Strategy* makes clear that the United States will maintain its position of preeminent economic and military power as the means of promoting "a balance of power that favors freedom." Where it departs from the past strategies is in its clear statement of the intention of the United States to act alone, if necessary, and to act militarily and preemptively against terrorist groups or rogue states amassing weapons of mass destruction.

The strategy does not envision that U.S. interests and general stability can be safeguarded without the presence and sometimes active application of American political, economic, and military power worldwide. Thus, embodied in the strategy is a clear expansion of the demands placed on the military, in responding to terrorism abroad and ensuring the security of the American homeland, in maintaining American preeminence as a military power, and in preempting attacks against the United States by terrorists and rogue states, particularly attacks that might involve weapons of mass destruction.

This chapter will briefly describe the shape of the new strategic environment, the elements of this national security strategy, and the overall military requirements that emerge. It then outlines the most far-reaching changes in the military being urged by the Bush administration and concludes by introducing the Army's vision of its own transformation.

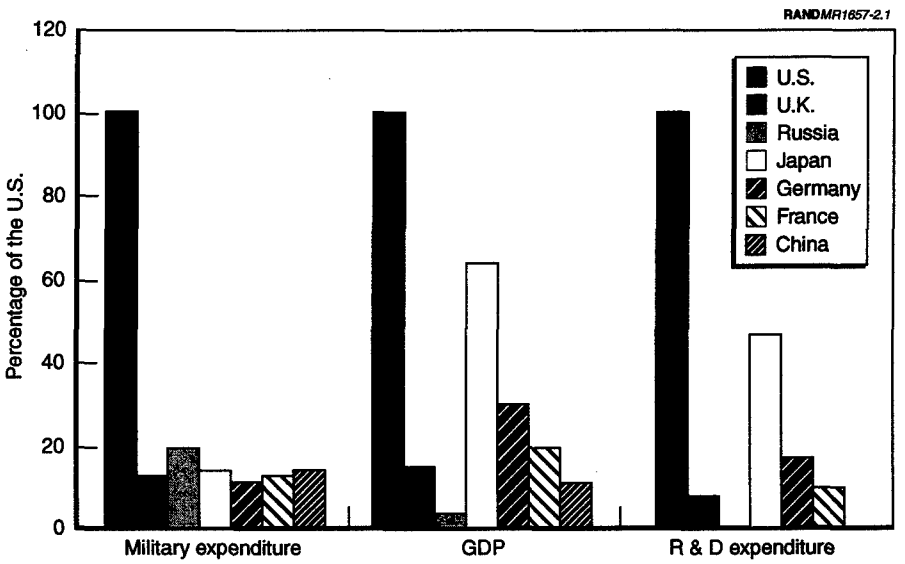
THE U.S. NATIONAL SECURITY STRATEGY

Maintaining U.S. Preeminence

The point of departure of the new national security strategy is the position of unparalleled military strength and great economic and political influence that the United States enjoys. The United States holds commanding leads in all of the usual measures (economic, diplomatic, military, technological, cultural, and geographical) that scholars use to assess national power. Three categories: gross domestic product (GDP), military expenditure, and research and development (R&D) expenditures, partially demonstrate the relative weight of U.S.

power in the world, as Figure 2.1 shows. In none of these measures is it easy to imagine the substantial U.S. lead eroding in the near future.[2] While these advantages are partially necessary to support the unique and expansive worldwide interests and responsibilities of the United States, even by those standards, this situation is unprecedented in modern times.

The primary purpose of U.S. preeminence, according to *The National Security Strategy*, is "to promote a balance of power that favors freedom" (*National Security Strategy*, 2002, p. 1). This goal reflects the notion that U.S. preeminence presents an opportunity, and even perhaps a duty, to use American power to make the world a better and safer place. Although this preeminence in American power will likely persist for some time, *The National Security Strategy* calls for explicit efforts, including military efforts, to sustain this position and to deter "potential adversaries from pursuing a military build-up in hopes of surpassing, or equaling, the power of the United States."



SOURCES: National Science Foundation; IISS, 2000; World Bank, 2002.

NOTE: Figures for Chinese and Russian R&D expenditures are not available. GDP and Military Expenditure figures are from 1999, R&D expenditure figures from 1998.

Figure 2.1—Other Nations' Measures of Power as a Percentage of U.S. Measures, 1998–1999

[2]For a much more detailed exploration of U.S. power capabilities that reaches an even stronger conclusion, see Wohlforth (1999, p. 12–19). For a contrary view, see Kupchan (2002).

U.S. preeminence exists within a world that contains, from the U.S. perspective, three types of nation-states. First, a group of great powers that play, or have the potential to play, leading roles in specific regions as well important roles throughout the world. Examples include France, Russia, China, and by some accounts, an integrating European Union. Some of these powers are unhappy with U.S. preeminence and would like the world to evolve toward a multipolar system. Logically, although not explicitly, U.S. preeminence is aimed at deterring these states from mounting a challenge to the U.S. role. Next is a class of major regional powers—some allied with the United States and some hostile. Examples include Turkey, Australia, Iran, and North Korea. It is the hostile, regional powers that have been the focus of U.S. military strategy and defense planning and the target of the most intense uses of U.S. military power since the end of the Cold War. Finally, a larger number of states, including many in Africa and South Asia, have limited relative power. Many of these states have recently been scenes of humanitarian crises that ultimately involved U.S. military forces.

Defeating Global Terrorism

Despite this acknowledgment that the world is still organized around nation-states, *The National Security Strategy* views the primary threat to the United States to be the exposure of the U.S. homeland to attack by shadowy terrorist networks. The strategy calls for a worldwide campaign to destroy "terrorist organizations of global reach and attack their leadership; command, control, and communications; material support; and finances." This campaign supports governments in their efforts against terrorists in their own countries with intelligence, law enforcement, and military assistance. It is broadly defined to win the war of ideas, making all acts of terrorism illegitimate. While enlisting the support of the international community, it clearly states that the United States will act alone if necessary (*National Security Strategy,* 2002, pp. 5–6).

The sophistication and reach of terrorist organizations has grown to the point where the response must go well beyond ordinary law enforcement and intelligence efforts and must engage military forces. Terrorists, however, present special military problems. Military attacks against terrorist leaders may simply create martyrs or fuel further anger against the United States, increasing overall support for the terrorist cause. Terrorism is a weapon of the weak and as such results, in part, from feelings of frustration and powerlessness generated by U.S. and Western ascendancy. At the same time, a failure to respond forcefully to terrorist challenges might create an impression that the United States lacks the will to defend itself, inviting further challenge. All of this implies that military force in the war on terrorism must be carefully calibrated and directed if it is not to be counterproductive.

The key to such a calibration is accurate intelligence on terrorist motives, capabilities, and location. Currently, the intelligence necessary for such calibrated attacks on terrorist groups is often lacking or outdated. As a result, timely acquisition and dissemination of intelligence become ever-increasing priorities.

Another military requirement that flows from the war against terrorism is the need to defend forces not engaged in combat and the infrastructures that support such forces both at home and overseas. These have already been shown to be priority targets for terrorist groups, such as al Qaeda. Such protection will require the resources and constant attention of U.S. intelligence, police, and military forces.

Defusing Regional Conflicts

U.S. preeminence in world affairs derives in no small measure from its role as the guarantor of stability in nearly every region of the globe. *The National Security Strategy* recognizes this role but shows a preference for relying on others to manage local crises and indicates a reluctance to move decisively unless people in the region are ready to do their part. It pays particular attention to regional conflicts between Israeli-Palestinian forces and India and Pakistan, to the threats to stability in Indonesia and Colombia, and to the opportunities for development and progress in Africa, despite that continent's severe problems that coexist with disease, war, and desperate poverty (*National Security Strategy*, 2002, pp. 9–10).

The strategy's choice of conflicts illuminates the characteristics and dangers of the new strategic environment but provides little in terms of the priorities for U.S. action. It takes the view instead that the circumstances in which U.S. action is warranted cannot be anticipated.

This is certainly the case because no region of the world is immune from potential conflict, thus presenting the military with the possibility of multiple and varied far-flung contingency operations. Beyond the Persian Gulf and Northeast Asia, where U.S. troops are deployed to counter clear threats, two regions stand out as most likely to require a further engagement of U.S. military forces in the future, both because of their volatility and because of their importance to U.S. interests.

Central and South Asia. The United States has fought a war in Afghanistan to defeat the Taliban regime and destroy the al Qaeda terrorists. Troops are now stationed in Afghanistan, Uzbekistan, and Kyrgyzstan. The U.S. commitment to the region is open-ended and goes beyond "draining the swamp" of terrorism to include an implicit commitment to nation-building in Afghanistan and to preserving stability throughout the region. This will not be easy because these

states continue to demonstrate a marked proclivity to conflict, arising from the combination of weak authoritarian regimes, significant crime and corruption, and a wide range of potentially hostile ethnic groups.

Most dangerously, nuclear-armed India and Pakistan are in the midst of major domestic transformations and have deployed large conventional armies against each other in Kashmir. Indian economic growth promises to make it the world's fourth largest economy (in purchasing power parity terms) by 2015 and give it the ability to modernize its military forces. If current trends hold, India will emerge as a democratic great power that will have influence well beyond South Asia. In contrast, the situation in Pakistan remains unsettled and troublesome on multiple counts. The government has failed to manage the economy, to reduce corruption, or to provide political stability. Islamic extremism is fueled by the ongoing lack of state services, by resentment against the government's cooperation with the United States in Afghanistan, and by the Pakistani military and secret services activities in pursuit of Pakistani goals in Kashmir. Finally, Pakistan appears committed to the highly risky strategy of attempting to use its emerging and fragile nuclear capabilities as strategic cover for its support of insurgents in Kashmir.[3]

The Andes. Notwithstanding the recent spread of democracy and free-market economics, U.S. strategic interests in Latin America, particularly in the Andean region, may be threatened in the next few years. The situation in Colombia is the most extreme manifestation of the capacity of drug-traffickers and anti-democratic forces to undermine domestic and regional stability. In Colombia, drug cartels and guerrillas—the leftist Revolutionary Armed Forces of Colombia (FARC) and the smaller Army of National Liberation (ELN)—have come together and intensified their challenge to the state (Pardo, 2000, pp. 64–74).

The new government in Colombia has promised a much more vigorous prosecution of the war against the FARC and the ELN. What the outcome will be is most uncertain. A war that produces FARC military successes raises the real possibility that Colombia might emerge as a "narco-state." Alternatively, it might fragment into several de facto ministates controlled by different guerrilla groups and drug traffickers. Either outcome would probably lead to Colombian instability spilling over into neighboring states. Already two FARC "fronts" operate in Panama. Similar activities are taking place in Venezuela and Ecuador. Any intensification of the conflict could confront the United States with the necessity of getting more directly involved in a region vital to U.S. security and prosperity.[4]

---

[3]The preceding discussion on India and Pakistan is partially based on Tellis (2001).

[4]On the prospects of intensification of the Colombian conflict, see Rabasa (2001).

Preventing Threats from Weapons of Mass Destruction

The National Security Strategy pays particular attention to the "new deadly challenges" from rogue states and terrorists because of their demonstrated determination to obtain and use weapons of mass destruction (WMD). Indeed, WMD is the basis for the view that today's security environment is more complex and dangerous.

Today's proliferation threats are specific to particular countries rather than generalized, as was once feared. Nonetheless, it is difficult to keep WMD-related knowledge and technologies from spreading, and the existing arms control and nonproliferation regimes are weak. North Korea has admitted having a nuclear weapon program, in violation of its commitments in the Nuclear Nonproliferation Treaty and the 1994 Agreed Framework. The Bush administration has specifically accused Iraq and Iran of having nuclear, biological, and chemical weapon programs and raised serious concerns about Libya and Syria's chemical and biological warfare activities (Bolton, 2002). Moreover, India, Pakistan, Iran, and North Korea are developing ballistic missiles (see Table 2.1). A particular worry is that nonstate terrorist groups may even be able to acquire this capability (CIA, 2002). Weapons proliferation may, thus, be beyond the capacity of the United States and its allies to reverse. *The National Security Strategy* would seem at least implicitly to agree. While delineating the various elements of a nonproliferation strategy, it argues forcefully that more than this largely "reactive posture" is necessary.

Thus, the dominant military concept of the Cold War years—deterrence—is being deemphasized, while the doctrine of containment is being abandoned almost entirely because it is seen as ill suited to a world of borderless states and stateless aggressors. As President Bush noted in his address to graduates at West Point in spring 2002, "Deterrence—the promise of massive retaliation against nations—means nothing against shadowy terrorist networks with no nation or citizens to defend." He warned that "if we wait for threats to fully materialize, we will have waited too long" and therefore concluded, "in the world we have entered, the only path to safety is the path of action. And this nation will act" (Bush, 2002).

Thus, in the place of deterrence comes the notion of a strategy of preemption and active defense to counter a new type of enemy that the administration believes will have to be disarmed or killed. The United States must be prepared to act preemptively, "even if uncertainty remains as to the time and place of the enemy's attack." In other words, "we must adapt the concept of imminent threat to the capabilities and objectives of today's adversaries." *The National Security Strategy* singles out a need for military forces to carry out missions of

Table 2.1

Suspected WMD and Missile Programs

State	Nuclear	Chemical	Biological	Missile
Egypt				X
India	X			X
Iran	X	X	X	X
Iraq	X	X	X	X
Libya	X	X	X	X
North Korea	X	X	X	X
Pakistan	X			X
Syria		X	X	X
Sudan		X		

SOURCE: CIA, 2002.

detection, active and passive defenses, and preemptive counterforce in order to carry out "proactive counterproliferation efforts" (*National Security Strategy,* 2002, pp. 13–16).

If carried through, a preemptive strategy to disarm states developing weapons of mass destruction could extend well beyond those labeled by President Bush as the "axis of evil"—namely Iraq, Iran, and North Korea. Beyond the considerable call on resources for homeland defenses, *The National Security Strategy* therefore implies new and very demanding military requirements.

Developing Cooperative Action with the Main Centers of Global Power

The National Security Strategy also focuses on organizing global coalitions in dealing with the various threats, giving voice to the principle that these will be formed by states "able and willing" to lend material aid to a given campaign without limiting U.S. freedom of action (*National Security Strategy,* 2002, p. 25). It lays out an agenda for expanding and transforming the NATO alliance and calls for renewed attention to America's alliances in Asia in the war against terrorism. The strategy becomes understandably cautious in its discussion of the remaining difficulties in U.S. relations with Russia and China. Nonetheless, the administration believes that the common struggle of all of the great powers against terrorism and other states has opened vast new opportunities for cooperation with the other main centers of global power. *The National Security Strategy* therefore commits the United States to maintaining the transitions away from the old patterns of great power competition.

Maintaining cooperative relations with great powers is becoming particularly difficult in Asia because the region is producing two rising great powers: China

and India. They are likely to be competitive with each other and with the other regional great power, Japan. At present, the Chinese government's top priority is to foster economic growth as a means of developing a modern, technologically advanced society. However, that near-term priority appears to support a longer-term Chinese strategy to achieve regional primacy and a reduced U.S. role in the region.[5] China also remains steadfastly committed to the reintegration of Taiwan and opposed to any Taiwanese moves toward independence. China tends to view American military moves in light of a potential Taiwanese conflict, particularly the development of national and theater missile defense systems. Chinese analysts seem to believe that such systems would strengthen the U.S. position in the region and undermine Chinese coercive options against Taiwan (Roberts, Manning, and Montaperto, 2000, p. 57).[6] The post–September 11 cooperation between the United States and China, particularly in Central Asia, has muted much of the contentious rhetoric common in the early days of the Bush administration. The underlying issues have not changed, much less been resolved. As September 11 fades in memory, or as the threat of global Islamist terrorism recedes a bit, the chances that the old tensions between the United States and China will reassert themselves are high.

How the other Asian great powers, particularly India and Japan, will adjust to China's rise and its possible push for primacy is the single biggest question affecting Asia's future security environment.[7]

For the long term, most Asian governments are concerned about China's intentions and U.S. staying power, although fear of imminent U.S. abandonment is not widespread. For now, regional leaders generally believe that China will continue to focus on building its "comprehensive power,"[8] a goal that requires Beijing to give priority to economic growth at home and to amicable relations abroad. This is reflected in China's willingness to support, at least passively, the U.S. war on terrorism and U.S. actions and deployments in Central Asia.

Russia's evolution too remains a mystery. Democratic and economic reforms in Russia face major obstacles. A variety of nightmare scenarios, from descent into violent disorder and fragmentation—which would raise the specter of

---

[5]Of course, such an aggressive long-term strategy is by no means inevitable for China and will be influenced, among other factors, by U.S. behavior. For a more detailed investigation of China's near- and long-term options and priorities, see Swaine and Tellis (2000, pp. 97–230).

[6]On Chinese coercive options toward Taiwan, see Shlapak, Orletsky, and Wilson (2000); O'Hanlon (1993, pp. 51–85); and Shambaugh (2000, pp. 119–133).

[7]This discussion of alliances in Asia is based on Khalilzad et al. (2001, pp. 3–42). Also see Blackwill and Dibb (2000) and Tow (1999).

[8]When Chinese leaders refer to building China into a "comprehensive power," they generally mean that they seek to create a modern China that would rank among the leading nations in all dimensions of national power—political, economic, military, and technological.

many thousand "loose nukes"—to a seizure of power by a charismatic dictator intent on restoring Russian national greatness, cannot be entirely dismissed.

In recent years, relations between the United States and Russia have been on a virtual roller coaster. Until September 11, relations seemed to be deteriorating, with many Russians claiming that the United States had taken advantage of Russian weakness in its policies with regard to NATO expansion, the U.S. national missile defense systems, Russian arms sales to Iran, and access to Caspian basin energy resources.[9] Since then, U.S.-Russian relations have been on a definite upswing, with many of these issues having been finessed. This is in part the result of the two countries' common interest in defeating Islamist terrorism and in part a tactic on President Vladimir Putin's part to enhance Russia's diplomatic role. Nonetheless, the future of the relationship remains highly uncertain and possibilities run the gamut from building a cooperative security partnership to outright hostility and confrontation.

Amicable relations among all of the world's great powers are, since the rise of the nation-state in the seventeenth century, virtually unprecedented and may be assumed to be fragile and in need of active and continual maintenance. Still uncertain is whether the events of September 11 have indeed changed the context for relations between the United States and the other main centers of global power, as *The National Security Strategy* concludes. If they have, this could actually result in a reduction in the military's requirements.

THE NATIONAL MILITARY STRATEGY

The United States cannot hope to implement its national security strategy solely, or even primarily, with military means. However, the military will play a critical and expanded role in achieving the strategic goals outlined above. *The National Security Strategy* offers only the most general guidelines and concepts, with the bottom line being that the President must be provided with a wider range of military options.[10] As of this writing, the Bush administration has not released its national military strategy, but its broad outlines are discernable from various statements by officials and other published documents, particu-

---

[9]For just a few of the widely varied views on the present and future of Russia and U.S.-Russian relations, see Blank (2000, pp. 91–107); Nunn and Stulberg (2000, pp. 45–62); McFaul (1999, pp. 58–73); and Carnegie (2000).

[10]According to *The National Security Strategy* (2002, pp. 29–30), the United States will maintain a force presence overseas and must prepare for deployments similar to the one in Afghanistan, "by developing advanced remote sensing, long-range precision strike capabilities and transformed maneuver and expeditionary forces." Among the required military capabilities are those to "defend the homeland, conduct information operations, ensure U.S. access to distant theaters, and protect critical U.S. infrastructure and assets in outer space." Experimentation with new approaches to warfare is mentioned, as is strengthening joint operations.

larly the Quadrennial Defense Review and the Defense Department's Annual Report (DoD, 2001; Rumsfeld, 2002).

Among the administration's most far-reaching calls for changes in the military involve those to enhance operational flexibility, ensure a power-projection capability, achieve a balance between operational freedom and coalition support, and give top priority to homeland security. All of these have embedded within them the need for a fairly radical transformation of the military.

Operational Flexibility

Given the strategic problems the United States will likely face that are not readily identifiable, a critical requirement becomes operational flexibility—that is, the ability of forces to rapidly perform a wide variety of tasks in a multitude of locations and environments around the world. For this purpose, the administration advocates a capabilities-based planning construct focused on "what" future adversaries can do, not "who" they might be or "where" a war might occur.

Shifting to a capabilities-based planning construct logically eliminates the infamous two-major-theater-war requirement, though the administration leaves some ambiguity by stating that the United States will maintain "the ability to defeat aggression in two critical areas in overlapping timeframes . . . [and] is not abandoning planning for two conflicts to plan for fewer than two" (DoD, 2001, p. 18). The new planning construct provides principles for testing the adequacy of forces with regard to their ability to deploy and fight decisively, their versatility, and their ability to handle overlapping contingencies. The new standards will require an increased capability for joint and combined operations and the development of innovative technology and associated concepts of operation so that forces can function in a multitude of configurations. They will also place a premium on rapid strike and deployment capabilities. This implicitly downgrades the value of heavy forces, which are effective but slow to arrive in a theater of operations and difficult to support. The focus thus far is on these types of capabilities:

- expeditionary forces capable of forcible entry;
- globally available reconnaissance, strike, and command and control systems;
- information operations;
- special operations;
- precision-guided weaponry; and
- strategic and theater mobility.

The problem with such an approach to defining capabilities for operational flexibility is that it does not provide a means of actually sizing military forces because it begs the question of how much of each capability is needed—a question that is only answerable with reference to some notion of potential scenarios. In practice, then, capabilities-based planning can provide ways to set priorities among different kinds of capabilities within available resources but not to define "how much is enough."

What "operational flexibility" means also cannot be divorced from the kinds of strategies and capabilities that potential adversaries will likely employ or even from U.S. capabilities. U.S. military preeminence increases the chances that adversaries will resort to asymmetric options. U.S. domination of the open battlefield will create incentives for opponents to wage wars in urban or jungle terrain, to try to go deeper underground to hide from or survive a U.S. attack, and to rely more on mobile systems. Perceived U.S. sensitivity to casualties is likely to lead adversaries to seek the ability to inflict harm directly on U.S. military personnel. Adversaries are also likely to seek out systems, such as advanced surface-to-air missiles or antiship cruise missiles, that will enable them to attack U.S. air and naval forces, which now are used in part because they are seen as less vulnerable than land forces. Similarly, the U.S. military's dependence on information systems will probably lead adversaries to explore techniques of information warfare that will attack what they may perceive as a new vulnerability of U.S. forces.

Such tactics will complicate intelligence and targeting, create moral dilemmas for the use of firepower by intermingling of civilian and military targets, place even technologically advanced forces in harm's way, and ultimately force the United States to rely less on standoff weapons and information systems.

Power Projection

The fact that the United States and the United States alone can quickly deploy and sustain superior military capabilities virtually anywhere in the world plays a critical role in deterring aggression and maintaining regional stability in a variety of areas around the globe. To speed deployment, the administration's approach emphasizes the forward deployment of military forces in peacetime, combined with global intelligence and strike assets, with only modest reinforcement from outside the theater. The U.S. military will also need to devote attention to the growing sophistication of weapons that can deny U.S. military forces access to these faraway places, in particular ballistic missiles armed with weapons of mass destruction, surface-to-air missiles, and antiship missiles.

The way in which the United States sees its military capabilities in Europe and Japan will also change. Rather than playing a role in deterring attacks in the

locations in which they are based, they will now be poised to respond to a variety of possible crises in the arc of instability that spans the periphery of Asia, from the Middle East to Northeast Asia. The American military presence in Europe will remain important, but its composition must gradually change from principally heavy defense forces to units better able to deploy quickly and operate decisively in the Middle East, Persian Gulf, and elsewhere.[11]

Operational Freedom and Coalition Support

As U.S. capabilities are stretched thin by a variety of missions around the world and as the U.S. public increasingly insists on cost savings and burden sharing, unilateral U.S. military action will accumulate serious drawbacks and liabilities. However, dependence on coalitions can create unwieldy decisionmaking procedures, limit U.S. freedom of action, and create opportunities for enemies to capitalize on potential fissures within a coalition.

The Bush administration is still working through how it will balance this need for coalition support with pursuit of operational freedom. In Afghanistan, the United States called on only a few allies in conducting the military operations and turned to others primarily for access to key theaters and military forces for longer-term, politically difficult missions, such as peacekeeping. At the same time, the administration has assembled a broad and impressive political coalition (or, more accurately, several diverse coalitions) in its global war on terrorism. It has also recognized that future types of strategic challenges, and particularly the war on terrorism, will have major civil and intelligence components, which will require the United States to lean more heavily on its allies than in operations that rely more on military power.

What seems to be emerging is an approach whereby the United States must maintain the capacity to operate alone and must demonstrate the willingness to use that capacity. In such circumstances, the administration seems to believe that U.S. allies and partners will usually follow the U.S. lead and yet allow U.S. forces to maintain their freedom of action. This view does not rule out all coalitions but rather assumes that the United States will be primarily interested in operating with allied forces that provide effective military capabilities, especially if combat is involved. Thus, future coalitions will not be composed only of the willing but, more importantly, of the able. This will become both more important and more difficult as the U.S. military accelerates the pace of its transformation. If and when allies and partners develop broadly effective capabilities or critical niche capabilities, the United States will welcome their

[11]The planned integration of one of the Army's Stryker Brigades into U.S. forces in Europe, currently slated for 2007, is one example of this trend in overseas presence. See DoD (2001, p. 27).

employment in more-demanding coalition operations. Otherwise, the United States will look to allies to serve in a support role or to provide intelligence and the bulk of forces for lower-end contingencies—e.g., stability operations, peacekeeping, humanitarian relief.

This type of coalition-building stands in direct contrast to the permanent, standing alliances built and maintained during the Cold War, the paradigm being NATO. In apparent contradiction to this ad hoc approach, the Bush administration also actively encourages NATO's expansion, sanctioning and championing the official invitation of seven former members of the Warsaw Pact and the Soviet Union to join NATO at the Prague summit in November 2002.

Nonetheless, the recent expansion of NATO can be seen precisely as a further implementation of ad hoc coalition strategies. One of NATO's principal virtues has always been its use as an institutional mechanism for ensuring combined training and interoperable allied forces as well as for encouraging the creation by allies of capabilities complementary to and useful for U.S. forces. Its principal disadvantage, particularly from the point of view of the current administration, has always been the need for consultation and the consequent unwieldy decisionmaking procedures when deploying as an alliance. In its willingness to expand the alliance, without any accompanying effort to streamline decisionmaking procedures, the administration is demonstrating that it sees little likelihood that it will even attempt to use NATO as a standing alliance in military operations, as occurred in Kosovo in 1999. Rather, the administration appears to view NATO as toolbox for creating and sustaining military capabilities complementary to those of U.S. forces—the larger the toolbox, the better. Such capabilities can be accessed for specific military operations on an ad hoc basis when appropriate and when the government in question is willing, without needing to submit to cumbersome and contentious NATO alliance procedures.

In the eyes of many within and beyond the administration, the operation in Afghanistan proved the virtues of this approach, both with NATO allies and others, and will thus serve as a template for future operations. Whether such a policy will prove resilient in the face of different kinds of military contingencies, more divergent allied interests, or operational setbacks remains to be seen.

Homeland Security

The Bush administration has now assigned the "highest priority" of the U.S. military to defending the American homeland. Besides terrorism, the homeland is seen as threatened by ballistic and cruise missiles carrying weapons of mass destruction and by cyberthreats to the U.S. information infrastructure. The administration further suggests that U.S. military forces be sized for this

homeland security mission, a marked departure from the past. What it fails to do is offer any guidance for what this should mean for the military's other missions, though it seems to be assuming that most of the homeland security tasks can be accomplished by the Reserve and National Guard.

Transformation

A necessary prerequisite for all of these changes in U.S. military forces is the administration's commitment to transformation—that is, a more or less radical reshaping of the military instrument to meet the new types of challenges the United States faces. The problem is that from an analytical perspective, transformation has become more of a philosophy than a program. As it has filtered down through the ranks, all parts of the defense community have adopted programs under the rubric of transformation that each believes demonstrate their commitment to change. The specific contents of these programs show little commonality and indeed often demonstrate outright contradictions. For this reason, this report will not adopt any precise definition of transformation and simply acknowledge that the philosophy of transformation cuts across many, although not all, of the administration's important strategic changes.

THE ARMY'S TRANSFORMATION

Transformation of some type is certainly what the new national and military strategies demand of the Army, but transformation is not just a response to the new strategic environment. Emerging new technologies and, above all, information technologies are producing fundamental change in how military power is organized and applied.[12] This has been starkly evident in the ever-increasing accuracy of bombs and missiles dropped or fired from U.S. aircraft. If ground forces appear less transformed than air and naval forces are, it may be because the ground is a more challenging environment than the air or the sea for sophisticated technologies, particularly technologies of precision guidance. It is also because ground forces deliver far more than precisely targeted firepower. They deliver maneuver, shock, and the ability to seize and hold territory—or to separate people, feed them, or deter them from fighting. Nonetheless, information technologies affect all of these capabilities and depend for their success on complex interactions between the new technologies, people, and combat structures.

New technologies have improved the precision of Army munitions, and they are increasing the precision of "dumb" warheads, by increasing the range and sen-

[12]For a brief history, see Loeb (2002, p. A37).

sitivity of sighting systems and the speed and accuracy of fire-control computers. Information technologies also promise to help the Army deliver those capabilities unique to ground forces—the ability to maneuver and "shock" adversaries, to seize and hold territory, and to control people. This will be done through improvements in what the Defense Department calls "situational awareness" and through more robust command and control. The new battlefield will involve synchronized ground attacks on enemy forces from many directions at once, known as "nonlinear" and "distributed" warfare.

Army Chief of Staff Gen. Eric K. Shinseki has laid out a vision for transforming the Army, launching in October 1999 what is formally known as "Army Transformation." He called for the creation of lightly armored units able to deploy globally very quickly. Seeking to hasten this transformation, he launched a two-track program. One involves using "off-the-shelf" armed vehicles to create interim brigades, now called the "Stryker Brigade Combat Teams" after the Stryker armored vehicle that is the mainstay of the unit. Stryker Brigades are intended to create "medium" Army units that are more mobile than current heavy divisions yet more heavily armed and survivable than light divisions. The second track is an ambitious attempt to develop a networked set of combat platforms around which it hopes to design all future forces, the so-called "Future Combat Systems" (FCS). The FCS would, through a variety of technological improvements and even breakthroughs, provide combat power nearly equivalent to today's heavy tanks in much lighter package that can be transported and sustained anywhere in the world. Recognizing the array of missions Army units were being asked to perform, General Shinseki emphasized that all transformed units would be capable of operating across the "full spectrum" of missions rather than being specialized, as are many current units.[13] The chapters that follow describe in more detail the goals of this vision and how the Army is pursuing transformation writ large.

CONCLUSION

The Bush administration's strategic goals highlight the unique role of the U.S. military in supporting U.S. interests and a stable world while creating a demanding set of requirements. From the perspective of the U.S. Army, the dramatic changes under way in both the international security environment and in emerging military technologies represent both a challenge and an opportunity. They are a challenge because the military tasks and ideas of future warfare will require changes in the Army's role in the nation's military strategy. They are an

[13]For the initial statement of the new Army Vision, see U.S. Army (1999). For a more recent update, see Shinseki (2001), which elaborates the description, scope, and goals for Army initiatives to enable the Objective Force.

opportunity because the Army nonetheless possesses a number of the critical, and indeed unique, capabilities and competencies that the United States will need to prosper in the new environment. One constant, at least, from previous eras remains: The United States needs an effective Army to protect and promote its interests.

REFERENCES

Blackwill, Robert D., and Paul Dibb, eds., *America's Asian Alliances*, Cambridge, Mass.: MIT Press, 2000.

Blank, Stephen, "Russia as Rogue Proliferator," *Orbis*, Vol. 44, No. 1, Winter 2000, pp. 91–107.

Bolton, John R., "Beyond the Axis of Evil: Additional Threats from Weapons of Mass Destruction," remarks to the Heritage Foundation, May 6, 2002, available at http://www.state.gov/t/us/rm/9962.htm.

Bush, George W., "A Period of Consequences," speech at the Citadel, South Carolina, September 23, 1999, available at http://citadel.edu/pao/addresses/pres_bush.html.

_____, "Remarks by the President at 2002 Graduation Exercise of the U.S. Military Academy West Point, New York," June 1, 2002, available at http://www.whitehouse.gov/news/releases/2002/06/20020601-3.html

Carnegie Endowment for International Peace, *An Agenda for Renewal: U.S.-Russian Relations*, Washington, D.C.: Carnegie, 2000.

Central Intelligence Agency (CIA), "Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, January 1 through June 30, 2001," January 2002, available at http://www.cia.gov/cia/publications/bian/bian_jan_2002.htm.

Department of Defense (DoD), *Quadrennial Defense Review Report*, September 30, 2001, available at http://www.defenselink.mil/pubs/qdr2001.pdf.

International Institute for Strategic Studies (IISS), *The Military Balance, 2000–2001*, London: Oxford University Press, 2000.

Khalilzad, Zalmay, David T. Orletsky, Jonathan D. Pollack, Kevin Pollpeter, Angel Rabasa, David A. Shlapak, Abram N. Shulsky, and Ashley J. Tellis, *The United States and Asia: Toward a New Strategy and Force Posture*, Santa Monica, Calif.: RAND, MR-1315-AF, 2001.

Kupchan, Charles, *The End of the American Empire: U.S. Foreign Policy and the Geopolitics of the Twenty-First Century*, New York: Knopf, 2002.

Loeb, Vernon, "Billions, and It Can't Make Change: Theorist Behind Pentagon Transformation Says Glass Is 'Not Empty,'" *Washington Post*, September 13, 2002, p. A37.

McFaul, Michael, "Getting Russia Right," *Foreign Policy*, Vol. 117, Winter 1999/2000, pp. 58–73.

The National Security Strategy of the United States of America, Office of the President, Washington, D.C., September 2002, available at http://www.whitehouse.gov/nsc.

Nunn, Sam, and Adam N. Stulberg, "The Many Faces of Modern Russia," *Foreign Affairs*, Vol. 79, No. 2, March/April 2000, pp. 45–62.

O'Hanlon, Michael, "Why China Cannot Conquer Taiwan," *International Security*, Vol. 25, No. 2, Spring 1993, pp. 51–85.

Pardo, Rafael, "Colombia's Two-Front War," *Foreign Affairs*, Vol. 79, No. 4, July/August 2000, pp. 64–74.

Rabasa, Angel, "Challenges in Latin America Confronting the Next Administration," in Frank Carlucci, Robert Hunter, and Zalmay Khalilzad, eds., *Taking Charge. Discussion Papers: A Bipartisan Report to the President-Elect on Foreign Policy and National Security/Transition 2001*, Santa Monica, Calif.: RAND, MR-1306/1-RC, 2001, pp. 137–152.

Roberts, Brad, Robert A. Manning, and Ronald N. Montaperto, "China: The Forgotten Nuclear Power," *Foreign Affairs*, Vol. 79, No. 4, July/August 2000.

Rumsfeld, Donald H., Secretary of Defense, *Annual Report to the President and the Congress*, 2002.

Shambaugh, David, "A Matter of Time: Taiwan's Eroding Military Advantage," *Washington Quarterly*, Vol. 23, No. 2, Spring 2000, pp. 119–133.

Shinseki, Gen. Eric, Chief of Staff, U.S. Army, *White Paper: Concept for the Objective Force*, November 2001.

Shlapak, David A., David T. Orletsky, and Barry A. Wilson, *Dire Strait? Military Aspects of the China-Taiwan Confrontation and Options for U.S. Policy*, Santa Monica, Calif.: RAND, MR-1217-SRF, 2000.

Swaine, Michael D., and Ashley J. Tellis, *Interpreting China's Grand Strategy: Past, Present, and Future*, Santa Monica, Calif.: RAND, MR-1121-AF, 2000.

Tellis, Ashley J., "South Asia: U.S. Policy Choices," in Frank Carlucci, Robert Hunter, and Zalmay Khalilzad, eds., *Taking Charge. Discussion Papers: A Bipartisan Report to the President-Elect on Foreign Policy and National Security/Transition 2001*, Santa Monica, Calif.: RAND, MR-1306/1-RC, 2001, pp. 99–110.

Tow, William T., *Assessing U.S. Bilateral Security Alliances in the Asia Pacific's "Southern Rim": Why the San Francisco System Endures,* Stanford, Calif.: Asia/Pacific Research Center, Stanford University, October 1999.

U.S. Army, *The Army Vision: Soldiers on Point for the Nation,* October 12, 1999.

Wohlforth, William C., "The Stability of a Unipolar World," *International Security,* Vol. 24, No. 1, Summer 1999, pp. 12–19.

World Bank, *2002 World Development Indicators CD-ROM,* Washington, D.C.: International Bank for Reconstruction and Development, 2002.

Chapter Three

THE U.S. ARMY AND THE OFFENSIVE WAR ON TERRORISM

Bruce R. Nardulli

The first and best way to secure America's homeland
is to attack the enemy where he hides and plans.

— President George W. Bush

INTRODUCTION

Shortly after the attacks on the World Trade Center and Pentagon, President Bush announced that the nation's top security priority was now a war on terrorists with global reach, their organizations, and countries sponsoring or harboring them. The immediate objective following September 11, 2001, was securing the U.S. homeland directly against any further attacks. But military planning also began in earnest for operations against al Qaeda abroad, beginning with their leadership and infrastructure in Afghanistan. From the outset, both policy statements and subsequent U.S. actions stressed the importance of taking the fight to the perpetrators—attacking, disrupting, and destroying their capacity to plan and to conduct future operations against the American homeland and U.S. interests overseas. Indeed, this emphasis on waging a sustained offensive campaign against al Qaeda and potentially other terrorist groups constitutes a key feature of the new national security strategy.

While counterterrorism has been a well-established element of U.S. policy and military operations in the past, what distinguishes the war on terrorism is the priority attached to minimize threats through concerted offensive action by the United States, including preemptive and preventive military measures.[1] The

[1]The administration uses the term "preemption" in referring to striking first against terrorist threats. Traditionally, that term connotes attacking an adversary as it is getting ready to undertake military actions, with the intent to either defeat an impending attack or blunt its consequences by getting in the first shot. Many terrorist operations would meet this definition—for example, indications that a group is moving chemical weapons or components as part of an upcoming attack. But *The National Security Strategy* also states that the United States will disrupt and destroy terrorist

Secretary of Defense has added that victory in the war "requires steady pressure on the enemy, leaving him no time to rest and nowhere to hide," and "that the United States should give no strategic pauses that would allow the enemy breathing room or time to regroup" (Rumsfeld, 2002a, p. 31). A tall order, this suggests that maintaining this constant pressure will require near-continuous operations at various levels until al Qaeda is defeated and likely beyond as other groups are targeted. The high priority and tempo assigned also indicates a size and scope of offensive campaign that is a sharp break with past counterterrorism activities, which in the case of the U.S. military traditionally has been the purview largely of its special operations forces (SOF). The emphasis that state sponsors also will be held accountable tightens the linkage between offensive efforts to combat terrorism and potential war against state adversaries.

Unquestionably, much of the offensive campaign will involve nonmilitary instruments, ranging from financial controls to intelligence collection to law enforcement. As demonstrated in Afghanistan and now in several additional countries, however, the offensive campaign will have a substantial military component. It is already clear that waging a long-term war on terrorism will entail the extensive use of American ground forces in a wide variety of missions. The challenge for all of the services, but perhaps most for the U.S. Army, is in undertaking these expanded missions in addition to the established requirements to deter, defend, and defeat various adversaries in major conflicts, as well as to continue conduct of smaller-scale contingency operations. Therefore, any evaluation of the demands of the war on terrorism and its implications for the institutional Army must take into account the complete set of Army responsibilities.

The purpose of this chapter is to identify and understand some of the longer-term implications of the war for the Army as it seeks to adjust to, and balance, this growing set of demands on the force. The focus is on the offensive military campaign abroad to combat terrorism.[2] It first examines the likely contours of the war in the years ahead. Based on those contours, it then identifies the types of demands the Army will likely encounter. While the offensive military campaign will consist of joint, and often multinational, operations, emphasis here is

organizations by taking action against "any terrorist or state sponsor of terrorism which *attempts to gain* or use weapons of mass destruction (WMD) *or their precursors*" (emphasis added). These latter categories involve attacking emerging capabilities, a much broader class of potential targets, and can better be categorized as "preventive" attacks. More than a semantic distinction, from an operational standpoint this category substantially increases the number and types of targets that could require attack *(National Security Strategy,* 2002, p. 6).

[2]Chapter Four addresses the Army's role in homeland security and will only be noted here as it pertains to overlapping demands and potential competition for Army resources for the offensive campaign.

on the demands most relevant to the Army. Last, based on these anticipated demands, the chapter identifies future challenges for the Army and makes some recommendations on possible responses.

Several policy implications relevant for the Army emerge from this assessment. First and most critical, it will be essential for national decisionmakers to determine whether the war on terrorism can be limited to select terrorist organizations and their state sponsors or is instead likely to transform—by policy or the pull of events—into a much larger war against Islamic militancy. If the former, the challenge is a difficult but relatively bounded problem. If the latter, the United States will have to gird itself for a protracted conflict involving extensive counterinsurgency and guerrilla warfare operations in many disparate parts of the world. As the service most affected, the U.S. Army would have to significantly revise its doctrine, training, and force structure to accommodate this demand at the expense of preparing for major conventional operations. Even preparations for smaller-scale contingencies would likely have to be revised to reflect this expanded prevalence of insurgencies.

A second policy issue is, over the long term, how much the United States will invest to influence or shape the general global security environment as part of the war on terrorism. Specifically, how much will the U.S. military be used for peacekeeping, stability, and security cooperation activities around the world to this end? The size and duration of this new demand will have significant implications for the Army's overseas presence, tempo, and management of its personnel.

Third, in the post–September 11 environment, how much priority will national decisionmakers give to minimizing the risk of terrorist use of weapons of mass destruction (WMD)? If eliminating terrorist WMD threats becomes a standing top national priority, including preventive and preemptive use of military action to do so, new types of joint strike forces will be necessary. The Army has several capabilities that would provide important elements of the new strike forces, but modifications in some forces would be required as well. The Army would need to explore additional combinations of capabilities providing SOF-like responsiveness with substantial ground combat power that is both mobile and protected beyond what is already in the force.

Fourth, as demonstrated in Afghanistan and likely part of any future offensive war on terrorism, the need for closer cooperation and, in some instances, operational integration of SOF and conventional forces will grow. This presents many opportunities and challenges for the U.S. Army in the years ahead, spanning training, organizational, technical, and cultural domains.

Finally, because the war on terrorism is evolving, with its forms likely to evolve as well, there is much to be said for specialization and diversity in U.S. ground

forces. The particular types of capabilities and units required for future operations will be difficult to predict with precision. Having an array of different types of forces that can be drawn on and tailored to meet unforeseen needs represents a traditional Army strength and important hedge in the new war. This suggests that, as the Army proceeds with its transformation, it must constantly examine the implications of moving toward a more universal Objective Force design. While the war on terrorism must not drive the Army's larger transformation, neither should the transformation impede or preclude the types of diverse responses required of that war.

THE LOOK OF THINGS TO COME

Elements of the Offensive War on Terrorism

As codified in the September 2001 Quadrennial Defense Review (QDR), the physical defense of the United States has been restored as the Department of Defense's primary mission (DoD, 2001b, p. 17). That mission consists first and foremost of preventing future terrorist attacks on the United States and, second, minimizing the consequences should they occur. For the Department of Defense, this involves the threefold responsibilities of supporting homeland security (including meeting the force-protection needs of U.S. military forces based in the United States), helping to influence the long-term security environment abroad to reduce the threat of global terrorism and related insurgencies, and conducting strike operations against terrorists and their assets. This last category can range from missile and air strikes to very small raids by SOF to large-scale operations, including interventions that require substantial ground forces against states sponsoring terrorism.

The military portion of the war on terrorism can therefore be viewed usefully as consisting of a corresponding set of three long-term, complementary campaigns. The greatest degree of coordination is required in the two overseas campaigns of influencing the long-term security environment and conducting strike operations. This is where counterterrorism synergies can be most realized (or counterterrorism opportunities missed). For instance, aggressive efforts to reduce instability in particular regions by extending support for foreign internal defense can both reduce the requirement for future U.S. strike operations and help identify threats requiring direct attack. Likewise, strike operations can help contribute to conditions in which larger stability and security operations become possible (e.g., Operation Enduring Freedom in Afghanistan). These twin overseas campaigns are defined here as constituting the offensive dimension of the war on terrorism.

Dealing with Unprecedented Threats and Uncertainty

The degree of uncertainty surrounding the makeup of the future war on terrorism must be acknowledged up front. All military planning and operations face uncertainties, but the level posed by this war is especially great. The war will remain an unstable and evolving enterprise, with its scope, scale, intensity, and duration all major unknowns. The passage of time is unlikely to clarify the dimensions of the war, at least in the more traditional sense of clearly identifiable adversaries, geographic scope, and "end-states." Beyond al Qaeda and its affiliates, still to be determined are which specific groups or types of threats are to be encompassed in this war and what the criteria are for inclusion on the hit list.[3] Furthermore, many of the parameters will be heavily influenced by external events, including sharp changes in direction spurred by future terrorist attacks, especially any additional mass-casualty assaults on the U.S. homeland. Similar attacks on allied or friendly countries could also force a rapid adjustment in who, and what, to go after. Likewise, compelling evidence of state involvement in any such actions could signal a dramatic shift in priorities or at least the speed with which certain state-level threats must be countered. A war against Iraq hardly meets the traditional definitions of counterterrorism. Yet eliminating the ability of the Iraqi regime to support terrorist operations, including potentially providing weapons of mass destruction to terrorist groups, certainly is part of the agenda for going to war against Baghdad. In this sense, major conventional operations can merge with the war on terrorism.

The attacks of September 11, 2001, also demonstrated how individual terrorist acts can produce strategic political-military effects, a phenomenon certainly not lost on our adversaries. The damage radiating outward from the strikes on the World Trade Center and Pentagon was economic, political, and psychological. It triggered a major military operation halfway around the world, the long-term consequences of which remain to be seen. In the space of one hour, U.S. national security priorities were profoundly altered, and with that, the way in which the United States now approaches the international landscape. Future attacks on the United States may have similar strategic effects, including a new series of U.S. military operations in unanticipated regions and under novel conditions, again on very short notice. Whatever the success of the offensive campaign and American initiatives, the United States and its military forces must remain reactive in many instances.

---

[3]Secretary Rumsfeld has noted that "in a world of international finance, communications, and transportation, even relatively isolated individuals or organizations can have global reach—and the ability to cause unprecedented destruction on innocent civilians." In such a world, categorizing and delimiting "terrorists of global reach" will prove exceedingly difficult (Rumsfeld, 2002b, p. 7 of prepared statement).

Major terrorist events also can act as a catalyst for conflict between states. The Indo-Pakistani dispute over Kashmir and the Israeli-Palestinian-Arab confrontation are leading examples, where creative use of terrorism can trigger much larger political-military explosions. This type of strategic effect can lead to direct U.S. military involvement, even if the United States is not the target. And such actions can purposely be designed to draw the United States into regions and types of conflicts the adversary considers advantageous.[4] Adding to the mix, such wrenching events as the collapse of a state possessing nuclear weapons could present powerful discontinuities and new, unanticipated levels of operational demands. In sum, the war on terrorism is littered with risks of horizontal escalation and unintended consequences. This is an unavoidable feature of the war, and the military uncertainties it injects must be appreciated.

Further elevating the degree of ambiguity and complexity will be the level of international cooperation by various coalitions and partners. As Nora Bensahel notes in Chapter Six about coalition operations, the relatively cooperative international environment the United States enjoyed immediately after the attacks will dissipate over time. Future cooperation will be heavily dependent on specific conditions, therefore highly contingent, and to a sizable degree unknowable in advance. Beyond core allies, it will be exceedingly difficult to plan for consistent support.[5] Therefore, in preparing and providing resources for its military operations in any future counterterrorism operations, the U.S. military will face considerable unpredictability in who can be relied on to provide assets and access.

Finally, any strategy to combat terrorism must be integrated into the larger framework of military commitments and responsibilities beyond the war on terrorism. How will defense planning guidance and the QDR requirements to swiftly defeat two aggressors in overlapping major conflicts, including one offensive to replace a regime, evolve? What about the level of overseas deployments in Bosnia, Kosovo, Kuwait, and the Sinai? Will deployments like these be further reduced to help offset the demands of the war on terrorism, or in fact expanded to support that war? If the United States goes to war against Iraq, how many ground forces will be necessary for what period of time to secure and stabilize the country?[6] All of these represent additional demands on the Army

---

[4]Arguably this is the most important adversary "lesson" to be derived from September 11, 2001. Using this logic, the temptation to acquire and use WMD, precisely to induce such U.S. responses, may prove irresistible.

[5]This point is recognized in Secretary Rumsfeld's frequent references to the need for many coalitions in the war and his contention that the objective should define the coalition and not the other way around.

[6]Presumably in a post-Saddam Iraq the U.S. ground force requirement for waging a major conflict in the Gulf would be relaxed though not eliminated.

and have significant implications for how stressful the war on terrorism could be in the long term for managing the force.[7]

Still, despite these challenges it is possible to discern the broad contours of the war and the likely implications this has for the Army. Briefly stated, the Army will encounter a future requiring more frequent and longer-term deployments, and a need for enhanced rapid strike capabilities against terrorist targets.[8]

Affecting the International Environment: More People in More Places for More Time

Any successful war on terrorism will involve substantial efforts to mold the international environment in ways that reduce the effectiveness of terrorist organizations. This entails creating the conditions and influence necessary to both counter al Qaeda and its affiliates and to reduce the likelihood of future groups arising, at least ones posing serious threats to U.S. interests.

The extent of these efforts to affect the larger environment will be largely driven by the nature and characterization of the threat and where in fact it falls along a spectrum of possibilities. At one end of that spectrum, the threat posed by al Qaeda and other groups with global reach may be that essentially of a terrorist menace, consisting of a sophisticated global network of cells with the ability to sustain low-level attacks while periodically striking out with complex, highly damaging acts of destruction. Operating in many countries, exploiting various aspects of modern global technology and openness, and having enough sympathizers to give them a somewhat permissive operational environment, taking down al Qaeda would be a demanding task, but one with a relatively clear and limited terrorist and group-specific focus. At the other end of the spectrum, much of the threat takes on the form of a much larger insurgency challenge. In this case, the requirements are not limited to rolling up al Qaeda resources, leaders, and cells but encompass dealing with the much broader milieu in which al Qaeda operates. Specifically, this would mean confronting the Islamist-based insurgency movements around the world that might harbor al Qaeda or share all or portions of their agenda of attacking the United States and its interests. In this second case, al Qaeda can be viewed as part of "the base"

---

[7]As a study by the Army's Strategic Studies Institute notes, despite the QDR's emphasis on homeland security and the war on terrorism "nothing has decreased the importance of the Army's other pre–September 11 missions of peacekeeping, engagement, and deterrence" (Crane, 2002, p. 1).

[8]Shortly after the attacks on September 11, the RAND Arroyo Center assembled a team to begin thinking through what a long-term global war on terrorism might look like and, based on this, what some of the principal implications of such a war might be for the U.S. Army. This chapter draws on much of that collective work.

for extensive Islamic insurgencies throughout the Arab and Islamic worlds.[9] To the extent this happens, the war on terrorism for the United States could metastasize to look much more like a widespread guerrilla war against numerous, if disparate, radical Islamic movements. Effectively countering it would require much more extensive and protracted efforts to contain or eliminate threatening *insurgency* movements, pulling the United States into many civil conflicts.[10]

The global war on terrorism, like all wars, is being waged in a larger social and political context, and it is still too early to grasp fully the dimensions of that context. Therefore it remains unclear where along this spectrum the global terrorist threat will gravitate. Regardless, the Army will find itself engaged on many fronts in a wide array of military activities aimed at long-term efforts to influence or shape conditions for the offensive war. One broad set of these activities are nested under the umbrella of what the Army calls "Stability and Support Operations." As part of this, traditional military assistance will increase, both encompassing new countries (such as Yemen) and expanding assistance to those regular recipients now of particular interest to combating terrorism. Much of this assistance may be designed to directly improve a country's ability to deal with terrorism, while other portions will be along standard military and security lines as partial compensation for their support in the war on terrorism. Army Special Operations Forces (ARSOF) elements will likely see a large and continuous portion of their time spent in training other countries' forces to combat terrorism via the Foreign Internal Defense mission. This will be especially true where terrorist targets and activities are embedded in larger insurgencies. Inserting troops to train indigenous forces frequently involves costs, time, numbers, and even casualties larger than originally anticipated. Furthermore, what first appear to be relatively small specialized training teams can quickly expand to consume such regular Army assets as engineers, medium-lift transport helicopters, and medical and logistics support and entail the need for protected base camps to defend the teams. Focusing only on the number of "trainers" sent to a given country can provide a misleading picture of the total number of people and other resources consumed. In addition,

---

[9]Of particular concern is the prospect of a much broader element of the fundamentalist Salafi movement becoming militant, of which bin Laden and his followers now represents a radical element. Identified as "one of the fastest-growing Islamic movements" with "a global reach in virtually all countries," it has the potential of serving as a major recruiting pool in the future (Wiktorowicz, 2001, pp. 18–38).

[10]Whether Osama bin Laden and al Qaeda design their operations with the explicit intent of drawing the United States into clashes with popular Islamic forces or this is simply an additional side benefit of their attacks, a key question for the future will be the extent to which al Qaeda's actions and the global war on terrorism induce these larger collisions. For persuasive arguments that bin Laden and al Qaeda are intent on using terrorism to bait the United States, and in so doing help galvanize Islamic opposition to America and "apostate" governments (e.g., Hosni Mubarak's government in Egypt, the Al Saud in Saudi Arabia), see Doran (2002) and Anonymous (2002).

ARSOF's role in helping to execute more general military security assistance programs will also likely increase, particularly in the realm of training. In sum, ensuring even ad hoc coalition cooperation for the war on terrorism will involve many quid pro quos, including requests for a wide range of military assistance and services.

More demanding is the prospect of stability operations involving the lengthy presence of significant numbers of ground forces. As part of the war on terrorism, these will be largely aimed toward "at-risk" states—states failing or already having no central government to speak of and therefore attractive as bases of operations for terrorist organizations or broader insurgencies. The United States must deal with both weak states that may well look to it for support in dealing with their own internal terrorist and insurgency problems as well as deal with "failed states" that may be totally dysfunctional and incapable of any serious central governance. Both problems took on a different meaning and priority following the attacks on the United States. Formerly viewed primarily in terms of human suffering and regional instability that could result from state collapse, now is the added dimension of such states serving as future Afghanistan-like bases for terrorists and their infrastructures.

Though policymakers may well recognize that "failed state" conditions are not amenable to military solutions, the military will likely get pulled in as part of the stopgap effort to buy time while larger political, economic, and social changes are undertaken. The candidate list of countries falling into these categories is long. What changed since September 11 is the potential direct consequences to the United States of allowing various states to unravel. Whether the task is "nation building" or something considerably less ambitious, the prospect is for U.S. military activity, and specifically Army involvement, in countries and regions previously of little or no strategic significance to the United States. Where such countries possess either infrastructure conducive to WMD or the weapons themselves, this adds to the pressure for such involvement to ensure containment and seizure or destruction of these lethal capabilities. "Benign neglect" can now have serious attendant consequences.

In the case of Afghanistan, the administration has made explicit its goal to not only root out al Qaeda but also "to insure that that country does not, again, become a terrorist training ground" (Rumsfeld, 2002b, p. 5 of prepared statement). U.S. Central Command's Combatant Commander Gen. Tommy Franks has indicated that achieving this will likely require the presence of some U.S. troops in Afghanistan for years to come (*Washington Post*, 2001, p. A18). While the capabilities of terrorists in the future are unlikely to resemble the Afghanistan model, operations there do indicate the scale and duration involved in

rooting out terrorists and their infrastructure and in preventing their reemergence.[11]

Operations in Afghanistan also revealed the limitations of depending on proxies for meeting key objectives. Political and military reasons not to introduce large U.S. ground forces into the fight were convincing, but relying heavily on friendly Afghan forces, first to defeat the Taliban and then to run down al Qaeda's remnants, came at a price. Significant numbers of al Qaeda were able to escape, particularly in Tora Bora. Had American blocking forces been used to cover potential escape routes, this might have substantially reduced the number of those slipping the noose. U.S. ground force participation in Operation Anaconda was the exception that proved the rule. Rooting out determined al Qaeda resistance required U.S. forces to do much of the fighting, directly on the ground. This has important implications for other contingencies where strong incentives would exist to again rely on indigenous forces, not only in Central Asia but in Southwest Asia and Africa as well.[12]

Stability operations could draw substantial ground forces into regular rotational deployments for multiple years. Such rotational deployments became a regular staple for the Army of the 1990s, with Army forces committed for extended periods in peacekeeping operations in Bosnia (SFOR) and Kosovo (KFOR), commitments that continue to this day. As of mid-2002, the United States had about 2,000 troops stationed in Bosnia and another 5,000 in Kosovo. Even if further scaled back, these troops are unlikely to be withdrawn, in part to ensure that these zones of instability do not become future terrorist breeding grounds or sanctuaries.[13] Added to this is the prospect that as part of the war on terrorism, U.S. Army forces will also face humanitarian assistance responsibilities, as they so often have in the past.

Finally, if the United States goes to war with Iraq and brings down Saddam Hussein, it will likely face an extended postwar stability operation to hold the country together and provide the conditions necessary for the emergence of a

---

[11]Pakistan's tribal areas along the northwestern frontier with Afghanistan remain a porous and treacherous zone of Islamic militancy, with the border area a continuing focus of U.S. military operations.

[12]This is not to dismiss the very substantial political and operational military challenges in using significant numbers of U.S. ground forces to better cordon areas and intercept escaping Taliban and al Qaeda members. But using this alternative has consequences that decisionmakers may want to avoid in future high-stakes operations. For thoughtful critiques of this aspect of U.S. operations in Afghanistan, see O'Hanlon (2002) and Biddle (2002).

[13]The Director of Central Intelligence has noted that Islamic extremists still find favor within sectors of the Muslim community in Bosnia, where some mujahedin still remain from the Bosnian wars. This presence, when combined with other sources of instability throughout the Balkans, highlights the risks associated with a departure of U.S. forces. See Tenet (2002, p. 24 of prepared statement).

sustainable replacement for the Ba'ath regime. This could involve the long-term presence of substantial U.S. ground forces. The number, type, and duration of American ground forces required would depend on many factors, not least of which is how the war is actually fought. Some early public estimates, however, suggest the level of what might be entailed. The Army's Center of Military History estimated a force of 100,000 peacekeepers might be required for post-hostility occupation, a significant portion of which would likely be U.S. forces. A joint project of the Center for Strategic and International Studies (CSIS) and the Association of the United States Army (AUSA) estimated that a postconflict security force would require 75,000 U.S. personnel, including two divisions, two cavalry regiments, and an entire SOF Group for at least a year.

A variety of logistical support would also be necessary, both to sustain this force and to provide needed resources for reconstruction, especially in the early phases when outside nongovernmental assets may be constrained. In an estimate of the potential cost of an occupation, the Congressional Budget Office (CBO) used 75,000–200,000 occupying troops as its scale, the latter number based on a U.S. Central Command plan.[14] Historical experiences in stability operations reveal a range of force requirements sized to population and prevailing internal conditions. Since World War II, force ratios from one soldier per thousand of population to 20 soldiers per thousand have occurred (Quinlivan, 1995–1996, pp. 59–69).[15] Iraq's population is about 23 million, which indicates the potential scale of demand. While much of the required force will be straight-leg infantry, both the war itself and the subsequent stability operations would also be major consumers of specialized capabilities—for example, chemical-biological detection and mitigation teams (required well into the postconflict phase), civil affairs personnel, and military police. The war could break in innumerable ways to increase these totals, such as protracted hostilities among the population or the potential for widespread environmental damage from Iraq's use of WMD or destruction of its oil facilities.[16]

---

[14]For the Army Center of Military History estimates, see *Inside the Army* (2002). CSIS/AUSA estimates are in Feil (2002, p. 5 of prepared statement). CBO estimates are in CBO (2002, p. 5).

[15]Quinlivan (1995–1996) provides an excellent summary of historical demands, the factors involved in determining requirements, and the potential magnitude of stability operations in countries with large, increasingly urbanized populations.

[16]Aside from long-term stabilization, even a relatively swift military victory in Iraq would likely impose substantial demands on U.S. ground forces. Iraq's biological, chemical, and nuclear capabilities would have to be located and secured to ensure that they did not fall into hostile hands. One of the more disturbing scenarios stemming from a regime takedown in Iraq is one in which Saddam seeks to flush as much of his WMD capability as possible out of the country and into the hand's of various terrorist groups in response to a U.S.-led attack. This "revenge from the grave" could produce a situation even more threatening than actual use of such weapons during the conflict. U.S. ground forces would largely be responsible for preventing such an outcome. Given the stakes involved, with the exception of assistance from key allies, this mission could not be done by others and alone could require substantial U.S. ground forces.

Looked at in aggregate, these many prospects for peacekeeping and stability operations strongly indicate that the Army will face much higher demand for frequent and longer-term deployments as a result of the war on terrorism. As discussed later in this chapter, these repetitive deployments will pose major challenges for managing the deployment tempo and personnel tempo across both the Active Component and Reserve Component. These repetitive deployments will also further exacerbate the Army's existing shortfall of so-called low-density/high-demand (LD/HD) specialties. Counted among the high demand assets for the offensive war on terrorism will be special operations aviation, chem-bio detection and mitigation teams, civil affairs, and psychological operations specialties. Military intelligence units, including linguists, will also be in constant demand to cover increasingly diverse parts of the world in the search for terrorist cells and their elusive supporting infrastructures. And, as the Iraq case shows, many of these same assets will be requested by regional combatant commanders for missions falling outside the war on terrorism, to include major combat operations (MCOs).

Enhancing Rapid Strike Capabilities: The Need for New Combinations of Combat Power and High Responsiveness

In the years ahead, the U.S. military will face demands to substantially improve its ability to conduct rapid strike operations against a range of terrorist targets. The United States always reserved the right to strike terrorists to disrupt or prevent their actions and maintains a range of capabilities to do just that. But since September 11, the importance attached to these types of operations has been greatly elevated. This is especially true in instances of terrorist involvement with WMD. In these cases, a clear policy emphasis has been placed on the need for preventive and preemptive actions, against both terrorists and their state sponsors.[17]

Maintaining a posture for sustained offensive military strikes is likely to prove very resource-intensive. This will be true even though the actual number of strikes conducted and adversaries killed or captured may be relatively small. Terrorism experts frequently note the defensive challenge posed by such groups—it is impossible to protect all potential targets from their attacks, while hardening even only obvious candidates can require vast investment. This reality is one way terrorists seek to gain leverage when attacking a much stronger adversary. A similar quandary also exists for the United States on the offensive side of the ledger. Effectively tracking and targeting all potentially lethal al Qaeda cells, infrastructure, and leadership cadres abroad far exceeds available

---

[17]In addition to *National Security Strategy* (2002), see *National Strategy to Combat Weapons of Mass Destruction* (2002).

resources. In the case of the military, even when limited geographic areas are identified as chronic terrorist havens, substantial U.S. forces may have to be forward-positioned and sustained to provide the necessary "on call" takedown capabilities. One consequence of this is the protracted "dwell time" such forces may face in remote areas, with the vast majority of that time not involving actual strikes against terrorist targets. This use of time, equipment, personnel, and energy comes at the cost of other activities. As candidate targets proliferate in number and geographic scope, even a relatively circumscribed offensive war could eat up significant combat and support assets. To the degree these involve specialized units in short supply, the problem becomes even more severe.

The U.S. military presence in Djibouti is a useful illustration. As part of the war on terrorism, U.S. troops now occupy Camp Lemonier, a previously abandoned encampment in this remote enclave on the Horn of Africa. As of early January 2003, 900 American servicemen were deployed there (mostly Marines), including SOF elements, with another 400 personnel offshore. Formed into the Combined Joint Task Force (CJTF)–Horn of Africa, they are positioned primarily to wage war on al Qaeda elements and their supporters in Yemen, Somalia, Kenya, Sudan, Ethiopia, Eritrea, and Djibouti. The number of adversaries operating in the adjoining areas is difficult to assess, and even small numbers will likely take a long time to track down. As in Afghanistan, the expectation is that the U.S. presence will be on the Horn for several years, with most personnel rotating on 180-day tours. Without discounting the deterrent and disruptive roles against terrorists the CJTF plays through its daily presence, this is an example of the types of manpower and other resource trades inherent in the offensive war on terrorism involving U.S. forces (Garamone, 2002a; Garamone, 2002b; Stattler, 2003).

Beyond resources, the preemptive and preventive emphasis has also sparked broader controversy and raised questions about its real policy viability—and by extension, the degree to which new capabilities are in fact required. Thoughtful critiques of the preventive and preemptive approaches identify many problems, concluding that the use of these in practice will remain rare.[18] In the case of state actors, the administration itself has made it clear that the use of military force in this manner is one option among many and that traditional nonmilitary instruments (treaties, sanctions, diplomacy, etc.) remain very much a part of the overall strategy to combat WMD proliferation.

That said, there are solid reasons to believe that the use of preventive and preemptive military options against terrorist organizations will be much more prevalent in the future. First, many of the problems identified with preventive

[18]For one such critique, see Litwak (2002–2003).

and preemptive strikes are associated with actions against states. Political and legal concerns, as well as the scale of risk involved in a state context, may well act as powerful brakes on the use of these options (Litwak, 2002–2003). In the case of nonstate terrorist organizations, however, the number of impediments to U.S. preventive and preemptive strikes is substantially less, especially if the targets can be clearly identified as being involved in WMD-related activities or other mass-casualty endeavors. While far from risk-free, either politically or operationally, the degree of associated risk is very different from that assumed in going after a state actor.

Second, given the degree of difficulty in getting both the demanding intelligence and force positioning necessary to counter an unfolding WMD terrorist operation (all of which might have to occur under very severe time constraints), more emphasis will likely be placed on preventive strikes as targets and evidence present themselves. The severity of the threat posed by WMD attacks, combined with the difficulty of preemptive strikes against discrete terrorist WMD operations once under way, could well combine to make preventive strikes the preferred choice from among all unattractive alternatives.

Third, the calculus of risk changed after September 11, 2001, and will change further still in the event of a substantial mass-destruction attack, especially one involving the use of chemical, biological, or nuclear materials. The risks of *not* striking preemptively could very likely eclipse the downsides of conducting such operations.

In sum, seizing or neutralizing chemical, biological, nuclear, radiological, and other potential mass casualty–producing weapons and materials clearly will be a very high priority for the foreseeable future, as will attacks on key leadership cadres. National decisionmakers will demand that the U.S. military provide a strike capability against such high-value targets anywhere in the world on short notice with high confidence of success. And while there is always the challenge of having enough "actionable intelligence" to permit military strikes of this sort, there are enough compelling reasons to justify additional military preparations for such operations. To the extent both policy preferences and intelligence come together in this domain, many such missions will fall within the Direct Action capabilities of existing SOF, Rangers, light infantry, and Marine units.[19] But an important issue for the future is the extent to which terrorists, understanding their now heightened profile and vulnerability, might adapt in ways that deny or greatly restrict rapid U.S. military options against them and what this implies for future U.S. strike capabilities.

[19]Direct Action is defined as "short-duration strikes and other small-scale offensive actions by special operations forces or special operations–capable units to seize, destroy, capture, recover, or inflict damage on designated personnel or material" (DoD, 2001a, pp. 130–131).

How might terrorists adapt to the growing threat of rapid strike? While concealment and blending into societies is the method preferred by terrorist groups to avoid being identified and targeted, sometimes this will not be an option. Training camps and facilities of various sorts will still be required for certain types and caliber of operations. Furthermore, to the extent governments successfully crack down on groups in their midst, there may be a growing need for sanctuaries remote from such constant pressure, especially for building the cadres necessary for orchestrating long-term, sustained operations. Afghanistan of course served these critical functions for al Qaeda. To the extent groups pursue WMD capabilities in the future, there may be clear advantages to developing and storing such high-value assets in remote areas. In many cases, the groups may already be operating in such areas as part of a larger insurgency, which might offer the most secure environment possible. Under these circumstances, hardening their locations will be as important as concealment.

Early efforts to go after Osama bin Laden and al Qaeda in Afghanistan demonstrated aspects of this challenge. According to two members of the Clinton administration's National Security Council, attempts to attack bin Laden and his training camps in Afghanistan ran not only into intelligence limitations but operational military ones as well. The White House sought out military options beyond cruise missile strikes, which were viewed as too unresponsive and inflexible. Inserting troops on the ground in the form of raids was the other principal option explored. The leading DoD proposals called for fairly large numbers of forces in recognition of the risks involved. These types of major deployments suffered from several downsides. They required staging areas, would likely result in loss of surprise, and were not considered politically viable. Consequently, they were rejected. Smaller special forces operations were also explored, but in part turned down out of concerns over another failure like Desert One in Iran in 1980. The need for force protection was a major concern in all of the options, necessitating either deploying a large force or accepting much higher risk to a smaller strike team—neither alternative attractive (Benjamin and Simon, 2002, pp. 294–296, 318–320; Gellman, 2001; Elliott, 2002).

More-recent operations in Afghanistan revealed the difficulties that small units can run into when confronting sizable numbers of well-entrenched guerrilla forces. These problems were encountered when the United States had a substantial military capability in Afghanistan, including bases relatively close by. The proximity of these bases allowed for a quick recovery in the face of unexpected resistance. As reflected in the previous experience of the Clinton administration, other more demanding contingencies will very likely arise in which the U.S. military will be required to take down remote targets in the absence of a prepared—or with a minimally prepared—area of operations. Such targets may also prove to be time-urgent in the sense that intelligence reveals espe-

cially high-payoff assets (the transitory presence of key operatives or leadership cadres) or especially threatening activities (the confirmed presence of weaponized chemical or biological materials that may soon migrate elsewhere).

During the past several years, all of the services have worried about the challenges of antiaccess and area denial, widely regarded as key ways in which future adversaries will seek to undermine U.S. conventional military dominance. Projecting and sustaining power in distant antiaccess and area-denial environments is now one of DoD's key operational goals of the military transformation. Likewise, so too is the ability to "Deny enemies sanctuary by developing capabilities for persistent surveillance, tracking, and rapid engagement," including "the ability to insert special operations and other maneuver forces into denied areas" (Rumsfeld, 2002a, p. 3). These antiaccess and area-denial concerns have largely been restricted to scenarios involving sizable conventional military operations against state adversaries.

Terrorists might adopt a parallel strategy as well. Understanding that they are now at much greater risk for attack, the groups have a powerful incentive to use their own forms of antiaccess and area-denial strategies to greatly complicate U.S. military operations against them, even if found. Such an approach could have several dimensions, or "layers." The first layer of such an approach would be to locate in areas sufficiently remote and inaccessible to make any projection of U.S. military force logistically demanding. Having that location surrounded by countries uncooperative with the United States could be an added feature. A second layer would be for terrorists to deny the U.S. military the prospect of eliminating the threat by air or missile strikes alone. By doing so through concealment, dispersion, intermingling with civilian infrastructure, hardening, or other techniques, the terrorists would rob the United States of its most rapidly responsive and arguably least politically demanding military option. More important, by eliminating this option, the terrorists raise the power projection bar to a significantly higher level, requiring the insertion of troops on the ground. The third layer, though far more difficult, would be to present a sufficiently demanding array of defenses and targets exceeding the ability of Special Forces, even when augmented by conventional light forces, to eliminate the threat. The "asymmetric" strategy would be to drive the rapid-reaction force requirement up as high as possible and to deny any prospect of a "cheap" victory against even a located target. In so doing, all of the other political and military costs of undertaking such an operation will add to the rapid power projection challenge, not least of which will be heightened risk to the force.[20]

[20]In a conventional military context, Andrew Krepinevich (2002, p. 8 of prepared statement) refers to antiaccess and area denial as "cost-imposing strategies." This is an especially useful term in the counterterrorism context.

When considering the future of rapid strike operations against the full range of terrorist targets, U.S. military planners must assume that adversary adaptations will include uniquely suited forms of antiaccess and area denial. These adaptations, together with the demand by senior policymakers to have viable military options against such targets, suggest that new combinations of combat power and high responsiveness may be necessary to deal with such contingencies.

WHAT DOES IT MEAN FOR THE U.S. ARMY?

The Army faces two broad classes of challenges posed by the offensive war on terrorism. First, the Army needs to explore options to address the implications of undertaking increased long-term commitments: likely increases in tempo, strains on LD/HD specialties and units, and expanded overseas support requirements. Second, in support of the larger joint forces for counterterrorism, the Army must focus on how best to enhance Army special and light force capabilities and on expanding expeditionary capabilities in the light-medium regime to help address new classes of potential targets. The Army must undertake these efforts while simultaneously maintaining its readiness to fight major regional wars and transforming itself for future warfare.

Managing Expanding/Repetitive Deployments

The number of Army soldiers on temporary overseas deployments rose rapidly in the mid-1990s. The peak of nearly 30,000 was reached during the entry to Bosnia in early 1996, hovered between 15,000 and 20,000 over the next several years, and was down to about 12,000 just prior to operations in Afghanistan. These "temporary" deployments were accomplished through rotations using both Active Component and Reserve Component forces. The war on terrorism has already added an Active Force rotational assignment in Afghanistan. The 10th Mountain Division (Light Infantry), the 101st Airborne (Air Assault), and most recently the 82nd Airborne have all had a brigade rotation there. It is likely Afghanistan will continue to tie down a light infantry brigade for the foreseeable future as units still search for al Qaeda remnants that include operations along the porous Afghan-Pakistani border.[21]

Estimating the potential impact of the war on terrorism on the Army's deployment and personnel tempos first requires a basic accounting of available forces. As shown in Figure 3.1, the Active Component force consists of 32 maneuver brigades. Each brigade contains roughly 3,000 to 4,000 troops, depending on

[21]Many of these efforts are aimed at finding arms caches through house-to-house, village-by-village searches, which can easily consume hundreds of soldiers for extended periods, even in relatively permissive environments. See Zucchino (2002).

brigade type and level of augmentation by higher echelons. Nine of these brigades are stationed outside the continental United States: two brigades in Hawaii; one brigade in Alaska; four brigades in Europe; and two brigades in Korea. The remaining 23 Active Component maneuver brigades are in the continental United States (CONUS), of which two are planned to be involved in transformation activities at any time and therefore unavailable. In wartime, all 32 brigades would be available to meet requirements. During peacetime, rotations for additional overseas deployments (e.g., SFOR, KFOR, Afghanistan, Kuwait) draw heavily on the 21 active brigades that are not transforming in the United States, minus those kept as "ready" for immediate deployment: the Division Ready Brigades of the 82nd Airborne Division and 101st Airborne Division (Air Assault). In addition, the Army forces stationed in Europe are available for deployments, as has been the case in the Balkans. Furthermore, in the case of peacekeeping operations, Reserve Component brigades have been drawn on as well.

Each of the services has so far decided to adhere to peacetime practices as much as possible to manage force requirements for the war on terrorism. Given the anticipated long-term nature of the war, this adherence will likely continue. Adopting wartime personnel management policies and large reserve call-ups

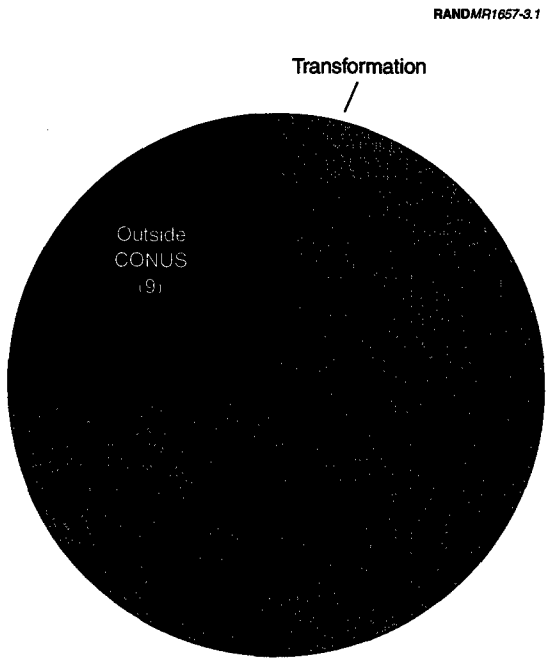


Figure 3.1—Active Component Maneuver Brigades

for what could be a decades-long undertaking is infeasible and, except in extreme scenarios, unnecessary. If continued, this practice will have major implications in the years ahead for how much stress could be placed on the force. Under peacetime goals, the total number of active uniformed personnel available for deployment is significantly less than the number of total active personnel in the force. This stems from a number of policies to manage personnel in peacetime in ways that both maintain warfighting readiness for major combat operations and that seek to maintain quality of life for soldiers, all while reducing the total turbulence on the Active Component and Reserve Components. These peacetime personnel practices include efforts to avoid deploying soldiers who cannot be in-country for a designated period of time (typically at least 90 days) because of other peacetime claims on their time and quality of life factors. In addition, for those soldiers facing a pending Permanent Change of Station (PCS) or an End of Term of Service (ETS), the goal is to return them to their home station at least 45 days prior to their PCS/ETS. Also, to ensure quality of life and equity across the force, those on unaccompanied deployments may receive a month of stabilization from overseas deployment for each month they are deployed. Although these stabilization goals are not always observed in full, their total effect is to take what is an approximately 4 percent wartime nondeployment personnel rate and raise it to a nondeployable rate as high as 40 percent (Orvis, 2002). This cuts across the force and reduces substantially the number of brigades readily available for deployment.

The Army sometimes does not observe peacetime stabilization goals in full, deploying soldiers covered by the goals and hence reducing quality of life. The Army personnel system also adapts in other ways to supply units for deployment. Among the techniques is to reduce the number of "nondeployable" soldiers in a given unit or installation designated for an upcoming deployment. This involves "fencing" soldiers for that upcoming deployment who otherwise would move to different units for their career progression or to meet other Army needs. Another technique is to strip out and replace the soldiers close to a PCS with personnel from other units that meet deployability standards. However, these actions in turn can lower the readiness levels of those other units. Furthermore, the "fenced" soldiers are now unavailable for other deployments, reducing the remaining available rotation base (Orvis, 2002). The war on terrorism also does not lend itself to predictable patterns. Rather, it can trigger unanticipated and fairly rapid deployments that do not provide the personnel system with sufficient lead times to reduce nondeployable rates in designated units or installations tagged with the deployment. Consequently, if the war on terrorism results in substantial additional temporary rotations, especially if coupled with an extended postconflict presence in Iraq, then the number of Active Component brigades available to support the rotation base could shrink dramatically. Although some relief can be provided by drawing more heavily on

the Reserve Components, as is now the case in the Balkans, for many of the contingencies hostile conditions will necessitate use of active forces, at least until the situation is stabilized.[22]

The size of the available rotation base is also directly linked to the Army's requirement to maintain the readiness of its forces for fighting regional wars. One measure in assessing such readiness is whether brigades have sufficient time in the United States with stable personnel to prepare for a Combat Training Center rotation to maintain these warfighting skills. This includes time required for progressive collective training exercises at home station.

Figure 3.2 provides an example of how striking the impact of rotational deployments on brigade-level combat training can be. This figure includes only the 21 nontransforming Active Component brigades available in CONUS. The metric for readiness is a six-month stable lead time for Combat Training Center training (y-axis). The lines illustrate how quickly brigade-level deployments affect the percentage of remaining CONUS-based brigades that can meet the

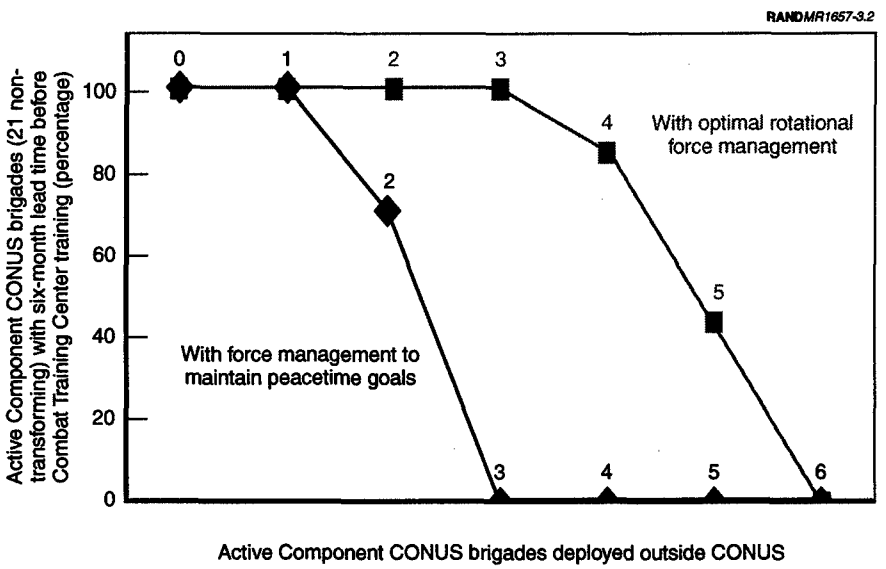


Figure 3.2—Keeping More Than Two to Four Active Component CONUS Brigades Deployed Overseas Harms MCO Training

[22]In the case of a post-hostilities occupation of Iraq, for example, National Guard divisions bolstered by some Active Component Army forces could be used to replace regular maneuver brigades. This would free those brigades for recovery and availability for future combat missions. The speed and forms of this transition would of course depend heavily on developments both in Iraq and in neighboring countries.

six-month lead time (x-axis). The first line assumes that peacetime personnel policies are enforced. The second line is based on modified policies that include planning specific rotations far enough in advance to allow the personnel system to avoid assigning to those units soldiers who are temporarily stabilized (i.e., aligning PCS and ETS dates in the unit enough to allow the entire unit to deploy without personnel turnover) or rotating units overseas even with personnel close to PCS or ETS dates, requiring those personnel to return to CONUS in the middle of a rotation for their PCS or ETS. As shown, even a relatively small number of brigade-level deployments can very quickly draw down the percentage of remaining brigades that can meet the six-month criterion, even when adopting optimal rotation force management policies.[23]

Certainly relaxing the six-month lead time reduces the impact, as does including additional Active Component brigades from outside CONUS in the rotation base, along with selective use of Reserve Component units. This illustrates the magnitude of the effects that can cascade across the force when adding even relatively small numbers of temporary deployments. The reasons behind these large effects are complex. Much is driven by the cycle of needing three brigades to meet the single-brigade deployment for commitments of any significant duration. Assuming a six-month deployment for any given brigade, this means an additional two brigades are directly affected (one preparing for the next six-month deployment to relieve the deployed brigade, and one brigade recovering from its six-month deployment). In addition, filling out units scheduled for deployment to ensure they have the required number of deployable soldiers often involves reaching into still other brigades serving as a pool for these soldiers. This in turn can erode the ability of these brigades to meet their stated training goals. As a result of these and other factors, repetitive rotations of extended duration can have very large impacts on both readiness and soldier quality of life.[24]

Among possible responses, as noted, the Army could adopt more rotational force management polices to better distribute "nondeployables" in the force. Throughout the 1990s, the Army also employed a variety of techniques to ease the burden, including using Reserve Component forces, adjusting assignment policy, and drawing on allies and private contractors. Assuming existing readiness requirements and peacetime personnel practices continue, repetitive deployments stemming from the war on terrorism will again tax the existing

---

[23]This assessment is based on work done in the Manpower and Training Program of RAND's Arroyo Center, specifically research by Charles Goldman. I also benefited from the insights of RAND colleague Frances Lussier.

[24]For an assessment of why even relatively small deployments induce considerable effects in the larger force well beyond the deploying units, see Polich, Orvis, and Hix (2000); Orvis (2002); and Sortor and Polich (2001).

rotation base and the Army's deployment tempo. How much it does so will depend heavily on the deployment demand, but several of the envisioned possibilities could consume the equivalent of multiple brigades. A postwar stability operation in Iraq could well make far greater claims. The Army will need to explore options for expanding the rotation base, including drawing more heavily on active overseas forces and Reserve Component brigades and further modifying peacetime personnel policies. Only additional experience and experimentation will determine how far peacetime practices can be modified without undermining necessary readiness and quality of life in ways that hurt retention and recruitment.

From the standpoint of the Army's transformation, the entry of the wheeled Stryker Brigade Combat Teams (SBCTs) into the operational force beginning in FY 2003 could provide some opportunities as well. The Army plan is to field six Stryker Brigades over the next six years, with the first brigade to be combat-ready in May 2003. The number of brigades is driven by defense planning guidance for conventional combat operations, not for the war on terrorism. Yet while primarily designed for combat operations in smaller-scale contingencies, the Stryker Brigades have many characteristics that make them attractive units for stability operations, whether conducted in permissive or hostile environments. Drawing on experiences of the past decade in Africa, the Balkans, and Afghanistan, it would be useful to examine in detail how the SBCT could best be utilized in stability and peacekeeping operations, including reducing the total number of troops required by leveraging the improved information, mobility, and added organic protection embedded in the brigades. Given that stability and peacekeeping operations are inherently manpower-intensive, the returns from advanced technology may prove quite limited. But the proposition needs testing.

One further option for alleviating some of the demand on the rotation base is to designate some portion of the SBCTs as having stability-peacekeeping operations as their primary mission. The corollary would be that these units would not be required to meet the same level of combined-arms combat skill as would those units expected to be ready to immediately conduct conventional combat operations. A variant of this would be to designate any SBCTs residing in the National Guard (currently one brigade is to be assigned to the 28th Infantry Division of the Pennsylvania Army National Guard) to have stability-peacekeeping operations as their principal responsibility and train accordingly.

Rotational deployments also exacerbate the shortage of LD/HD specialized skills because the deployments compete for these same assets with major theater war preparations. Certain categories of specialization may be further taxed because of homeland security responsibilities. The new homeland security structure is designed in part to see that nonmilitary assets are available for

many such missions and to dedicate certain Reserve Component Army capabilities for these missions, such as the WMD Civil Support Teams. These efforts should minimize the tension between homeland security and overseas demands for these limited assets. As Chapter Four shows, plausible contingencies exist where homeland security demands could be so high that they will compete with the broad range of overseas needs of regional combatant commanders. Therefore, the Army will need to alleviate these pressures, perhaps by expanding those trained in more than one specialty, modifying the skill mix of the active force (e.g., trading some maneuver units to fill specialized skill slots), or seeking an end-strength increase in the number of active soldiers in specialized skill areas. A prerequisite to this will be a solid understanding of how severe the LD/HD problem is today. This baseline, combined with assessments of how various futures could alter demands, will allow for systematic estimates of shortfalls imposed by the war on terrorism. Understanding the scale of any shortfall is necessary to determining which options best address the problem.[25]

Modifying Tools in the Offensive Strike Arsenal

The Army will face three classes of potential demands when it comes to offensive strike requirements for the war on terrorism: one for existing SOF Direct Action capabilities; another for coordination and closer training of SOF and conventional light forces; and a third for modified capabilities providing Special Forces–like responsiveness but with combat power, mobility, and protection not found in the existing Special Forces or light force arsenal.

As to the first, the Army can enhance its special operations capability by increasing the amount of structure devoted to it. This increase would not necessarily involve large numbers and could focus on such specific high-demand assets and skills as special operations aviation.[26] The Army could also expand the special operations training of its ranger and light infantry units in selected

---

[25]In a war with Iraq, the Army will face a very demanding LD/HD case: supplying the needs of the regional commander for the war itself; the subsequent need in Iraq for specialized skills as part of the post-hostilities stabilization; additional demands imposed by heightened homeland security and force-protection requirements across the globe for at least the duration of the war; and the need for LD/HD assets to support whatever other priorities exist for the ongoing war on terrorism. Furthermore, the Iraqi crisis illustrates the larger problem of simultaneous contingencies. Against the backdrop of September 11, the armed forces have to posture as though terrorist attacks are much more likely against its installations and deployment infrastructure in CONUS, especially once the war begins. This will be a necessary measure even if no additional intelligence or other warnings suggest a heightened likelihood of attack. The need is based on an "existential threat" of attack. Unlike the Gulf War of 1991, when such threats to the homeland were not considered high, in the event of a war with Iraq, government officials reportedly expect the threat to be elevated to its highest level since September 11, 2001 (Shanker, 2003, p. 1).

[26]The Army's recently released *Transformation Roadmap* (U.S. Army, 2002, p. C-5) states that "SOF modernization is among its highest equipping priorities."

areas to reduce the burden on its SOF. For example, the Army might consider creating division ready brigades that are special operations capable, whereby subelements of rotational division ready brigades might receive additional training in select special forces missions, such as special reconnaissance or cordon and search. In some cases, these light forces could assume some portions of SOF responsibilities and, in the process, reduce the requirement to expand SOF capabilities, which can take considerable time to grow. The principle is to increase the use of light forces through cross-training in select SOF mission areas to provide a larger trained pool for such missions.

Responding to the niche requirement for enhanced combinations of responsiveness and combat capability will necessitate more significant changes. Though filling that niche would likely affect only a relatively small portion of the total Army force structure, it would entail significant modifications for the units involved. Figure 3.3 depicts the trade-offs between length of time to deploy combat forces and combat power delivered. It is used here to illustrate where the gaps in current coverage may be. The larger horizontal cone captures the spectrum of traditional operations that the U.S. Army routinely engages in and for which it is well designed. At the lower end would be strikes and raids conducted by current SOF and light forces. These forces are very responsive but have limited firepower, force protection, and protected mobility. At the upper

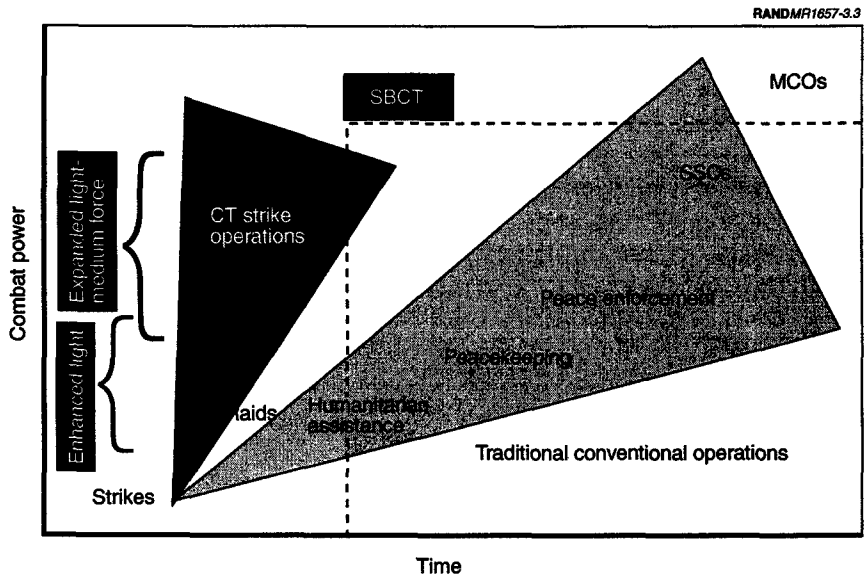


Figure 3.3—War on Terrorism Requires New Combinations of Combat Power and Responsiveness

end of this same cone are missions conducted by heavy maneuver combat brigades and divisions. Tremendous combat power resides in these forces but at the expense of their responsiveness and need for substantial logistics support. In the middle of the cone are a variety of missions requiring various mixes of existing Army capabilities. Also shown in the figure is the coverage provided by the SBCTs, providing combat power and mobility well above that of light forces and with responsiveness much greater than that of heavier maneuver brigades. The dotted line depicts the broad portion of the operational spectrum that these brigades are designed to cover. As mentioned earlier, as full brigades, these SBCTs could prove especially useful for stability and peacekeeping operations.

The emerging challenge for the Army resides in the left-hand cone, labeled "counterterrorism strike operations." This denotes that zone in which a need arises for both very high responsiveness and substantial combat power. Viewed in terms of achieving this balance, some of these operations are likely to require greater combat power in shorter response times than can be found within existing Army units.

This "niche" can be usefully divided into a high end and a low end. At the low end of the niche ("enhanced light"), the Army could address the requirement by enhancing Army Special Forces force structure or end strength, improving interoperability between SOF and light forces, and perhaps expanding limited special operations skill sets to select light units. This would allow these light force elements to work more closely with and complement ARSOF elements during overseas counterterrorism operations.[27] The principle here is that light forces and SOF would work very closely and in a more integrated fashion to create new force elements or rapidly tailorable force packages that could yield more potent and flexible strike capabilities. The emphasis is on producing a qualitatively different capability, and not only on finding ways to use cross-trained light forces to reduce the workload on special operators.

The upper end of the niche ("expanded light-medium force") presents a more formidable force structure, unit organization, doctrinal, and training challenge. The Stryker Brigades themselves could address part of this class of targets, but for many missions the full brigade will take too long to deploy to meet potential strike timelines. As a full brigade, it would also bring more combat power and mass than necessary or desirable for the majority of these joint missions, especially if conducted in austere environments with very limited infrastructure for

[27]ARSOF elements routinely work with light forces rotating through the Joint Readiness Training Center at Fort Polk, La. This contributes to coordination and working through issues of interoperability between these forces, but the demands of the war on terrorism will likely push the need for much more regular and seamless operations.

arriving aircraft. On the other hand, Army special forces and light units, while very rapidly deployable, may lack the combat power and protected mobility to cope with the type of hardened, dispersed, and well-defended targets envisioned. The result is a potential shortfall in Army capabilities.[28]

The Army could address this requirement in various creative ways by drawing on existing forces and elements of its ongoing transformation. One approach would be to explore how components of the Stryker Brigade could be used as the basis for a light-medium strike force. The brigades contain many embedded capabilities that present interesting possibilities at smaller-than-brigade levels. These could be integrated with SOF, Army aviation units, and Air Force assets to produce force packages providing the combat power, protection, tactical and operational mobility, and, critically, the strategic speed demanded by the class of targets.

What are some of the specific capabilities of the Stryker Brigades that would be most applicable to filling the upper end of the niche?[29] The 19-ton wheeled interim armored vehicle serves as the brigades' primary mobility and combat platform. It could provide a level of operational and tactical mobility, as well as protection and mounted firepower that might be the basis for a light-medium deep-strike force in battalion- or company-sized packages. For many missions, the possession of protected tactical mobility in austere areas where road infrastructures are primitive could prove essential. This mobility would allow for long-range protected patrolling and cordoning of critical areas or rapid sweeps of especially threatening terrorist enclaves.

These same vehicles provide direct fire support through their medium gun system. This capability, in conjunction with the antitank platoons, the mortar sections, and the field artillery batteries of the brigade, provides both offensive and defensive ground-based fire support useful for both difficult target takedowns and for increased organic force protection. The full SBCT has three motorized combined-arms infantry battalions as its primary fighting elements and is to have a combined-arms capability down to the company level. This makes it especially well suited for operations in difficult terrain (including urban terrain) where dismounted infantry will be in high demand. These dis-

---

[28]The question naturally arises as to why this niche cannot be filled by existing Marine units, specifically Marine Expeditionary Units that are SOF capable (MEU-SOC). In many cases, these units would be appropriate to the task and the likely choice of the regional combatant commander. To be sufficiently responsive for fleeting "pop up" targets, however, the units would have to be properly positioned when needed. Very deep inland targets would also present a range problem. Finally, a supply and demand issue also exists. Available Marine units may already be engaged in other ongoing operations.

[29]The following draws on the ideas and work done by RAND colleagues Eric Peltz and Adam Grissom. For a detailed description of the new brigades and their operational concepts, see U.S. Army (2000).

mounted infantry units would match nicely to many counterterrorism missions requiring more combat power. The Stryker Brigades also have self-contained, highly capable "situational awareness" and reconnaissance elements, features that could provide much needed information in stark operating environments.

As a hypothetical example of such a hybrid force, one could envision creating a battalion-sized task force that integrates SOF, Rangers, combat aviation, and a company of Stryker mounted infantry in light wheeled vehicles. Such combinations could help achieve the requisite balance of responsiveness and combat power that the war on terrorism will likely demand, if only in limited quantities and for narrow—but critical—types of targets.

Much of the technology and many of the operational concepts being pursued as part of the Army's Objective Force also have direct relevance to the deep-strike mission. The near-term challenge for the Army here is in identifying those technologies and concepts that are sufficiently mature and most relevant to the strike force, and pulling them forward as rapidly as possible, even in advance of their full testing and validation as elements of the overall Objective Force. This may also entail modifying capabilities beyond Objective Force requirements to accommodate the specific near-term needs of a counterterrorism strike force.

Given the various promising capabilities resident in the SBCT and the follow-on Objective Force—as well as the scale of investment in these enterprises—it is essential that the Army explore and experiment to determine what these transforming forces can contribute to the joint counterterrorism missions, both as full brigades and in smaller-than-brigade increments. How much modification would be necessary for these new missions, whether the hybrids are in fact viable technically and operationally, and what costs and trade-offs would be involved are all issues that need to be determined.[30]

The basic point is that the Army already has, or soon will have, many interesting capabilities as part of its larger transformation that could help address shortfalls in strike force capabilities. It should aggressively pursue the prospects. Doing so entails risk. Setting aside the war on terrorism, the Stryker Brigade and its operational concepts represent major innovation and departure from the Army's past practices for conducting land operations. This is even more true of the Objective Force. Each is a very complex undertaking in its own right and will require a great deal of further experimentation and field experience to bring the concepts to fruition.[31] Making additional changes to these forces for appli-

[30]For example, ensuring seamless command and control across disparate force elements will be one of the more demanding challenges of creating these hybrid force elements.

[31]For a discussion of some of the challenges and risks involved, see Nardulli and McNaugher (2002, pp. 101–128).

cations that may be unique to the war on terrorism is no minor matter. One major implication of doing so is that transforming units and personnel could have far less transition time than anticipated—instead being prepared to employ these innovative capabilities quickly and with many different types of forces. Asking soldiers to do all this and meet the continuing high standards of proficiency expected of the new transforming units for major combat operations may not be possible, at least in the short term. Such prospects must be weighed against the risks and consequences of not undertaking these types of initiatives.

The Need for Revised Overseas Basing, Prepositioning, and Support

Overseas support requirements will increase in tandem with operational commitments. This is true of both the long-term activities to influence the international environment for combating terrorism and for more direct strike operations. As the war on terrorism takes on global dimensions, including possibly protracted operations in remote areas, a much more robust and flexible overlay of overseas interim operating and support bases will be required. Also necessary will be more efficient and distributed support techniques to sustain the scope and pace of operations without overtaxing the Army's logistics system.[32]

As the United States continues to move toward more expeditionary forces, *The National Security Strategy* identified the need for bases and stations beyond those long-standing ones in Western Europe and Northeast Asia (*National Security Strategy*, 2002, p. 29). While the offensive war on terrorism is only one facet of overseas networks, future arrangements must support joint operational concepts for combating terrorism. This should include long-term support and staging of SOF required to dwell in remote and austere environments for extended periods, whether to conduct Direct Action missions or long-term Foreign Internal Defense and unconventional warfare undertakings. The CJTF–Horn of Africa is an excellent model of exactly this type of arrangement, including not only Special Forces but a diverse mix of joint capabilities covering a range of missions.

The geographical distribution of likely commitments stemming from the war on terrorism does not match well with the Army's existing overseas assets in terms of prepositioning, infrastructure, and support, with the notable exception of the Army's material in the Persian Gulf. If the Army is increasingly to operate in remote and austere locales, this distribution will prove inefficient and stressful for its support assets, as well as a possible drag on overall responsiveness.

---

[32]See Chapter Eleven.

During the past decade, the conventional Army has enhanced its power projection capabilities significantly through prepositioning of equipment afloat and other measures, but these are largely dedicated to heavy brigade forces and have limited applicability for the war on terrorism.

While overseas basing and structure issues are typically decided at levels above the services, the Army has important equities at stake and must deeply engage in the process of adjusting DoD's overseas presence. Among the options would be finding new places for the stationing of units overseas more relevant to the war on terrorism, establishing corresponding en-route and support bases, and expanding the prepositioning of equipment and support assets more tailored for the war on terrorism in other regions. The Army needs to evaluate and articulate these needs and the implications for its future overseas presence and support requirements.[33]

In redesigning the overseas network, careful attention must be paid to the tensions between desirable networks on foreign soil for the war on terrorism and access critical to the Army's other warfighting responsibilities. Foreign governments may be willing to provide access, prepositioning of material, and other forms of host nation support for certain conventional military contingencies but bridle at use of their territory for politically sensitive counterterrorism operations. Access for major contingencies, including critical sites for the prepositioning of heavy force equipment, must not be jeopardized as the cost for waging the war on terrorism. This will involve some tricky balances and trade-offs by the State Department, DoD, the regional combatant commanders, and the Army. These tensions are another argument for expanding the flexibility of the support system and the push for greater reliability and autonomy wherever possible. The goal of any future mix of host nation and independent capabilities must be enhanced flexibility and expanded geographic coverage on a continuous basis. As part of this, the U.S. defense community must weigh the trade-offs between designing forces and networks for truly global operations and how much to rely on more structures that are based regionally.

SUMMARY AND CONCLUSIONS

One thing is clear: Ground forces will play an instrumental role in the war on terrorism. That role will be diversified, literally covering the full spectrum of activities from special operations strikes and raids to lengthy Foreign Internal Defense and unconventional warfare activities through sizable stability and

[33]A series of basing and prepositioning studies is being conducted by the Pentagon in part to improve global mobility. This will be an important venue for injecting Army needs for the full spectrum of anticipated operations, including support to the offensive war on terrorism (Svitak, 2002, p. 17).

peacekeeping operations to potentially large-scale military combat against state sponsors. At the same time, this diversity of operations is likely to be matched by an equally demanding pace and duration.

Whether any of that demand will be offset by a reduction in regional war readiness requirements remains unclear. There are many reasons to presume that those requirements will remain at or near the current level, at least for the foreseeable future. Enduring concerns over WMD proliferation will keep tensions with Iraq high, pending some form of resolution. A disarmed Iraq will still leave North Korea and Iran as major state-level concerns, as will an unstable, nuclear-armed Pakistan. As for ongoing stability and peacekeeping commitments in the Balkans, they will most probably remain exactly that—ongoing. Meanwhile, stabilizing Afghanistan remains a daunting and long-term proposition. The demands of the war on terrorism will therefore be additive, as the Army's other responsibilities are unlikely to be relaxed anytime soon.

Much about the war on terrorism is especially hard to quantify in terms of future force structure requirements for the Army. The gamut of peacetime security assistance activities designed to influence the general security environment has been notoriously difficult to measure, both in terms of effectiveness and in estimating the long-term demands these place on ground forces. This now becomes an even more difficult enterprise with the high-priority to foster conditions to combat global terrorism. Likewise, stability operations are by their nature inherently difficult to circumscribe in terms of either their size or duration. Metrics for measuring progress are exceedingly hard to come by. Determining requirements under these types of operations are as much driven by political as operational military considerations. Using the "capabilities-based" approach in the new national security strategy can certainly help in determining the types of forces required but is of limited use in assessing the number of such forces needed.

The output of all this will be to heighten the Army's deployment, operational, and personnel tempos in the years ahead, even more than those experienced in the 1990s. The Army should not rule out an increase in its active force end strength to help alleviate the burden. DoD's emphasis on finding additional resources for investing in the transformation suggests, however, that even with recent defense budget increases this will prove difficult. Prudent Army planners must look for internal mechanisms and fixes to allow the Army to manage its future tempo challenges.

The Army will also be involved in creating the joint capabilities necessary for more rapid, long-range, and deep-strike operations against critical terrorist targets. Adaptive terrorist behavior, combined with the importance U.S. leaders will attach to eliminating any terrorist weapons or infrastructure related to

WMD, will place a premium on coming up with more potent strike options involving ground forces and on fielding the requisite capabilities as quickly as possible.

The Army is well positioned to provide key elements of this capability in the near term by drawing on its ongoing transformation. The Army's transformation is driven by a paradigm that substitutes information systems and advanced technology for mass to achieve high responsiveness, to perform "operational maneuver from strategic distances," and to conduct "mobile strike operations" (U.S. Army, 2002, pp. 16, B-5). These attributes are required of a joint deep-strike force going against well-protected, time-urgent targets. For the Army, helping to bring about such a strike force must include a willingness to adjust or modify portions of the ongoing transformation and to assume the calculated risks of doing so.

The limits of technology, especially in this struggle, must likewise be recognized. The use of precision standoff weaponry, such as the armed Predator unmanned aerial vehicles, and the use of precision air assets, such as AC-130 gunships, presage a flood of new and modified systems that will be advocated for the fight. The United States and the Army should seek every advantage possible to exploit its technical superiority in this conflict, and to use it to minimize risk to U.S. forces. At the same time, we must be clear on how far technology can go as a substitute for manpower on the ground in this twilight war. Indeed, advances in military technology and information systems are the least transforming at the lower ends of the conflict spectrum. Future counterinsurgency tactics and operations are likely to have far more in common with past endeavors than with rapid decisive operations and revolutionary conventional warfare at the core of much of the ongoing military transformation.[34]

The multifaceted contours of the war on terrorism also strongly suggest that the Army's greatest asset in fighting this war is the diversity of its forces. Special operations as well as light and medium-weight forces each have specialized capabilities that will be essential. This specialization also provides the richness necessary for forging modified or even radically new force combinations. To fully exploit the opportunities provided by these forces, the Army must reexamine the balance between the value of these specialized capabilities and the transformation goal to convert most of the Army into a single, full-spectrum force.

---

[34]Stephen Biddle's study (2002, especially pp. 28–37) of combat in Afghanistan notes that even in Operation Anaconda, an engagement preceded by extensive technical reconnaissance of the relatively small battle area, less than 50 percent of al Qaeda positions were identified prior to ground contact. And while badly battered, many of the positions survived attacks by precision fires alone. As difficult as the terrain conditions were, many counterinsurgency environments would be more demanding still.

The Army, like all of the services and DoD, now has to plan in an environment of unprecedented uncertainty as to what might trigger the next major set of demands, where it might take U.S. forces, and on what scale. Traditional contingency planning and related force-sizing processes have limited applicability under such conditions. The prospect of dramatic terrorist attacks once again initiating major U.S. military operations on extremely short notice will be an inescapable feature of the war on terrorism. The ability to adapt quickly and to be agile in shifting resources will be high-priority institutional attributes in such a world. These must coexist with the continuing need to meet enduring warfighting requirements and ensure that the transformation is not derailed.

It is worth repeating that proposed responses to new demands stemming from the war on terrorism entail very real costs and risks for the Army. The recommendations here are no exception. Just as clear risks exist in not embracing necessary change, there are also limits to how much change can be assumed without dangerous consequences to the force. Increasingly complex trade-offs over priorities lay ahead for the Department of Defense and the Army. The offensive war on terrorism will seriously affect the Army's future course and test its ability to balance competing objectives. The good news is that past experience, combined with a future-oriented transformation, provides a solid foundation for this next phase in the Army's evolution.

REFERENCES

Anonymous, *Through Our Enemies' Eyes*, Washington, D.C.: Brassey's, 2002.

Biddle, Stephen, "The New Way of War?" *Foreign Affairs*, Vol. 81, No. 3, May/June 2002.

_____, *Afghanistan and the Future of Warfare: Implications for Army and Defense Policy*, Carlisle, Pa.: Strategic Studies Institute, U.S. Army War College, November 2002.

Benjamin, Daniel, and Steven Simon, *The Age of Sacred Terror*, New York: Random House, 2002.

Bush, President George W., remarks by the President in an Address to the Nation, June 6, 2002.

Congressional Budget Office (CBO), *Estimated Costs of a Potential Conflict with Iraq*, September 2002.

Crane, Conrad C., *Facing the Hydra: Maintaining Strategic Balance While Pursuing a Global War Against Terrorism*, Carlisle, Pa.: Strategic Studies Institute, U.S. Army War College, May 2002.

Department of Defense (DoD), *Department of Defense Dictionary of Military and Associated Terms,* Joint Publication 1-02, April 12, 2001a.

_____, *Quadrennial Defense Review Report,* September 30, 2001b.

Doran, Michael Scott, "Somebody Else's Civil War," *Foreign Affairs,* Vol. 81, No. 1, January/February 2002, pp. 22–42.

Elliott, Michael, "The Secret History," *Time,* August 12, 2002.

Feil, Col. Scott (Ret.), "Post-Conflict Reconstruction in Iraq: Strategy and Resource Considerations," hearings, U.S. Senate, Committee on Foreign Relations, prepared statement, August 1, 2002.

Garamone, Jim, "Rumsfeld Says Djibouti Service 'Difficult, Potentially Dangerous,'" *American Forces Press Service,* December 11, 2002a.

_____, "Building a Presence in Djibouti," *American Forces Press Service,* December 11, 2002b.

Gellman, Barton, "The Covert Hunt for Bin Laden," *Washington Post,* December 19, 2001.

Inside the Army, "Iraq, Afghanistan Would Require 400,000 Peacekeeping Troops," September 30, 2002.

Krepinevich, Andrew F., "Defense Transformation," testimony before the U.S. Senate, Committee on Armed Services, prepared statement, April 9, 2002.

Litwak, Robert S., "The New Calculus of Pre-emption," *Survival,* Winter 2002–2003, pp. 53–79.

Nardulli, Bruce R., and Thomas L. McNaugher, "The Army: Toward the Objective Force," in Hans Binnendijk, ed., *Transforming America's Military,* Washington, D.C.: National Defense University Press, 2002, pp. 101–128.

The National Security Strategy of the United States of America, Office of the President, Washington, D.C., September 2002.

National Strategy to Combat Weapons of Mass Destruction, Office of the President, Washington, D.C., December 2002.

O'Hanlon, Michael E., "A Flawed Masterpiece," *Foreign Affairs,* Vol. 81, No. 3, May/June 2002.

Orvis, Bruce R., *Deployability in Peacetime,* Santa Monica, Calif.: RAND, DB-351-A, 2002.

Polich, J. Michael, Bruce R. Orvis, and W. Michael Hix, "Small Deployments, Big Problems," Santa Monica, Calif.: RAND, IP-197, 2000.

Quinlivan, James T., "Force Requirements in Stability Operations," *Parameters: U.S. Army War College Quarterly*, Vol. 25, No. 4, Winter 1995–1996, pp. 59–69, available at http://carlisle-www.army.mil/usawc/Parameters/1995/quinliv.htm.

Rumsfeld, Donald H., Secretary of Defense, *Annual Report to the President and the Congress*, 2002a.

_____, *Testimony Before the Senate Armed Services Committee on Progress in Afghanistan*, prepared statement, July 31, 2002b.

Shanker, Thom, "Officials Reveal Threat to Troops Deploying to Gulf," *New York Times*, January 13, 2003, p. A1.

Sortor, Ronald E., and J. Michael Polich, *Deployments and Army Personnel Tempo*, Santa Monica, Calif.: RAND, MR-1417-A, 2001.

Stattler, Maj. Gen. John F., USMC, Commander, Combined Joint Task Force–Horn of Africa, "Joint Task Force Horn of Africa Briefing," January 10, 2003, DefenseLINK News Transcript.

Svitak, Amy, "Exploring U.S. Prepositioning, Basing Needs," *Defense News*, August 26–September 1, 2002, p. 17.

Tenet, George J., Director of Central Intelligence, *Worldwide Threat—Converging Dangers in a Post 9/11 World*, testimony before the Senate Armed Services Committee, prepared statement, March 19, 2002.

U.S. Army, *The Interim Brigade Combat Team: Organizational and Operational Concept*, draft, June 30, 2000.

_____, *Transformation Roadmap*, 2002.

Washington Post, "Franks Sees Troop Presence in Afghanistan Lasting Years," August 16, 2002, p. A18.

Wiktorowicz, Quintan, "The New Global Threat: Transnational Salafis and Jihad," *Middle East Policy*, Vol. 8, No. 4, December 2001, pp. 18–38.

Zucchino, David, "The Changing Face of Battle," *Los Angeles Times*, October 13, 2002, p. A1.

Chapter Four

DEFINING THE ARMY'S HOMELAND SECURITY NEEDS

Lynn E. Davis

INTRODUCTION

The September 11 attacks on the World Trade Center and Pentagon brought home to Americans their serious vulnerabilities to terrorism. A new Department of Homeland Security has been established, and the broad outlines of a strategy for homeland security are evident (*National Strategy for Homeland Security,* 2002). Much still needs to be done, however, to define the specific plans and programs. In this time of uncertainty, the challenge for the U.S. military and for the Army in particular is to be prepared for whatever the political leadership may demand. In the area of homeland security, this challenge presents considerable difficulties, as the tasks demanded of the Army may well be new, diverse in character, and of the highest priority for defending the nation.

The Secretary of Defense in both his *Annual Report* (Rumsfeld, 2002a, pp. 20, 50, and 52) and the *Quadrennial Defense Review Report (QDR)* (DoD 2001, pp. 17–19) called for military forces to be sized for defending the United States and made homeland security the department's primary mission. This represents a major change from the past, when the Army provided forces for homeland security on an as-needed basis, principally from those structured and trained for warfighting missions abroad. As a result, the Army never created a process or a methodology for determining what its homeland security responsibilities will require in terms of numbers and types of forces. Many approaches are possible for determining what the Army's homeland security requirements are, and some are under way.

This chapter will define such an approach and the critical issues that the Army will need to resolve. This will set the stage for the Army to address the broader questions of how it will be able to carry out its many other missions and place itself in a position to take the lead in discussions within the Department of Defense (DoD) and with other parts of the U.S. government at the same time.

One question, and perhaps the most important issue facing the Army, is whether or to what degree homeland security tasks can continue to be thought of "lesser-included" missions of the Army's overseas tasks and so do not require forces specifically created and trained for the purpose of homeland security. Another issue is whether the Army's Reserve Components (the U.S. Army Reserve and the Army National Guard forces can be expected to play the "primary" role in homeland security. Still another issue is what the Army's new role in homeland security will mean for preparing for its missions overseas.

The chapter addresses each of these issues and concludes by calling on the Army to change its traditional approach to homeland security, for it can no longer promise the American people that it can accomplish the potential tasks by drawing on forces structured for other purposes, or for that matter depending primarily on the Reserve Components.

PROVIDING FOR HOMELAND SECURITY

A variety of organizational changes have been undertaken to provide for homeland security since the September 11 terrorist attacks. All of these steps aim to consolidate and integrate the various homeland security activities across the federal government and within the various departments. Most important for the military services is the creation of a new combatant command, the U.S. Northern Command (NORTHCOM), with responsibility for defending the United States (ocean approaches, the coastline, and seaports as well as airspace) and assisting civil authorities during emergencies within the United States. Organizationally, the commander of NORTHCOM will be responsible for all homeland security activities previously under Joint Forces Command; the geographic areas of the continental United States, Canada, Mexico, and portions of the Caribbean; and in his other hat for NORAD's air defense responsibilities (DoD, 2002).[1]

Homeland security within DoD comprises myriad activities. These have in the past been defined and categorized in many different ways. Now they are being divided into homeland defense and civil support—i.e., military assistance to various civil authorities (see Table 4.1). The first task involves protecting the nation's territory and critical infrastructure by defending against various kinds of attacks and sovereignty incursions. The second involves military assistance to federal, state, and local authorities in different kinds of emergencies, such as

[1]All requests for civil support are now channeled through NORTHCOM, which includes both Joint Task Force–Civil Support and Joint Task Force–Homeland Security, both formerly under Joint Forces Command.

Table 4.1

Department of Defense Categorization of Homeland Security Tasks

Task	Subtasks
Homeland Defense	• Air Defense • Maritime Defense • Land Defense • Missile Defense • Force Protection • Critical Infrastructure Protection
Civil Support	• Assistance to Law Enforcement • Assistance in Civil Disturbances • Disaster Relief • Emergency Preparedness and Response • Security Special Events • Continuity of Government (federal, state, local) • Counterdrug

terrorist threats and attacks, natural disasters, and civil disorders.[2] The Army can expect to be involved in almost all of these, as it has been involved in homeland security tasks throughout the nation's history.

In making defense of the United States DoD's primary mission, Secretary Donald H. Rumsfeld created the expectation that this mission will have first claim on the nation's military capabilities, and indeed the QDR suggests: "preparing for homeland security may require changes in force structure and organization" (DoD, 2001, p. 19). Beyond stating that homeland security would involve air and missile defense and support to civil authorities, the QDR is vague about what would be required in terms of specific tasks and capabilities. It simply stated that homeland security would be the "primary mission of the Reserve Components" (DoD, 2001, p. 30). So the Army does not have guidance, for example, about what units will be required or how homeland security might affect the Army's other activities and priorities.

So far, homeland security policies are being framed through the traditional DoD planning, programming, and budgeting processes. No separate process has been established that would permit a dialogue within the various parts of DoD or provide an analytical basis for decisions. This is all the more reason for the Army to anticipate these decisions by coming to its own estimate of its

[2]Some ambiguity exists as to whether protection of military forces and military information systems within the United States is included in the Defense Department's current definition of homeland security. See Kernan (2002).

homeland security needs and defining an approach to carry out its multiple missions at home and abroad.

THE ARMY'S APPROACH TO HOMELAND SECURITY

Historically the Army has provided capabilities for homeland security missions from its forces sized, organized, trained, and equipped to fight wars abroad. This has been a matter of practicality, priority, and principle. The Army found it difficult to define precise requirements, given its role in support of civilian authorities as well as the unpredictability of events. The nature of the homeland security threat has not in the past made this a core or priority mission. The Army has also been reluctant to single out specific capabilities for homeland defense, or any other nonwarfighting activity, for fear that this would suggest that they did not need what they currently had for the warfighting contingencies. As a result, the Army has preferred living with the periodic strains of competing demands at home and abroad.

At the same time and largely as a result of congressional pressure, the Army has created specialized, dedicated, and on-call units in the National Guard, called WMD–Civil Support Teams, to provide rapid response and detection capabilities in the event of an attack involving chemical, biological, radiological, or nuclear weapons. These units would not be deployed in a major combat operation, so they are planned strictly for domestic responses.[3] In addition, the Army has different kinds of units with capabilities to respond to terrorist attacks as well as other domestic emergencies. Table 4.2 defines some of these—the same capabilities that the Army employs in meeting its overseas requirements.

Even before the September 11 terrorist attacks, the Army had found gaps in its force structure for what it refers to as "low-density, high-demand (LD/HD) assets." Among the areas cited were intelligence, command and control, chemical and biological detection, and military police. According to Secretary Rumsfeld, "after September 11, we found that our responsibilities in homeland defense exacerbated these shortages in key [LD/HD] assets. No U.S. president should have to choose between protecting citizens at home and U.S. interests and forces overseas. We must be able to do both" (Rumsfeld, 2002b, p. 28). These strains have been further aggravated as the war on terrorism has evolved into a truly global campaign.

Nevertheless, the Army has been able to sustain its traditional homeland security approach, for sufficient capabilities have been available within its overall

[3]Congress has authorized 55 of these teams.

Table 4.2

Army Homeland Security Capabilities

Capability	Unit
Detection and Decontamination	• WMD–Civil Support Teams • Chemical • Chemical Reconnaissance and Decontamination • Biological Integrated Detection System • Technical Escort • Chemical Biological Rapid Response Team
Medical Services	• Medical Groups • Preventive Maintenance • Field Hospitals • Aviation-Evacuation
Perimeter Security	• Military Police • Infantry
Emergency Services	• Corps Engineers • Quartermaster

force structure. This has been the case as well in the Army's responses to the September 11 terrorist attacks. But this is unlikely to be the case in the future, given the priority being attached to homeland security, the possibility that these missions could involve many tasks and events with massive casualties, and the expanding requirements facing the Army in the offensive war on terrorism combined with continuing peace operations and potential warfighting contingencies.

HOMELAND SECURITY ENVIRONMENT: NEW AND UNCERTAIN

The military missions encompassing homeland security are very much in flux. They involve those that the Army has done in the past, including refugee control, border security, security at special events, counterterrorism, disaster relief, and other kinds of assistance in civil emergencies. The Army has most recently been planning for its participation in responses to attacks involving nuclear, chemical, and biological weapons. In the aftermath of the September 11 terrorist attacks, the Army assumed new security missions at home in protecting airports, government facilities, and civilian infrastructure. These activities also provided reassurance to the American people. All of these are possible Army missions in the future.

Beyond the uncertainties attending the future missions are those that arise about when they will occur and then, most important, what the characteristics of the missions would actually be.

This is the case for a variety of reasons. One is the speculative character of the future terrorist threat. Before September 11, most experts were quite skeptical that terrorist groups could inflict mass casualties in the United States in the absence of their acquiring weapons of mass destruction (WMD). It was then assumed that these groups would face considerable obstacles in developing or stealing these weapons, at least in the short term. What terrorists proved on September 11 is how very clever and adaptable they can be. The lesson for the future is that the goals and capabilities of future terrorists cannot be predicted. So while threat scenarios are necessarily hypothetical, it will be prudent now to plan for the possibility of multiple attacks and some involving mass casualties.

Another uncertainty is what role the military will be called on to play, for in many cases that role will involve filling gaps in civilian capabilities, much as they have done in natural disasters and in the aftermath of the September 11 attacks. Almost no information exists as to what these capabilities are today.[4] Even as this information is being collected, no planning goals have been defined, much less agreed-on across the U.S. government, with which to assess the adequacy of these civilian capabilities. So the military has no baseline with which to estimate what capabilities it might need to provide in the future.

Secretary Rumsfeld has indicated that he plans on negotiating Memoranda of Understanding with the Immigration and Naturalization Service, the Customs Service, and the Department of Transportation so that DoD personnel would be assigned for only a specified number of days, such as up to 180 days (*Inside Defense.com*, 2002). This step could provide an incentive for these agencies to fill gaps quickly in their own capabilities. But these understandings cannot eliminate the possibility that their capabilities will again be overwhelmed, and the military will be called on again.

The urgency of the various homeland security activities is also inherently uncertain, as is their duration. This is the case largely as a result of these previously defined uncertainties involving the magnitude of the emergency that materializes and the extent of the civilian deficiencies. Finally, adding to all these uncertainties is the possibility, though perhaps fairly unlikely, that these various

[4]In support of the Gilmore Commission and just prior to the September 11 terrorist attacks, RAND conducted a survey of WMD preparedness programs at the local, state, and federal levels. See "Gilmore Commission," 2001, Appendix G. RAND conducted a second, follow-up survey in 2002 to assess the changes in the organization's emergency response planning after the September 11 attacks. See "Gilmore Commission," 2002, Appendix D.

homeland security missions could occur simultaneously or nearly simultaneously.

The past image of the homeland security environment, in which the emergencies were rare, relatively small, and quickly over, does not correspond to the character of the future environment. The challenge is far more difficult, for the Army must now plan for multiple missions of potentially major dimension. Some will be of a known character and long term in nature. Most will be unpredictable and unique. Some will require immediate response. Some will be limited in duration until civilian capabilities become available. Others will get under way and never end. The theoretical possibilities are portrayed in Figure 4.1.

In the aftermath of September 11, the homeland security tasks were no longer just theoretical possibilities. The various responses illustrate the very different kinds of military missions as well as their varying size and time lines. The immediate responses saw the military supplementing the capabilities of the police, fire departments, and medical units at both the World Trade Center and Pentagon. Within 24 hours, the New York National Guard had 4,320 soldiers on active duty, with an estimated 1,000 providing security, medical, and engineering services. The Army Corps of Engineers had a cell quickly in place planning for the removal of debris and assessing the damage. The military also took

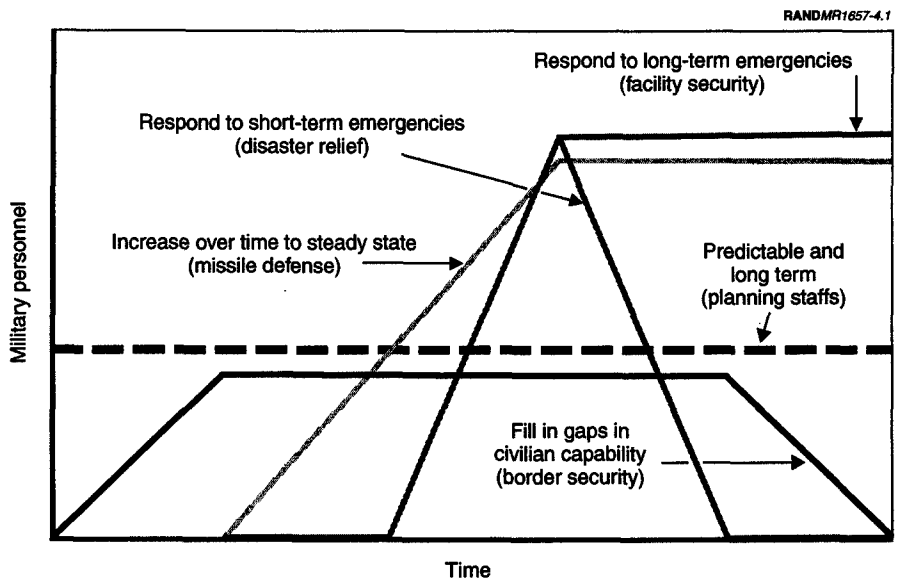


Figure 4.1—Theoretical Homeland Security Tasks

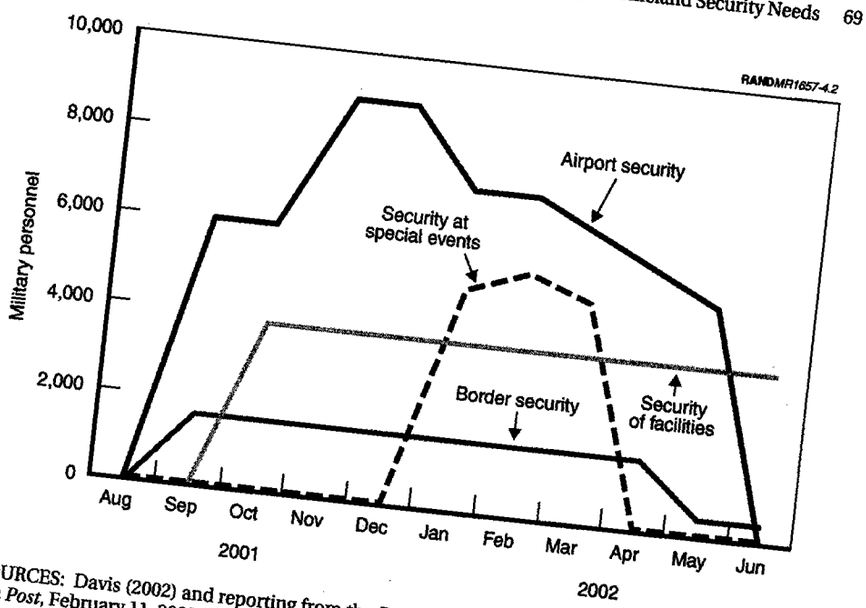
immediate steps to provide security against further attacks in the skies and around critical government facilities. This included some Army air defense units. In the ensuing weeks, some 10,000 Reserve and National Guard soldiers were immediately called up. Infantry and military police accounted for about 7,000 of the total. They provided rescue support, civil engineers, communication and power generation systems, medical teams, and other service support operations—e.g., food and shelter. New York's WMD–Civil Support Team also deployed within 12 hours and could confirm the absence of any chemical, biological, or radiological contamination at the disaster scene (Davis, 2001; Brennan et al., forthcoming).

Beginning soon after the attacks, the National Guard, under the control of the state governors, provided security and reassurance to the American people at more than 400 airports. The National Guard and others in the Army also supplemented civilian efforts in providing security of the nation's borders, seaports, bridges, power plants, and government buildings as well as at such special events as the State of the Union Address and the Winter Olympics.

Figure 4.2 portrays the homeland security environment as manifested in the Army responses in the aftermath of the September 11 terrorist attacks. Some responses were required quickly and others came about over time as the needs and capabilities of civilian agencies were better understood. Some have been fairly constant in size but others have varied, as when the numbers of National Guardsmen at airports increased over the Thanksgiving and Christmas holidays. Some have ended, such as airport security, while others seem to be of a long-term nature.

Beyond these activities, Army personnel since September 11 have been involved in a variety of homeland security planning activities, both within the Army and on joint staffs. It has also been undertaking small but continuous emergency relief activities.

Other calls on Army forces at home *could* have arisen as well. This is not to suggest that this will be the case in the future. But, as background to considering how the Army should plan for its homeland security missions, it is useful to list some of these possibilities. What if a major hurricane had occurred? What if the President had received serious warning that terrorists were planning attacks against a category of the nation's critical civilian systems, such as electrical utilities? What if in connection with such a warning, the FBI needed military reinforcement in its efforts to track down suspected terrorists or if local police were overwhelmed by rising panic among the nation's population? What if September 11 had been followed by further attacks?



SOURCES: Davis (2002) and reporting from the *Boston Globe*, November 20, 2001, and *Washington Post*, February 11, 2002, and April 2, 2002.

Figure 4.2—Army Homeland Security Responses After September 11

None of these happened, and each one is not very likely. However, this is the new and uncertain environment of possible homeland security missions in which the Army will need to do its planning.

ESTIMATING THE ARMY'S HOMELAND SECURITY NEEDS

The Method

The Defense Department has a long and somewhat tortuous history of finding ways to define the military forces required to defend the nation's interests. In the face of uncertainties and the need to prepare to operate in a variety of different situations, Secretary Rumsfeld has called for capabilities-based planning, "one that focuses less on who might threaten us, or where, and more on how we might be threatened and what is needed to deter and defend against such threats" (Rumsfeld, 2002). In the case of homeland security, it is difficult, however, to define the required capabilities in the absence of agreement as to the adversary's goals and the kinds of potential emergencies.

Any approach the Army adopts to define homeland security requirements will necessarily be based on a series of subjective assumptions and judgments.

What is important is that these be plausible, derived systematically, and understandable. Today, the Army uses a process to determine how to allocate its available manpower and assess the adequacy of its forces, known as the mission tasked–organized forces process. It defines the military manpower that the Army needs for several simultaneous tasks in different mission areas, such as major combat operations, global war on terrorism, homeland defense, and transformation (Martin, 2002). The problem is that the process involves only the Army and the results are kept secret. At a minimum, the Army needs to introduce what it views as its homeland security goals and planning assumptions, even if the specific force packages must remain classified.

Here is how the Army should go about defining the capabilities it needs for homeland security.

To begin, homeland security would be divided into six tasks (see Table 4.3). This categorization groups similar activities and emphasizes the demands arising from potential terrorist attacks. It differs somewhat from what DoD currently uses, but all the missions within the DoD definition of homeland security are included in this proposed approach, with one important exception, what the Defense Department calls "continuity of military operations." Protecting military forces and their installations, embarkation ports and airfields, and information systems certainly deserves the highest priority. The requirements are not usefully divided in terms of those activities carried out in the United States and those overseas.

In this approach, the characteristics of the activities included in each of the tasks are first described, and specifically whether they may be large and

Table 4.3

Homeland Security Tasks

Tasks	Large Response	Quick Response	Long-Term Commitment
Routine Activities	No	No	Yes
Disaster Relief	Yes	Yes	No
Security of Critical Infrastructure	Yes	Yes	Yes
Support to Law Enforcement	Yes	Yes	Yes
Consequence Management	Yes	Yes	No
Reassurance of the American People	Yes	Yes	Yes

whether they need to be undertaken quickly and for how long. Then, very preliminary ways are suggested for estimating the capabilities the Army requires, drawing where possible on historical experiences. The most critical element in this approach will be the choices the Army must make for each of these tasks with regard to how these tasks are defined. While far more will be called for in terms of information and analysis to carry out this approach, it offers a blueprint for how the Army should begin and the issues that it will need to resolve.

Homeland Security Tasks

Routine Activities. This task involves activities that are fairly predictable and long-term in character. Planning done by the various homeland security military staffs falls within this task. The September 11 attacks have led to a steady increase in these activities. For example, the new Northern Command will now be cultivating extensive relationships with a variety of state and local first responders as well as state governors and agencies. This task will also include those quick-response units dedicated to homeland security, such as the WMD–Civil Support Teams, as well as counterdrug operations and, in the future, national missile defense. Reserves can handle most of these activities because they can be planned in advance. Prior to September 11, a RAND study estimated requirements for activities falling within this task to be approximately 4,800 personnel (Brennan et al., forthcoming). For the future, the Army can have a good idea of what would be its requirements by extrapolating from past experiences and practices.

Disaster Relief. This task involves a small and relatively constant Army requirement for responding to domestic emergencies, such as fighting forest fires, providing safe drinking water, and restoring electrical power. Some 450 National Guard members were in active-duty status undertaking these missions at the time of the September 11 terrorist attacks (Davis, 2001). This task also calls for quick and sometimes very large responses to natural disasters.

A recent RAND study undertook to determine the Army's future requirements for providing disaster relief, in terms of magnitude and function, by relying on data taken from what was viewed as representative historical cases. The first case involved Army firefighting activities in the western part of the United States in summer 2000. About 2,500 active Army personnel (general-purpose forces and medical units) supplemented more than 20,000 firefighters from both civilian fire departments and National Guard units. In 1992, the Army committed approximately 15,000 active-duty soldiers in the aftermath of Hurricane Andrew. These included large numbers of general-purpose forces and engineers, considerable aviation and transport units, and some medical units.

This was in addition to the more than 6,000 National Guardsmen called up by the Florida governor. Then in 1999, the Army sent about 5,000 active-duty personnel to help in the recovery from Hurricane Floyd. This supplemented more than 10,000 National Guard troops activated in eight states. The main Army contribution was in the form of traffic control in the evacuation, search and rescue, and delivery of emergency supplies. In each of these cases, the Army also contributed critical communications capabilities (Brennan et al., forthcoming).

When disaster relief will be required and what it will involve is totally unpredictable. History tells us that these disasters will occur and will do so fairly often. They could be large and involve multiple events, but they tend to last a relatively short period of time—a few days or weeks.

In estimating its requirements, the Army must decide on the kinds of events for which it wishes to prepare. Obviously, any number of possibilities exists. For example, the Army could set requirements to be able to respond to a medium-size hurricane, such as Floyd, or two smaller responses (firefighting) occurring simultaneously. Each of these would require approximately 5,000 personnel. Or the Army could decide to prepare for such large hurricanes as Andrew, approximately 15,000 personnel, which would then leave it ready to respond to multiple smaller events.

Security of Critical Infrastructure. This task involves activities to protect the nation's critical infrastructure, either in anticipation of a terrorist attack or to keep it functioning in the face of disruptions after an attack. It could require an initially quick and perhaps large response that may or may not need to be sustained over a fairly long period—a number of months. Among the activities in this task would be ensuring the continuity of government operations by protecting facilities and personnel. Reducing the vulnerabilities of civilian physical infrastructure and information systems and reconstituting them after an attack would also be part of this task.

The Director of Central Intelligence has warned of the possibility that al Qaeda or other terrorist groups might try to launch attacks against critical U.S. infrastructure nodes, such as airports, bridges, harbors, and dams as well as the electronic and computer networks that support these systems (Director of Central Intelligence, 2002). The President's Commission on Critical Infrastructure Protection in 1997, in assessing the vulnerabilities of the nation's critical infrastructure, included 400 airports, 1,900 seaports, 6,000 bus and rail transit terminals, 1,700 inland river terminals, 1.4 million miles of oil and natural gas pipeline, and other banking, financial, and energy-related networks (President's Commission on Critical Infrastructure Protection, 1997). The administration in the aftermath of the September 11 attacks expanded its definition of critical infrastructure to include assets whose destruction, while not endangering vital

systems, would "create a local disaster or profoundly change the Nation's morale or confidence"—e.g., historical monuments (*National Strategy for Homeland Security,* p. 30).[5]

Defining the critical assets is the first step. The next is to find ways to assess the risk to the chosen assets, given different kinds of threats. The administration's strategy for homeland security identifies as its major initiatives to "build and maintain a complete and accurate assessment of America's critical infrastructure and key assets" and to "develop a national infrastructure protection plan" (*National Strategy for Homeland Security,* p. ix). This will be a useful point of departure for determining the circumstances in which the military might be called on to provide security.

The Army's contribution could be to provide an area defense of the designated assets, and this could involve both soldiers and air defense systems. It could perhaps also contribute its expertise in protecting information systems to operators of civilian systems. Since the September 11 terrorist attacks, some 8,000 National Guardsmen have been involved in the security of 420 airports and some 3,800 National Guardsmen have undertaken security operations around reservoirs, nuclear power plants, seaports, and civilian and government facilities. In these cases, the relatively small size of the activities did not require the use of the active-duty Army.

A recent RAND study made some estimates about what it would take to defend small, medium, and large infrastructure nodes. This was done in a different context—i.e., protecting Army installations. The estimates suggest the range of requirements needed, were the Army to be called on to protect these or other kinds of similar critical facilities. Depending on the size of the nodes, their number, and whether the threat involved chemical and biological weapons, the Army requirements ranged from some hundreds of Army personnel to tens of thousands of Army personnel (Brennan et al., forthcoming).

In estimating its requirements for this task, the Army must decide on the number and kinds of critical civilian facilities and information systems that it would need to prepare to protect and the nature of their vulnerabilities. This is not a decision that the Army can make on its own. It is, however, in a position to make some preliminary orders-of-magnitude estimates.

Support to Law Enforcement. This task includes activities associated with preventing and responding to various kinds of domestic threats and civil disturbances. While restrictions do apply when the Department of Defense becomes

[5]This strategy specifies the federal departments and agencies that have primary responsibility for interacting with the different critical infrastructure sectors. DoD is the lead agency for the defense industrial base.

involved in law enforcement activities, clear exceptions exist when combating terrorism and responding to threats involving WMD.[6] Some of the activities in this task are short term and predictable, such as providing security at high-profile events. Since September 11, these requirements have increased significantly, with the Army deploying some 5,000 soldiers to help with security at the 2002 Winter Olympics and another 500 at the 2002 Super Bowl.

This task also includes quick and potentially large responses to surprise events. The Army has been called on to support police in past civil disorders. In the case of the 1992 riots in Los Angeles, more than 10,000 California National Guard troops, 2,000 active-duty Army soldiers, and 1,600 Marines were deployed, principally to back up security for the Los Angeles Police Department (Brennan et al., forthcoming).

Past Army participation in counterterrorism operations, while highly classified, is known publicly to include a small number of units on alert to assist law enforcement agencies. In the future, these requirements could increase substantially as well. The FBI could call on the Army if it detected a terrorist network but did not have sufficient equipment or manpower to apprehend the suspects, or it could use the Army to help seal off large areas, perhaps in multiple locations.

This task would also include responses to secure the nation's borders from refugees or terrorists. These would likely be rare but could occur with or without warning. They could be small or fairly large. A recent RAND study used historical examples to estimate requirements for refugee support operations. These ranged from approximately 2,500 personnel to manage a medium-sized crisis involving some 20,000 refugees, to approximately 6,000 personnel to handle 50,000 refugees (Brennan et al., forthcoming). Since September 11, more than 1,600 National Guardsmen have supplemented the federal civilian agencies in providing border security.

Again, the Army must decide on the kinds of possible events it wishes to plan for. Then, the requirements for some of these can be extrapolated from historical cases, while others will need to be derived from hypothetical possibilities.

Consequence Management. This task focuses on responses to attacks involving a variety of different but very dangerous weapons. The Defense Department refers to these weapons by the acronym CBRNE (chemical, biological, radiological, nuclear, conventional high explosive). Other man-made emer-

---

[6]See "Gilmore Commission" (2000, Appendix R). *The National Strategy for Homeland Security* (2002, p. 48) calls for a "thorough review of the laws permitting the military to act within the United States in order to determine whether domestic preparedness and response efforts would benefit from greater involvement of military personnel and, if so, how."

gencies would also fall within this task, such as major spills of hazardous material. The Army's potential activities in this task are wide ranging and could include detection and identification of the weapon; decontamination; search and rescue; extraction of the victims; medical treatment; site security; quarantine; evacuation; crowd control; provision of food, shelter, and utilities; debris removal; and building reconstruction.

The Army's requirements in any incident will be primarily a function of the number of deaths and casualties, the nature of the physical destruction, and the accompanying psychological dislocations. These in turn will be a function of the number of events and the type of weapon or hazardous material.

The September 11 attacks offer some insight into the potential requirements, but it is important to remember that these attacks occurred in two cities that are relatively well prepared for various kinds of emergencies. They involved a massive number of deaths but relatively few casualties requiring medical treatment. The damage was extensive, but the physical destruction was contained in relatively small areas. Local and state responders were not overwhelmed in the first hours, and the National Guard was able to provide the needed help in a timely way. So estimates of future requirements for this task must still be based on analysis of hypothetical scenarios.

A recent RAND study provides a useful but preliminary step in estimating such requirements. It defined a range of potential "events" involving attacks with conventional high explosives, chemical, biological, and radiological weapons (Brennan et al., forthcoming). For each event, the characteristics of the required responses were described and estimates were made of the number of casualties and the extent of the damage. Then, Army force packages were assigned to each event. While subjective in their character, they were based on how the Army accomplished similar tasks in historical cases involving disaster relief (see Table 4.4). These estimates are for events involving a single type of weapon. Of course, terrorists could employ different kinds of weapons to complicate the responses, increase the casualties, or perhaps even exhaust the capabilities of local authorities in a city or geographic area.

In estimating its requirements for responding to the attacks involving these very dangerous weapons, the Army again must determine the kinds of events it wishes to prepare for. In this task, the possibilities are far more numerous and the nature of what is required even more uncertain than in the others. For example, the Army could decide to plan to be able to respond to small simultaneous chemical and biological attacks because terrorists could most easily acquire these capabilities and they can be expected to create considerable confusion and havoc. Or the Army could decide to be able to respond to a sin-

Table 4.4

Estimating Consequence Management Requirements

Weapons	Attacks	Total Response Personnel
Conventional Explosive	• Truck Bomb	3,600
	• Truck Bomb plus Industrial/Chemical	8,600
Chemical	• Multiple Sarin (3)	6,750
	• Large-Scale Sarin	8,450
Biological	• Multiple Q Fever (5)	7,500
	• Anthrax	22,800
Radiological	• Research Reactor	1,400
	• Symbolic Target	15,200

SOURCE: Brennan et al., forthcoming.

gle high-end attack involving biological or chemical attacks because terrorists could be attracted to highly destructive symbolic attacks and on the assumption that having such capabilities would make it possible as well to respond successfully to smaller and even multiple events. Planning for a high-end attack could possibly ensure as well that the Army would be in a position to respond to many of the other prospective homeland security tasks involving a quick response.

Reassurance of the American People. This task involves being able to introduce a substantial military presence quickly as well as over the long term to reassure the American people in various kinds of emergencies and most likely in connection with terrorist attacks. The post–September 11 presence of the National Guard at more than 400 airports, for example, served largely to give Americans the necessary confidence to fly again. Reassurance was also the goal in stationing National Guardsmen on California's bridges, when vague warning appeared of a potential terrorist attack. An Army presence alone can help calm an anxious American public and keep panic from spreading. It is very difficult to know even how to begin to estimate requirements for what could be a very large but probably very rare event. One possible guide could be past responses to civil disturbances. In 1992, for example, more than 12,000 active Army and National Guard forces helped quell riots in Los Angeles in the aftermath of the Los Angeles police officers' acquittal in the Rodney King case.

Aggregate Homeland Security Requirements

In this approach to defining the Army's requirements for homeland security, the job is not finished when estimates are made for these six individual tasks. It

will then be necessary for the Army to consider whether the requirements should be aggregated, and then how. While it is theoretically possible that all the tasks will need to be undertaken simultaneously, it is highly unlikely. On the other hand, it would be risky to assume that none of them will occur at the same time.

Combining requirements for disaster relief and consequence management is attractive, given the similarity in the kinds of activities and capabilities. In such an approach, the Army could plan to respond to a single event (disaster relief or WMD attack) or perhaps one of each kind, to hedge against the possibility that a natural disaster could easily coincide with a terrorist attack. Then the question arises with regard to what level of response should be chosen within the multiple possibilities. The midrange events are attractive because they are the most likely, at least over the near term. Using RAND's earlier estimates, the Army's requirements for responding to a single midrange disaster relief event would be 5,000 active-duty personnel and, for multiple chemical and biological weapon events in the midrange, some 14,000 active-duty personnel.

The same logic holds for combining the requirements for all the nonroutine homeland security tasks because they call for similar activities and capabilities. This too could be done in a variety of ways. One would be to add together the midrange estimates of the requirements in each of the five nonroutine tasks. This would be a straightforward but a very conservative approach.

Another way would be to take an estimate at the high end for one of the tasks and then assume that the availability of such a capability would give the Army fairly high confidence in its ability to respond to the other homeland security tasks. A plausible, though not necessarily probable, high-end estimate might be appropriate. For example, the Army's requirement could be set to respond to a major anthrax attack, estimated in RAND's earlier study to be some 22,000 active-duty personnel. Having such a capability would have been adequate historically for the Army to respond to even the most destructive hurricanes, as well as all the other civil emergencies.

Still another way to proceed in aggregating requirements would be to differentiate in each of the tasks between those needing a quick response (within a matter of hours) and those with no real urgency. The Army could then decide to have available, or dedicated, capabilities for some combination of these quick responses and assume that sufficient flexibility will exist in the rest of the Army force structure, and primarily in the Reserve Components, to provide for the others.[7]

---

[7]For a methodology that could be used to determine what the mix of active and reserve forces would be for various time lines and for different kinds of units, see Sortor (1995).

Obviously, more will be needed to implement this approach to estimating the Army's homeland security requirements. The Army must do this urgently, for without an approach, it will not be in a position to provide leadership in the various policymaking processes within the U.S. government and, even more important, may not be able to carry out its homeland security missions.

STRUCTURING THE ARMY FOR HOMELAND SECURITY

With an estimate of its overall homeland security requirements, the Army will need to revisit the question of whether the Army's Reserve Components can be expected to play the "primary" role. Time lines for the various responses become critical.

It is certainly the case that these forces are appropriate for routine activities and long-term commitments and even for those that arise with considerable warning or require only small responses. It is unlikely, however, that they can carry out those tasks requiring quick and large responses, and each of the nonroutine homeland security tasks includes these as very real possibilities. The experience of the September 11 terrorist attacks, in which the initial military requirements were fairly small, may not be transferable to those for future terrorist attacks or even for other homeland security activities.

The case of Hurricane Andrew is perhaps more instructive. The extent of the devastation quickly overwhelmed the capabilities of the civil authorities and those National Guardsmen available for call-up by the governors. The active Army was needed to fill the void, and, within a week, 15,000 active-duty Army personnel were deployed, and they stayed for more than a month. These personnel came from Army units of almost every kind, including infantry, field artillery, armor, Special Forces, engineers, helicopter, medical, truck, supply, ordnance, maintenance, chemical, and public affairs.

What then are the choices for the Army? It can continue to rely on taking active-duty soldiers out of its overall force structure and take the risk that these forces will not be available for warfighting and other overseas contingencies. The arguments for continuing the traditional approach are the same as those in the past.

The Army could decide instead to plan and budget for a dedicated set of capabilities for homeland security. Some number of active-duty soldiers would stand ready for quick-response missions. Their training for warfighting missions would not be altered. From time to time, units would take on this homeland security assignment, just as today they do for deployments to Kuwait or to the training centers.

Another possibility is for the Army to decide to increase the number of Reserve Component forces on active duty. They would be a dedicated rapid-reaction force, along with the WMD–Civil Support Teams. It is possible that these could all be volunteers. The problem is that unless this quick-response group is extremely large, it will not remove the need for active-duty Army soldiers in missions of substantial size. If the quick-response group involved is in the Reserve Components and is very large, then it will be very expensive to maintain for missions with fairly low probability.

A decidedly different possibility is to create an entirely different homeland security rapid-response capability. One idea is to establish paramilitary civil defense forces, which would perform such functions as protecting key national assets and augmenting local law enforcement officials, border guards, and customs officials (Echevarria, 2002). Another idea is for the governors to establish effective state guards, which would be organized and equipped for internal security duties—population control, physical security, and logistical support (Brinkerhoff, 2002). These ideas deserve consideration, but they are not likely to win quick backing from either the Congress or the state governors. This then is at best a longer-term approach.

For tasks that do not need an immediate response, the Reserve Components can certainly play a major role. Here again, though, it will be important to differentiate between those that can be planned in advance and those that arise unexpectedly. For the first, these forces can more easily fill the requirements because they can be volunteers or at least have time to prepare for the dislocations in their civilian lives. The second is more difficult if the needs are such that an immediate reserve call-up is required. This creates a number of family and employer dislocations, as the post–September 11 call-ups have shown.

So it is not so simple, as most DoD documents suggest, that homeland security will depend primarily on the Reserve Components. Or even, that all that is required, as many commissions suggest, is for the National Guard to make homeland security its primary mission. In this view, the Guard would reorient its priorities and resources to preparing for and responding to homeland disasters, rather than for conventional wars overseas.[8] This may be a good idea, but the National Guard would still not be available for large-quick responses, so such a step in and of itself will not solve the homeland security challenges currently facing the Army.

---

[8]See, for example, U.S. Commission on National Security/21st Century (2001, p. 24); "Gilmore Commission" (2002, p. 107); and Spencer and Wortzel, 2002.

IMPLICATIONS OF HOMELAND SECURITY REQUIREMENTS FOR OTHER ARMY MISSIONS

Still another issue for the Army is how its homeland security requirements will affect its overseas requirements. The Army capabilities that will be required for homeland security may or may not be large, depending on what transpires. What is known is that these capabilities will be similar to those being planned and employed in other Army missions.

One such mission involves force protection, which after September 11 is an even higher priority. Within the United States, the Army must now take new measures to protect peacetime installations and not focus only on American soldiers deploying overseas, according to recent RAND analysis.

Another Army mission involves long-term day-to-day military assistance and interactions with other countries. As Chapter Three describes, these have been expanded significantly in the war on terrorism. Still another mission involves various peace operations, which also have grown in number, as counter-terrorism operations extend beyond Afghanistan to many other countries. All of these activities draw on the capabilities that the Army plans for fighting major theater wars.

So the primary effect of the increasing homeland security activities is to exacerbate the tension the Army faces in providing capabilities for its multiple missions and to increase the strain already placed on certain high-demand specialties, such as military police, civil affairs, intelligence, psychological operations, medicine, and engineering.

This leads logically to an approach that would move beyond aggregating requirements simply for homeland security tasks to include those for all the Army's nonwarfighting missions. Such an approach would permit the Army to look across all these missions to uncover potential gaps in certain specialties as well as in overall force structure and, more important, to ensure that capabilities for these homeland security and peacekeeping missions do not seriously undermine its ability to fight the nation's wars.

CONCLUSIONS AND RECOMMENDATIONS

The Army will need to change its traditional approach to homeland security. It can no longer promise the American people that it can accomplish the potential tasks by drawing on forces structured for other purposes or for that matter depending primarily on the Reserve Components.

One possibility, which the Army has already tried, is to see the priority being given to homeland security as an opportunity to increase Army force structure.

Beyond the already planned increase of 5,000 soldiers in 2003, the Army has reportedly called for 20,000–40,000 more soldiers over the next five years. Secretary Rumsfeld has so far not been attracted to such an approach, for the obvious budgetary reasons. Personnel costs in the defense budget are already rising sharply. His suggestion is to reduce current commitments, utilize existing personnel more efficiently, and contract out more administrative and service functions.

Another possibility that the QDR seems to be encouraging is for the Army to revise the requirements for its other missions, but this is certainly not mandated. The Army understandably will resist such a step, given that its most immediate experience is to be given more, not fewer, things to do. And, even if it were to undertake such a revision in its other missions, such a step is politically very sensitive and would take time.

The Army, thus, now needs to seriously consider making two changes in the way it plans for homeland security. First, the Army in the short term should dedicate and have available at all times capabilities in the active Army to act quickly with substantial forces in response to various kinds of potential emergencies. These capabilities would involve a variety of Army units, including general-purpose forces, transportation and engineers, medical, supply, and command and control. The risks of being unprepared for major tragedies are too high to do this in any other way. At the same time, the Army should undertake to find ways for the longer term in which a similar "quick-response capability" could be provided by the Reserve Components or through the creation of a different kind of homeland defense force. This will not be easy politically, for the first would probably require changes in the orientation of the National Guard and the second a shift in resources away from the National Guard.

Second, the Army should now begin to view those activities involving "longer-term commitments," both at home and overseas, as a single mission. All homeland security activities that are routine or represent extended operations as well as overseas military assistance programs and peacekeeping operations would be grouped together, and Army capabilities would be planned and budgeted accordingly. Forces for these would come primarily from the Reserve Components. Soldiers would continue to be trained to do these and the warfighting missions, although the relative emphasis will likely need to change. The size and character of both the quick-response and longer-term requirements would evolve over time in light of changes in the threat, in overseas commitments, and in civilian homeland security capabilities.

In this way, the Army could confidently say to the American people that it can provide the capabilities needed for these high-priority, new, and diverse home-

land security tasks. It would also be the basis to make the case for additional forces and funding if gaps were found to exist.

REFERENCES

Brennan, Rick, K. Scott McMahon, David Kassing, David E. Mosher, Lynn Davis, Jeremy Shapiro, John Hollywood, and Michael Lostumbo, *Estimating Army Homeland Security Requirements*, Santa Monica, Calif.: RAND, MR-1685-A, forthcoming.

Brinkerhoff, John R., "Restore the Militia for Homeland Security," *Journal of Homeland Security*, April 22, 2002.

Davis, Lt. Gen. Russell C., Chief, National Guard Bureau, statement before the U.S. Senate Judiciary Committee's Subcommittee on Technology, Terrorism, and Government Information, December 13, 2001.

Department of Defense (DoD), *Quadrennial Defense Review Report*, September 30, 2001.

_____, News Release, "Unified Command Plan," April 17, 2002.

Director of Central Intelligence, "Worldwide Threat—Converging Dangers in a Post 9/11 World," testimony before U.S. Senate Select Committee on Intelligence, February 6, 2002.

Echevarria, Lt. Col. Antulio J. II, "Homeland Security Issues: A Strategic Perspective," *Strategic Issue Analysis*, Strategic Studies Institute, Army War College, 2002.

"Gilmore Commission," *Second Annual Report to the President and the Congress of the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction*, December 15, 2000.

_____, *Third Annual Report to the President and the Congress of the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction*, December 15, 2001.

_____, *Fourth Annual Report to the President and the Congress of the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction*, December 15, 2002.

InsideDefense.com, "Rumsfeld Calls for Limits on Military Support to Civilian Agencies," April 19, 2002.

Kernan, Gen. William F., U.S. Joint Forces Command, statement before the U.S. House of Representatives Committee on Armed Services, March 14, 2002.

Martin, Col. John R., "Defining Preparedness: Army Force Structure in the War on Terrorism," *Strategic Issue Analysis*, Strategic Studies Institute, Army War College, 2002.

The National Strategy for Homeland Security, Office of Homeland Security, Office of the President, Washington, D.C., July 2002.

The President's Commission on Critical Infrastructure Protection, *Critical Foundations; Protecting America's Infrastructures*, October 1997.

Rumsfeld, Donald H., Secretary of Defense, *Annual Report to the President and the Congress*, 2002a.

_____, "Transforming the Military," *Foreign Affairs*, Vol. 81, No. 3, May/June 2002b.

Sortor, Ronald E., *Army Active/Reserve Mix: Force Planning for Major Regional Contingencies*, Santa Monica, Calif.: RAND, MR-545-A, 1995.

Spencer, Jack, and Larry M. Wortzel, "The Role of the National Guard in Homeland Security," *The Heritage Foundation Backgrounder*, April 8, 2002.

U.S. Commission on National Security/21st Century, *Road Map for National Security: Imperative for Change*, March 15, 2001.

Chapter Five

THE SHIFT TO ASIA: IMPLICATIONS FOR U.S. LAND POWER

Roger Cliff and Jeremy Shapiro

> Asia is no longer the mysterious East. It's the dynamic, vital, often troubled, but enormously promising center of changes that are dramatically reshaping the world. . . . Asia's success will mean so much to America's own security and prosperity.
>
> — Donald Rumsfeld, March 3, 1998[1]

> What has happened to Asia in the past century is amazing and unprecedented. Just three decades ago, Asia had only 8 percent of the world's GDP. Today, it exceeds 25 percent. These economies are growing at three times the rate of the established industrial nations.
>
> — Bill Clinton, November 19, 1993[2]

Reflecting its origins, the United States has long defined itself in reference to Europe. Since the "Europe first" strategy of World War II, Europe has always been the "central front"—the primary locus for policy attention and defense planning. Today, however, with the Soviet threat gone, Europe, while still critical to U.S. security, is for the most part peaceful and prosperous. There is every reason to believe it will remain that way. At the same time, as the quotations that open this paper reflect, a bipartisan political consensus now holds that Asia[3] has gained and will continue to gain in prominence and hence in the priority assigned to it in U.S. foreign policy. Before September 11, 2001, this reorientation of U.S. attention seemed to stem from the apparent rise of a potential

[1]See Rumsfeld (1998, p. 14).

[2]See Clinton (1994, p. 2017).

[3]In this chapter, the term "Asia" is used to refer to the portion of the Eurasian landmass that is east of Iran and the Caspian Sea, along with the islands off the coast of that landmass. In other words, "Asia" here encompasses South Asia, Central Asia (including Afghanistan), Southeast Asia, Northeast Asia, and Asiatic Russia, but not Southwest Asia.

peer competitor, namely China.[4] After the terrorist attacks on New York and Washington, Asia garnered further attention from U.S. policymakers because of its role as an increasingly important locus of international terrorism, particularly in South and Southeast Asia.[5]

However, concerns about China and international terrorism are to some degree reflections of deeper, underlying trends. Rapid modernization and economic growth in Asia have created the conditions for the emergence of one or more great powers in the region, as well as for the relative volatility and instability of various Asian subregions. Asia is rife with crises, insurgencies, civil wars, and even the very real possibility of large-scale war in several locations from Kashmir to Korea. While the state of affairs in Europe generates new scholarly paradigms proclaiming a new age of peaceful integration, Asia remains the province of hard-core realists who view the world in terms of the harsh facts of power and force. Despite this political consensus, official U.S. defense policy has adjusted only marginally to the new prominence of Asia. The new defense strategy of the Bush administration is the first to move the nation's defense policy explicitly toward Asia since the end of the Cold War (DoD, 2001).

The effects of this move are consequential. From the geographic to the political, Asia is a theater fundamentally different from Europe—one that will require a realignment of thinking among American military officers as they shift the focus of their defense planning. The Army in particular will need to make important adjustments to serve the nation effectively within the confines of a military strategy that gives priority to Asia. This chapter is meant to help the Army in that adjustment by describing U.S. interests in Asia, the nature of the Asian military operating environment, and how that environment might affect the use of land power and the U.S. Army.

U.S. INTERESTS AND ALLIANCES IN THE ASIA-PACIFIC

As a global power, the United States has important interests in all of the regions of the world. Effective foreign policy and defense planning, however, requires more than just the recognition of interests, it requires prioritization of those interests, often on a regional basis.[6] The size of Asia's regional economy in combination with its strategic volatility ensures it ranks near the top of any

[4]See, for example, Khalilzad et al. (2001); Sokolsky, Rabasa, and Neu (2000).

[5]See, for example, Rabasa (2001).

[6]In making this same point shortly after World War II, George Kennan asserted that the most pressing foreign policy priority of the United States should be to ensure that no more of the key centers of military and industrial power (the United States, Britain, Germany, Japan, and the Soviet Union) fall into the hands of a power hostile to the United States. See Gaddis (1982, pp. 30–31).

imaginable list of U.S. priorities. As a result, the range of U.S. interests in Asia are vast, but would certainly include the following:

- Preventing the emergence of a dominant hostile great power in the region.
- Deterring or countering aggression or coercion against U.S. friends and allies.
- Defeating terrorist organizations hostile to the United States.
- Maintaining the economic vitality of the region.
- Providing U.S. economic access to the region.
- Ensuring freedom of navigation in the region.
- Preventing the proliferation or use of weapons of mass destruction (WMD).
- Preventing state failure and internal conflict.
- Promoting democracy and human rights.

At the moment, bilateral relationships, especially the alliance relationships with Japan, Australia, South Korea, the Philippines, and Thailand, form the basis for U.S. security cooperation in Asia. The Asian region itself lacks strong regional security institutions that could moderate tensions, preserve regional stability, and prevent the domination of the region by any one power.[7] One reason for this lack of multilateral security arrangements is that, unlike Europe, Asia does not regard itself as a geopolitical whole. Events in India, for example, are viewed as being of little significance in East Asia. This assumption is becoming increasingly untenable as technology and interdependence effectively shorten the distances and increase the links among Asian regions.

THE ASIAN OPERATING ENVIRONMENT

Asia possesses a number of characteristics that distinguish it from Europe, the traditional centerpiece of Army planning. The most obvious of these is an order-of-magnitude difference in geographic scale. Even including all of Russia west of the Urals, the total land area of Europe is only one-quarter of that of Asia.[8] Moreover, U.S. bases in Asia are concentrated in Northeast Asia and Southwest Asia. Consequently, while a conflict in the European theater during the Cold War would have occurred close to permanently stationed U.S. forces, a crisis in Asia that involves U.S. forces could occur thousands of miles from the

[7]See Friedberg (1993, pp. 5–33). On existing multilateral institutions, see Paal (1999).

[8]This remains the case even when Southwest Asia is excluded from Asia (*The New Encyclopaedia Britannica*, 2002, Vol. 4, p. 602, Vol. 14, p. 128; CIA, 2002).

nearest U.S. bases. Much of Southeast Asia, for example, is more than 2,000 miles from the nearest U.S. bases, which are in Okinawa, Guam, Diego Garcia, and the Middle East.

The shape of the Asian landmass also affects potential U.S. Army operations. Whereas Europe's coastline is deeply indented, so that most land areas are within a few hundred miles of the sea, Asia's continental coastline is largely convex, with some areas a thousand or more miles from the nearest ocean (see Figure 5.1). As a result, not only are most potential theaters of conflict in Asia far from existing U.S. bases, but some potential theaters of conflict, such as Kashmir or the Fergana Valley, are also deep inland. Conversely, Asia also contains major archipelagic nations, including Japan, Indonesia, and the Philippines, with a million square miles of territory and nearly 10,000 inhabited islands between them (CIA, 2002).

Asia has far more populous nations and far more densely populated areas than Europe. Both China and India have populations greater than all of Europe combined, and a total of six Asian countries have populations larger than that of the most populous country in Europe (see Figure 5.2).[9] Moreover, although the average population density in Asia is only slightly higher than in Europe, vast areas of Asia, such as Siberia and Central Asia, are sparsely populated, while other areas are far more densely populated than any in Europe. The most densely populated country in Europe, for example, the Netherlands, is only half as densely populated as the most densely populated country in Asia,[10] Bangladesh (which is four times the geographic area of the Netherlands). India, the fourth most densely populated country in Asia, is more densely populated than all European nations other than the Netherlands and is at least 80 times as large as the Netherlands (see Figure 5.3). Asia also possesses huge cities, including 11 cities with populations greater than 10 million, compared with none in Europe. The ten most populous Asian and European cities are shown in Figure 5.4 (UN, 2001, pp. 250–252).

Along with the geographic scale of Asia is its physiographic diversity. Most of the land area of Europe consists of temperate farmland broken up by relatively small areas of (usually mountainous) woodland and forest. Asia, by contrast, has a much greater variety of physiographic environments, including large areas of desert, tropical rainforests, and the world's highest mountain ranges, in addition to temperate farmland and woodlands as found in Europe.

---

[9]The most populous country in Europe is Russia. Russia's overall population was estimated at 147 million in 1998, but only 94 million lived in the European portion of Russia. The second most populous country in Europe is Germany, with an estimated population of 83 million in 2001 (personal communication with Clifford Grammich, RAND; CIA, 2002).

[10]Other than city-states, such as Monaco or Singapore.

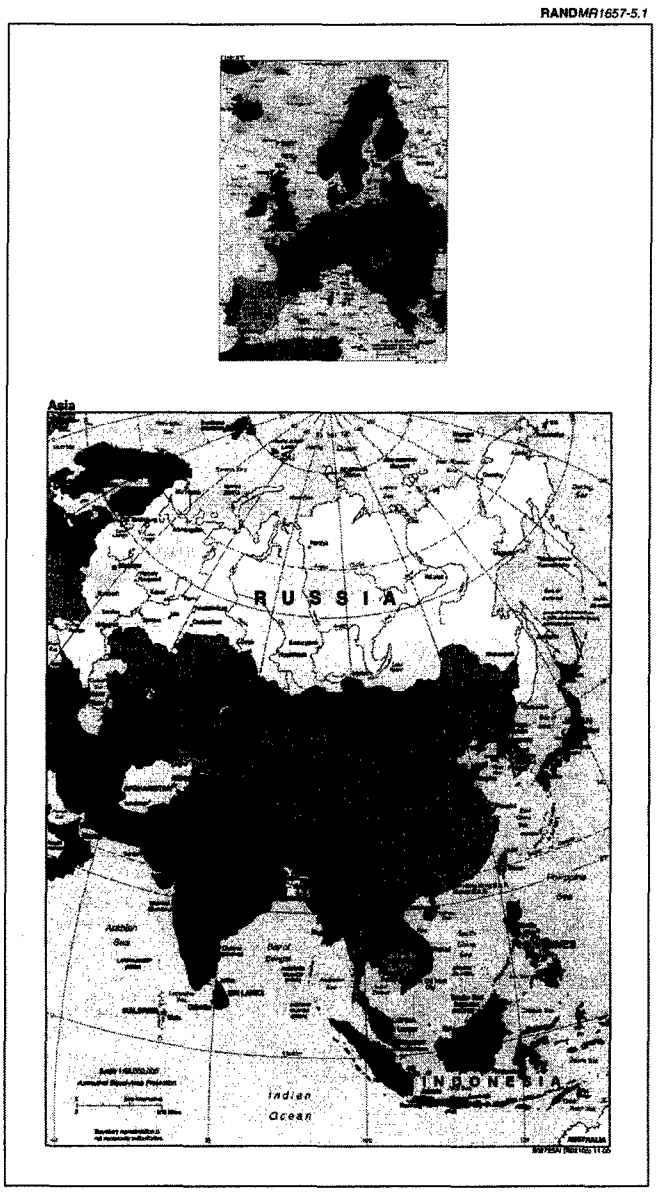
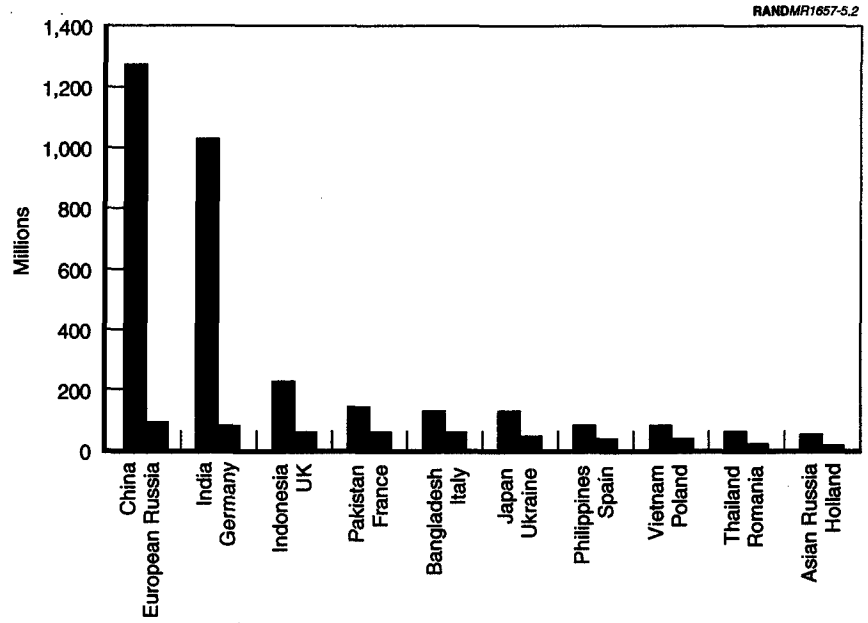
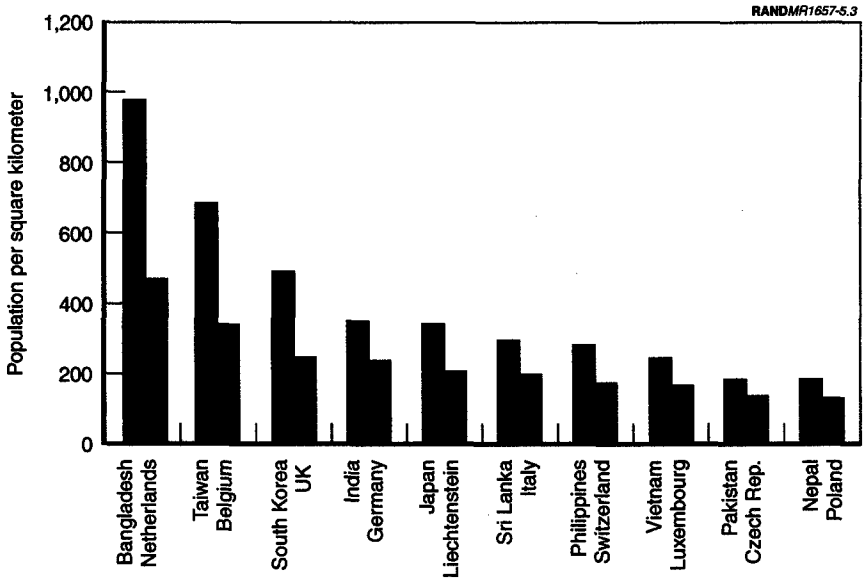


Figure 5.1—Relative Geographic Sizes of Europe and Asia (Maps Are to the Same Scale)



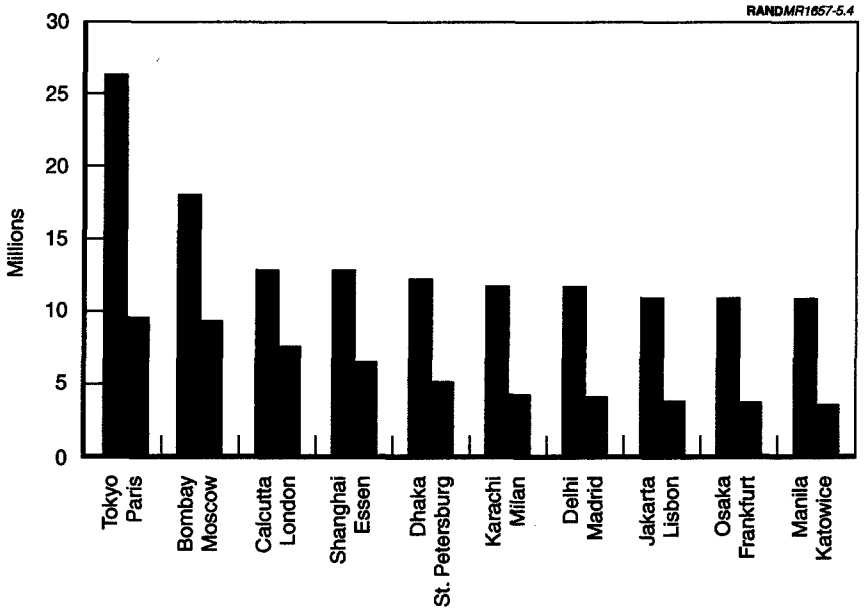
SOURCE: CIA, 2002.

Figure 5.2—The 10 Most Populous European and Asian Countries



SOURCE: CIA, 2002.

Figure 5.3—The 10 Most Densely Populated European and Asian Countries



SOURCE: UN, 2001.

Figure 5.4—The 10 Largest Asian and European Cities

Increasing the physiographic challenges Asia presents is the relatively undeveloped infrastructures of most Asian countries, with portions of Northeast Asia (Japan, South Korea, and Taiwan) as the primary exception. In many Asian countries, modern ports and airfields are few and far between and road and rail networks are sparse. Related to the underdeveloped infrastructure of most Asian countries is the nature of likely coalition partners in an Asian contingency. With the exceptions of Japan, Australia, and South Korea, the militaries likely to be U.S. coalition partners in Asian military operations are far less competent and technologically sophisticated than Western European militaries. Most Asian countries are poor, and their militaries mainly consist of large numbers of poorly trained and equipped conscripts. Many of the weapons operated by these militaries are obsolete, and many of them are of Russian or Chinese manufacture, creating even greater problems of interoperability than those that already plague NATO activities.

In addition, the militaries of many potential coalition partners are relatively unfamiliar to the United States. The U.S. military exercises regularly with the South Korean military and to a lesser extent the Japanese and Australian militaries. The U.S. military, however, only rarely exercises with other Asian armed forces. Thus, if the United States becomes involved in an Asian contingency, it

is likely to find itself working with coalition partners unaccustomed to operating with the U.S. military and inexperienced in the U.S. approach to contingencies.

Asia is also a region in which antiaccess and area-denial strategies are likely to be employed to a much greater extent than was ever the case in Europe. North Korea, for example, could attempt to prevent the reinforcement of South Korea through the use of ballistic missiles and chemical weapons. China could use conventionally armed ballistic and cruise missiles, diesel-electric submarines, long-range surface-to-air missiles, and advanced antiship cruise missiles in an attempt to prevent the United States from deploying or operating forces near China in a conflict.

POSSIBLE SECURITY CHALLENGES IN ASIA

It is impossible to predict where the United States will next employ its military forces. In early 2001, for example, few would have expected that the U.S. Army would be conducting combat operations in Afghanistan. Nonetheless, by examining the array of foreseeable contingencies in Asia, it is possible to describe the *types* of security challenges the Army needs to prepare for in coming decades.

Table 5.1 contains an illustrative list of potential security challenges in Asia.[11] As the table, which is not meant to be predictive, implies, a wide range of contingencies is possible in Asia. What is notable is that few of them are conventional overland invasions, which used to be the focus of U.S. Army planning in Europe. The one exception to this is the possible invasion of South Korea by North Korea. North Korea has an estimated 1 million men under arms, more than 3,000 main battle tanks, more than 10,000 artillery pieces, and several hundred combat aircraft arrayed against South Korea (IISS, 2001, pp. 197–198). In addition, North Korea also has ballistic missiles, as much as 5,000 tons of chemical weapons, 1,000 tons of biological weapons, and possibly a few nuclear weapons (Jane's, 2001). A North Korean invasion of South Korea, therefore, although it would have some characteristics of a conventional land war, could well be complicated by the use of nuclear, chemical, and biological weapons, both against troops and against such access points as ports and airfields.

Aside from defending South Korea from an invasion by North Korea, the U.S. Army could find itself involved in other types of operations on the Korean peninsula as well. The population of North Korea has suffered enormous eco-

[11]These scenarios were identified based on the authors' understanding of regional dynamics and their experience with scenario development. For an alternative set of scenarios, see Khalilzad and Lesser (1998, pp. 43–170).

Table 5.1

Potential U.S. Security Challenges in Asia

- Invasion of South Korea by North Korea
- Regime collapse in North Korea
- Widespread ethnic or separatist conflict in Indonesia
- Chinese attempt to coerce or invade Taiwan
- Nuclear war between India and Pakistan
- Counterterrorist or counterinsurgency operations in the Philippines[a]
- Collapse of governance in Pakistan
- Conflict between claimants to Spratly Islands
- Failure of central governance in Burma
- Failure of central governance in China
- War between Burma and Thailand
- War between Malaysia and Singapore
- Land war with China

[a]Although the United States has been training the Philippine military, at the time of this writing U.S. forces had not been directly engaged in counterterrorist or counterinsurgency operations in the Philippines.

nomic deprivation over the past decade. Although the government of Kim Jong-Il currently appears to be firmly in control, it is still possible that the regime could collapse because of a coup attempt or popular uprising. If the Pyongyang government lost the ability to govern the country, the U.S. Army could be called on to assist South Korean forces in restoring order in the North. Such a contingency could be complex, involving delivery of humanitarian assistance to the population of North Korea while simultaneously defeating and disarming elements of the North Korean armed forces that are potentially armed with chemical, biological, or nuclear weapons. The contingency would be further complicated if China also intervened.

A similarly complex contingency could occur in Indonesia, which is ruled by a weak central government and riven by multiple ethnic and separatist divides. If these tensions erupted into conflict in multiple locations at once, they would be beyond the capacity of the central government to contain and could result in massive refugee flows or the spread of conflict to neighboring countries, such as

Malaysia or the Philippines. Under such circumstances the U.S. military (most likely as part of an international coalition) could be compelled to intervene to restore order. This might entail defeating and disarming various insurgent forces, combating elements of the Indonesian military, and delivering humanitarian assistance. Indonesia has a population of more than 200 million—50 times the populations of Bosnia or Kosovo—and 17,000 islands (CIA, 2002).[12] Restoring order in such a country would be an extremely challenging operation.

A Chinese attempt to invade or coerce Taiwan into accepting unification with the mainland might also result in U.S. military involvement. Coercion could involve a naval blockade or air and missile attacks on Taiwan. An invasion would likely include an amphibious landing along with air- and heliborne insertion of forces. U.S. military operations in support of Taiwan in such contingencies would likely entail minesweeping, escorting naval merchant vessels, and provision of air and missile defense. It is also possible that the United States could undertake operations against Chinese surface ships (naval combatants and troop transports) or against Chinese army forces on the ground in Taiwan. China's armed forces are huge, with more than 2 million men under arms and several thousand main battle tanks, artillery pieces, and combat aircraft (IISS, 2001, pp. 188–191). The bulk of this equipment is obsolescent, however, made up of Chinese versions of 1950s-era Soviet systems. Moreover, only a fraction of China's ground forces could be brought to bear in a Taiwan conflict, due to the small size of China's amphibious and airlift forces. China's air and missile forces would present the greater challenge. Taiwan's air force possesses only a few hundred combat aircraft (IISS, 2001, pp. 208–209), as opposed to the several thousand operated by mainland China. Moreover, China has several hundred conventionally armed ballistic missiles and will soon be fielding a first-generation cruise missile as well. In a conflict with mainland China, therefore, Taiwan is likely to need particular assistance in defeating air and missile attacks.

In South Asia, the greatest danger is the possibility of conflict between India and Pakistan over Kashmir. The armed forces of both countries are large. India has more than a million military personnel, several thousand main battle tanks and artillery pieces, and several hundred combat aircraft. Pakistan has more than 500,000 military personnel, more than 2,000 main battle tanks, nearly 2,000 artillery pieces, and several hundred combat aircraft (IISS, 2001, pp. 162–164, 167–168). Most significantly, both sides have nuclear weapons and medium-range missiles. Given India's preponderance in conventional forces, it is conceivable that Pakistan could resort to the use of nuclear weapons to prevent a catastrophic military defeat and, if this were to occur, New Delhi could

[12]Most of Indonesia's population lives on a dozen or so islands.

feel compelled to retaliate in kind. Even a purely battlefield use of nuclear weapons would have a devastating effect on the civilian population in the region, and U.S. forces could well be involved in an international humanitarian relief effort in the wake of such an exchange.

Another possibility, indeed an ongoing concern, is the deployment of U.S. troops in Asia as part of the global war on terrorism. U.S. Special Forces have already assisted Filipino forces in operations against Abu Sayyaf, an indigenous terrorist organization linked to al Qaeda. U.S. support to counterterrorism operations in the Philippines or elsewhere in Asia could result in the U.S. forces directly involved in counterinsurgency efforts in the region.

Also of concern is the possibility of a collapse of governance in Pakistan. If Pakistan plunged into civil war, control over Pakistan's nuclear arsenal could be weakened and some weapons might make their way into the hands of other countries, such as Iran, or even terrorist organizations. In addition, if Islamabad lost its ability to govern parts of the country, such terrorist organizations as al Qaeda could attempt to use those areas as safe havens. In such circumstances the United States might be compelled to deploy military forces to Pakistan to restore order, secure Pakistan's nuclear weapons, or defeat terrorist forces.

Other contingencies in Asia, though less prominent, are possible. A major conflict between claimants to the Spratly Islands in the South China Sea could disrupt vital shipping traffic in those waters. Central governance could fail in Burma or China. (A failure of central governance in China, though less likely than in Pakistan, would arouse many of the same concerns, given China's nuclear arsenal. It would also probably result in a massive humanitarian crisis and large-scale refugee flows to neighboring countries, particularly Taiwan, Japan, and South Korea.) Wars between Burma and Thailand, a U.S. treaty ally, or between Malaysia and Singapore, though they currently seem improbable, are also conceivable. It is even possible, though improbable, that the United States could become involved in a land war with China, which has the world's largest army. Although each of these contingencies appears quite unlikely, most of the major conflicts in which the United States has been involved since World War II have not been conflicts viewed as likely prior to their occurrence. To ensure that it can respond effectively to the next contingency, whatever it is, the U.S. Army must be prepared for the entire range of possibilities in Asia.

IMPLICATIONS FOR THE U.S. ARMY

The contingencies above would undoubtedly be joint operations, according important roles to all four of the services in each case. The shift to Asia will therefore require adaptations by all the services. Nonetheless, these adapta-

tions will be most difficult for the Army, not only because of the nature of the Asian operating environment but also because of the measures that the Army took to recover from the institutional trauma occasioned by its last full-scale military operation in Asia, the Vietnam War. As part of its remarkable institutional recovery after Vietnam, the Army consciously refocused itself both strategically and doctrinally on Europe and away from Asia, a focus that has been part of its identity as a service ever since.[13] Unfortunately, geopolitical developments mean that this institutional identity is no longer tenable. More concretely, operating in Asia will have implications for the capabilities requirements of the U.S. Army and for U.S. force posture in the region.

Rapid Deployment

The first implication is the need for expeditionary forces that are rapidly deployable over long distances. Many potential contingencies in Asia are far from the nearest U.S. bases and could emerge rapidly with little warning. In some cases the preferred first-deploying units will be U.S. Marines. In other cases, however, because of the scale or type of the contingency, the U.S. Marines will not be optimally designed for resolving the crisis. For the U.S. Army to fill this gap, it must have forces capable of deploying over long distances and engaging in operations within a few days of being ordered to do so.

The combination of distance and requirement for speed under some scenarios implies a force that includes at least some self-contained combined-arms units that are entirely air-transportable. Even fast sealift (25 knots) would require at least a week to transport forces from Hawaii to Indonesia, and many potential crisis regions are far from the nearest seaport. Kashmir, for example, is nearly 1,000 miles from the nearest port, while Central Asia is virtually inaccessible to U.S. forces except by air.

The requirement that forces be air-transportable, in turn, implies that those forces have maximum possible capability per unit of weight because air transport capacity is severely limited. Therefore, efforts must be made to increase the capabilities of such forces while decreasing their weight.[14]

---

[13]On the Army's internal reform efforts after the Vietnam War and on the importance that a focus on Europe played in those reforms, see Kitfield (1995).

[14]Note, however, that this requirement does not necessarily mean that air-transportable units must necessarily be "light." A C-17 is capable of landing on most of the airfields usable by a C-130 and has a payload of more than 80 tons, whereas a C-130 has a payload of only 20-some tons. If an 80-ton vehicle has more than four times the combat power of a 20-ton vehicle, then for most purposes the 80-ton vehicle will be preferable to the 20-ton vehicle. Because, with everything else held constant, decreasing weight increases the overall capability-to-weight ratio, every effort should certainly be made to minimize the weight of vehicles. The optimal weight for a given type of vehicle is an empirical question, however, and should be determined through careful analysis. The require-

Although the need for rapid deployment implies that some units must be air-deployable and maintained at the highest state of readiness, not *all,* or even most, Army units must be. Even if all units were air-deployable and at maximum readiness, given the limitations on airlift, most of them could not begin deploying until weeks after a deployment order was issued. This has two implications. First, *most* units need not be optimized for air deployment. Virtually any port in the world can be reached by sea from the continental United States within 17 days at 25 knots. This is about the same amount of time as would be required to deploy one interim brigade combat team if roughly one-quarter of the strategic airlift fleet were devoted solely to its transport.[15] Moreover, faster transport ships, with speeds up to 40 knots, which would reduce sailing times by more than a third, may enter the fleet by the end of this decade. Thus, for contingencies within reach of a seaport, at most only a few brigades would be able to arrive more rapidly by air than forces transported by sea. Therefore, only a very few brigades need be optimized for air deployment. Second, not all units need be maintained at the highest state of readiness because, depending on the amount of sealift available, many units will not be able to begin deployment until some time after a deployment order is issued.

Forcible Entry

Closely associated with the need to be rapidly deployable over long distances is the need for a robust forcible entry capability, which can augment U.S. Marine capabilities. When crises occur thousands of miles from the nearest U.S. base, friendly forces will not necessarily be in place at that time and first-arriving forces may need to establish a lodgment in the face of armed resistance. It is possible that forces will be able to deploy to a friendly neighboring country and then advance overland to the crisis region, but it is also possible that it will be necessary to deploy by air directly into an unfriendly region. There are two possible approaches to this problem. One is to seize an airfield with airborne or air assault forces and then airlift in additional forces, and the other is to land forces directly on unprepared ground. The latter approach, however, does not appear feasible. The heaviest vertical-lift platform currently in the Army inventory is the CH-47, with a maximum payload of 14 tons (Laur, Llanso, and Boyne, 1995, pp. 114–116). Thus, unless a new vertical-lift platform is developed, directly deploying forces will be limited to vehicles weighing no more than 14 tons. Moreover, the CH-47 has extremely limited range and speed. (The as-yet-unfielded V-22 Osprey has excellent speed and range, but a maximum payload

ment to maximize capability-to-weight does not necessarily imply a certain maximum weight that vehicles cannot exceed.

[15]See Chapter Nine.

of only 7.5 tons) (Laur, Llanso, and Boyne, 1995, pp. 148–151). And even if a new long-range, high-speed, large-payload vertical lift platform could be developed, the expense of procuring a militarily significant number of them would likely be prohibitive. Consequently, the requirement to be able to deploy by air into an unfriendly region will continue to imply the ability to seize and secure an airfield and to ensure that conventional fixed-wing transport aircraft can safely land and unload their cargoes.

Defeat Antiaccess Strategies

Related to the requirement for a forcible entry capability is the requirement to be able to defeat the antiaccess strategies likely to be used by such potential regional adversaries as North Korea and China. Defeating antiaccess strategies involves countering the systems used to implement the strategies along with utilizing alternative means of access to a region. Army air defense units, Special Forces, and possibly long-range artillery (including tactical missiles) are critical to defeating ballistic and cruise missile attacks on ports and air bases, and Special Forces and long-range artillery could also contribute to defeating long-range surface-to-air missile systems and shore-launched antiship cruise missiles. [16] Army forces can contribute to the utilization of alternative means of access by ensuring that they are transportable by aircraft and ships capable of using smaller, less robust sea and air ports, as this substantially increases the number of access points available.[17]

Minimize Sustainment Needs

Associated with the requirement that forces be deployable over long distances is the requirement that they have minimal sustainment needs. In some potential crisis locations in Asia (e.g., Central Asia), forces may have to be sustained entirely by air. In other locations, it may be possible to sustain them at least partially by sea but over supply lines thousands of miles in length. Moreover, the underdeveloped infrastructure of much of Asia means that the presence of deepwater container terminals, railroads, or paved highways cannot be assumed. Given the limitations on air transport capacity, forces must have the least possible sustainment requirements.

The underdeveloped infrastructures of many Asian countries also require Army forces to be capable of being brought in and sustained through airports with

[16]As long as the United States adheres to the Intermediate Nuclear Forces Treaty, however, the Army will be limited to fielding tactical missiles with ranges of less than 500 kilometers.

[17]Ideally, Army forces would not be restricted to deploying through conventional seaports and airports at all, but, as mentioned above, the cost of such a capability would likely be prohibitive.

small, fragile runways and through shallow seaports that lack container-handling facilities. Forces must be able to travel long distances overland along poorly maintained roads or cross-country and must be capable of being sustained over those distances without reliance on local sources of fuel, food, or other consumables. These constraints underscore the importance of maximizing the capability-to-weight ratio for at least some units and of minimizing sustainment requirements. They also underscore the need for ruggedness and reliability in Army vehicles and equipment because any breakdowns will require that repairs be performed far from depot maintenance facilities. Finally, they indicate the importance to the Army of ensuring the availability of sufficient transport aircraft capable of flying into airports with small, fragile runways and the availability of sufficient high-speed transport ships capable of unloading in shallow ports without container-handling facilities, even though these assets are owned and operated by other services.

Forward-Deployed Forces

An alternative to the expeditionary types of capabilities described above is for the Army to forward-deploy forces to potential contingency locations. This would eliminate the need to rapidly deploy forces over long distances or the need for a robust forcible entry capability. Instead, forward-deployed forces would already be in place to respond to emerging crises and ensure access for later-arriving forces.

Although probably preferable to having to rapidly deploy forces in response to a crisis, forward-deployment may not be practical in Asia. One difficulty is predicting where the next crisis is likely to erupt. Since World War II, the United States has rarely anticipated where the next conflict requiring U.S. intervention will arise. Even now, for example, while it is possible to identify the most likely candidates for the next crisis in Asia, it is impossible to predict which, if any of them, will actually occur. To be confident of having forward-deployed forces at the next crisis location, therefore, the United States would have to station forces at all likely contingency locations. This is probably not feasible for several reasons. First, few countries in Asia would be willing to host U.S. military forces aside from the forces already stationed in Japan and Korea. Indonesia, for example, is unlikely to allow the United States to station forces in Aceh, Ambon, Irian Jaya, or other locations where ethnic or separatist violence potentially could erupt. It is possible that one of Indonesia's neighbors, such as Australia, could be persuaded to host U.S. forces on a permanent basis, but, although this would shorten deployment distances, it would not eliminate the potential need for rapid deployment and forcible entry capabilities when a crisis arose. Even if

the United States had forces permanently stationed in Darwin, Australia, for example, they would still be 2,700 miles from Aceh.[18] Second, given the number of potential contingencies and the geographic scale of Asia, the U.S. Army does not have sufficient force structure to station militarily significant forces near every potential crisis location. This is particularly true for low-density/high-demand units, such as air defense batteries.

The ability of the U.S. Army to forward-deploy forces in Asia faces other constraints. The undeveloped nature of many potential crisis locations in Asia means that forces stationed there are likely to be "unaccompanied" deployments—that is, operational deployments that do not allow soldiers to bring their families or to set up normal housing arrangements. The Army is already near the maximum number of operational deployments it can support without exceeding the 3:1 unit deployment standard, which holds that for every unit operationally deployed abroad, there must be three units at home backing it up to maintain that deployment year-round. A significant number of new unaccompanied deployments in Asia would cause the U.S. Army to exceed that limit.

The financial cost of establishing a significant number of new overseas bases required to support additional forward-deployed forces in Asia would also be a substantial burden, all the more so if they were accompanied tours with the associated requirement for family housing, schools, etc. Finally, there are potential constraints on the ability of the newly forward-deployed forces to train effectively, with a corresponding impact on their ability to conduct military operations.

Nonetheless, forward-deployment does convey significant advantages. Most important, by reducing transport distances, it reduces the strategic lift requirement and increases the speed with which a given-sized unit can be deployed to a crisis region. It is in the interest of the United States, therefore, to increase Army presence in Asia or the western Pacific. In view of force structure, operational tempo, and resource limitations, however, this should consist of rapidly deployable units in at most one or two new locations in the region. Northern or northwestern Australia is one possibility. Australia is probably the country in the region most likely to be willing to host additional U.S. forces and, although Australia is far from much of Asia, it is nonetheless much closer than the United States is. Forces in Australia would be well positioned to deploy anywhere in East, Southeast, or South Asia. Moreover, northwestern Australia possesses excellent, if rudimentary, training ranges. Finally, the high standard of living

[18]Distance estimated using distance calculator at http://www.indo.com/distance/index.html. Such countries as Singapore or Thailand would likely allow U.S. forces to operate from their territory in a crisis, but those forces would still be faced with the task of first deploying to the area from their permanent bases.

and similar language and culture in Australia mean that accompanied tours would be feasible, which would prevent additional operational tempo strains on the Army as a result of such a deployment.

Prepositioned Equipment

A compromise between forward positioning and rapid deployment is represented by prepositioned equipment. Military personnel can be transported to, and fall in on, prepositioned equipment significantly more quickly than the equivalent unit could be transported to the theater, and prepositioning equipment overseas is generally less politically difficult than stationing U.S. military personnel. Prepositioned equipment also does not create operational tempo problems, and it avoids the financial costs associated with basing military personnel overseas, although the costs of purchasing, storing, and maintaining prepositioned equipment are not negligible.

In Asia, given the difficulty in predicting where the next crisis will erupt, the optimal solution might be to maintain prepositioned equipment on board fast transport ships somewhere in Southeast Asia. This would avoid the need to purchase and maintain multiple sets of prepositioned equipment but maintain the capability to respond rapidly to an emerging crisis. Moreover, prepositioning ships could begin steaming toward a crisis region before a political decision to commit military forces was made. Singapore would be an ideal location because prepositioning ships there could deploy toward the Indian Ocean or East Asia with equal ease and could reach any port in Asia in less than five days (at 25 knots).[19]

Multipurpose Forces

The characteristics of the Asian operating environment have other implications for the requirements of U.S. Army forces. Relatively small Army units must be capable of controlling large areas of territory and large populations, given the vast geographic size of Asia and the vast populations of many Asian countries.

Army forces must also be capable of operating effectively in a wide variety of environments, given the geographic diversity of potential contingency locations in Asia. This could be achieved by maintaining forces specialized for each type of geographic environment, but doing so would severely limit the number of Army forces capable of operating effectively in any given environment. The

[19]The ultimate choice of home ports for such ships would depend on which country was willing to accept them. The political feasibility of stationing prepositioned equipment in particular countries was not assessed in this study.

alternative is for all Army forces to be capable of operating effectively in any type of environment without being optimized for any single environment in the way that U.S. forces were largely optimized for operating in central Europe during the Cold War. Thus, all Army equipment and personnel should be capable of operating effectively in arid, dusty environments; in hot, humid environments; in high-altitude environments; and in complex terrain, such as jungles or cities. This requirement means that Army units must frequently deploy to these types of environments for exercises and training to learn how they affect personnel and equipment, particularly over extended periods of time, and must incorporate the lessons learned from these deployments into equipment design and operating procedures.[20] In particular, the Army must also be prepared to combat the unique diseases and other health hazards associated with many of these environments.

Building Ties with Militaries in Asia

The unfamiliarity of many potential coalition partners in Asia means that the Secretary of Defense's Security Cooperation Guidelines and the combatant commanders' Security Cooperation plans should emphasize increasing Army interaction, particularly combined exercises and training, with countries in Asia, especially those that are *not* allies with which the Army regularly trains. The rudimentary capabilities of many militaries in the region may make exercising and training with them seem unrewarding for the Army, but, given that these low-tech militaries may well be U.S. partners or adversaries in future contingencies, becoming familiar with their capabilities and operating style and learning to operate with them are important. If political sensitivities prevent the Army from exercising combat capabilities with a given country, combined activities should focus on noncombat operations, such as peace operations, humanitarian assistance, and disaster relief, because these will still provide familiarity with the competency and operating style of that country's military.

As in the case of training in the various geographic environments in Asia, the Army must not only frequently train and exercise with nontraditional potential coalition partners in Asia, it also must ensure that a process exists for incorporating the lessons learned from these activities into the equipping and training of Army units. This does not mean that the capabilities of Army units need to be "dumbed down" to the lowest common denominator in the region but simply that Army units must have the flexibility to operate with militaries having a

[20]In particular, since the closure of U.S. bases in Panama, the Army no longer has a jungle warfare school. A number of Asian countries, however, such as Malaysia and Brunei, maintain jungle warfare schools. The United States should seek arrangements with these countries to allow regular deployments by U.S. Army units for training at these schools.

variety of different types of organization, equipment, and operational doctrine. The Army should also ensure that it has linguists and foreign area experts familiar with all of the major countries and cultures of Asia and allow them to build personal relationships with key personnel in the militaries of those countries to facilitate communication and coordination in a crisis. This will require an increased emphasis on Asia in the Foreign Area Officer program.

Ground Force Capabilities in Asian Contingencies

The characteristics of the possible contingencies in Asia also have implications for the requirements of U.S. ground forces and for U.S. force posture in the region, as Table 5.2 indicates. First, as long as North Korea, with its huge army, remains a threat to invade South Korea, the U.S. Army must continue to be capable of defeating large-scale mechanized offensives on the Korean peninsula. This means having militarily significant forces forward deployed in Korea along with the ability to rapidly reinforce them. Even if tensions on the Korean peninsula subside and North Korea demilitarizes or unifies with South Korea, the United States may still wish to maintain forces in Korea. If all U.S. forces were withdrawn from Korea, Koreans could perceive themselves as vulnerable to China or Japan and possibly respond by aligning themselves with China or by increasing their indigenous military capabilities, including, potentially, deploying nuclear weapons, either of which would be detrimental to U.S. interests.

Regardless of whether it retains forces on the Korean peninsula, the U.S. Army will want to retain the capability to defeat large-scale mechanized offensives because China will still field the world's largest army. Although a land war with China is unlikely, the possibility cannot be completely discounted—the most plausible setting being the Korean peninsula.

U.S. Army forces must also be capable of operating effectively in environments in which nuclear, biological, or chemical weapons have been used. North Korea possesses a formidable chemical and biological weapon arsenal and is judged to be likely to use them in a conflict. In addition, U.S. Army forces could be called on to perform peace operations or provide humanitarian assistance after a nuclear exchange between India and Pakistan.

The possibility that the United States may be compelled to attempt to restore order after a collapse of governance in North Korea, Indonesia, Pakistan, or other countries in the region means that U.S. Army forces must be capable of performing effectively in complex contingencies that simultaneously combine peace operations, humanitarian assistance, and combat operations. Moreover, the rapidly evolving and unpredictable nature of such contingencies means that the same forces may be required to perform multiple missions and to rapidly

Table 5.2

Army Capabilities Required for Potential Security Challenges in Asia

	Forward-Deploy Forces	Defeat Large-Scale Forces	Operate in a WMD Environment	Manage Complex and Dispersed Contingencies	Rapidly Deploy Forces	Safeguard WMD Arsenals	Defeat Terrorists or Insurgents
Invasion of South Korea by North Korea	X	X	X		X		
Regime collapse in North Korea	X			X		X	
Ethnic and separatist conflict in Indonesia				X			X
Chinese attempt to coerce or invade Taiwan		X			X		
War between India and Pakistan		X	X		X		
Counter-insurgency operations in the Philippines							X
Collapse of governance in Pakistan or Burma	X		X	X	X	X	X

transition from one type of operation (e.g., humanitarian assistance) to another (e.g., combat operations).

The huge size of some countries, such as Indonesia or China, that could conceivably experience a failure of central governance, means that U.S. Army forces must also be capable of operating effectively in widely dispersed locations. Aceh in western Indonesia, for example, is 3,000 miles from Irian Jaya in eastern Indonesia.

A Chinese attempt to coerce Taiwan using air and missile attacks would present special challenges. The vulnerability of Taiwan's air bases, along with political

considerations, would likely prevent U.S. combat aircraft from basing on Taiwan itself. U.S. fighter aircraft, therefore, would have to operate either from aircraft carriers or from Kadena Air Base in Okinawa, nearly 400 miles away. This would significantly limit the number of fighter aircraft that could participate in the defense of Taiwan. Political considerations could also prevent the United States from attacking Chinese missile launchers and facilities on mainland China. Under these circumstances, if the U.S. Army had the air and missile defense units that could be rapidly deployed to Taiwan, they could contribute significantly to the defense of the island.

The possibility of international terrorist organizations establishing themselves in ungoverned spaces in Asia, such as in Pakistan or Indonesia, means that U.S. Army forces must be capable of contributing to special operations to destroy such organizations. Similarly, the existence of various insurgencies in the region means that U.S. Army forces need to revive their ability to defeat, or provide assistance to host nation efforts to defeat, insurgent organizations.

Finally, the concern about control of the nuclear arsenals of China or Pakistan in the event of a civil war or failure of central governance means that the U.S. Army must be capable of contributing to operations to seize and secure nuclear weapons in the face of armed resistance.

CONCLUSION: THE HARDEST CHANGE OF ALL

This chapter has outlined a daunting array of challenges for the Army associated with a long-term U.S. strategic shift to Asia. As the chapter details, adapting to these challenges will require the Army to become more flexible along a variety of dimensions and more mobile and easier to sustain at long distances from its bases. As several of the other chapters in this volume detail, the Army is already undergoing a process of transformation aimed in part at meeting the types of challenges that a shift to Asia presents. While those plans are subject to criticism in many quarters, they do imply an understanding on the part of the institutional Army of the types of operational challenges the U.S. Army is likely to face, both in Asia and elsewhere.

Nonetheless, for the U.S. Army in particular, the task of transforming to meet the challenges of Asia is more difficult than it initially appears. The U.S. strategic shift to Asia involves not simply changes in operating environments and force structures but, from a U.S. Army perspective, it also generates a challenge to some of the most cherished elements of the Army's definition of itself. The Army's reassertion of its focus in Europe was instrumental in reforming and rebuilding the Army in the aftermath of its last prolonged operation in Asia, the Vietnam War. Indeed, as Carl Builder explained in his classic work on the institutional identities of the American military services, the U.S. Army's focus on

Europe during the latter part of the Cold War was based more on the Army's image of itself than on a national security rationale (Builder, 1989, pp. 138–142). Europe appealed to the Army as a theater because it justified a large army, it called for the mix of forces that the Army preferred, and it could be seen as a reprise of World War II, the war that the Army remembers most positively about itself (Builder, 1989, p. 142).

Builder also emphasizes that a focus on Europe, where land power would almost certainly be the dominant form of warfare, also supported the Army's vision of itself as the dominant service to which the other services are ultimately auxiliaries. According to J. C. Wylie (1967, pp. 53–54), "[it is] the soldier's tacit (and sometimes not so tacit) opinion that air and naval forces exist primarily to transport the soldier to the scene of the action and support him after he gets there." This view does not mean to imply that the Air Force and the Navy do not serve critical roles in any campaign or to deny that air or naval power might play a lead role in any specific campaign. Rather, it reflects a core principle that it is the U.S. Army that is the ultimate guarantor of the nation's ability to fight and win the nation's wars. "In foreign confrontations, the United States is not committed until its land forces—its Army—is committed. And in the event of war, the Army has historically borne the brunt of the war, the human cost, taking the great bulk of the casualties. The Army as an institution knows this" (Palmer, 1984, p. 209, quoted in Builder, 1989, p. 153). In this view, to paraphrase Carl von Clausewitz, ground combat is to war what cash payment is to commerce. However seldom it need happen in reality, everything is directed toward it and ultimately it is bound to occur and proves decisive.[21] From this notion flows the idea that air and naval assets must ultimately support land power.

It is a common assertion, albeit a controversial one, that the role of the U.S. Army and land power in general is under threat from technological and cultural developments that have rendered air power the option of first resort for U.S. policymakers in recent conflicts.[22] Without engaging in that debate here, it is important to understand that the notion of land power as the central element of power and the U.S. Army as the dominant service is also under threat from the strategic shift to Asia described here.

Asia, in contrast to Europe, is by its very geographic nature an air and naval theater because control and power stem from ensuring rapid and uncon-

---

[21]The actual Clausewitzian dictum is "The decision by arms is, for all operations in War, great and small, what cash payment is in bill transactions. However remote from each other these relations, however seldom the realisation may take place, still it can never entirely fail to occur." See von Clausewitz (1976, Book I, Chapter II).

[22]See, for example, Byman and Waxman (2002).

strained flow of goods and military power between landmasses rather than from the control of any particular landmass. This view is reflected in the scholarly consensus that Japan's defeat in World War II came not from the loss of any particular landmass but rather from its inability, stemming from U.S. submarine warfare, to maintain movements of supplies and troops to the home islands and to its outlying garrisons.[23]

As the discussion in this chapter should make clear, none of this is to imply that land power and the U.S. Army in particular do not have critical roles in nearly any of the variety of contingencies that might threaten U.S. interests in Asia. Rather, it is meant to imply that the shift to Asia will require a greater degree of cultural adaptation within the Army than within the other services. Thus, the assumption that, for example, air and naval lift assets will, *in extremis*, always be placed in the service of the Army is becoming increasingly untenable, yet that appears not to be reflected in Army plans to create a force of air-deployable brigades that, by implication, will have first call on Air Force lift assets. Regardless of the relative efficacy of air, naval, and land power in some conflict abstract from any particular geographic location, such assumptions will carry little weight in a force procurement process intended to produce a military that can support a U.S. strategy transfixed by the concrete realities of the vast Asia-Pacific region.

REFERENCES

Builder, Carl, *The Masks of War: American Military Styles in Strategy and Analysis,* Baltimore: Johns Hopkins University Press, 1989.

Byman, Daniel L., and Matthew Waxman, *The Dynamics of Coercion: America's Foreign Policy and the Limits of Military Might,* New York: Cambridge University Press, 2002.

Central Intelligence Agency (CIA), *World Factbook 2001,* available at http://www.cia.gov/cia/publications/factbook/index.html, accessed October 3, 2002.

Clinton, William J., "Remarks to the Seattle APEC Host Committee," *Public Papers of the President 1993,* Volume II, Washington, D.C.: U.S. Government Printing Office, 1994.

Department of Defense (DoD), *Quadrennial Defense Review Report,* September 30, 2001.

[23]See, for example, Weinberg (1995).

Friedberg, Aaron, "Ripe for Rivalry: Prospects of Peace in a Multipolar Asia," *International Security*, Vol. 18, Winter 1993–1994, pp. 5–33.

Gaddis, John Lewis, *Strategies of Containment: A Critical Appraisal of Postwar American Security Policy*, New York: Oxford University Press, 1982.

International Institute for Strategic Studies (IISS), *The Military Balance 2001–2002*, London: IISS, 2001.

Jane's, *Jane's Sentinel Security Assessment—China and Northeast Asia*, "Armed Forces, Korea, North," February 8, 2001, available www.janes.com, accessed October 4, 2002.

Khalilzad, Zalmay, and Ian O. Lesser, eds., *Sources of Conflict in the 21st Century: Regional Futures and U.S. Strategy*, Santa Monica, Calif.: RAND, MR-897-AF, 1998, pp. 43–170

Khalilzad, Zalmay, David T. Orletsky, Jonathan D. Pollack, Kevin Pollpeter, Angel Rabasa, David A. Shlapak, Abram N. Shulsky, and Ashley J. Tellis, *The United States and Asia: Toward a New U.S. Strategy and Force Posture*, Santa Monica, Calif.: RAND, MR-1315-AF, 2001.

Kitfield, James, *Prodigal Soldier*, New York: Simon & Schuster, 1995.

Laur, Timothy M., Steven L. Llanso, and Walter J. Boyne, *Encyclopedia of Modern U.S. Military Weapons*, New York: Berkley Books, 1995.

The New Encyclopaedia Britannica, 15th Edition, Chicago: Encyclopaedia Britannica, 2002, Vol. 4 and Vol. 14.

Paal, Douglas, *Nesting the Alliances in the Emerging Context of Asia-Pacific Multilateral Processes*, Stanford, Calif.: Asia/Pacific Research Center, Stanford University, July 1999.

Palmer, Bruce, *The 25-Year War: America's Military Role in Vietnam*, New York: Simon & Schuster, 1984, p. 209, quoted in Builder, 1989, p. 153.

Rabasa, Angel M., "Southeast Asia After 9/11: Regional Trends and U.S. Interests," Santa Monica, Calif.: RAND, CT-190, 2001.

Rumsfeld, Donald, "Strategic Imperatives in East Asia," speech to the Heritage Foundation, March 3, 1998, available at http://www.heritage.org/library/archives/lecture/hl605.html.

Sokolsky, Richard, Angel Rabasa, and C. R. Neu, *The Role of Southeast Asia in U.S. Strategy Toward China*, Santa Monica, Calif.: RAND, MR-1170-AF, 2000.

United Nations (UN) Population Division, *World Urbanization Prospects: The 1999 Revision*, New York: UN, 2001, available at http://www.un.org/esa/population/publications/wup1999/wup99.htm, accessed October 4, 2002.

von Clausewitz, Carl, *On War,* Princeton, N.J.: Princeton University Press, 1976.

Weinberg, Gerhard L., *A World at Arms: A Global History of World War II,* New York: Cambridge University Press, 1995.

Wylie, J. C., *Military Strategy: A General Theory of Power Control,* Westport, Conn.: Greenwood Press, 1967.

Chapter Six

PREPARING FOR COALITION OPERATIONS

Nora Bensahel

Many pressures come into play when the nation decides to go to war. One of the key questions confronting decisionmakers is whether to operate as part of a multinational coalition or act alone. *The National Security Strategy* recognizes both. It stresses that "no nation can build a safer, better world alone" but also clearly states that "we will be prepared to act apart when our interests and unique responsibilities require" (*National Security Strategy,* 2002, pp. 29 and 32).

The U.S. military must therefore be capable of operating in coalition with others, while also maintaining the ability to achieve decisive victory in unilateral operations. Many uncertainties exist about what future coalition operations will look like—whether they will involve traditional U.S. allies or more ad hoc partners, what the coalition partners will be able and willing to contribute, and so on. The only certainty is that future coalition operations will require the United States, and the U.S. Army in particular, to operate with less-capable military forces.

The Army will not have the luxury of choosing its future coalition partners, to select only those countries whose military forces are most compatible with its own. Instead, future coalition participation will depend on the specific military and political imperatives of each different contingency. The Army must therefore prepare to operate as part of future coalitions, alongside partners whose capabilities vary widely. This is not just a matter of prudent planning—it is essential if the Army is to execute its concept of military operations.

Both the unified commands and the individual services today prepare for coalition operations through a variety of exchanges and exercises. The activities focus on a variety of operational issues, some involving technical systems and others involving doctrine and command arrangements. However, staff time and budget resources for these activities are limited, and so the Army is going to need to find other ways to ensure readiness for future coalition operations. This

is especially urgent because future Army operations will rely on innovative organizational forms and operational concepts.

This chapter suggests several ways for the Army to prepare to operate on a future coalition battlefield, using as its point of departure the important lessons learned from recent coalition operations.

LESSONS LEARNED FROM PAST COALITIONS

Although the U.S. Army has participated in coalition operations throughout its existence, the end of the Cold War seems to have ushered in a new era of multinational operations. Virtually all U.S. military operations since 1989 have been conducted as part of a multinational operation, spanning the combat spectrum from high-intensity conflict all the way to peacekeeping operations. This section reviews some of the most important lessons that have emerged from the past decade and a half of coalition experience and assesses how these lessons are likely to apply to the future battlefield.

Coalitions Vary Tremendously in Their Size and Structure

Coalitions can be extremely small, extremely large, or somewhere in between. A coalition can consist of only two countries, such as Operation Desert Fox in December 1998, which involved U.S. and British airstrikes against suspected WMD facilities in Iraq. Or it can involve dozens of members, such as the 36 countries that formed a coalition in the 1991 Gulf War. Sometimes the United States seeks coalition partners who possess a special type of capability or expertise, such as the highly capable Czech anti–chemical warfare unit. Sometimes the United States seeks coalition partners with capabilities that can reduce stress on highly taxed U.S. units, such as airlift and electronic warfare assets, or that can backfill U.S. units as they redeploy to a crisis area. Sometimes the United States has no military need for coalition partners, but political circumstances require that other countries participate in the operation—even if they do not add any military capabilities.

The types of partners that the United States operates with also vary tremendously. Some are formal allies, through NATO or bilateral security treaties, while others are partners who join solely to achieve a particular objective and do not expect to cooperate in further operations once that contingency is resolved. Some coalition partners possess extremely capable military forces that incorporate advanced information technologies. Others possess industrial-era capabilities that depend on large formations and the principle of mass and heavy protection. Still others may be little more than individuals on horseback, such as the Northern Alliance in Afghanistan. Future coalition partners may

possess a wide range of familiarity with the U.S. military, ranging from decades-long exercise programs exchanges to just a few interactions with a small number of soldiers.

Finally, coalitions adopt a wide variety of command structures to oversee their multinational military forces. Some coalitions designate a lead nation to command all participating forces, such as the United States in Somalia between December 1992 and May 1993 or the United Kingdom in Afghanistan peacekeeping operations between January and June 2002. Very often, however, participating countries refuse to subordinate their military forces to a foreign commander, and so parallel chains of command are established. The Gulf War provides the best-known example of a parallel command structure, where U.S. Gen. H. Norman Schwarzkopf commanded all of the Western forces in the coalition and Saudi Lt. Gen. Khalid bin Sultan commanded all the Arab and Islamic forces. Parallel command structures can work without a problem when the commanders share a strategic vision and work together to ensure unity of effort but are obviously vulnerable to disagreements between the commanders and their political overseers.[1] A third organizational model involves a single military commander but collective political oversight by members of the coalition. NATO followed this model in Kosovo, where U.S. Army Gen. Wesley K. Clark possessed military authority over all forces in the operation but reported to the 19-member North Atlantic Council, which required unanimity in all of its decisions.

The wide variety of coalition sizes, capabilities, and structures means that the U.S. Army will have to accommodate lots of different types of coalitions. No two future coalitions will be alike because their composition and structure will vary tremendously, depending on the specific political and military situations. The Army will therefore need to be very flexible, able to conduct coalition operations under a wide variety of circumstances.

The Technology Gap Is Increasing

The Gulf War demonstrated that a significant technology gap existed between the United States and its coalition partners. Operation Desert Storm showcased many advanced U.S. military technologies, including night vision capabilities and precision weaponry, which the other coalition members lacked. France, for example, was one of the most capable coalition partners, yet its forces' lack of night vision equipment prevented their vehicles from being fully utilized at night or in poor weather. The United Kingdom required U.S. assistance with its

[1]For more on the problems with parallel chains of command, see Bensahel (1999), especially Chapters Three and Seven.

command and control systems and electronic warfare capabilities. Other coalition partners required even more extensive assistance, and U.S. liaison officers possessing satellite communications equipment were assigned to every command level down to the battalion to ensure connectivity (Zanini and Taw, 2000, pp. 51–53).

The trends that emerged during the Gulf War got significantly worse during the 1990s, as the United States continued to integrate advanced technologies into its warfighting capabilities and doctrine. For example, precision munitions accounted for less than 10 percent of the munitions expended in the Gulf War, but that figure increased to 35 percent during Operation Allied Force in Kosovo and reportedly reached as high as 69 percent during Operation Enduring Freedom in Afghanistan (Lambeth, 2000, p. 160; Lambeth, 2001, p. 87; Arkin, 2002). Even though precision capabilities are becoming essential to the conduct of modern warfare, few countries other than the United States possess such capabilities. Of the 13 NATO members who participated in Operation Allied Force, only the United States, the United Kingdom, and France deployed aircraft that could deliver precision munitions (Peters et al., 2001, p. 35). Several U.S. allies are taking steps to improve their precision, but it seems likely that the U.S. will possess the overwhelming balance of precision capabilities in future coalition operations.

Similarly, establishing effective and secure communications is a perennial concern. In the Gulf War, the United States provided significant communications assistance to both British and Saudi forces, including satellite communications packages and secure radios, phones, and encryption equipment (Zanini and Taw, 2000, p. 53). In Kosovo, the NATO allies discovered that despite more than 50 years of close cooperation and exercises, they could not establish secure communications with each other. They called out target coordinates over open frequencies, enabling Yugoslav forces to intercept this information and adjust their plans accordingly (Peters et al., 2001, p. 57).

U.S. military transformation will only exacerbate problems of achieving interoperability. Most potential coalition partners aspire to achieve the current technological capabilities of the U.S. military, but budgetary constraints mean that they simply cannot keep up with the technological advances so central to transformation efforts. A few close U.S. allies, such as the United Kingdom, France, and Australia, will be able to incorporate some emerging technologies into their military forces, but budgetary limitations will prevent them from achieving the same levels of capabilities that the U.S. intends to achieve.[2] In the

[2]One British military officer explained that they would very much like to keep up with evolving U.S. capabilities but that financial constraints will require them to focus on modernization instead of transformation (Interview with British military official, August 2002).

Gulf War, one general estimated that creating effective interoperability between the United States and a single Arab brigade required 70 soldiers, 27 tons of equipment, and 80 days of training (Bensahel, 1999, p. 91). Those resource requirements are likely to be even more significant in future coalition operations, where transformed U.S. Army units work alongside far less technologically advanced forces.

Most Partners Lack Deployability and Sustainability

In recent years, most coalition partners have relied on the United States to deploy them and sustain them for operations beyond their national borders. A few countries do possess the heavy lift and logistics capabilities to deploy and sustain themselves, including the United Kingdom, France, and Australia, but even these countries sometimes require U.S. assistance. In the Gulf War, the United States provided logistics and service support to the British division (Zanini and Taw, 2000, p. 53). In Somalia, the United States provided combat support to almost all of the 19 other coalition members and reformulated its own force mix to ensure that there would be enough combat support troops to meet coalition requirements (Bensahel, 1999, pp. 109–110). In Haiti, U.S. forces provided extensive support for coalition partners from the Caribbean, including housing, food, transportation, communications, and vehicle maintenance (Zanini and Taw, 2000, p. 59). And in Afghanistan, the United States turned down troop offers from many countries because it would have had to deploy and sustain these forces once they arrived in theater.[3]

The United States continually urges its allies to invest in deployment and sustainment capabilities, so that they can field truly expeditionary forces. The United Kingdom and France already possess some of these capabilities, and they both plan to enhance their power projection capabilities by building new aircraft carriers and other measures. Even these two countries lack the heavy lift and logistical capacity to deploy and sustain large numbers of forces for significant periods of time. At U.S. urging, NATO adopted an initiative in 1999 that encouraged all allies to develop these types of capabilities. NATO is also planning to adopt a follow-on capabilities initiative at the Prague summit in November 2002, which will explicitly emphasize rapid deployment and logistical support of combat troops (Hill, 2002). Such initiatives call attention to the problem, but the modernization and procurement plans of most future coalition partners do not call for significant expenditures in these areas. These power projection capabilities will take a long time to develop, if they are developed at all. In the meantime, the U.S. Army must be prepared to operate

[3]Interviews with U.S. military and civilian officials, July and August 2002.

alongside coalition partners who require significant logistical assistance and may rely on the Army to sustain them while they are in theater.

Coalitions Rely Heavily on Liaison Teams

All coalitions must find ways to overcome gaps between their members' capabilities, but this is a particular challenge for the U.S. Army. The United States possesses the world's most advanced military forces, so it often finds itself working with less-capable military forces. Furthermore, land forces face particular difficulties when coalition members possess different levels of capabilities. Air and naval assets can be individually rotated through an Air Tasking Order or a naval task force as mission requirements change, but army units do not possess anywhere near that kind of flexibility. Once an army commits a battalion or a brigade to an operation, hundreds and even thousands of people deploy to the conflict area, and they must coordinate their actions with the other army units in the battlespace to ensure that they are all working toward a common objective. Land force coordination is a challenge even among military units from a single country, and the problems become exponentially more complicated when they involve coalition forces that possess varying capabilities.

The U.S. Army has traditionally addressed these problems through the use of liaison teams. During the Gulf War, liaison teams were attached to Arab coalition forces at every echelon down to the battalion level, and teams of 35 liaison officers were assigned to the two primary Arab commands, Joint Forces Command–North and Joint Forces Command–East. There was also considerable liaison between the XVIII Airborne Corps and the French division, at the corps, division, and brigade levels (Zanini and Taw, 2000, pp. 53–54; Bensahel, 1999, pp. 60–61). In Haiti, coalition support teams served as liaisons with coalition forces, providing communications and training, both before and during the deployment (Zanini and Taw, 2000, pp. 59–61). In Bosnia, U.S. Special Forces formed liaison teams with units from NATO and other coalition nations to integrate intelligence, operations, communications, close air support, and medical evacuation (Layton, 1997, p. 47). U.S. and Russian units exchanged their own liaison teams, both at the headquarters level and at field locations during operations (McLaughlin, 1997, pp. 129–130). Current peacekeeping operations in Bosnia and Kosovo still rely on liaison teams to provide coordination between U.S. brigade headquarters and coalition battalions in sectors commanded by the United States.[4]

[4]Author interview, June 2002.

The Army does not specifically train any troops to serve as liaison officers. The Foreign Area Officer program produces soldiers with specific linguistic skills and regional knowledge, but they lack the organic equipment, technical training, and, often, the staff experience necessary to serve in a liaison function (King, 1998). The Army relies on Special Forces to serve in a liaison capacity, but in major operations, the Army needs to create its own liaison teams as well. Most often, individual officers are pulled out of their normal assignments, told to serve alongside other Army personnel who they do not know, and assigned to work with foreign units or even foreign countries with which they have no previous experience—a process that one officer refers to as a "'hey, you' staffing procedure" (Robinson, 1993). Many Army officers acknowledge that this is an inefficient process but argue that high operations tempo and personnel tempo rates require liaison teams be formed on an ad hoc basis using any available personnel.

Intelligence Sharing Remains a Constant Problem

Intelligence sharing is one of the most difficult problems facing military coalitions. In principle, all members of a coalition should be able to gain access to information that affects their specific mission. In reality, national sensitivities about information sharing often prevent information from being distributed to other coalition members. This is particularly true for the United States, which possesses unmatched technical collection capabilities and highly sensitive military technologies. The United States has often been unwilling to share information with its coalition partners to protect sources and methods as well as to prevent unauthorized leaks from occurring.

Problems with information sharing affect all U.S. coalition partners, including close allies. For example, the secretive group that developed the war plans for Desert Storm included a British brigadier, but it proved extremely difficult to integrate a foreign officer into the small group. Members of the group regularly classified their documents as "NOFORN" and once tore their maps from the wall when a British officer entered the room (Bensahel, 1999, p. 66). Subsequent studies also stressed that no clear guidelines existed during the Gulf War about releasing classified information to coalition members (Zanini and Taw, 2000, p. 51). In Haiti, the releasability procedures were so strict that the United States provided virtually no intelligence data to the coalition partners at the outset of the operation, although the procedures were somewhat modified over time (Zanini and Taw, 2000, p. 58). In Kosovo, the United States remained extremely cautious about sharing intelligence with NATO allies, largely because of the fear of leaks, and decided that information about some of the most sensitive air operations should not be released to the allies. Operation Allied Force therefore involved two separate Air Tasking Orders—a NATO ATO, which

listed all sorties to be flown by European aircraft and nonstealthy U.S. aircraft, and a U.S.-only ATO, which listed sorties to be flown by B-2 bombers and F-117 fighters, and strike packages that involved U.S. Tomahawk and conventional air-launched cruise missiles. The two ATOs led to a fair amount of confusion when U.S. aircraft suddenly appeared on NATO radar screens without any advance warning (Peters et al., 2001, pp. 39–41).

Recent operations in Afghanistan have also been plagued by this problem. Operational security was extraordinarily important in Operation Enduring Freedom, so information was highly compartmentalized and not releasable. The involvement of Special Forces exacerbated this problem because they usually classify their information at levels that prevent releasability. While the reasons for these high classifications are understandable, it made things quite difficult for coalition partners. The United States often asked coalition partners to undertake a mission but could not tell them the reasons for that request. This made it extremely hard for civilian leaders in coalition countries to decide whether they would undertake these missions because they had no way to calculate the costs, benefits, and risks involved.[5] Furthermore, many allies grew frustrated that they were sharing information with the United States and receiving little information in return. On occasion, information provided by a coalition partner became classified as NOFORN within the U.S. system, meaning that it could not be shared with the country that provided it in the first place.[6]

These problems can never be fully resolved because information sharing slows down operations and poses risks to operational security. Declassifying information can be time-consuming, often requiring several levels of authorization within U.S. channels, so the information may no longer be relevant by the time it is released. Furthermore, the more people know about a certain piece of information, the higher the risks that it will somehow leak. Such concerns are certainly legitimate, and U.S. officials have often refrained from sharing information with coalition partners when they thought leaks were likely.[7] Yet they pose problems for coalition operations—particularly in such cases as Afghanistan, where coalition partners provide relevant information to the United States without receiving much in return.

---

[5]Interviews with U.S. military officials, June and July 2002.

[6]Interviews with U.S. military officials, July 2002.

[7]In Somalia, the United States suspected that the Italians were sharing information with Mohammed Aideed about the timing of weapons raids and so deliberately refrained from sharing information with the UN commander in charge of the Italian forces. In Kosovo, the United States and the United Kingdom often reached decisions without consulting France in order to prevent French leaks (Bensahel, 1999, pp. 130–135; Peters et al., 2001, p. 41).

Military Planners Must Account for Political Requirements

Clausewitz's famous statement that war is a continuation of politics by other means is just as true for multilateral operations as it is for unilateral operations. Yet politics in a multilateral setting inevitably requires bargaining and compromises among sovereign states. Coalitions face an inescapable tension between maintaining the political cohesion of the coalition on the one hand and achieving military effectiveness on the other. Sometimes the only way to keep the coalition together is to sacrifice some degree of military effectiveness. When coalition members disagree about the proper strategy or approach, they often reach compromises that impose constraints on the actions of their military planners. They declare certain types of targets off limits, for example, or impose strict rules of engagement, to ensure continuing political support from all coalition members. Military planners understandably become frustrated when this occurs, but these constraints are essential in maintaining coalition cohesion and achieving the overall political objectives of the coalition operation.[8]

Recent coalition operations provide numerous examples of political requirements imposing constraints on the conduct of military operations. In the Gulf War, the United States diverted 48 jets and conducted hundreds of sorties to hunt for Scuds after Iraq launched Scuds against Israel. General Schwarzkopf did not want to take on this mission and described the Scuds as militarily insignificant, but the mission was necessary to prevent Israel from retaliating and forcing the Arab coalition members to choose sides. Another example is the liberation of Kuwait City, where the faster-moving U.S. forces stepped aside and waited for more than 24 hours—a quarter of the length of the entire ground offensive—so that the city would be symbolically liberated by Arab forces instead of American forces. Coalition considerations also affected the decision not to continue on to Baghdad, a decision that has been subsequently criticized for allowing Saddam Hussein to remain in power. At the time, U.S. decisionmakers calculated that continuing on to Baghdad would fatally split the coalition, with Arab nations refusing to participate. They argued that proceeding to Baghdad would have made the Western powers an unwelcome occupation force, which would have undermined the prestige and success of the operations that had already been concluded.[9]

Kosovo offers several examples of this dynamic as well. Since Operation Allied Force was a NATO operation, all decisions had to be unanimously adopted by

---

[8]The tension between political cohesion and military effectiveness, called the "coalition paradox," is discussed at length in Bensahel (1999), especially Chapters Two and Seven.

[9]For more details on these Gulf War examples, see Bensahel (1999), pp. 77–87.

the alliance's 19 member states. In his comprehensive study of the Kosovo campaign, Ben Lambeth argues that the need to maintain unanimity within the alliance led to rules of engagement that often prevented air power from being used efficiently (Lambeth, 2001, p. 185). Individual allies retained the right to veto individual targets—including the Dutch refusal to approve strikes on the presidential palace in Belgrade because it contained a Rembrandt painting on the first floor and the French refusal to authorize targets in Montenegro (Peters et al., 2001, p. 28). Lt. Gen. Michael Short, the air commander for Operation Allied Force, publicly complained about alliance constraints during the war (Gordon, 1999). He later testified to Congress that he faced too many constraints and that if he had his way, "I'd have gone for the head of the snake on the first night. I'd have turned out the lights the first night" (Short, 1999). These political constraints also prevented NATO military authorities from seriously considering a ground invasion of Kosovo because many members of the alliance—including the United States—feared that domestic opinion would not support such an invasion. Yet explicitly ruling out a ground option made the air campaign more difficult because it enabled the Serb forces to disperse and hide instead of massing around areas of approach to Kosovo (Peters et al., 2001, pp. 41–51).

The lessons learned from Kosovo had a direct impact on the way the United States conducted Operation Enduring Freedom in Afghanistan. Offers of military assistance started pouring in soon after the September 11 attacks, but U.S. policymakers did not accept most of those offers because they did not want to impose any constraints on U.S. operations.[10] NATO invoked its Article 5 collective defense provisions at the urging of Secretary General Lord Robertson, not the United States, and U.S. officials later stressed that they had not requested this move themselves. They chose not to conduct military operations under NATO auspices because they did not want to face the delays and compromises that would have been involved in using the alliance structure[11] (Daley, 2001). Yet Operation Enduring Freedom may turn out to be somewhat of an anomaly. The terrible shock of the September 11 attacks enabled the United States to conduct a largely unilateral campaign without any significant repercussions.[12] As the war on terrorism continues, it is unlikely to face the same type of permissive international climate that existed in the weeks following the September 11 attacks. The United States may not be able to sidestep the

[10]Interviews with U.S. government and military personnel, July 2002.

[11]Interviews with NATO civilian officials, July 2002.

[12]Special operations forces from other countries did participate in combat fairly early in the operation, but their role was not disclosed for several weeks. Contemporaneous public accounts of the war only acknowledged that British naval forces participated in two nights of strike operations during the first week, and, after that, Enduring Freedom appeared to be a unilateral U.S. operation.

need for coalition partners in its future operations, which would once again lead to a tension between political cohesion and military efficiency.

These lessons share one thing: They are ongoing challenges that must be managed instead of resolved. Some of them result from the inherent tensions between the political and military objectives of the coalition operation—such as the problems with intelligence sharing and the imposition of political constraints on the conduct of military operations. Others involve trends that cannot easily be reversed, including the increasing technology gaps, and coalition shortfalls in deployment and sustainment capabilities. Most U.S. allies and partners face significant resource constraints that will make it difficult for them to reduce these trends. If and when they gain the political will needed to do so, it will take a long time to develop and field new capabilities in these important areas. The U.S. Army, therefore, will continue to face these coalition issues for the foreseeable future and must develop strategies for managing these issues long before it deploys to a coalition battlefield.

RECOMMENDATIONS FOR THE FUTURE

The scenario described above is not inevitable. This section identifies four specific steps that the Army can take now to improve its ability to conduct future coalition operations: institutionalizing a liaison capability; including realistic coalition participation in Army wargames; incorporating coalition requirements into transformation planning; and developing a database of coalition-ready forces.

Institutionalize an Army Liaison Capability

The Army currently lacks any institutionalized liaison capacity. Coalitions rely extensively on liaison teams, but, as argued above, the Army does not organize or equip any troops to perform this important function. Liaison teams are created haphazardly, by bringing together individuals who have been pulled away from their regular assignments and who lack any specialized training or expertise. This ad hoc method can also have a tremendous effect on available military capabilities. Diverting one or two key personnel from a combat unit can cause a disproportionate decline in combat readiness, and this will become even more of a problem for an Objective Force designed around the principle of streamlined units. The current ad hoc system will be unable to address future needs because the Objective Force technical systems will be too complex to expect an untrained person to serve as an effective liaison.

Army officers often argue that they should rely on Special Forces to serve as liaison officers, but this is not a sustainable solution to a systemic problem.

Because Special Forces personnel operate as part of a 12-man team, removing two or three people to serve as part of a liaison team can destroy the combat effectiveness to the entire Special Forces team. Furthermore, Special Forces generally do not provide direct liaison between army units. When they serve as liaisons to foreign forces, they typically report to the Joint Special Operations Task Force (JSOTF) in their theater, which in turn reports to Special Operations Command (SOCOM). Their organizational structure often prevents them from reporting directly to Army field commanders, thus limiting their utility to the Army.[13] Therefore, the Army cannot rely on Special Forces to provide liaison services to coalition partners in future operations, particularly because the demands on Special Forces continue to increase around the world.

The Army must therefore develop an institutional structure to train and organize its own liaison officers without breaking existing combat units. The most efficient way to do this would be to create a pool of trained liaison officers within the reserves. Effective liaison officers of the future will need training not only on Objective Force weapon systems but on the capabilities and interoperability problems that arise from working with foreign forces. The rotation requirements of the Active Component will make it too costly, both in financial and personnel tempo terms, to maintain a standing pool of active-duty soldiers who possess the detailed technical and regional training necessary for the liaison function. By contrast, individuals in the Reserve Component can invest the time to develop these capabilities and, more important, to maintain them over time. Instead of rotating back to a field unit after two or three years as a liaison officer, a soldier from the Reserve Component can spend a career developing knowledge of a specific country or region and building cooperative working relationships with his or her counterparts. That expertise would become invaluable if a contingency arises in that area and the reservist can be mobilized quickly and without harming the capabilities of any combat units.

Include Realistic Coalition Participation in Wargames

Most Army wargames, including transformation wargames, make very unrealistic assumptions about the role of future coalition partners. One common assumption is that coalition forces will participate seamlessly in U.S.-led operations, without significant interoperability challenges. For example, an assessment of one wargame conducted in spring 1999 concluded, "coalition forces conducted operations, for all intents and purposes, as if they were U.S. forces." The report went on to note that the coalition forces completely adopted U.S. strategy as their own, without any significant differences in communications,

[13]Interviews with U.S. military personnel, April 2002.

command and control, or logistics support (Perry, Pirnie, and Gordon, 2001, pp. 19–21).[14] A similar problem affected the Army Transformation Wargame 2000, where an assessment team described the games as having "obscured the usual difficulties of coalition warfare" by giving the United States "almost perfect control over allied forces" (Perry et al., 2001, p. 28).

Another common assumption is that coalition members will provide the forces requested by the United States immediately and without any restrictions on their use, overlooking any political constraints or reluctance of the coalition governments. The assessment of the spring 1999 wargame described above concluded that the "coalition went to war much more easily and quickly than would be likely in the real world" (Perry, Pirnie, and Gordon, 2001, p. 19). The commander of coalition forces—played by a U.S. officer—immediately offered a list of coalition forces to operational planners, without any prompting or request from the United States. During the game, Turkey immediately committed itself to the coalition, despite the fact that Turkey faced an imminent danger of retaliation in the scenario. The assessment questions whether Turkey would ever have made such a decision, particularly since no single person was charged with representing the Turkish viewpoint during the game (Perry, Pirnie, and Gordon, 2001, p. 19). The Army Transformation Wargame 2000 assessment also questions the decision of certain NATO members to immediately place their forces under the U.S. commander, despite the scenario's involvement of an attack on a NATO ally and the lack of a decision by the North Atlantic Council whether it would invoke Article 5. This decision precluded the possibility that the military response be conducted under NATO rather than U.S. auspices, which seemed to be a plausible alternative outcome of the scenario as written (Perry et al., p. 28).

Army planners are generally reluctant to incorporate realistic coalition contributions. They argue that these wargames need to provide insights about the best ways to use Army forces in the future. The Army is having difficulty incorporating principles of jointness into its transformation plans, as Bernie Rostker argues in Chapter Seven, and there is reluctance to incorporate realistic coalition participation until most Army and joint issues have been resolved. This line of argument poses great dangers for the Army. The lessons learned from these wargames are being used to guide the transformation process—to decide what capabilities are needed and to develop and refine concepts of operations. If coalition issues are not realistically portrayed during these games, the Army risks learning the wrong lessons and developing capabilities and operating concepts that will not work effectively on a coalition battlefield. Coalition issues certainly are difficult to resolve, but they cannot simply be put off until the

[14]The quotation in the previous sentence is from p. 20.

single-service and joint issues have been addressed. Transformation will be too far along at that point to incorporate the requirements of a coalition environment. Coalition requirements must be addressed throughout the transformation process so that design criteria can be adjusted as needed along the way and not left to the end when those decisions cannot be changed.

One simple way to adopt this recommendation is to invite some representatives from allied countries to play themselves in existing wargames. Political considerations and concerns about operational security mean that the United States cannot extend this invitation to all prospective partners, but certain close U.S. allies could make very valuable contributions to these wargames. Allowing the British or the Australians to represent themselves, for example, would provide accurate information about the extent of interoperability shortfalls, doctrinal compatibility, and the political constraints involved in the scenario. In addition, the Army might also want to consider holding a wargame focused specifically on coalition issues, to be held in an allied country where the host represents themselves. Holding such an exercise even once would reveal a wide range of coalition issues that will never surface from the unrealistic assumptions used in current Army wargames.

Incorporate Coalition Support Requirements into Transformation Planning

Many future coalition partners lack the deployment, sustainment, and command and control capabilities needed to conduct expeditionary operations. Sometimes, the United States will calculate that the costs of providing these support capabilities to coalition partners outweigh the benefits. In Afghanistan, for example, the United States declined many coalition offers of combat forces for Operation Enduring Freedom because of their deployment and sustainment requirements.[15] At other times, however, the United States will calculate that the benefits of providing such support outweigh the costs, particularly if the situation demands that certain countries participate to augment the political legitimacy of the operation. Afghanistan is the exception, not the rule: In most previous coalition operations, the United States has chosen to provide support for its partners. The Army must therefore be prepared for the possibility that it will be tasked to do so again.

Army transformation seeks to lighten the support requirements for its forces by incorporating principles of reachback and focused logistics. These principles do not inherently prevent the Army from providing support to others, but they must be incorporated in ways that allow the Army to fulfill this requirement

[15]Interviews with U.S. military personnel, June through October 2002.

when it arises. For example, the Army can rely on reachback to provide sustainment for coalition partners as well as its own forces—unless the airlift requirements have been calculated using only the sustainment requirements of U.S forces. Because transformation emphasizes efficiency by minimizing the slack in the system, such an oversight would make it extremely difficult for the Army to ratchet up its airlift capacity so it can fulfill its mission of supporting coalition forces. This exacerbates the sustainment issues identified in Chapter Eleven of this report, and it will be quite challenging to resolve the tension between maximizing efficiency and maintaining enough slack to support coalition partners when required. Failing to consider these issues during the transformation puts the success of one of the Army's likely future missions at risk.

Deployment issues also pose great challenges for the Army. Few U.S. allies possess the heavy lift needed to deploy beyond their own borders, and, in past coalitions, the United States has often helped its partners deploy to the theater of operations.[16] U.S. lift assets are already extremely taxed, and as argued in Chapter Nine, future airlift demands will make it difficult for Army units to deploy to the battlefield by air. These problems must be addressed nationally, not at the service level, but the Army should explore ways to minimize the deployment needs of its coalition partners. In particular, it should examine ways to preposition coalition equipment or common coalition supplies. If this is not possible, the Army might consider expanding its capacity to train coalition armies to use U.S. equipment and then increasing the amount of prepositioned equipment so coalition partners could use it during contingencies.

Develop a Database of Coalition-Ready Forces

Finding the right forces that match the requirements sought for a coalition campaign can be a daunting task. One way to assist planners in assembling viable coalition forces with proper support elements is by establishing a global, centralized database, maintained in real time, of military forces from other nations that could contribute to coalition operations. Such a database would only include those units that maintain a sufficient level of readiness to allow them to be deployed quickly and the support requirements they will need—e.g., amount of air- or sealift. The database could be organized by unit type, geographic location, and/or specific capabilities for certain contingencies along the spectrum of combat operations. The United States already possesses much of the information required for such a database, but that information is scattered among defense attaché reports, military-to-military training reports, force

[16]For example, the United States deployed all Canadian forces for Operation Enduring Freedom. Canada sent its forces to Dover AFB in Delaware, and from there the United States transported them to Afghanistan (Interview with Canadian military officer, July 2002).

reports submitted by individual countries, and reports of individual military personnel who have served with foreign units. The database would consolidate all of this information, thereby creating a comprehensive and integrated picture of available capabilities. It could also contain data on U.S. forces deployed around the world and available for deployment for the contingency at hand. This would create a matrix that reflects the strengths and deficiencies in various areas of operations. Planners could then allocate various forces and capabilities to those areas that would require augmentation by coalition partners' forces.

This type of database would provide three important benefits. First, it would make it much easier for military planners to assemble effective coalitions during times of crisis. They would have at their fingertips an accurate assessment of the forces available for any contingency, instead of having to gather the data from various regional offices and commands.[17] Such a capability will be particularly important as the war on terrorism continues because the Joint Strategic Capabilities Plan process does not currently produce deliberate plans for counterterrorism operations.[18] For the foreseeable future, therefore, all counterterrorism planning will be done on an ad hoc basis and must proceed quickly to take advantage of time-sensitive information. If, for example, the United States needs a special counterterrorist unit to perform a covert operation in the jungles of Indonesia, a quick check of this database could reveal an Australian Special Air Service unit with experience in that particular area that the planner might not otherwise be aware of. Access to such a database would therefore make the contingency planning process faster and much more efficient.

Second, the database would help the Joint Staff's deliberate planning process. A database that lists coalition-ready forces would enable the Joint Staff to systematically evaluate the capabilities of coalition partners and to integrate those capabilities into the plans. They could tell when certain high-quality coalition forces will be unavailable because of rotational concerns or other commitments scheduled by their own governments. The creation of such a database system might also encourage coalition partners to adopt a more modular force structure, which would allow for easier integration into multinational operations

Third, the database would assist in designing military assistance programs by identifying shortfalls. The United States sponsors a wide range of military-to-military programs, including exercises, personnel exchanges, and reciprocal training. The database would make it possible to prioritize areas of cooperation and measure the effectiveness of these programs. Military-to-military

---

[17]While a similar system currently exists in principle in NATO (PARP and DPQs), the system covers all forces of member countries, not just ones available for operations, and their level of readiness must only be submitted once a year.

[18]Interviews with U.S. military officials, June 2002.

programs will generate useful information for the database, which will then be used to determine which areas still need improvement. After several iterations, these military-to-military programs are likely to become increasingly focused on specific capabilities that can operate effectively in a multinational context.

Such a database would rely heavily on detailed information about coalition forces, which allies may be reluctant to provide. Nevertheless, the Army has enough information about many coalition forces based on its own experiences, which should help mitigate information problems. The Army may also find that it lacks enough resources to develop and maintain such a database on its own, in which case it should pressure the Joint Chiefs or the Office of the Secretary of Defense to commit the resources necessary for this project. The database will be particularly important to the Army because it faces more complex interoperability challenges than the other services. It should seek to institutionalize this database at higher levels if it cannot afford to do so on its own.

CONCLUSION

As the Army prepares for future conflicts, coalition requirements will continue to present challenges and opportunities for planners. The Army is likely to be required to operate as part of a coalition in many future operations because coalition partners provide crucial basing, access, and support, as well as the political legitimacy that is an increasingly important component of warfare. As Army transformation progresses, however, the operational challenges of coalition warfare will increase. The United States will continue to possess the most advanced military capabilities in the world, and even close U.S. allies will face significant interoperability challenges. These challenges will become even more difficult when the United States must work with coalition partners who have not trained and exercised with U.S. forces. Yet the Army will not always have the luxury of choosing which coalition partners fight alongside its units. It must therefore ensure that its transformation, exercise, and security cooperation programs prepare tomorrow's soldiers to operate effectively as part of a multinational coalition.

REFERENCES

Arkin, William, "Weapons Total From Afghanistan Includes Large Amount of Cannon Fire," *Defense Daily*, March 5, 2002.

Bensahel, Nora, *The Coalition Paradox: The Politics of Military Cooperation*, Ph.D. dissertation, Stanford University, 1999.

Daley, Suzanne, "For First Time, NATO Invokes Pact with U.S.," *New York Times*, September 13, 2001, p. A17.

Gordon, Michael R., "Allied Air Chief Stresses Hitting Belgrade Sites," *New York Times*, May 13, 1999, p. A1.

Hill, Luke, "NATO Agrees to Shortlist to Improve Capabilities," *Jane's Defence Weekly*, June 12, 2002.

King, Capt. Joseph B., "Foreign Area Officers and Special Forces: Synergy in Combined Peacekeeping Operations," Center for Army Lessons Learned, 1998, available at http://call.army.mil/products/nftf/ sepoct98/king.htm.

Lambeth, Benjamin S., *The Transformation of American Air Power*, Ithaca, N.Y.: Cornell University Press, 2000.

_____, *NATO's Air War for Kosovo: A Strategic and Operational Assessment*, Santa Monica, Calif.: RAND, MR-1365-AF, 2001.

Layton, Richard L., "Command and Control Structure," in Larry Wentz, ed., *Lessons From Bosnia: The IFOR Experience*, Washington, D.C.: Institute for National Strategic Studies, National Defense University, 1997.

McLaughlin, Maj. Charles J., "US-Russian Cooperation in IFOR: Partners for Peace," *Military Review*, Vol. 77, No. 4 (July–August), 1997.

The National Security Strategy of the United States of America, Office of the President, Washington, D.C., September 2002.

Perry, Walter, Bruce Pirnie, and John Gordon IV, *The Future of Warfare: Issues from the 1999 Army After Next Study Cycle*, Santa Monica, Calif.: RAND, MR-1183-A, 2001.

Perry, Walter, Bruce Pirnie, John Gordon IV, Louis Moore, Robert Howe, Daniel R. Gonzales, and David Johnson, *A Report on the Army Transformation Wargame 2000*, Santa Monica: RAND, MR-1335-A, 2001.

Peters, John E., Stuart Johnson, Nora Bensahel, Timothy Liston, and Traci Williams, *European Contributions to Operation Allied Force: Implications for Transatlantic Cooperation*, Santa Monica, Calif.: RAND, MR-1391-AF, 2001.

Short, Lt. Gen. Michael, testimony before the Senate Armed Services Committee, Washington, D.C., October 21, 1999.

Robinson, Lt. Col. David H., "Liaison: Our Doctrinal Stepchild," U.S. Army Command and General Staff College, 1993, available at http://www.globalsecurity.org/military/library/report/1993/RDE.htm.

Zanini, Michele, and Jennifer Morrison Taw, *The Army and Multinational Force Compatibility*, Santa Monica, Calif.: RAND, MR-1154-A, 2000.

Chapter Seven

TRANSFORMATION AND THE UNFINISHED BUSINESS OF JOINTNESS: LESSONS FOR THE ARMY FROM THE PERSIAN GULF, KOSOVO, AND AFGHANISTAN

Bernard Rostker

> Transformation is not an end point. DoD's approach to transformation rests on . . . strengthening *joint* operations through standing *joint* task force headquarters, improved command and control, *joint* training, and an expanding *joint* forces presence policy. (Emphasis added.)
>
> — *Creating the U.S. Military of the 21st Century: Quadrennial Defense Review Report,* September 30, 2001, Donald H. Rumsfeld, Secretary of Defense

INTRODUCTION

One of the tenets of the modern Department of Defense is *jointness.*[1] Implied by the creation of a single cabinet-level department in 1947 and strengthened by the Defense Reorganization Act of 1986—better known as the Goldwater-Nichols Act—military commanders and planners have been charged for years with setting aside their parochial service orientations and rivalries and building a new *joint* military to achieve the synergy of a joint force. From the beginning of the unified Department of Defense, however, the decision to retain the three separate subcabinet military departments meant that the realities of jointness would be problematic, at times tragic. Even a decade and a half after the passage of Goldwater-Nichols, we must ask how far we really have moved toward the promise of truly joint operations. Most important, as we contemplate the future, we need to ensure that the rhetoric of jointness truly leads to the reality of jointness. Our most recent engagements in the Persian Gulf, Kosovo, and

[1]Scales (2003, pp. 164–165) makes the point that the word *jointness* is "fraught with all the vitriol inherent in the prerogatives of the individual services." He believes that the real issue is *interdependence.* I agree with both points. However, most use the term with the clear expectation that it describes a state of interdependence in which, as Scales describes it, our forces reach "a level of interoperability between air, land, and sea mediums that allows a near simultaneous application of precision fires and maneuver." Throughout this chapter, the use of the word *jointness* should be taken to include Scales's notion of interdependence and interoperability.

Afghanistan, as well as the Army's current transformation program, suggest that more attention needs to be paid to the details of jointness. Grand architectures for jointness abound, but if they are not carried through to the realities of day-to-day operations, the benefits of jointness will not be forthcoming. Identifying the failures of jointness in recent campaigns should sensitize military leaders and planners to this need and possible ways to solve some of our enduring interservice rivalries.

In the pages ahead, we will examine the tide of *jointness* from the end of the Vietnam War to the present from the perspective of the U.S. Army and ascertain lessons for the future. The term *jointness* can have many meanings, but here it should be taken to mean the ability of the Army and the Air Force to work together on the battlefield, inclusive of the notions of interdependence and interoperability. Sometimes this is captured in formal doctrine, such as the Air-Land Battle Doctrine of the 1980s or the Joint Doctrine of the 1990s. Sometime it is in on-the-ground conduct of engaged forces, as is currently seen in Afghanistan. The descriptions of the three campaigns are not definitive. Whole volumes have been written on the Gulf War and the Kosovo campaign. Similar ones are being written about the war in Afghanistan. In this chapter, the campaigns are examined through the prism of jointness: How did jointness play out, and what does it meant for the future? A great deal of attention is focused on the Kosovo campaign because it represented the nadir of jointness. It is from the experience in Kosovo that many lessons for the future of the Army will need to be learned. The war in Afghanistan, particularly how it showcased the jointness of special operations forces, provides yet another set of lessons. The challenge for the Army is how to incorporate the lessons from Kosovo and the new expectation of jointness from the initial positive experience of the special operations forces in Afghanistan.

The chapter ends with an assessment of the current transformation program in terms of jointness and the lessons of the post–Cold War period. Transformation should have addressed three problems facing the Army: the deployability of Army forces, the survivability of light forces, and the need to leverage the capabilities of the other services to provide maximum effects on the battlefield—i.e., jointness. The programs adopted by the Army at the end of the Clinton administration and supported by the Bush administration addressed the first two but at best gave lip service to the third. To learn the lessons of the recent past and to incorporate jointness into the fiber of Army operations, the Army must rethink the nature of the modern battlefield. It must also reform its combat structure to become part of the Joint Force from bottom to top. In terms of the Army's current focus on the future Objective Force, this includes bringing jointness not only to the design of the Unit of Employment (UE) but also the Unit of Action (UA)—echelons above brigade and brigades and echelons

below—and the UA's current incarnation, the Stryker Brigade Combat Team. In the final analysis, however, jointness is less about grand architectures or new equipment and more about day-to-day coordination and cooperation. The final transformation will come only when *jointness* becomes the dominant way of thinking in the Army.

THE MOVE TOWARD JOINTNESS AT THE END OF THE VIETNAM WAR

At the end of the Vietnam War, the American military refocused on Europe and the Cold War. Two important developments in organizational structure and doctrine foretold a new day of jointness as the Army and the Air Force attempted to learn the lessons of the post-Vietnam period: the passage of Goldwater-Nichols and the development of AirLand Battle Doctrine.

Goldwater-Nichols

The Goldwater-Nichols Act was a direct result of the embarrassments our military endured trying to rescue American hostages being held in Iran in 1980 and the seams that became apparent during the 1983 invasion of Granada. With passage of this Act, Congress established the Chairman of the Joint Chiefs of Staff as the "principal military adviser" to the President. Congress also revised the system of joint commands[2] and made the commanders of the 10 unified and specified commands truly joint commanders and fully accountable to the National Command Authorities for performing their assigned missions. However, this change was sometimes less than it might appear. Goldwater-Nichols ostensibly took the Service Secretaries, Service Chiefs of Staff, and the Chairman out of the operational chain of command, but in reality all three, by virtue of their position and proximity to the Washington power structure, exercised a great deal of influence, sometimes in opposition to the desires of the joint theater commander. This happened during the Kosovo campaign.[3]

---

[2]Through the Goldwater-Nichols DoD Reorganization Act of 1986, Congress clarified the command line to the combatant commanders and preserved civilian control of the military. The Act states that the operational chain of command runs from the President to the Secretary of Defense to the combatant commanders. The Act permits the President to direct that communications pass through Chairman, Joint Chiefs of Staff (CJCS). This authority places the CJCS in the communications chain. Further, the Act gives the Secretary of Defense wide latitude to assign the CJCS oversight responsibilities for the activities of the combatant commanders.

[3]While Goldwater-Nichols made Gen. Wesley Clark, the American and NATO commander, fully accountable to the Secretary of Defense and the President, he would later complain that "what was really gnawing at me [was] the Army Chief's deciding against deploying the Apaches without even consultation." He concluded that "[Goldwater-Nichols notwithstanding,] it was clear that the Services' objections were affecting the judgment of the Secretary of Defense" (Clark, 2001, pp. 228–233). General Clark noted that he was "supposed to be working directly for the National Command Authority. The Chairman was their military adviser, but not in the chain of command. As it emerged in this case, it seemed to me that the distance made it difficult to convey intent, require-

The Development of AirLand Battle Doctrine

Modern American land warfare doctrine can be dated to the publication in 1976 of the Army's Field Manual (FM) 100-5, *Operations*. The immediate impetus for the doctrine called *Active Defense* was the Army's refocus on Europe after the Vietnam War and the need to incorporate the realities of the "new lethality" demonstrated during the Arab-Israel war of October 1973. The new doctrine moved away from the old mobilization concept and argued that "*the U.S. Army must prepare its units to fight outnumbered, and to win* (Romjue, 1984b, p. 60)."[4] However, the new doctrine created a firestorm within the Army, as critics complained that it was too defensive, focused at too low an echelon of command, and, with its emphasis on Europe, lacked worldwide applicability. The ensuing debate with our allies, particularly the Germans, and the U.S. Air Force's Tactical Air Command (TAC) resulted in the development and publication in 1982 (and revised in 1986) of the new doctrine called *AirLand Battle Doctrine* (Romjue, 1984b).

The problem that the Army and Air Force faced after Vietnam with their refocus on Europe was the need to interdict Warsaw Pact follow-on or second-echelon forces at great distances with air sorties before they closed with allied forces. The new *AirLand Battle Doctrine* emphasized "the importance of the operational level of warfare, . . . the seizure and retention of the initiative, and its insistence on the requirement for multi-service operations" (Department of the Army, 1986, p. ii). It proclaimed that "on the integrated, airland battlefield the key to retaining the initiative is disrupting an enemy's fighting capabilities with deep attack, effective firepower, and decisive maneuver" (Romjue, 1984a, p. 11). In the context of NATO facing a numerically superior Warsaw Pact, *AirLand Battle Doctrine* broke new ground for jointness and cooperation and coordination between the Army and the Air Force, particularly TAC. "Cooperation" resided in the tidewater area of Virginia, where TAC and the Army Training and Doctrine Command (TRADOC) were located only a few miles apart.[5] In 1975,

---

ments, and opportunities. . . . Somehow, I had become just a NATO officer who also reported to the United States" (Clark, 2001, p. 342).

[4]At the time, the United States had no effective, short-notice mobilization capability. Conscription ended in 1973, and the United States had an all-volunteer force. Draft registration had been suspended in 1975 as the administration and Congress battled over the shape of any future standby draft. With the end of the war in Southeast Asia came a smaller active military and a smaller Individual Ready Reserve. Enlistments and total manning of the Reserve Components was also down. The Army reported substantial shortages in pretrained, postmobilization manpower, with little confidence that the Selective Service System could deliver manpower in a timely manner that could have any impact on any future war in Europe.

[5]Author Benjamin Lambeth notes the particular contributions of Gen. Robert Dixon, who "within two weeks of his arrival at Langley AFB in October 1973, open[ed] a formal dialogue with his Army counterpart at nearby Fort Monroe, Virginia, General William Depuy, the commander of the Army's Training and Doctrine Command" (Lambeth, 2000, p. 83).

the two commands created a joint *Air-Land Applications Agency*, and by 1979 "planners in both commands were exploring joint operational concepts . . . [with] the central doctrinal and procedural question . . . was offensive air support, in particular its interdiction aspect" (Romjue, 1984a, p. 62).

While the Air Force went along with the new doctrine, even agreeing to joint tactical training and field exercises based on *AirLand Battle Doctrine*, some observers believed their support was "lukewarm" (Winnefeld, Niblack, and Johnson, 1994, p. 58) because of unresolved differences over campaign priorities and the authority of the joint force air component command (Grant, 2001). In 1979, in a move that would foretell the ultimate demise of *AirLand Battle Doctrine*, and that the Army would characterize as a "doctrinal step backward," the Air Force insisted that the apportionment and allocation of air assets "would be retained by the air component commander rather than distributed to the Army corps commanders for control" (Romjue, 1984b, p. 62). Clearly, important elements of the Air Force still believed in the viability of an air-only option and in the utility of an air campaign that was not in support of ground operations.[6] Specifically, Lambeth (2000, p. 89) notes that AirLand Battle Doctrine "cut against the grain of Air Force and NATO doctrine at the strategic level, which called for the centralized control of air assets above the corps level to ensure their most effective use throughout the entire theater. Unlike [AirLand Battle], the latter was concerned with fighting a theater-wide war rather than discrete battles."

JOINTNESS AND THE CAMPAIGNS OF THE POST–COLD WAR ERA: THE PERSIAN GULF WAR, KOSOVO, AND AFGHANISTAN

In the post–Cold War period, the military struggled with the concept of jointness in three very different campaigns. As the Army saw it, the Persian Gulf War was the AirLand Battle fight it had been preparing for. It was very much the heavy force engagement with Soviet equipment and doctrine envisioned for the plains of Europe. The two manifestations of jointness, Goldwater-Nichols and AirLand Battle Doctrine, were tested. The former worked well, and the latter showed signs of strain that resulted in an open break between the Army and the Air Force after the war. The operations in Kosovo, the first truly post–Cold War

[6]For example, the term battlefield air interdiction (BAI), as distinct from classical air interdiction (AI), was recognized by NATO in 1978. Traditional AI was seen as "a tactic primarily to interrupt the enemy's sustaining resources by attacking his lines of communications, logistics, and replacements" (Romjue, 1984b, p. 33). BAI was part of offensive air support designed to "enable the corps commander to engage the second echelon with air sorties before those forces became a first echelon problem" (Romjue, 1984b, p. 62). Over the following three years, however, the issue of the allocation and apportionment of air assets was joined and in 1981 an *Agreement on Apportionment and Allocation of Offensive Air Support* was signed by the Deputy Chiefs of Staff for Plans and Operations of the Army and of the Air Force, limiting the corps commanders' hold on air assets.

campaign, transformed the alliance built to confront the Soviet Union into a partnership of countries using offensive military power outside their borders for political ends. For the Army, this was a type of engagement very different from any it had prepared for—or, more correctly, a nonengagement, as no Army troops were committed until after the cessation of hostilities. It provided, however, a number of important lessons for both the Army and the Air Force about the realities of jointness in the post–Cold War environment and the synergy between ground and air forces. Afghanistan, as it is developing, seems again a very different campaign with its own lessons for jointness as the reports of both Special Forces and regular Army and Air Force units filter out.

The Gulf War[7]

As the Army saw it, the "the conditions of combat and the dynamics of the Desert Storm battlefield proved to be a model with remarkable fidelity to FM 100-5, Operations: AirLand Battle" (Scales, 1993, p. 107). Some in the Air Force clearly had a different view. Alan Vick summed up the difference between what planners had expected in Europe and what they faced in 1990 in the Gulf: "The terrain and weather were fundamentally different, we had near parity in numbers, we possessed total escalation dominance. We had vastly superior technology and personnel, we had enormous space maneuver, population areas were largely avoided, we had no civilian refugee problem, and we had the initiative" (Vick et al., 2001). Probably the biggest difference, however, was our ability to control the timing of the campaign and the opportunities that created. Again, Vick et al. (2001) summed it up concisely: "AirLand Battle was all about simultaneous air-ground operations. It never contemplated air power prepping the battlefield for over a month before the first serious ground fight, pummeling enemy ground forces, destroying lines of communications, cutting communications and thoroughly demoralizing the enemy" (Vick, 2001). While this difference seemed lost on some ground commanders who wanted the battle to proceed along the lines of AirLand Battle Doctrine and FM 100-5, it was not lost on Gen. H. Norman Schwarzkopf, Central Command's Commander in Chief (CENTCOM CINC), who eagerly supported the air campaign.[8]

A Separate Air Campaign. As U.S. Central Command began planning the American response to the invasion of Kuwait, the jointness represented by Air-

[7]The definitive Army history of the Gulf War is Scales (1993). The air campaign has been reviewed by Lambeth (2000) and Winnefeld, Niblack, and Johnson (1994).

[8]During the Gulf War, General Schwarzkopf "tasked the air component to achieve a desired level of attrition on Iraqi front-line units before the launching of a ground attack. In Schwarzkopf's phased war plan, only Phase 4, the ground operation, resembled the AirLand Battle doctrine of the 1980s" (Grant, 2001).

Land Battle Doctrine started to come apart. On August 8, 1990, just five days after Saddam Hussein invaded Kuwait, General Schwarzkopf asked the Air Force Vice Chief of Staff, Gen. John M. "Mike" Loh, for help in building an air strategic campaign.[9] General Loh did not hesitate because he felt he had in Col. John A. Warden III, the Air Force's Deputy Director for War-Fighting Concepts, and his Checkmate group the capability to produce what Schwarzkopf wanted. In fact, Warden had already started.

Only days before, Warden was not a happy officer. He felt that the CENTCOM planning was wrong and that the TAC community had been captured by the Army's AirLand Battle Doctrine. In Warden's judgment, the Air Force needed to return to the fundamentals of air power that had been established in World War II. This was made even more relevant by the increased precision with which the Air Force could deliver ordnance on very specific targets in built-up, urban areas. He saw the TAC group as all too willing to put the Air Force in a subordinate role.[10] Even before Schwarzkopf's discussion with Loh, Warden had told his boss that he and his group would build a conventional strategic air campaign. Months later he remember saying, "I don't have any idea how it's going to come out, but we are going to put it together anyway and see what happens" (Reynolds, 1995, p. 19). Over the objections of many in the Air Force who decried the fact that, among other things, the Air Staff got involved with campaign planning, Warden's group produced *Instant Thunder.* With some modification to include increased numbers of ground targets in Kuwait, it became the "the basic plan for air operations in Desert Storm" (Scales, 1993, p. 176).

Instant Thunder gave Schwarzkopf a whole new offensive dimension. If AirLand Battle Doctrine "was designed to defeat the enemy army, . . . Instant Thunder . . . was designed to destroy *temporarily* the cohesion of an entire nation, including its fielded forces but without necessarily attacking the bulk of those forces directly" (Mann, 1995, pp. 43–44). (In effect, it foretold the next campaign in Kosovo, eight years later.) The air-only campaign commenced on January 17, 1991, and lasted 38 days.

The Land Campaign. Even after the air-only campaign was completed, and ground actions started—February 24, 1991—coordination between the Army and the Air Force was problematic. In what Gordon and Trainor (1995, p. 331) characterized as a "bitter debate that buffeted CENTCOM throughout the war"

---

[9]According to Reynolds (1995, p. 24), Loh's recollection is that Schwarzkopf said, "we have a decent plan for [AirLand] operations, but I'm thinking of an air campaign, and I don't have any expertise—anybody here who can think in those kinds of terms and look at a broader set of targets or a strategic campaign" (Reynolds, 1995, p. 24).

[10]For a fuller discussion, see Chapter 2, "Instant Thunder: Why an Air Staff Plan?" in Mann (1995, pp. 27–50).

with "behind-the-scenes sniping," the issue "between the Army field commanders and the Air Force was not so much about performance of airpower as the Army's inability to control it." Mann (1995, p. 179) concludes that "it is only natural that corps commanders—empowered as they are to conduct their own independent operations—covet as much control as possible over the fundamental combat capabilities of modern aerospace systems. This desire was and remains the root cause of targeting controversies between the Army and the Air Force during and after Desert Storm."

The focus of the Army's dissatisfaction was the Air Tasking Order (ATO). The official Army history of the Gulf War, written by Maj. Gen. Robert Scales, notes:

> The ATO with its characteristic 72-hour cycle seemed unresponsive to battlefield commanders, particularly to corps commanders, in both the early air operations and the frustrating last-day effort to destroy the Republican Guard inside Kuwait. In World War II, Korea, and Vietnam the preplanned mission cycle against deep targets required 24 hours to complete—one-third the time required in Desert Storm. Fortunately, the Iraqis were obliging enough to remain relatively static during most of the air phase of the campaign. Prior to G-Day, however, whenever the Iraqis did move, even just to reposition slightly, the decrease in target kills was significant. . . . [The corps commanders] were continually frustrated by their inability to influence target selection for the ATO. (Scales, 1993, p. 368.)

In his final summation of the war, Scales downplayed the disagreements between the Army and the Air Force, arguing that "problems with procedure and philosophy, however, should not diminish the fact that in Desert Storm the United States raised the execution of joint warfare to an unprecedented level of competence." He looked toward the future "to shorten the ATO cycle and streamline the system of control between air and ground forces." He believed that *AirLand Battle Doctrine* had "survived the initial clash of arms . . . [and is] a viable foundation for the development of future war-fighting doctrine" (Scales, 1993, p. 107). Within three years, however, *AirLand Battle* as a formal doctrine was dead, the term banned from the Army's lexicon.

Jointness After the Gulf War

One of the legacies of the Gulf War was the open break between the Army and the Air Force over joint doctrine. The title of a recent article in *Air Force* magazine tells the story: "AirLand Battle Was All the Rage in the 1980s, but Its Legacy, for Both the Army and the Air Force, Was Suspicion and Distrust" (Grant, 2001). The break can be seen in the core doctrinal publication of the Army. In sharp contrast to the 1986 editions of FM 100-5—Cold War/pre–Gulf War—the 1993 version uses the term *AirLand Battle* only in reference to the earlier editions it superseded. Most important, while expounding the virtues of

joint operations and the Army as part of the "joint team," the FM no longer saw the Army as subordinate to the Air Force in the conduct of deep operations. This was reflected in *The Army in Theater Operations* (FM 100-7):

> Technology is improving extended-range acquisition and attack systems such as the Multiple-Launch Rocket System (MLRS), the Army Tactical Missile System (ATACMS), and the Apache attack helicopter. These systems allow the Army to extend the battle space and play a larger role in decisive deep operations. (Department of the Army, 1993, p. 4-10.)

> Operational fires have been provided largely by theater air forces; however, the increasing range and accuracy of projectile rocket, and missile systems and attack helicopters, . . . now provide the army commander with his own organic operational-fires capability. The ability for each service to engage targets at operational depths demonstrates the inherent joint and potential combined nature of operational fires. (Department of the Army, 1993, p. 4-13.)

While the above statement claims this new "organic operational-fires capability" is "inherently joint," the notion of the Army extending the battle space and playing a larger role in "decisive deep operations," together with the statement that "*each* service could engage targets" was seen by the Air Force as a direct challenge. In 1994, the Air Force pushed back in what one proponent of air power conceded was an "unseemly effort to garner a larger share of Air Force control over operational functions at the expense of other service prerogatives" (Lambeth, 2000, p. 279). Air Force Chief of Staff Gen. Merrill McPeak, adopting the paradigm of AirLand Battle, told the congressionally mandated Commission on Roles and Missions that the Air Force needed to control the "high and deep battles" and that the ATACMS has a "very high cost and totally disrupts the deep battle." According to published reports, even though the Army's deep-attack version of ATACMS was not yet operational, the Air Force "wants the Army out of deep operations" (*Inside the Air Force,* 1994).

The Army countered by arguing against "partitioning the battlefield by service [because it] ignores emerging technologies and diminishes the synergistic effect of the joint team" (*Inside the Army,* 1994, p. 11). Retired Gen. Glenn Otis, a former Commander in Chief of U.S. Army, Europe, told the Air Force that the Army "no longer sees a linear land battle situation similar to the echeloned arrays associated with NATO and Warsaw Pact models. Rather, future battles will be nonlinear. In the future, the Joint Force Commander will decide the campaign concept, and his components will execute according to his concept and his orders. The greater the variety of his forces' capabilities, the more options he can choose from to win" (Otis, 1996, p. 37).

What has been described as the "final break" over the issue of independent air operations came when the Air Force proposed that in a future war, the joint commanders' objectives might be achieved without the use of *any* ground

forces (Grant, 2001). In 1996, the Air Force suggested that it could solve the Army's mobility problem—only light forces could be deployed quickly—by attacking deep "at the start of an expeditionary operation before ground forces were in place" (Grant, 2001). Moreover, if such attacks worked well, it was argued that the air-only battle might so dominate the enemy that friendly ground troops might never be needed.[11] In fact, *Operation Allied Force*, the military campaign in Kosovo, would be fought without ground forces or even a land component commander.

Operation Allied Force: The Kosovo Campaign

The engagement in Kosovo was the second post–Cold War campaign and the low point of *jointness*. It was characterized by a former Chief of the Joint Doctrine Division of the Joint Staff as "inconsistent with joint doctrine in both word and spirit."[12] The campaign in Kosovo raised issues of jointness and the synergy between ground and air forces.

Setting Aside Jointness. One of the basic axioms of modern warfare is the synergy of air and ground forces. Lambeth (2000) quotes Gen. Robert Dixon, the TAC commander most responsible for the Air Force's input to the development of the *AirLand Battle Doctrine* of the 1970s, as saying "neither the Army nor the Air Force alone can win a significant conflict; they can only win as a team." In Kosovo, they were not a team. Any notion of joint warfare was set aside because political considerations ruled out the use of ground forces. Not only did the Army not lead the fight, as was envisioned in FM 100-5 and FM 100-7, it did not even get into the fight. The Army did deploy a force of Apache helicopters called Task Force Hawk. While Task Force Hawk was never used in combat, it exposed all of the problems in jointness that had plagued the Army and the Air Force for over a decade. Moreover, while the Air Force provided the vast majority of forces employed—in effect, having the air-only operation that many in the Air Force had dreamed of for years—the Air Force found that when it had to engage ground targets in Kosovo, the absence of both ground forces to help

---

[11]"The need for mass on the battlefield has now changed," Gen. Ronald R. Fogleman declared in a speech in April 1996. "We don't need to occupy an enemy's country to defeat his strategy. We can reduce his combat capabilities and in many instances defeat his armed forces from the air" (Grant, 2001).

[12]Col. Peter Herrly found that the "reference to an *air campaign* that was underway [in Kosovo] and a *ground campaign* that was not contemplated . . . [should have come] as something of a shock to military officers and defense specialists who were nurtured in the brave new world of joint doctrine. It was not the way the Armed Forces had agreed to talk about warfighting in the wake of Goldwater-Nichols Act" (Herrly, 1999, p. 99). Retired Air Force Col. Bob Gaskin, who served as the service's doctrine chief, also expressed this view. He told *Defense Daily*, "The story here is that joint doctrine is a colossal failure. We've been working on joint doctrine for 15 years. The question to ask is what progress has been made? Smashing if you ask the bureaucrats, a colossal failure if you ask the operators" (Atkinson and Keeter, 1999).

shape the battlefield and a land commander to manage such functions as logistics support and ground intelligence preparations limited the effectiveness of tactical air power.

Ground Forces Were Not the First, but the Last, Choice of Political Leaders. Military and political leaders have given at least three reasons for seeing air power as the first and, as in the case of Kosovo, the only application of American military power. First, General Clark, the U.S. and NATO commander of the Kosovo campaign, argues that ground operations are inherently unpredictable and risk casualties among friendly forces.[13] Second, the use of air-delivered precision munitions has produced significant destruction with little collateral damage, limiting the unintended negative political effects that can often be turned against us. Third, air strikes represent a gradual use of military power, and while that runs counter to what our military leaders believe is the proper way of applying military force, it supports the application of military power as a diplomatic tool.

Months after the war was over—on February 9, 2000—National Security Advisor Sandy Berger explained President Clinton's reasoning for his reliance on air power to a team from the Brookings Institution. Members of the team reported that Berger presented two arguments for ruling out a ground campaign from the beginning:

> First, the only way in which NATO could lose the war with Serbia was if the alliance cracked. Publicly ruling out the use of ground forces at the outset was necessary, in administration eyes, to keep a fragile alliance consensus on the use of force intact, a consensus that would have shattered if Washington or anyone else had raised the possibility of having to go in on the ground. Second, the Clinton administration was convinced that the decision to use force in Kosovo, which was already controversial on Capitol Hill, would have precipitated a major public debate—including possibly a vote to cut off funding the operation—if the ground force option had not been ruled out publicly by the President. (Daalder and O'Hanlon, 2000, p. 97.)

While the air commanders complained about the political limits imposed by NATO, particularly the graduated escalation of the strategic air campaign, if the situation were repeated, forces would most likely be committed in the same way. The ground options would be the last employed, and only after a graduated air campaign failed to achieve our political aims.

---

[13]Clark concluded that "ground combat retained the possibility of turning nasty and unpredictable at close quarters" and observed that it was "no wonder . . . political leaders conditioned by the twentieth century's profligate losses of military manpower tend to opt first to use airpower" (Clark, 2001, p. 10).

Task Force Hawk and Jointness. Task Force Hawk exposed the fault lines of jointness in at least three areas: the Army initially refused to allow its helicopters to be part of the air commander's ATO, even for cross-border operations not in direct support of ground troops; in contemplating the suppression of enemy air defenses (SEAD) that would allow the Apaches to penetrate deep into enemy territory, the Army ignored the contribution that the Air Force could make in a joint SEAD campaign, preferring to rely on its own MLRS assets; and during the battle between the Serbs and the KLA, the fire-finding radars of Task Force Hawk were identifying targets that the Air Force did not attack.

In the beginning of the Kosovo campaign, General Clark apparently intended that Task Force Hawk be integrated into NATO's air operations (Nardulli et al., 2002, p. 57). It was widely reported, however, that the Task Force Hawk Commander refused to cede tactical control over Apache helicopter operations in Kosovo to the Combined Air Operations Center (CAOC) in Vicenza, Italy.[14] A report, published by *Inside the Pentagon*, raised the issue of the decade-long debate over roles and missions that had scuttled the formal AirLand Battle Doctrine after the Gulf War, and reported that "the rift was . . . such an obstacle to launching AH-64 helicopter operations into Kosovo that the debate went all the way up to the Joint Chiefs of Staff in the Pentagon before it was resolved."[15]

Another failure of *jointness* lay in how the Army envisioned that SEAD during deep operations would be carried out, by MLRS firing ATACMS. Army plans did not include using Air Force assets as part of the SEAD campaign. As the Army

---

[14]Gen. John W. "Hendrix would not allow Apache sorties to appear on . . . [the] daily 'air tasking order,' or ATO, a highly detailed order of battle issued by the CAOC. A rapprochement of sorts has changed that, and now the Apaches will be included with the hundreds of other missions conducted daily by fixed-wing aircraft. But in the case of the Apaches, much of the detail on timing and tactics will be absent from the document and instead left to Hendrix's discretion as each battle unfolds. A 'window' of operations will be laid out for the Apaches in the ATO, and in that way they will be protected from 'friendly' bombs accidentally raining on them from allied aircraft operating at high altitude. And, the Apaches will receive some fixed-wing support as they attempt to avoid or destroy Yugoslavian air defense threats. While the Apaches are to be listed on the ATO, 'tactical control really does rest in the hands of the ground commander,' said one Army official in May. An Air Force proponent differed: 'It looks, feels and smells like tactical control, but the Army is afraid to call it that'" (Grossman, 1999). Macgregor also noted that, "A top-heavy Army command and control headquarters could not conduct joint operations. It declined to send representatives to [joint force air component] targeting board meetings. Thus a corps headquarters with more than 500 officers, noncommissioned officers, and soldiers was necessary to coordinate a 5,000-man task force within the framework of an Air Force–based JTF reflected the rigidity of the existing multiechelon, single–service command and control structure" (Macgregor, 2000, p. 21).

[15]The debate over doctrine apparently extended to the working relationships in the field. The view from inside Hendrix's headquarters was not favorable to the notion of jointness. In a report that Clark would later denounce as coming from a "disgruntled Air Force officer . . . communicated without perspective" (Clark, 2001, p. 320), an air liaison officer wrote, "The benefits of integrating with platforms like Compass Call, Rivet Joint and others are off [Hendrix's] radar scope. . . . I feel a resistance from the Corps staff about getting joint help. I think this is part of the mindset [that] drove the Corps [commander] to demand equal status as the CAOC and spin up a WOC, or Wing Operations Center, at Hendrix's V Corps task force headquarters in Tirana" (Grossman, 1999).

saw it, besides radar-guided systems that the Air Force could have helped with and which could have been electronically suppressed by jammers, Apaches flying cross-border missions would have been exposed to a variety of threats that included small-arms fire, antiaircraft guns, and shoulder-fired, man-portable missiles. Because none of these threats emits a signal before being fired, substantial suppressive fires could have been required to cover large areas. The restrictive rules of engagement, however, which required positive target identification to confirm no civilians were in the vicinity, were seen by some as "enough all by itself to ensure that the Apaches would never see combat" (Lambeth, 2001, p. 153). Whether or not the Apaches were vulnerable, after the war was over, the CJCS told the Senate Armed Services Committee that targets in Kosovo were *not* worth the effort. He said, "The bottom line is that the anticipated benefit of employing the Apaches against dispersed forces in a high-threat environment did not outweigh the risk to our pilots" (Shelton, 2000, p. 420).

The third failure in jointness was the difficulty the Army and Air Force had in integrating the battlefield intelligence being developed by Task Force Hawk into operational plans at the CAOC. Toward the end of the war, General Hendrix focused the attention of his Deep Operations Intelligence Coordination Center on locating enemy targets in southwestern Kosovo and passing them to the CAOC. While the Air Force appreciated getting the information,[16] the Army thought that the Air Force was unresponsive and let good targets get away. The Army, accustomed to the almost instantaneous response of its counterfire batteries to engage targets identified by fire-finder radars, found that although it could communicate targets to the CAOC in about two minutes, it took hours before strike aircraft were ready to attack. Gen. John Jumper, the Commander in Chief, U.S. Air Forces in Europe, told Congress after the war, "Throughout the campaign, we continually refined this process until we could process targeting information between our sensors and strike aircraft in a matter of hours." He clearly understood, however, that in the future the Air Force would have to catch up to the capabilities of sensors to identify targets and communication networks to move information. He noted that "Ultimately, our goal is to reduce the time from target identification to target destruction from hours and days to minutes" (quoted in Cordesman, 2000, p. 117).

Air Operations and Jointness. The Kosovo campaign was in reality two air-only operations with arguably very different results. In the final analysis, Kosovo showed that diplomacy, backed by a *strategic*, air-only campaign, could achieve the political results demanded by NATO. Moreover, it could do so with very lit-

[16]Lambeth cites Gen. John J. Jumper as crediting the Army with playing "a very big part" in targeting during the final days of the campaign (Lambeth, 2001, p. 213).

tle cost to NATO in either friendly aircraft lost or pilots killed and with very little unintended collateral damage to the enemy's civilian population. On the other hand, the *tactical* air campaign showed that air power could not reach its fullest potential without the presence of ground forces.[17]

The allocation of effort between the *strategic* and the *tactical* air campaign has been described as an "internecine battle" between the Supreme Allied Commander in Europe, U.S. Army Gen. Wesley Clark, and his air component commander, USAF Lt. Gen. Michael Short. (See Lambeth, 2001, p. xix.) Short wanted to concentrate on targets in and around Belgrade—the *strategic* campaign. Clark wanted to concentrate on the enemy ground forces in Kosovo—the *tactical* campaign. In the final analysis, both were right and wrong.

Clark was right in insisting on attacking Serbian ground forces in Kosovo in an attempt to stop Milosevic's campaign of ethnic expulsions—after all, was not protection of the Albanian Kosovars the reason NATO went to war? He was wrong in not understanding how ineffective air power would be both because of the lack of the synergistic ground forces and because of the restrictive rules of engagement (Lambeth, 2001, p. 125). Short was right in understanding that, given the conditions he was working with, *tactical* air power would be ineffective. He was wrong in wanting to fight only a parallel war—"Serbia waged war against the Kosovar Albanian people; NATO waged war against Serbia"—with little regard to the ethnic cleansing going on in Kosovo. By the end of the war, however, Short clearly came to understand that in Kosovo he needed "a ground element to fix the enemy, to make him predictable, and to give us information as to where the enemy might be" (cited in Lambeth, 2001, p. 242).[18]

The synergy between land and air power should have been clear by the time the Kosovo campaign ended. Certainly, every lesson-learned report—the official report of the Defense Department to Congress, the report of the General Accounting Office, the assessments of the defense "think tanks"—came to the same conclusion. In the words of one, "taken as a whole . . . NATO's effort to attack enemy ground units in the Kosovo Engagement Zone . . . was essentially a failure, the full extent of which became apparent only after the air war was over" (Lambeth, 2001, p. 128). During the air campaign in Kosovo, Serbia was

---

[17]The General Accounting Office noted that "Airmen had difficulty attacking dispersed enemy ground forces without friendly ground forces to shape the battlespace. Doctrine needs to address situations where friendly ground forces are not present, when the air component is the main effort in counterland battles, or when ground forces support an air component in counterland operations" (Curtin, 2001, p. 24).

[18]A recent RAND report for the Air Force put it this way: "If the enemy commander faces only air forces, he can disperse his forces in ways that would be suicidal against land and air forces operating together" (Vick et al., 2001, p. 4).

not only able to intensify its campaign of ethnic cleansing but also to increase the number of its heavy armed equipment in the province.

The Impact of the Absence of a Land Component Commander. One of the lessons of the Kosovo campaign was the need for a land component commander (LCC) to manage the many functions normally assigned to the Army and Marine Corps and to provide a ground perspective to the use of air power. Reflecting on the campaign in Kosovo after the war, the Allied Forces Commander for Southern Europe, Adm. James Ellis, noted that

> The lack of [an LCC] was doctrinally flawed and operationally dangerous. . . . The Joint Force Commander was left without valuable expertise on the land component aspect (e.g., training, qualifications, contingency, operations, logistics, force protection, etc.). It also increased confusion by complicating planning and impeding an efficient operational chain of command. (Letter from Admiral Ellis to one of the co-authors of Nardulli et al., 2002, p. 111.)

To Admiral Ellis's list one might also add the ground intelligence preparation of the battlefield. The effect of the absence of ground force experts to help plan and manage the air campaign is illustrated by the use of the E-8A Joint Surveillance and Target Attack Radar System aircraft. RAND's Project AIR FORCE assessment of NATO's air war for Kosovo found that when it came to targeting

> The performance of Joint STARS against dispersed and hidden enemy forces was less than satisfactory not only because of . . . [mountainous territory and terrain masking], but also because of an unfortunate failure by air operations managers to make the most of the aircraft's inherent capabilities for supporting counter land operations. That failure partly reflected a continuing slowness on the part of the U.S. Air Force to develop and institutionalize a detailed appreciation for how land forces operate and, in turn, to acquire the conceptual wherewithal that is essential for making air power more effective in defeating those forces. Surprisingly little progress was registered by the Air Force over the nine years since Desert Storm in developing a concept of operations for using Joint STARS in surveillance and control team that also includes AWACS, Rivet Joint, airborne FACs, and UAVs, all working as a synergistic collective against elusive enemy ground forces. (Lambeth, 2001, p. 123.)

The presence of a land commander would most likely have made a difference. The RAND study's assessment was that the problem was "the predominant USAF focus on attacking fixed infrastructure targets." As the study noted, for the Air Force, "Joint STARS was typically thought of as a surveillance platform rather than a strike support asset" (Lambeth, 2001, p. 124). By contrast, the Army mind-set was to think of the E-8A as a strike support asset, as was evident during the visit of a congressional delegation to Jumper's headquarters on the evening of April 29, 1999. While Jumper did not have operational control over most allied air operations—control was with Short at the CAOC at Vicenza, Italy—from his headquarters at Ramstein AB, Germany, he did control the

heavy bombers, the F-117, E-3, KC-135, and U-2 aircraft.[19] During the briefing, Jumper discussed with the delegation the efforts of his staff to get into the "heads of Serbian air defense commanders" and the success they were having. He also told them of his frustration with how the air war was going over Kosovo. Off in a corner, unnoticed by most of the visitors, were two Army sergeants quietly discussing the movements of dots on a computer screen. They explained that this was a Joint STARS terminal and they were trying to pinpoint Serbian positions by monitoring the movement of road traffic. Like Jumper, they also were frustrated. At this Air Force headquarters, they said they "had no one to talk to or to report what they thought they had found." They thought that if they worked for a land commander, "Things would have been different."[20]

Afghanistan

Afghanistan is again a very different war.[21] Unlike the Gulf War, it is not the demanding kind of engagement envisioned in the Cold War versions of AirLand Battle. Unlike the campaign in Kosovo, it is not exclusively an Air Force show. Unlike either of them, it seems, at least so far, to represent a new level of jointness, with better coordination between Army Special Forces on the ground and pilots overhead and between the Army and the Navy with Army helicopters taking off from aircraft carriers. However, it is far too early to know what enduring lessons will come out of Afghanistan. However, tantalizing glimpses have emerged from news reports and congressional hearings as Department of Defense officials and the commander of U.S. Central Command, Gen. Tommy Franks, answer questions put to them by senators and representatives. One can gather that, in the initial phases of the war, there was an extraordinary degree of cooperation between air forces and ground forces under the banner of *Special Forces*. According to *Washington Post* reporter Dana Priest, it was the "Special Forces and Smart Bombs [That] Turned [the] Tide and Routed [the] Taliban."

---

[19]The author, as Under Secretary of the Army, accompanied the congressional delegation that visited USAFE headquarters.

[20]As told to the author. The RAND Arroyo Center report on the Kosovo campaign also found that "A land component commander could [have] provide[d] valuable assistance in targeting fielded forces. U.S. Air Force planners are trained to develop targets focusing on an enemy's war-making potential and to help develop a full range of targets in joint operations. They are not trained, nor should they be trained, to plan attacks on fielded forces without help from Army and Marine Corps planners who have expert knowledge of land operations. There is no need to duplicate in the Air Force capabilities that already exist in the Army and Marine Corps. A land component commander would increase the effectiveness of air operations against fielded forces by applying knowledge and resources to the associated problems of reconnaissance, targeting, and battle damage assessment" (Nardulli et al., 2002, p. 111).

[21]Secretary of Defense Donald Rumsfeld recently told Congress that, so far, the lessons of the Afghanistan operations are "flexibility, speed of deployment and employment, the integration of ground and air," and the "final lesson is that precision matters and it matters a lot" (Rumsfeld, 2002).

Priest provides a detailed describes of how Special Forces Team 555 set "in motion a war plan that would blend intelligence and ordnance in novel ways. The Special Forces teams execute three missions: synchronizing the unorganized forces of . . . opposition groups in the north; building small armies . . . in the south; and providing targeting information that enabled Navy and Air Force pilots to fire guided bombs . . . with devastating precision" (Priest, 2002).

Priest found that while "U.S. military officials cautioned that it would take until summer to break the Taliban's five-year hold on power, [in fact,] it took 49 days, from the 555's debut . . . until the Taliban fell" (Priest, 2002). She credits not only the Army Special Forces troops assigned to the Joint Special Operations Task Force but also the "CIA and . . . Air Force Special Operations combat controllers. [who are] expert at guiding high-flying aircraft to targets." In an observation that contrasts shapely with the air campaign during the Kosovo campaign, she noted that

> Air power experts had disdained "tank-plinking" or hitting small numbers of troops or a few tanks and artillery pieces—until this war. The pilots and their commanders, sitting at the operations center in Saudi Arabia, had been trained in the efficacy of destroying large sites with high "strategic" value, such as top military command centers and government ministries. But these targets were missing in Afghanistan. Only after spirited, daily debates over the radios with the Special Forces teams did they learn to hit mud huts, jeeps and villages, targets that often looked civilian in nature but that troops said had been taken over by the Taliban. . . . Finally, air planners cut their traditional 72-hour targeting cycle to as little as 12 hours. For still greater flexibility, they divided the country into 30 "kill boxes" in which pilots could loiter, waiting to be given targets. (Priest, 2002.)

Four factors are most likely responsible for the initial success in Afghanistan. Two are highlighted in Priest's article: the coordination that developed between ground troops and fixed-wing aircraft[22] and the "devastating precision" of the new class of ground attack munitions.[23] Implied was the ability of Special Forces to work with indigenous troops and the ability of those troops, in their numbers and locations, to "fix" the Taliban and to make them "targets" much in the way Scales saw the emerging synergy between ground and air forces.

It should be noted that the credit here goes to the Special Forces, and, as Priest noted, "The Special Forces have been quietly carrying the military's banner for

---

[22]Priest (2002) writes about the developing confidence between Special Forces on the ground and air controllers in Afghanistan.

[23]It has been argued that the United States "enjoyed military success in its Afghan campaign, but not all went smoothly. . . . [Missed opportunities] to strike high-value but time-critical targets . . . [are] attributed to the length of the decision loop, . . . although the sensor-to-shooter loop has been tightened from days to hours, and now to minutes."

unconventional warfare for five decades, . . . but not until last fall's drive to oust the Taliban from power in Afghanistan did Special Forces play a central role in a conflict. The question for the future, however, is: 'While most in the Joint Special Operations Task Force wore Army greens, were they really of the Army?'" Volumes have been written on this subject, and will not be addressed here, but will the jointness of the Special Forces rub off on the conventional Army?[24] Operation Anaconda was the first time since the 1991 Persian Gulf War when regular Army troops, rather than special operations forces, were "engaged in sustained close combat operations" (Ricks and Graham, 2002). Hundreds of troops from the 101st Airborne Division and the 10th Mountain Division engaged al Qaeda fighters. After an initial setback, the *Washington Post* reported, the battlefield situation quickly turned around, and:

> For the remainder of the week . . . U.S. forces were able to fight their way, employing some of the latest battlefield concepts. The approach relies first on surveillance sensors—thermal images, Predator reconnaissance drones, even satellites—to locate the enemy. In the next step, U.S. ground forces hold the enemy in place, but at a bit of a distance. Finally, bombs or artillery—not infantrymen—are often used to finish off the foe. Straining the capacity of military helicopters, U.S. commanders have airlifted troops to 10,000-foot-high ridges, then had them work their way down, using data gleaned by sensors to pin down enemy fighters. (Ricks and Graham, 2002.)

Ricks and Graham (2002) of the *Washington Post* thought that they saw in this battle "implications well beyond the campaign in Afghanistan and the global war on terrorism." Were they right? Only time, a more complete analysis of Operation Anaconda, and more battles will tell, but it seems a good beginning.

There are other indications that, from the perspective of jointness, things are going better in Afghanistan. The Chairman of the Senate Armed Services Committee recently remarked:

> We have seen unmanned aerial vehicles, Global Hawk and Predator, reveal the location of enemy forces and quickly relay that information to fighters and bombers overhead for precision air strikes, sometimes within minutes. We've

---

[24]The *2000 US Special Operations Forces: Posture Statement* notes, "SOF are not a substitute for conventional forces; they provide different capabilities that expand the options of the employing commander. SOF should not be used for operations whenever conventional forces can accomplish the mission. . . . The U.S. Army Special Operations Command (USASOC), headquartered at Fort Bragg, North Carolina, commands active and U.S. Army Reserve [SOF]. USASOC is responsible to United States Special Operations Command (USSOCOM) for the readiness of Special Forces (SF), Rangers, and special operations aviation, Civil Affairs (CA), and Psychological Operations (PSYOP) units for deployment to unified combatant commands around the world. . . . The Joint Special Operations Command (JSOC) was established in 1980 and is located at Fort Bragg, North Carolina. JSOC is a joint headquarters designed to study special operations requirements and techniques; ensure interoperability and equipment standardization; plan and conduct joint special operations exercises and training; and develop joint special operations tactics" (Sheridan and Schoomaker, 2000).

> seen an unprecedented level of cooperation between the military services: Marine helicopters ferrying Army soldiers from Navy ships into landing zones in Afghanistan that were secured by Special Operations forces, with air cover from the Navy and the Air Force. That is joint operations at its very best. It is the foundation upon which the services need to continue building. (Statement by Senator Carl Levin [D-Michigan] as quoted in Franks, 2002, p. 2.)

In fall 2002, as more information came out about Operation Anaconda, it would seem that the cautious enthusiasm for jointness may have been misplaced. Much was made in the press (*Army Times*, 2002) of an interview given by Maj. Gen. Franklin Hagenbeck, the commanding general, Coalition Force Mountain in Afghanistan, in *Field Artillery Magazine* (McElroy and Hollis, 2002). It was reported that Hagenbeck's criticism resulted in the Air Force Chief of Staff, Gen. John Jumper, "launching a top-level review of [Air Force] performance in Operation Anaconda" (Grossman, 2002). A more constructive reading of Hagenbeck's comments, however, suggests two services trying to work together in new and innovative ways. For example, the *Army Times* stressed that Hagenbeck's comments came "at a time when Army leaders are fighting a rear-guard action in Washington against what they see as the Defense Department's trend toward over-reliance on precision-guided munitions in shaping the future U.S. military" (*Army Times*, 2002, p. 10). Hagenbeck himself called for better trained and certified forward controllers to work with the Air Force. While he did argue that "the ground force needs a highly lethal, all-weather, indirect-fire capability organic to the force," he also believed that "there are not enough [air controllers] in the [Air Force] inventory to support every ground maneuver element." He concluded, "We need training and certification of our observers to call in . . . precision munitions or air support—to be universal observers, if you will" (McElroy and Hollis, 2002, p. 10).

ARMY TRANSFORMATION AND JOINTNESS

Transformation was supposed to fix what was wrong with the Army. But what *was* wrong with the Army? For some looking outward, the lack of jointness was at the heart of what was wrong. For those who were looking inward, it was the deployability and survivability of Army units that needed to be corrected. While both perspectives are essential for real transformation, the current transformation of the Army is more inward-looking than outward-looking. Its major focus is on deployability and survivability. It does not emphasize the deficiencies in jointness that have become apparent over the last decade.[25]

---

[25]Douglas Macgregor has argued that the "Army Transformation Initiative" has not focused on the warfighting paradigm and "integrating the enormous and increasingly precise firepower of the Navy and Air Force with land power should have figured into joint doctrine and post[-Gulf] war force design by the Army" (Macgregor, 2000, p. 19).

The current Army Transformation Program was initiated in 1999 when Gen. Eric K. Shinseki became Chief of Staff. In a highly unusual move, Secretary of Defense William Cohen, upon selecting Shinseki, gave him a letter of instruction charging him with "transforming the Army." Shinseki reacted forcefully, and on October 12, 1999, using the annual meeting of the Association of the United States Army as a platform, announced his vision for the Army. This vision has come to be known as *Transformation.*

Transformation means different things to different people.[26] All planning and all changes in the Army have come to be called transformation. The term has permeated beyond the Army to encompass the entire defense program of the Bush administration. One aspect of transformation was the parsing of the Army's program into support for a *Legacy Force*, the *Interim Force,* and the future, or *Objective Force.* In July 2001, Shinseki told the Army,

> To meet the rapidly evolving requirements of the strategic environment in the 21st Century, the Army is transforming the world's premier land power from a Cold War Legacy Force to an Objective Force that is more responsive, agile, versatile, deployable, lethal, survivable, and sustainable—dominant at every point on the spectrum of military operations. Thus, Interim Brigade Combat Teams (IBCTs) will close the operational gap between our early arriving light forces—which lack the staying power we would like them to have, and our later arriving heavy forces—which lack the speed and rapid deployability we would like them to have. (Shinseki, 2001.)

It would appear, not only from Shinseki's words but also from the Organization and Operations (O&O) concept for the IBCT, recently renamed the Stryker Brigade Combat Team (SBCT), that has been developed at Fort Lewis, Washington, and the O&Os for the *Objective Force* developed by TRADOC, that jointness is not the focus of transformation. (For clarity, the term IBCT will be used because much of the literature and many of the quotations used in this chapter refer to the IBCT.)

The design of the IBCT is central to the future Objective Force of the Army. The Objective Force is the single-brigade design that is the Army's only answer to how it will provide forces to fight the "full spectrum" of modern warfare. The overriding impression one gets from reviewing the IBCT's O&O is a force oriented to the traditional close battle and the Army-managed deep battle with little apparent synergy with the Air Force. When "fires" are discussed in the O&O, they are from the weapon system organic to the IBCT, rather than joint systems

---

[26]Shinseki told the Army, "Transformation is far more extensive than just modernizing equipment and formations. The entire Army—from training and leader development programs, to installations, to combat formations—will be transformed. All aspects of the Army's Doctrine, Training, Leader Development, Organizations, Materiel and Soldier Systems will be affected" (Shinseki, 2001).

that will be in support of the IBCT. (See I Corps Staff, 2001.) The lessons from the Gulf War, Kosovo, and Afghanistan about the need for jointness and the exploitation of precision fires from Army *and* Air Force assets do not appear to have been learned. Jointness does not appear to be a critical part of the design of the combat formation that promises to be the prototype of future Army organizations. Neither does it seem that these lessons have been learned by TRADOC, given its drafts of the O&Os for the *Objective Force.*

TRADOC has developed new O&Os for the *Objective Force* that cover a conceptual two-echelon force. The senior is the UE and is "the command and control echelon within the Objective Force that will be designed to direct major operations and decisive land campaigns in future joint operations" (TRADOC, 2001a). The junior echelons are the UAs and "the tactical warfighting echelons of the Objective Force" (TRADOC, 2001b). According to the draft TRADOC Pamphlet,

> Units of Employment (UE) are highly tailorable, higher-level echelons that integrate and synchronize Army forces for full spectrum operations. They participate in all phases of joint operations from initial entry to conflict termination in any form of conflict and operating environment. The UE is capable of command and control of all Army, joint, and multinational forces. It is organized and designed to fulfill command and control functions as the Army Forces (ARFOR), Joint Force Land Component Command (JFLCC), or the Joint Task Force (JTF). It also has the inherent capacity to interact effectively with multinational forces as well as with interagency, non-governmental organizations, and private volunteer organizations.

The term *joint* appears no fewer then 87 times (out of almost 11,000 words) in the UE O&O. It appears in such phrases as "future joint operations," "*Joint Vision 2020,*" "joint operations," and "joint fires." It highlights that "UE operations in any future conflict will include . . . dominant maneuver synchronized with joint precision strike from tactical to operational level to achieve disintegration, dislocation, and destruction of the enemy." However, a search of the UE O&O for the terms *Air Component Commander,* the counterpart to the Land Component Commander in managing jointness, and *ATO* finds that these terms do not appear even once. The ATO, of course, is the coordinating document (and procedures) that has caused so much friction for almost two decades between the Army and the Air Force. However, it is exactly that document and the procedures embedded in it that are at the heart of what needs to be done to make the UE O&O an implementing document for *jointness.*

A review of TRADOC's UA[27] documents shows a similar lack of focus on jointness. The term *joint* appears less frequently—only one-quarter as often—than

[27]According to TRADOC, "UAs comprise those echelons brigade and below. Maneuver [UAs] are the smallest combined arms units that can be committed independently. Their function is to finish

it appeared in the UE O&O. (Only 12 times in almost 6,700 words). While the term joint is used in connection with several key enablers—e.g., "Army and joint intelligence feeds," "Army and joint deep fires orchestrated by higher echelons to set conditions for tactical success," and, often, "close support of ground maneuver by Army or joint aviation"—the term *Army* is always set aside as if it were not part of the joint force. The O&O, at best, alludes to *jointness*—if one believes the term *supporting fires* is a euphemism for the support the Army might get from the Air Force—when it charges the UAs to direct "the continuous integration of powerful small tactical units, . . . and precise supporting fires." However, the actual means of achieving *jointness* and the procedures the Army would use to work with the Air Force are never discussed.

Another problem with the Objective Force is the plan that all Army units will converge on this single design rather than provide a future Joint Force Commander with the panoply of capabilities represented by a range of different types of units. The Army understands that it needs to provide a full range of capabilities to provide a future Joint Force Commander with options. The current answer, however, is to provide that full range in the single-unit design much like the IBCT. The current plan is for five of the first six IBCT units to come from light forces. One lesson from Afghanistan is that light forces—Infantry, Airborne, and AirMobile forces—unencumbered by the IBCT structure or equipment still have a place in the Army's order of battle. The firepower that a light force commands should be judged not only by its organic systems, but by the full range of joint forces the joint commander can focus on the battlefield.[28] While some medium-weight formations may prove to be useful in some circumstances, a single-design all-purpose unit is not necessarily the best way to proceed.

WHERE DOES THE ARMY GO FROM HERE?

To move forward with jointness, the Army should learn the lessons of the post–Cold War period. First, and by far the hardest, the Army needs to rethink the nature of the modern joint battlefield and understand the impact that "precision-guided arms" will have on the future design of the Army. Second,

---

decisively by closing with and destroying enemy forces through integrated fire and maneuver, and tactical assault. For continued developmental purposes, the core of the UA brigade is the combined arms combat battalion that commands a number of organic small tactical units, which fight as teams of fighting teams. The span of control of the UA brigade is four to six battalions" (TRADOC, 2001a).

[28]Secretary Rumsfeld argued this point in defending his decision to cancel the Crusader advanced field artillery system. He told Congress, "The combatant commander is not going to fight with the Army proposals or the Navy proposals or the Air Force proposals or the Marine proposals. They're going to fight joint. And they want to look at the totality of all of that and ask what can they do to prevail on the battlefield" (Rumsfeld, 2002).

the Army must reform its combat structure and build into its formations the tactics, techniques, and procedures and command, control, and communications infrastructure that will allow it to be a partner in jointness on a day-to-day basis. Finally, while the Army has addressed the issues of deployability and survivability in the design of the IBCT, it must rethink the IBCT and the Objective Force with a new focus on *jointness.*

The Army Must Rethink the Nature of the Modern Battlefield

The Army must reevaluate the evolving battlefield. Secretary Rumsfeld made this point when he extolled the virtues of precision to Congress in his decision to cancel the Crusader advanced artillery system. But it is not just the Crusader that needs to be reconsidered, it is the entire impact that the future battlefield will have on jointness and the design of future Army units.[29] This will be very difficult for the Army because it goes to its very soul and being. In some people's view, precision means "rather than air strikes supporting the efforts of a [sizable] maneuver force, it is the ground forces that are supporting the air operation by revealing the location of the enemy or forcing it into the open" (Koch, Burger, and Sirak, 2002, p. 24). Retired Maj. Gen. Robert Scales, Jr., the former Commandant of the Army War College, sees this as a "tectonic shift in the nature and charter of how ground forces fight" (quoted in Koch, Burger, and Sirak, 2002, p. 24). The problem with this view for many in the Army is that it takes away from the primacy of *dominant maneuver*[30] and the traditional *close battle,* where ground troops close with and destroy the enemy.

---

[29]This point is well understood by the current Vice Chief of Staff of the Army. In 1999, he told an audience, "The inventory of non-line-of-sight precision-guided munitions in the U.S. military has increased dramatically since Desert Storm. It's an enormous capability that we have. . . . The advancements in Air Force and Navy precision-guided arms are true force multipliers and must not be ignored by the Army. There'll come a time in the not-too-far-distant future where, if you're moving around on the battlefield, even on the move a non-line-of-sight weapon guided by a satellite [and] dropped out of a central bomb will be able to take out 30, 40 vehicles individually. The Air Force has capability to do that right now for stationary vehicles, and we'll be able to get to it for moving vehicles in the future. So there's an enormous capability there, and we have to leverage all that" (quoted in Winograd, 1999a).

[30]Fastabend notes, "In the aftermath of Desert Storm, the U.S. military attributed much of its success to the efficacy of AirLand Battle doctrine, and this brought about increased attention to doctrine in the other services and the joint community. A capstone document in this doctrinal renaissance was Joint Vision (JV) 2010, which listed not one operational concept but four: precision engagement, *dominant maneuver*, full-dimensional protection, and focused logistics. The Army's corresponding Army Vision 2010 very awkwardly attempted to show the correspondence of these four joint operational concepts to five patterns of operations: project the force, decisive operations, shape the battlespace, protect the force, and sustain the force. Concept proliferation still continues unabated" (Fastabend, 2001). On the subject of *jointness*, he does not argue that "the current Joint Vision (JV) 2020 list of operational concepts—precision engagement, dominant maneuver, full-dimensional protection and focused logistics—constitutes a coherent operational concept. It does not. A list of concepts is not an image of future combat; they offer no real choice. Therein lies the challenge for a real joint operational concept, for the history of U.S. joint cooperation has been one of peaceful coexistence rather than the hard delineation of interdependent roles. That is why in

In correspondence with the author, Scales expressed *dominant maneuver* and the future battlefield this way:

> As armies disperse to fight an adaptive enemy and as the enemy without the firepower—air superiority—advantage seeks to lessen his disadvantage the traditional balance between fires and maneuver will shift in favor of the former. Dispersed maneuver units will simply not be able to mass sufficiently to allow them to leverage positional advantage. Nor will they be able to achieve a significant advantage in tactical mobility over the enemy as we have seen in Gulf War and Afghanistan. A maneuver dominant fight will be something close to a fair fight, which the [United States] cannot afford. Thus manipulation of precision fires will be the key to achieving decision on the battlefield. Likewise the dynamics of future battle will dictate that the base element of maneuver will shift from the division to the brigade. . . . So the point of convergence between fire and maneuver must be at the lowest point at which both are able to be orchestrated together. That point will be the brigade. What's missing in the IBCT organization is a recognition of that essential fact.

The role of the close battle is highlighted in the latest O&O for the Objective Force developed by TRADOC (TRADOC, 2001a). Its pamphlet on *Tactical Operational and Organizational Concept for Maneuver Units of Action* holds that

> Ultimately, all Objective Force decisive operations are based on tactical success in close combat, the capability to seize and control key terrain and to close with and destroy enemy forces. In this sense, close combat actions are the fundamental building blocks for operational success and strategic victory. . . . The battalion maneuvers into position, often directly from a previous engagement, and rapidly receives or builds the necessary situational understanding to execute precision maneuver and decisive combat. . . . The maneuver Unit of Action finishes the enemy decisively through fire, maneuver, and tactical assault.[31]

The hold that the close battle has over the minds of Army thinkers is further suggested by the writing of Maj. Douglas Macgregor, author of the controversial 1997 book, *Breaking the Phalanx: A New Design for Landpower in the 21st Century*. Macgregor writes extensively on how to accommodate *jointness* in the design of Army formations. While this is considered radical by many in the Army, it was well grounded in the classical view of the battlefield and, when

---

Joint Vision 2010 and JV 2020, we find it more comfortable to pretend that four nonintegrated operational concepts, vaguely correlated to the primary functions of various services, are preferable to a solid assignment of specific service roles" (Fastabend, 2001).

[31]The suggestion that this view of the centrality of the traditional close battle might be changing can be found in the following statement: "Future engagements will be characterized by new tactical principles based on development of the situation in and out of contact and the balanced combination of stand-off fires, skillful maneuver, and tactical assault to achieve simultaneous decisions at multiple purpose-based locations. UA directs the continuous integration of powerful small tactical units, moving along multiple, non-contiguous axes to objective areas, while engaging the adversary with organic, overmatching and precise supporting fires" (TRADOC, 2001b).

considered against today's need to "rethink the battlefield," is strikingly conventional. While it may seem radical to some, by pressing for such changes as flattening Army formations, Macgregor rejects the impact that precision fires are having on the battlefield. He believes that the revolutionary change in modern warfare is not *precision-guided arms* but the classical notion of *dominating maneuver* that gains "the positional advantage in time and space that places the enemy at such a disadvantage that he is compelled to surrender or be destroyed." As Macgregor sees it, the "close battle—the area where the combatants are in direct contact—will remain critical to the outcome of the war" (Macgregor, 1997, p. 124). While Macgregor notes the success of technology during the Gulf War, he believes that it is "inefficient as well as expensive to allocate one [precision-guided munition] to every enemy ground system." That may have been true when a precision-guided munition meant a cruise missile costing more than $1 million that hits its target less than 90 percent of the time.[32] It may be less true for bombs costing only a few thousand dollars, which are released from high-flying manned and unmanned aircraft that loiter over the battlefield and are driven to the target by unjammable Global Positioning Satellite signals. By contrast, Scales paints the picture of a very different Army, one where "the purpose of a maneuver force is now to find the enemy, to locate him, to find those specific points on the ground that are vulnerable to attack by fire, to observe it, to separate civilians from military, deception from real targets, and then to superintend going after those targets" (quoted in Koch, Burger, and Sirak, 2002, p. 24). In his recent book, *Yellow Smoke,* Scales reminds us that "the impulse to culminate tactical battle by closing with and destroying the enemy must be balanced by the realization that fighting too close may play more to the advantage of enemy rather than friendly forces" (Scales, 2003, p. 31).

The Army's difficulty in coming to grips with the impact of precision is also illustrated by General Clark's planning for a ground campaign during the Kosovo campaign. In the opening chapter of *Waging Modern War,* General Clark's history of the events in the Balkans, he argues for the importance of the "almost revolutionary impact of precision strike weapons" (Clark, 2001, p. 9). But when he had the opportunity to bring forward a *modern* campaign plan, he regressed to a classic heavy ground force engagement. This was the kind of engagement that he had fought time and again at the National Training Center, one that would have been familiar to any Army general defending the Fulda Gap a decade earlier. In fact, there were alternatives to the six-division strike

---

[32]During the Gulf War, for the Navy, "the hit probability for the Tomahawk was less than touted by earlier reports based on incomplete data [90 percent or higher as estimated]. But the probability was substantially above 50 percent and remarkable by almost any weapons performance standard" (Winnefeld, Niblack, and Johnson, 1994, p. 248).

through Albania and Macedonia.[33] Some had argued for a plan that would capitalize on the very synergy between ground and air forces that had been missing.

In May 1999, Gen. Jack Keane, then still deputy commander in chief of U.S. Atlantic Command in charge of joint training and experimentation, but soon to be Vice Chief of Staff of the Army, talked openly about other ways to manage the ground campaign, calling traditional Army thinking "an anachronism." Keane stated, "If NATO determines ground troops are necessary in Kosovo . . . we [should] use the vertical element [airborne and air-mobile forces] to introduce the troops. And we use the joint systems in its entirety and scope to help us set the proper conditions" (quoted in Winograd, 1999a). Scales would later describe this type of operation as the right "maneuver warfare concept for this new era of limited liability wars in the Precision Age" (Scales, 1999, p. 26). He would argue that in the future, the close battle "will be decisive from a distance."[34]

---

[33]Specifically, some argued that "there were simpler ways to defeat the relatively poorly armed and small Serb military. . . . The keys to their proposed operation might have been NATO's helicopter-mobile and airborne forces . . . in addition to medium-weight units such as those of the U.S. Marine Corps. The invasion force might have also included some of the nearly 20,000 NATO forces already in Macedonia and Albania, including Task Force Hawk. . . . The helicopter employed by most of these units gave NATO a way to circumvent the minefields and entrenched Serb position in southern Kosovo as well as the congested roads and underdeveloped airports in Albania, albeit at some danger of losing helicopters to accidents or Serb fire on their way into Kosovo. Airmobile units could have set up bases by air, built them up, reinforced them with successive flights of their various helicopters, and then leapfrogged across a battlefield as desired. The danger of their movement [it was argued] would have been real, but limited: Serb forces could not have confidently anticipated the flight corridors and landing zones that the helicopter-mobile units would have employed" (Daalder and O'Hanlon, 2000, pp. 134–135).

For a while, British planners were actually working on a scheme much along the lines suggested by Daalder and O'Hanlon. The British used the term "semipermissive" entry to describe how "light infantry of the 101st Airborne (Air Assault) Division, . . . some units from the 82nd Airborne division, [and] . . . elite light-infantry regiments from the British and French armies would be used in the initial assault. The fast-moving, helicopter-oriented entry into Kosovo would be very different from the tank-heavy operation seen in the Gulf War." An American general familiar with the plan told a correspondent for the *Wall Street Journal* that "Militarily, this is not a hard-to-do mission. You can isolate forces in Kosovo rather quickly" (Ricks and Robbins, 1999).

While Clark was not against "using parachute and heliborne forces to gain surprise and take key points" (Clark, 2001, p. 284), he rejected the "semipermissive" plan. He would later write, "If we built our plan on this [semipermissive] entry and found ourselves bogged down with organized resistance, we would lose time and take unnecessary casualties. I believed it was important to stand firm on the full military requirement. . . . My plan was to attack with decisive force" (Clark, 2001, pp. 299–301).

[34]Scales would write, "Close combat units will maintain just enough contact to surround, contain and feel out the shape and size of each enemy formation. As precision strikes begin to wear away the will of the enemy, close combat forces converge methodically with deliberation. By this stage of the fight time becomes our ally. The initiative belongs entirely to us. We can only lose now if impatience causes us to be careless and allows a desperate enemy to inflict more casualties than we can afford. Eventually, surrounded, unable to mass, out of touch with adjacent units and higher authority, each discrete enemy force slowly collapses. . . . The range and lethality of our superior firepower weaponry expands the killing zone making it far more expensive for a less sophisticated enemy to

The experience of the first months of the Afghanistan campaign seems to support Scales's view of the new synergy between ground and air forces. Hagenbeck's account of Operation Anaconda, while emphasizing areas of "huge procedural and training issues we've got to work together with our Air Force friends" (McElroy and Hollis, 2002, p. 9), also tells of the synergy between Army and Air Force units—e.g., "We got a number of kills with close air support, but they were primarily because our mortars and machine-guns kept the al Qaeda from getting up and running back into the caves" (McElroy and Hollis, 2002, p. 7). In other words, the Army fixed the enemy and the Air Force killed them. This is just one example of the larger vision Ricks and Graham reported when they spoke of the "latest battlefield concepts [include] surveillance sensors—thermal images, Predator reconnaissance drones, even satellites—to locate the enemy, . . . U.S. ground forces [to] hold the enemy in place, but at a bit of a distance, [and] finally, bombs or artillery—not infantrymen—are often used to finish off the foe" (Ricks and Graham, 2002). This challenges the primacy of the classic close battle or, as Scales implies, replacing the close-close battle with a distant-close battle. The challenge for the Army is to see if what is happening on the ground in Afghanistan can be translated by the doctrine writers at TRADOC into the new orthodoxy of accepted Army doctrine. The new doctrine should reshape the IBCT and transformation. It should better integrate jointness into Army thinking and fully reflect the impact that precision weapons are having on our conceptualization of the battlefield of the future.

The Army Must Reform Its Combat Structure to Become Part of the Joint Force

While synergy between air and ground forces from the early days of the war in Afghanistan is evident, it is not at all clear that the long-standing debates of doctrine and jointness have been resolved. The fundamental problem was addressed in 1999 by the then-incoming Army Vice Chief of Staff, Gen. Jack Keane[35]—noted for his views on the need for more jointness—when he commented on the Task Force Hawk problem then current in Kosovo. At the Army Aviation Association of America's annual conference, General Keane said,

---

move unprotected against us in the open" (Scales, 1999, p. 27). Scales's notion of the "distant-close battle" finds some support in the writings of Huba Wass de Czege. While Wass de Czege argues for importance of the close battle and chides those "who believe that the revolution in military affairs has advanced to the point that warfare can be conducted with no ground component" (Wass de Czege, 2000, p. 8), he notes that the "close combat does not involve a choice of either direct fire weapons or standoff indirect fires; it involves a close coordination of the two" (Wass de Czege, 2000, p. 10).

[35]It has recently leaked that General Keane will succeed General Shinseki as Chief of Staff of the Army in early summer 2003.

> I can tell you straight up that there is usually resistance to what I'm talking about. It boggles my mind, but we still have senior leaders, people who wear stars . . . that don't recognize that if you're going to fly Apaches at a distance and range, it's got to be on the [Air Tasking Order]. . . . The [Joint Forces Air Component Commander] should determine what Apache's target are as a result of the entire responsibility he has in conducting the air campaign. [In the Army], we've got this nagging fear that somehow, if we turn over our organization to somebody in another uniform, that that organization is somehow going to suffer as a result of that. And I just fundamentally disagree with that (quoted in Winograd, 1999b).

> [Keane continued,] "Our problem is we use the Apaches still too much in the Army as support for close combat. We're using them like we used to use Cobra gunships," he argued, concluding that the "Apaches . . . and other aerial attack assets should be viewed as stand-alone systems, not merely components tightly tied to the close-in fight (quoted in Winograd, 1999a).

The experience of Task Force Hawk illustrates one of the most fundamental beliefs of Army officers that they cannot count on anyone but themselves and must own all supporting assets. This is the direct antithesis of jointness. In the future, the Army may not be able to "hedge its bets" by claiming the Air Force is an unreliable partner and building redundant capabilities into its formations. It must trust that the joint commander will ensure that all components will fight off the same battle plan. The biggest impact may well be for field artillery, which will have to prove that it can *complement* air-delivered precision munitions, rather than be just an Army-owned *alternative*—no matter how much Army commanders want the certainty that they believe comes with ownership.[36]

The Army Must Rethink the IBCT

While the IBCT, as the forerunner of the *Objective Force* of the future, addresses the perceived problems of deployability and survivability, it is not at all clear how these future units will complement Air Force, Navy, and Marine Corps formations. Secretary of Defense Donald Rumsfeld addressed the problem facing the Army when he told Congress that U.S. ground forces must not only

> be lighter, more lethal and highly mobile. . . . They must be networked to leverage the synergy that comes from combining ground maneuver forces with long-range precision fire. Air forces manned and unmanned must be able to locate

[36]In correspondence with the author, Scales commented that "the Army will argue that adding the joint function at the brigade will cost it too much in weight and complexity. That's wrong. In fact, by peeling away organic firepower and supplementing it with aerial fires close at hand the complexity and weight problem will be reduced. The main reason the Army won't do this is because of a lack of trust. The [Air Force] won't be there when we need them so we must be able to deliver our own firepower. Aerial fires are just nice to have."

> and track mobile targets persistently over vast areas and strike rapidly at long range without warning. The point is not to substitute air power for ground power, as some critics have demanded. Instead, it's the asymmetric opportunity that comes from integrating ground, air, maritime, and space capabilities in a networked web of forces. Today, forces are operating jointly in ways that were unimaginable before the information and telecommunication revolution. (Rumsfeld, 2002.)

Scales would agree with Rumsfeld, but he is concerned that the Army may not be ready to internalize the kind of air-ground integration that is needed to achieve the synergy of *jointness*. In recent correspondence with the author, he wrote, "The IBCT should form something like a joint fires and intel cell that accompanies the commander in battle. Perhaps as part of its development the brigade should establish a habitual relationship with an Air Expeditionary Force." Hagenbeck, the Operation Anaconda commander, seems to agree. He called for more Air Force ground forward air controllers and enlisted terminal attack controllers to "support every ground maneuver element" (McElroy and Hollis, 2002, p. 9). He also suggested that Army should work with the Air Force to train and certify universal observers "to call in JDAMs [and] any precision munitions or air support" (McElroy and Hollis, 2002, p. 9).

The current IBCT design must be rethought to make sure that these formations take full advantage of the joint systems that will be available on future battlefields. In addition, the notion that the IBCT as it evolves will be the one, all-purpose formation that will provide ground force capabilities to the joint war over the full spectrum of future conflicts should be critically reassessed. While there may be a need for medium-weight forces in the future, the number should be open for discussion, and it is debatable if the remaining nine brigades scheduled to be converted to IBCT formations should be converted or should remain as light brigades. Jointness requires a full range of capabilities, and, as Afghanistan shows, light units as they are currently configured are an appropriate part of the future Army order of battle.

FINAL NOTE

The lessons from our three last wars are clear. There is a new synergy between air and land forces. The role of the Army is changing. This must start with the Army rethinking the nature of the modern battlefield, and particularly the impact that precision weapons will have on jointness and the design of future Army formations. The Army must reform its combat structure to become part of the joint force. This will include rethinking transformation and the IBCT. In the final analysis, however, *jointness* is less about grand architectures of networks than about day-to-day coordination and cooperation; less about the IBCT and the objective force or future combat systems and new equipment

than about fostering a new mind-set of joint warfighting. The most difficult part of transforming the Army will be for the Army to understand and accept that *jointness* is a dominant way of thinking that it must learn and embrace.

REFERENCES

Army Times, "Air Force Policy Left Ground Troops High and Dry," *Army Times,* September 30, 2002, p. 10.

Atkinson, David, and Hunter Keeter, "Apache Role in Kosovo Illustrates Cracks in Joint Doctrine," *Defense Daily,* Vol. 202, No. 40, May 26, 1999.

Clark, Wesley K., *Waging Modern War: Bosnia, Kosovo and the Future of Combat,* New York: PublicAffairs, 2001.

Cordesman, Anthony H., *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo,* Washington, D.C.: Center for Strategic and International Studies, March 5, 2000.

Curtin, Neal P., *Kosovo Air Operations: Needed to Maintain Alliance Cohesion Resulted in Doctrinal Departures,* Washington, D.C.: General Accounting Office, 2001.

Daalder, Ivo H., and Michael E. O'Hanlon, *Winning Ugly: NATO's War to Save Kosovo,* Washington, D.C.: Brookings Institution Press, 2000.

Department of the Army, "FM 100-5 Operations (1986)," Headquarters, Department of the Army, 1986.

_____, "FM 100-7 the Army in Theater Operations," Headquarters, Department of the Army, 1993.

Fastabend, Col. David A., "That Elusive Operational Concept," *Army,* Vol. 51, No. 6, June 2001.

Franks, Tommy, "Operation Enduring Freedom," testimony before the Senate Armed Services Committee, 2002.

Gordon, Michael R., and Bernard E. Trainor, *The Generals' War,* New York: Little, Brown and Company, 1995.

Grant, Rebecca, "Airland Battle Was All the Rage in the 1980s, but Its Legacy, for Both the Army and the Air Force, Was Suspicion and Distrust," *Air Force Magazine,* Vol. 84, No. 6, June 2001.

Grossman, Elaine M., "Army Commander in Albania Resists Joint Control over Apache Missions," *Inside the Pentagon,* Vol. 15, No. 20, May 1999.

_____, "Army General Cites Lapses in Afghanistan Air Support: Left in Dark for Most Anaconda Planning, Air Force Opens New Probe," *Inside the Army,* October 7, 2002.

Herrly, Peter F., "The Plight of Joint Doctrine After Kosovo," *Joint Force Quarterly,* Summer 1999.

I Corps Staff, "IBCT O&O Briefing V2.0," 2001.

Inside the Air Force, "Air Force Launches Ambitious Effort to Realign Roles and Missions," Vol. 5, No. 37, September 16, 1994.

Inside the Army, "Army Secretary Asks Roles and Missions Panel to Guard Service's Turf," Vol. 6, No. 37, September 12, 1994.

Koch, Andrew, Kim Burger, and Michael Sirak, "Afghanistan: The Key Lessons," *Jane's Defence Weekly,* 2002, pp. 20–27.

Lambeth, Benjamin S., *The Transformation of American Air Power,* Ithaca, N.Y.: Cornell University Press, 2000.

_____, *NATO's Air War for Kosovo: A Strategic and Operational Assessment,* Santa Monica, Calif.: RAND, MR-1365-AF, 2001.

Macgregor, Douglas A., *Breaking the Phalanx: A New Design for Landpower in the 21st Century,* Westport, Conn.: Praeger Press, 1997.

_____, "The Joint Force: A Decade, No Progress," *Joint Forces Quarterly,* Winter 2000–2001.

Mann, Edward C. III, *Thunder and Lightning: Desert Storm and Airpower Debates,* Maxwell AFB, Ala.: Air University, 1995.

McElroy, Robert H., and Patrecia Hollis, "Interview with Major General Franklin L. Hagenbeck: Afghanistan Fire Support for Operation Anaconda," *Field Artillery,* 2002, pp. 5–9.

Nardulli, Bruce R., Walter L. Perry, Bruce Pirnie, John Gordon IV, and John McGinn, *Disjointed War: Military Operations in Kosovo,* 1999, Santa Monica, Calif.: RAND, MR-1406-A, 2002.

Otis, Glenn K., "Shuffling Assets Isn't the Answer: There Are No 'Deep Battles' and 'Close Battles,'" *Armed Forces Journal International,* May 1996, pp. 36–37.

Priest, Dana, "'Team 555' Shaped a New Way of War: Special Forces and Smart Bombs Turned Tide and Routed Taliban," *Washington Post,* April 3, 2002, p. A1.

Reynolds, Richard T., *Heart of the Storm: The Genesis of the Air Campaign Against Iraq,* Maxwell AFB, Ala.: Air University, 1995.

Ricks, Thomas E., and Bradley Graham, "Surprises, Adjustments, and Milestones for U.S. Military: In Huge Battle, Regular Army Soldiers Met with Unexpected Al Qaeda Resistance," *Washington Post,* March 10, 2002, p. A26.

Ricks, Thomas E., and Carla Anne Robbins, "NATO Plans Troops for Kosovo After Bombing—Force Totaling 60,000 Could Enter Province as the Serbs Retreat," *Wall Street Journal,* May 5, 1999, p. A3.

Romjue, John L., "The Evolution of Airland Battle Concept," *Air University Journal,* May–June 1984a.

_____, "From Active Defense to Airland Battle: The Development of Army Doctrine, 1973–1982," Fort Monroe, Va.: U.S. Army Training and Doctrine Command, 1984b.

Rumsfeld, Donald, "A Hearing on the Cancellation of the Crusader Program," testimony before the U.S. Senate Armed Services Committee, May 16, 2002.

Scales, Robert H., Jr., "Articles by Major General Robert H. Scales, Jr.," Carlisle Barracks, Pa: U.S. Army War College, 1999.

_____, *Certain Victory,* Office of the Chief of Staff, U.S. Army, 1993.

_____, *Yellow Smoke: The Future of Land Warfare for America's Military,* New York: Rowman & Littlefield Publishers, 2003.

Shelton, Henry H., "Nominations Before the Senate Armed Services Committee, First Session, 106th Congress," Senate Armed Services Committee, 2000.

Sheridan, Brian E., and Schoomaker, Peter J., *US Special Operations Forces: Posture Statement 2000,* Washington, D.C.: Department of Defense, 2000.

Shinseki, Eric K., "CSA Sends the Interim Brigade Combat Team Transformation Schedule," Washington, D.C.: Headquarters, Department of the Army, 2001.

TRADOC, "Objective Force: Operational and Organizational Concept for Units of Employment," Fort Monroe, Va.: U.S. Army Training and Doctrine Command, 2001a.

____, "Objective Force: Tactical Operational and Organizational Concept for Maneuver Units of Action," Fort Monroe, Va.: U.S. Army Training and Doctrine Command, 2001b.

Vick, Alan, Richard Moore, Bruce Pirnie, and John Stillion, "Enhancing Aerospace Operations Against Elusive Ground Targets," Santa Monica, Calif.: RAND, DRR-2366, 2001.

Wass de Czege, Huba, "The Continuing Necessity of Ground Combat in Modern War," *Army,* Vol. 50, No. 9, September 2000, pp. 8–12.

Winnefeld, James A., Preston Niblack, and Dana J. Johnson, *A League of Airmen: U.S. Airpower in the Gulf War*, Santa Monica, Calif.: RAND, MR-343-AF, 1994.

Winograd, Erin Q., "Keane Calls Army's Thinking on Introducing Troops an 'Anachronism,'" *Inside the Army*, 1999a.

_____, "Next Vice Chief Argues Aviation Assets Must Be Put Under Joint Control," *Inside the Army*, 1999b.

Chapter Eight

PREPARING THE ARMY FOR JOINT OPERATIONS

Bruce Pirnie

The National Security Strategy states that the military, which had been structured for operations against the massive armies of the Warsaw Pact, must be transformed to handle new adversaries. The administration wants a broad portfolio of military capabilities, including "transformed maneuver and expeditionary forces" (*National Security Strategy,* 2002, p. 30).

In the Army's vision of future warfare, its forces will fight in radically new ways. They will arrive in theater very quickly, fighting their way in if necessary, proceed immediately into combat, and overwhelm the enemy through simultaneous, continuous, and widespread operations. Far more often than in the past, they will operate in a nonlinear fashion, develop situations out of contact, engage enemy forces beyond range of enemy weapons, and tactically assault at times and places of their own choosing. To accomplish all these tasks will require much closer integration with forces from other services, especially from the Air Force, than has been achieved in the past.

This chapter explores the nature of service rivalries; examines current issues in the control of joint forces; suggests how the Army might become more expeditionary, especially for contingencies involving forcible entry; and addresses air-land operations, emphasizing the implications for Army transformation. It concludes that the Army's vision of future warfare is attainable only in a joint context, implying that in the final analysis transformation is a joint process.

PROMOTING "JOINTNESS"

Service Rivalry

Some service rivalries are unavoidable. By design, the budget process promotes competition among the services. The Department of Defense and Congress expect the services to advocate their programs within a defense budget that will not satisfy all demands. The services also compete in the theory of warfare,

each emphasizing the importance of its own contributions. More concretely, they compete in the development of new doctrine. Each service naturally has its own perspective on how combat should be conducted, which it tries to codify in doctrine. In this process, turf battles are inevitable.

Against a background of peacetime rivalries, it is not always easy for servicemembers to develop the joint perspective required in war. Two broad factors seem to influence an officer's propensity to think jointly: familiarity with other services and the threat posed by an enemy. The special operations community, for example, has a joint perspective because special operations are inherently joint at very low levels. An example would be the Army Special Forces teams and the Air Force combat air controllers who supported opposition to the Taliban in Afghanistan. Generally speaking, assignment to joint staffs tends to increase officers' understanding of sister services and to broaden their perspectives. The enemy threat is the greatest spur to "jointness." Military officers are generally determined to accomplish their missions at least risk to their forces. When the threat becomes dire, they cast service rivalries aside and make decisions on a practical basis.

It would be very pernicious if combatant commanders made operational decisions on the basis of service interests, but this does not seem to be the case. During the Persian Gulf War, Gen. H. Norman Schwarzkopf conducted a protracted aerial bombardment before initiating a ground offensive. He subsequently wrote: "At bottom, neither [Gen. Colin] Powell nor I wanted a ground war" (Schwarzkopf, 1992, p. 445). Gen. Wesley K. Clark conducted an air-only operation against Serbia that accomplished NATO's aims just as it seemed to be failing.[1] Gen. Tommy R. Franks toppled the Taliban in Afghanistan largely through providing air support to opposition forces, a striking demonstration of the advantage air power can confer. All of these commanders are Army generals, and their decisions appear free from service bias.

Systemic Changes

In recent years, a series of systemic changes have promoted "jointness." It was a major goal of the Goldwater-Nichols reform of 1986, which strengthened the Chairman of the Joint Chiefs of Staff (CJCS) and the authority of the combatant

[1]Clark had to start with an air-only effort because NATO would not approve or even consider more strenuous options. Attacks against infrastructure were constrained for political reasons, and attacks against fielded forces were ineffective. As a result, Serbia remained intransigent through months of bombardment. Confronted with the awful prospect of failure, Clark began to advocate planning and preparation for ground operations but encountered resistance from his own service. See Clark (2001, pp. 341–344, 349–350, and 438–440).

commanders.[2] At the same time, Congress created the Joint Requirements Oversight Council (JROC), which assists the CJCS in assessing the priority of joint military requirements and in evaluating acquisition programs to meet these requirements.[3] In 1996, the CJCS published *Joint Vision 2010*, since updated by *Joint Vision 2020*, to provide "an operationally based template for the evolution of the Armed Forces" (CJCS, 1996).[4] In 1999, the former U.S. Atlantic Command became U.S. Joint Forces Command with a new mandate to lead transformation of military forces through experimentation with new concepts and technologies.[5]

The Army component of Joint Forces Command is U.S. Army Forces Command (FORSCOM), headquartered at Fort McPherson, Georgia. In partnership with U.S. Army Training and Doctrine Command (TRADOC), FORSCOM operates the Joint Readiness Training Center at Fort Polk, Louisiana. Starting this year, Army attack aviation will participate biennially in a rotation at the National Training Center at Fort Irwin, Calif.; China Lake, Calif.; or Nellis AFB, Nev., to train for joint air operations at the corps level (Hendrix, 2001, p. 58).

Although "jointness" has progressed under the leadership of two Army generals as CJCS,[6] the Army as an institution can be surprisingly inward-looking. Its current high-level operational doctrine is less imbued with "jointness" than was air-land doctrine developed during the Cold War. Army transformation, focusing on the Objective Force, acknowledges a joint context but tends to ignore other services, even in such areas as remote sensing and deep strike, where they would make large contributions. Perhaps most surprisingly, the Army set deployment goals—e.g., moving a combat brigade anywhere in the world 96 hours after liftoff—that depend on airlift, without bringing in the Air Force as a partner.

The Army is uniquely dependent on other services to conduct operations. The Air Force and Navy (together with the Marine Corps) can conduct large-scale operations alone. The Air Force, for example, made by far the greatest contribution to air operations against Serbia. The Navy and Marine Corps flew some

---

[2]Sen. Barry Goldwater (R-Arizona) and Rep. William Nichols (D-Alabama) sponsored the Department of Defense Reorganization Act of 1986, which amended Title 10, United States Code. The Goldwater-Nichols reform implemented many recommendations of the Packard Commission, chartered by President Ronald Reagan in 1984.

[3]JROC replaced the Joint Requirements and Management Board, which similarly included the vice chiefs of the four services. For the JROC charter, see CJCS (2001a, Enclosure A). For a critique of the JROC process, see Davis (1998).

[4]*Joint Vision 2020*, published in May 2000, refined but did not supplant CJCS (1996).

[5]For an overview, see Gehman (2000, pp. 77–82).

[6]Gen. John M. Shalikashvili, CJCS from October 25, 1993, to September 30, 1997, and Gen. Henry H. Shelton, CJCS from October 1, 1997 to September 30, 2001.

sorties and the Army posed a threat from Albania,[7] but the Air Force was clearly dominant. The Navy can conduct deep-water operations on its own. Moreover, the Navy and Marine Corps can combine sea-land-air operations, achieving within one service the synergies of joint operations, as demonstrated during Operation Enduring Freedom in south-central Afghanistan. The Army cannot operate alone and therefore has the greatest stake in "jointness."

JOINT CONTROL OF FORCES

Current Doctrine

Current doctrine calls for "joint control" and offers plenty of guidance on the subject. The problem is that joint control can seem a forbidding subject. Even military officers are often unfamiliar with its principles and terminology until they have served in joint assignments. Civilians are even less likely to understand joint control and may regard the entire subject as needlessly overburdened with outlandish jargon. Some aspects of joint control can seem a bit arcane, but fundamentally it contains just three elements: command extending from the President down, control through combatant commanders, and the services' roles as force providers.

The most easily understood concept is *command*, an all-embracing authority established by the Constitution, which makes the President commander in chief of the armed forces. A "chain of command" extends from the President through the Secretary of Defense to combatant commanders and to the military departments through the service secretaries. The CJCS, as his title indicates, is not in this chain of command.

At the apex in a theater of operations are combatant commanders, who *control* the actions of military forces. They have a variety of subordinates, including service component commanders, functional component commanders, commanders of subordinate unified commands, commanders of joint task forces, single-service force commanders, and directly subordinate operational forces, such as special operations commands. Subordinate commanders may exercise operational control or tactical control over assigned forces. The distinction between these two forms of control is primarily temporal and not particularly important.

Of these subordinates, functional component commanders are potentially the most critical. According to joint doctrine, combatant (more precisely, "joint

[7]The Army's forces in Albania (Task Force Hawk) also used counterbattery radar to identify Serb firing positions in Kosovo near the Albanian border, but the rules of engagement and procedural problems impeded its full exploitation.

force") commanders may establish functional components to provide centralized direction and to ensure unity of effort across the mediums of land, air, and sea. A joint force land component commander controls the actions of Army forces and Marine forces ashore. A joint force air component commander ensures that aircraft and air defense weapons of all services operate harmoniously in a common airspace. A joint force maritime component commander controls actions of forces at sea, including Marine amphibious task forces. These commanders are normally chosen from the service making the predominant contribution, and their core staffs come from the service component commands.

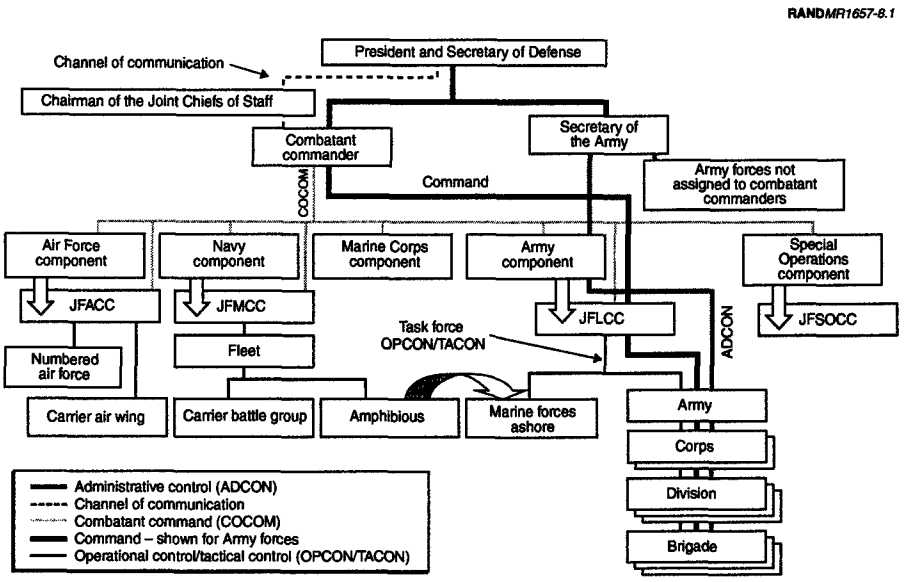
While not commanding or controlling operations, the role of the services is to *provide forces* to combatant commanders and ensure that these forces are properly organized, equipped, trained, and supplied.[8] The Army, for example, as an institution, prepares forces in these ways to conduct operations on land. Strictly speaking, statements that the "Army" did or failed to do anything during an operation are incorrect because the Army as an institution does not have operational responsibilities. Correctly speaking, a combatant commander did or failed to do something with forces provided to him by the Army.

Figure 8.1 presents a simplified view of command relationships within a theater of operations, with the following assumptions: the combatant commander appointed functional commanders from the service component commands and the joint force land component commander is in the chain of command for Army forces.[9]

The U.S. military exhibits several interrelated problems in achieving the joint control of forces. First, most military officers spend most of their careers within their service chains of command and do not fully understand the principles of joint control, much less its nuances and subtleties. For example, when Task Force Hawk was deployed to Albania, controversy arose about placing Army helicopters on the air tasking order prepared under direction of the air component commander. However, the air tasking order is intended primarily to coordinate the overall air effort and need not constrain the tactical employment of helicopters, rightfully the domain of Army officers. Moreover, the air tasking order directed support vital to missions of the Army's AH-64 attack helicopters, notably the recovery of downed pilots. It would hardly have made sense to task recovery assets without reference to the attack helicopters they would support. Secondly, real-world command relationships often deviate from doctrine,

[8]These responsibilities among others are listed in Title 10 Armed Forces, United States Code, and are sometimes called simply "Title 10."

[9]For a more complete description of joint command relationships, see CJCS (2001b; 2001c).



NOTE: JFACC = joint force air component commander; JFLCC = joint force land component commander; JFMCC = joint force maritime component commander; JFSOCC = joint force special operations component commander.

Figure 8.1—Theater Command Relationships

sometimes egregiously. For example, Operation Allied Force in Kosovo did not include a joint force land component commander, despite a need to plan for Army helicopter operations from Albania.[10] Moreover, the command relationships in Albania were so convoluted that no single officer had the responsibility and authority to ensure safe operation of Rinas Airport, on which the entire operation hinged. Third and most important for this discussion, the Army currently lacks procedures and resources to play its part well when smaller (less than a division) Army forces are involved.

The Predominant Service

The service that makes the predominant contribution to operations usually will provide the overall commander. According to this principle, the combatant commander in a theater of operations where large-scale land operations may

[10]Adm. James O. Ellis, USN, who commanded or controlled most NATO and U.S. forces during Operation Allied Force, believed that not having a land component commander was a mistake because it shifted responsibility to the joint task force staff, which was only marginally prepared to handle the issues raised. Admiral Ellis's views were contained in a briefing entitled "A View from the Top," prepared at Headquarters, U.S. Naval Forces, Europe, in Naples, Italy, immediately subsequent to Operation Allied Force in June 1999.

ensue is usually a full general in the U.S. Army, as is the case today in Korea. The Navy provides the unified commander in the Pacific. The Army or the Marine Corps provides the commander of Central Command, who is responsible for operations on the Arabian Peninsula, the Horn of Africa, and Afghanistan. With only two exceptions, including the current incumbent, the Army has provided the commander in Europe.

In large-scale joint operations, combatant commanders are almost always Army generals. But post–Cold War operations have typically been small-scale, and combatant commanders have come from other services. For example, Vice Adm. Joseph Metcalf III largely controlled the intervention in Grenada and Adm. James O. Ellis, Jr., had operational control over most of the air forces employed in the Kosovo operation. The trend may be toward increasing interchangeability of services, implying that Air Force generals may someday lead joint operations. If so, the Army will face dual challenges: preparing its own generals to head joint task forces and preparing general officers from other services to at least understand land operations.

Consider, for example, Operation Allied Force. The overall combatant commander was Admiral Ellis, who had three responsibilities. He was Commander of the U.S. Joint Task Force Noble Anvil. He controlled the entire NATO operation, as Commander, Allied Forces Southern Europe. As Commander in Chief, U.S. Naval Forces, Europe, he controlled U.S. land forces, including Task Force Hawk (Army forces in Albania). In this case, the command relationships were skewed because NATO prescribed an admiral, even though the U.S. Navy made a relatively modest contribution. Had the United States conducted the operation unilaterally, the overall commander would logically have been an Air Force general because his service predominated. He too would have controlled the Army forces in Albania and would have been responsible for planning of a larger air-land operation. Had an Army general been chosen, he would initially have controlled an air-only operation. So, all the services clearly face challenges in preparing for future operations and training their general officers.

Control Measures

The Army and its sister services need to consider how the traditional division of responsibilities may be affected by greater fluidity and dispersion on the battlefield. If, as anticipated by the Joint Vision and the Army's emerging concepts, new Army forces are highly dispersed and operate in fluid ways, then traditional ways of working together may become inadequate. This problem is most acute in operations, where the distinction has been made in the past between close air support and interdiction. Close air support involves the operations of air forces, both Air Force airplanes and the Army helicopters, which are in close

proximity to friendly forces and require careful integration. Normally, the combatant commander apportions some part of the overall air effort to close air support, and field commanders determine how that effort will be applied. Interdiction operations are typically conducted to destroy enemy forces prior to contact with friendly forces on land. Normally, the air component commander has the responsibility for these operations. These distinctions presuppose conventional combat developing in linear fashion so that "close proximity" can be clearly delineated. As friendly forces (and enemy forces, for that matter) flow through the battle area, the definition of "close proximity" to friendly forces may vary quickly and in unpredictable ways.

From the Army's perspective, "close proximity" simply means that the land force commander controls the air operations. A field commander quite naturally and appropriately wants to control those air operations that will affect enemy forces in his vicinity, not only to assure the enemy's destruction but also to minimize risk of fratricide. So long as this commander intends simply to advance in a linear fashion, he may be content to control sorties directed against enemy forces in his front. If he intends to disperse his forces and attack in several different locations simultaneously, he will want at least to influence air attacks against all these enemy forces. He may want air attacks to precede his own attack, occur simultaneously, or follow his attack, whether or not he is still in contact with the enemy. In other words, field commanders will need overall synchronization of air and land actions, not just control over air efforts in "close proximity" to maneuvering land forces.

Of all the issues raised in assigning responsibilities, perhaps the most controversial involves what is called the fire support coordination line.[11] The land or amphibious force commander draws this line and directs attacks for all weapons short of the line, but they need only be informed of attacks beyond it. Air Force officers tend to be comfortable with this division, whereas Army officers tend to think that land commanders should plan attacks throughout the area of operations (Reimer and Fogleman, 1996, pp. 11–17). Joint doctrine very specifically provides that the line is not a boundary—i.e., it is not intended to prevent forces from conducting actions on either side but merely to define what coordination is required. In actual operations, however, it can easily become a boundary with unwanted consequences. During Operation Desert Storm, for example, Air Force officers thought that the Army corps commander set the fire support coordination line much too deep, curtailing the ability of air forces to engage time-sensitive targets. Ironically, Army aviators found that the line impeded their own opportunities to attack Iraqi ground forces beyond the Euphrates River.

[11]For an outline of the issues, see D'Amico (1999, pp. 70–77).

As battle becomes increasingly less linear, this line may need to be redrawn dynamically in response to events or it may even become counterproductive. The Army and Air Force need to rethink the concept of a fire support coordination line. Just drawing the line ahead of the farthest advanced Army units might include the entire battlespace, imposing a counterproductive restriction on air operations. More innovatively, a line could be drawn around Army units and redrawn automatically as they maneuvered, producing areas similar to the restrictive fire areas drawn for special operations forces. Currently available means, including identification, friend or foe; communication nets; and graphic displays might not support such dynamic control measures, but future means might be adequate.

More fundamentally, relations between the services are tinged with anxiety that parochially minded commanders might employ forces foolishly. From an Air Force perspective, for example, it would be nightmarish if a combatant commander were to dole out air power piecemeal or treat it like flying artillery. From an Army perspective, it would be disastrous if air power were employed only to conduct strategic air campaigns, neglecting support to terrestrial operations. The ideal relationship would be an air-land partnership that neither partner would dominate, although either might have the lion's share in any given operation.

Forming Joint Task Forces

A combatant commander will control theater-level operations, through his own joint staff and functional commanders. For smaller operations, he may create joint task forces that dissolve when these missions are accomplished. This was the case when the Commander in Chief, U.S. European Command (General Clark), established Task Force Noble Anvil, commanded by the Commander in Chief of U.S. Naval Forces, Europe (Admiral Ellis), to control U.S. forces in Kosovo.

During the Cold War, the Army was organized to fight large battles, involving corps and army groups on the Central Front against very large Warsaw Pact forces. Land forces predominated, while opposing air forces fought for air superiority so that they could conduct interdiction and deep strikes. Close air support played a relatively small role. This general pattern applied during Operation Desert Storm in the Persian Gulf, fought predominantly by U.S. forces developed to defeat the Warsaw Pact, fighting an enemy equipped largely with Soviet-built weapons. With this notable exception, Army deployments since 1989 have been at less than divisional strength: Somalia, Haiti, Bosnia, Kosovo, Afghanistan.

The problem is that Army forces are not configured for such small joint operations. So the Army has responded in ad hoc fashion, using most of a division headquarters along with assets from corps headquarters and above. This process is cumbersome and inefficient, particularly because the officers were initially unfamiliar with the new headquarters and its relationships to U.S. and other allied forces. Moreover, these built-from-scratch organizations had to raid headquarters that stayed behind. In the case of Task Force Hawk in Albania, the Army had to draw key elements from V Corps headquarters in Germany, thus incapacitating the whole corps.

Figure 8.2 illustrates why forming joint task forces causes difficulty for the Army. In this simplified example, Army forces predominate, so the combatant commander selects the joint task force commander from his Army component. The joint task forces include two Army brigades, an Air Force wing, and a Marine Expeditionary Unit (reinforced infantry battalion). The joint task force commander decides to work through the service components, although he could have designated functional commanders, such as a joint force land component commander or air component commander. He needs a joint staff to

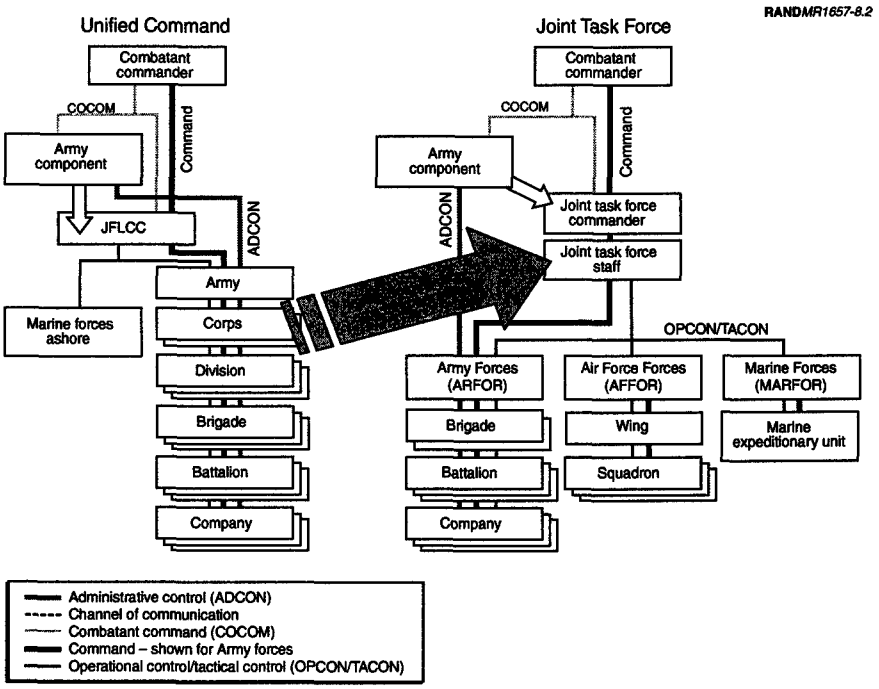


Figure 8.2—Forming a Joint Task Force Staff

plan and direct common action. Normally, the predominant service forms the core of such a staff, but the Army has no echelon of command below corps that has the appropriate assets and training. As a result, the joint task force commander has to draw on division, corps, and army headquarters to develop his new staff. By contrast, if the Marines were to provide the task force commander, he could draw on the existing staffs of a Marine Expeditionary Brigade or a Marine Expeditionary Force, who are accustomed to operating as an air-ground task force under a single commander.

To cope with the post–Cold War trend, the Army needs some way to generate appropriate headquarters quickly and efficiently so it would be ready to control multiple brigades (not divisions or corps), serve the Army component command, support a joint force land component commander, or form the nucleus of a joint task force headquarters. The Army can fill this need in several possible ways. It might augment corps headquarters with elements that could be detached without gutting the corps headquarters. The problem with this approach is it might bloat the Army hierarchy. Alternatively, the Army might create command entities comparable to the Marine air-ground task force, which varies in size from a Marine Expeditionary Unit (reinforced infantry battalion) to a Marine Expeditionary Force (division and up).[12] For this to work, the Army would have to exercise these headquarters during normal peacetime to ensure proficiency.

Standing Joint Task Force Headquarters

Recognizing the problems in forming joint task forces, the Quadrennial Defense Review directed the Department of Defense to develop a Standing Joint Task Force for each of the regional combatant commands (DoD, 2001, pp. 33–34). Subsequently, U.S. Joint Forces Command organized the Experimental Standing Joint Command and Control Element with 55 personnel, which it tested during Millennium Challenge 2002. During normal peacetime, these 55 personnel would study areas where the command would most likely operate. During a crisis, they might help form the headquarters of a joint task force. In line with the practice of selecting the predominant service to provide the core of the task force headquarters, the Army's XVIII Airborne Corps provided this core during the last Millennium Challenge exercise. However, the Experimental Standing Joint Command and Control Element will be limited in the posts it can fill and so will have difficulty introducing enough joint expertise.

If the experiment goes well, unified commanders may eventually have small numbers of suitably trained personnel prepared to help form the headquarters

[12]For an argument in favor of Marine-style organization, see Macgregor (1999, pp. 25–33).

for joint task forces. But the services still must provide most of the required personnel, who will come primarily from the headquarters of their large formations. In this case, the Army still faces the challenge of preparing its corps and divisional staffs to take on joint responsibilities with very little advance notice. There may not be enough time during crises to learn joint operations before actually having to conduct them. At a minimum, corps commanders, divisional commanders, and key staff officers will need to be thoroughly conversant with the capabilities of other services and such joint control measures as the air tasking order. To gain this expertise, they must exercise with their counterparts in other services. At Army corps level, these counterparts might include numbered air forces and air expeditionary forces in the Air Force, carrier battle groups and amphibious ready groups in the Navy, and Marine expeditionary forces.

AN EXPEDITIONARY ARMY

The administration's *National Security Strategy* and the Army's transformation efforts both emphasize strategic mobility and power projection, implying rapid deployment of forces ready to fight on arrival. A critical part of this effort will be for the Army to develop an expeditionary posture in ways similar to those of the other services. For the Army to do this, it must work with the other services.

A few years after the Cold War ended, the Air Force and Navy–Marine Corps developed expeditionary postures for their current forces. In 1996, the Air Force promulgated *Global Engagement*, a strong advertisement for air power, which announced among other things an Air Expeditionary Force that could "launch and be ready to fight in less than three days" (U.S. Air Force, 1996, p. 11). Subsequently, the Air Force developed a plan to cycle its active units so that two Air Expeditionary Forces would always be ready for deployment. In 1992, the Navy and Marine Corps promulgated *From the Sea*, which announced a shift in focus from global war to regional challenges. "The new direction of the Navy and Marine Corps team, both active and reserve, is to provide the nation Naval Expeditionary Forces—Shaped for Joint Operations Operating Forward from the Sea—Tailored for National Needs" (U.S. Navy, 1992, p. 2). The Marine Corps, already represented in this overall strategy, revived use of the word "expeditionary" to describe its force packages.

In contrast, the Army emphasized not what its current forces could do, but what its new forces would be able to do, especially the Stryker Brigade Combat Team (SBCT), scheduled to achieve an initial operational capability in 2003. The Army's apparent reluctance to adopt a more expeditionary posture had several causes. One cause is its traditional focus on scenarios of major theater warfare that provided the rationale for the Army's force structure and its mix of active

and reserve forces. During the Cold War, the scenario involved war against the Warsaw Pact on NATO's Central Front. After the Cold War, the scenario became a campaign against Iraq, analogous to Operation Desert Storm. Strategic deployment was, of course, central to these scenarios, but neither was expeditionary in the sense of responding rapidly during crisis without the benefit of fully developed war plans. Another cause is the Army's ambivalence toward peace operations that have come to the fore since the end of the Cold War. The Army is proud of its accomplishments yet uneasily aware that peace operations might divert resources from the fundamental mission of warfighting.

The Army is now undergoing a transformation that will make its forces lighter, more easily deployable, and more flexible in their employment. But the Army should not wait for these new forces to become available before adopting a more expeditionary posture. Just as the other services announced their new expeditionary postures simply on the basis of existing forces, the Army can become more expeditionary using its existing forces, referred to as the "Legacy Force." In Somalia, Haiti, Bosnia, Kosovo, and now Afghanistan, the Army has demonstrated its capability to be expeditionary. It only needs to accept such contingencies as typical, not exceptional, and develop a corresponding posture.

For the Army, in contrast to the other services, being expeditionary implies working jointly. The Air Force can envision independent employment of an Air Expeditionary Force, and the Navy can conduct blue-water operations and small-scale forays onto land without any assistance. An expeditionary Army needs very close cooperation with other services, not only to support its deployment but in all its operations.

FORCIBLE ENTRY

The National Security Strategy naturally focuses on forcible entry operations. The unpredictability of the post–Cold War era strongly suggests that U.S. forces will not always be afforded the luxury of deploying forces without opposition.

Often, Marine Corps forces may lead the way and Army forces follow. The Marine Corps specializes in forcible entry from the sea and considers itself the "optimal enabling force, prepared to open ports and airfields" (U.S. Marine Corps, 2002). But Army forces also play a large role in forcible entry. Army special operations forces will usually conduct special reconnaissance and take direct action in this context. Army airborne forces may seize airfields by parachute assault. Army aviation, sometimes operating from large-deck carriers, may provide firepower and transport. The issue for the Army is whether and how its other forces will be involved in forcible entry operations.

From the Air

The Army has one division of airborne troops, the well-known 82nd Airborne Division, although World War II was the last time it dropped a division in combat and the Korean War saw the last multibattalion combat drop. The Rangers conducted drops in smaller operations in Grenada, Panama, and Afghanistan. The Ranger Regiment alone has enough strength to accomplish an airfield seizure, one of the classic airborne missions.[13]

Typically, combat drops are conducted at the lowest practical altitude, usually about 500 feet, to minimize time spent under canopy and subsequent dispersion. In employing this technique, transport aircraft are highly vulnerable to ground fire, including machine guns, cannon, and missiles of all descriptions. Suppression of some threats is possible. For example, AC-130 aircraft suppressed the 23-mm cannon fire during the Rangers' drop at Salines Airport on Grenada. But it will seldom be possible to eliminate low-level air defense, especially man-portable missiles with passive seekers. As a result, airdrops have receded into a small, although sometimes critical, niche. Small numbers of transport aircraft rely on surprise, reduced visibility, and the defenders' weakness to survive over the drop zone. Usually these aircraft are MC-130 Combat Talon aircraft, equipped for in-flight refueling, with terrain avoidance radar, special navigation systems, and electronic countermeasures.

Another major drawback of such operations is that airborne forces lack combat power once on the ground. Airborne forces are light infantry, foot-mobile, and lack firepower. A brigade of the 82nd Airborne Division flew to Saudi Arabia immediately after Iraq invaded Kuwait in order to deter further Iraqi aggression. Had Iraqi troops continued south, this brigade would have been at risk, unable either to conduct a strong defense or to withdraw successfully. To magnify their combat power, airborne troops normally rely on close air support. To make this support effective, they work very closely with Air Force tactical air control parties attached to the airborne units. At the time airborne first arrived in Saudi Arabia, however, the Air Force was still building up its own strength.

Special operators, such as Rangers and Special Forces, will certainly continue to jump, but the future for large-scale airborne operations seems doubtful unless they can be better protected. One solution, requiring close Army–Air Force cooperation, would be to have the airborne forces exit the aircraft from medium altitude, above the ranges of many air defense weapons, and use steerable

[13]The 75th Ranger Regiment has one battalion each at Fort Benning, Georgia; Hunter Army Airfield, Georgia; and Fort Lewis, Washington.

parafoils to reach the drop zone.[14] To achieve accurate delivery from medium altitude would require some type of navigation, such as that provided through the Global Positioning System. Parafoils could support individual soldiers, small groups of soldiers, lightweight vehicles, and heavier equipment, including even medium-weight armored vehicles. Airborne units might normally operate with lightweight vehicles mounting crew-served weapons and receive medium-weight vehicles when required by the mission. For example, the 82nd Airborne Division might be augmented with a battalion or more of medium-weight armored vehicles. Such augmentation would give it considerable combat power, especially when teamed effectively with Air Force systems that could range from AC-130 gunships operating just above the low-level air defenses to bombers delivering precision munitions from higher altitudes. Having such mobile land forces in contact with the enemy would greatly magnify the effectiveness of these attack aircraft, which might otherwise be unable to target enemy forces effectively.

From the Sea

The Department of the Navy adopted the expression "From the Sea" to characterize its shift in strategy after the Cold War (U.S. Navy, 1992). The Navy observed that seaborne forces could respond on short notice and build power from the sea without requiring overflight, transit, or basing permission from foreign governments. The Marine Corps will normally be the service to build land power from the sea using amphibious assault ships, but the Army can build power as well using aircraft carriers. *Nimitz*-class carriers are the largest warships ever built, displacing in their latest variants almost 100,000 tons fully loaded and operating 80–85 aircraft of various types. These huge, nuclear-powered ships can accommodate Army forces by leaving all or part of their air wings ashore. They did so during operations in Haiti and Afghanistan.

During the Haiti intervention in September 1994, 1st Brigade of the 10th Mountain Division (1-87th and 2-22nd Infantry) and elements of the 10th Aviation Brigade went aboard the USS *Dwight D. Eisenhower* at Norfolk, Virginia. Three hangar bays were used to stage the men, vehicles, and equipment, including 26 high-mobility, multipurpose wheeled vehicles and 18 UH-60 Black Hawk helicopters. On D-Day, the Black Hawks initially ferried troops ashore and supplies by sling-load. CH-53 helicopters were used for the heaviest loads. Special operations forces arrived aboard the USS *America* (Fishel, 1997). During operations against the Taliban and al Qaeda in late 2001, special operations forces staged from the USS *Kitty Hawk*. Most of the air wing stayed in Japan, freeing

[14]The following insights are derived from unpublished work by RAND colleagues Peter A. Wilson and Jon G. Grossman in the Arroyo Center's Force Development and Technology Program.

space for special operations forces that could launch from the Arabian Sea or establish forward bases ashore. These forces included Army Special Forces, the 160th Special Operations Aviation Regiment, and other special operations units (Vogel, 2001, p. A8).

This marriage of Army forces with carriers offers important operational advantages. Army forces, like their Marine counterparts, can be on the scene of developing crises without seeking permission from foreign governments. In hostile environments, they can seize bases by air-mobile assault from a carrier or they can go ashore behind Marine forces. The aim is not to duplicate the Marines' capabilities but to complement and expand them.

To be ready for carrier-borne operations, both the Army and the Navy need to plan and train appropriately. One task for Army units is to package their forces for carrier operations, and this would involve making equipment and materiel easily identifiable and readily accessible in the sequence they are likely to be needed. Army helicopter pilots would have to practice carrier landings and learn procedures unique to flight operations at sea. Navy personnel would need to be conversant with how the Army plans for deployment—e.g., Navy personnel will need to understand how to sling-load Army helicopters.

The Army would gain a useful deployment option for the SBCT, if it could also be carrier-borne. Putting the SBCT aboard a carrier would demand some way to quickly offload its armored vehicles. The problem today is that the Army's most capable heavy-lift helicopter, the CH-47E Chinook scheduled to be fielded in 2003, will lift about 12 tons, but armored vehicles in the SBCT weigh 18 tons and more. The Future Transport Rotorcraft might provide enough lift, but this program is currently on hold (Weinberger, 2002).

Options for Using a Medium-Weight Force

Currently, the SBCT can conduct combat operations immediately after deploying, but it cannot force entry. In situations requiring rapid response, it would normally deploy by transport aircraft into a secure environment, implying either a viable host government or previous forced entry. If deployed by sealift, it would come ashore dockside or arrive on lighters but not conduct amphibious assault. What alternatives might be considered to allow the SBCT to force entry?

During the "Army After Next" and the Army transformation seminar wargames, a conceptual medium-weight force conducted air-mobile operations using a conceptual vertical lift aircraft that could carry armored vehicles internally. This concept would allow medium-weight forces to conduct forced entry or at least to deploy into an area of operations without use of seaports or airfields.

However, such a concept confronts serious, perhaps insurmountable, obstacles. No current program exists to develop the required aircraft, nor is it clear what technology would be appropriate. Rotary-wing technology would probably not be a wise choice, especially considering the requirement that the armored vehicle be carried inside. Tilt-wing technology seems more promising, but there would be technical risks. The required aircraft would demand new development, not just an enlargement of the V-22, assuming that the Marine Corps' troubled program is ultimately successful. If such an aircraft were developed, it would either be a joint project, implying that the aircraft might not always be available to lift Army forces, or an Army project, making a huge demand on the Army's budget. Moreover, the stream of aircraft required to lift Army forces would be highly vulnerable to low-level air defense, especially passive systems. To ensure survival, the force would have to land outside opposing air defenses, a severe operational restriction.

Another alternative might be to drop medium-weight forces from C-130 or C-17 aircraft using parachute or parafoil. A company or battalion of medium-weight forces in conjunction with airborne troops might seize airfields or other ports of entry in advance of a larger body. Vulnerability to air defenses would remain a problem but perhaps less so than for vertical-lift aircraft, especially if a drop could be conducted above the range of small-caliber air defense guns and most man-portable missiles. The resulting capability might resemble postwar Soviet airborne forces, which were mechanized forces configured for airdrop.

AIR-LAND OPERATIONS

Air-land synergy can pay enormous dividends, as illustrated by recent operations in Kosovo and Afghanistan. Unfortunately, U.S. military doctrine, especially Army doctrine, has not kept pace with technological innovation in air power and even seems to have regressed since the Cold War. Army special operations forces, which always have the closest possible ties with other services, may offer a useful paradigm to the Army as a whole. The goal is for the Army and Air Force to integrate their force projection operations, perhaps modeled on special operations. One area for fruitful teamwork is to suppress the enemy's air defenses, where Army rocket systems have great capability.

Contrast of Kosovo with Afghanistan

Recent operations in Kosovo and Afghanistan dramatically illustrate the necessity of joint Army–Air Force operations. In Kosovo, an air-only campaign failed initially to protect the Albanian Kosovars. In Afghanistan, an air-land effort brought a dramatically quick end to the Taliban regime.

During Operation Allied Force, Yugoslav (primarily Serb) forces faced no threat on land and therefore could disperse and hide from NATO air forces. As a result, these forces presented few targets to air attack and survived months of bombardment with small losses of heavy equipment.[15] This allowed them to commit massacres and conduct large-scale "ethnic cleansing" while the NATO operation was in progress. President Slobodan Milosevic capitulated because he realized that NATO's will would not be broken, that its bombing would continue, and that its ground invasion was likely. NATO attacks on military targets probably did not provide a major source of pressure.[16] Clearly, NATO would have done better to mount air-land operations, rather than rely on air only.

During Operation Enduring Freedom, by contrast, Taliban forces had to concentrate in defense against the Northern Alliance and therefore offered good targets to air attack. The United States deployed Army Special Forces A-teams and Air Force combat air controllers to coordinate with leaders of the Northern Alliance and to spot targets.[17] Using a wide variety of assets, including AC-130 gunships, F-16 and F-15E fighters, B-1 and B-52 bombers, and F/A-18 and F-14 fighters, the United States conducted air attacks that eventually caused Taliban

---

[15]On June 10, 1999, Secretary of Defense William S. Cohen, Chairman of the Joint Chiefs of Staff Gen. Henry Hugh Shelton, USA, and Vice Director for Strategic Plans and Policy on the Joint Staff Maj. Gen. Charles F. "Chuck" Wald, USAF, presented a briefing in the Pentagon entitled "Operation Allied Force." According to this briefing, NATO had destroyed about 120 tanks, 220 armored personnel carriers, and 450 artillery pieces and mortars. On September 16, 1999, Supreme Allied Commander Europe Gen. Wesley K. Clark, USA, and the Chief of the Kosovo Mission Effectiveness Assessment Team Brig. Gen. John Corley, USAF, presented a briefing in Brussels entitled "Kosovo Strike Assessment." According to this briefing, NATO had destroyed 110 tanks, 210 armored fighting vehicles, and 449 artillery pieces and mortars. This assessment was based on aircrew mission reports, supported where possible by cockpit video and poststrike imagery. But when the Munitions Effectiveness Assessment Team visited the sites in Kosovo where successful strikes had been reported, it found remains of only 14 tanks, 18 armored fighting vehicles, and 20 artillery pieces. Moreover, the team found no indications, such as debris or drag marks, to suggest that damaged equipment had been removed. See Barry and Thomas (2000, pp. 23–26). See also Grant (2000, pp. 74–78) and *Air Force Magazine* (2000, pp. 6–7). In April 2000, Air Force Chief of Staff Gen. Michael E. Ryan issued a report prepared by the Studies and Analysis Directorate, U.S. Air Forces in Europe (USAFE), entitled "The Air War over Serbia." This report did not assess how much equipment had been destroyed. Instead, USAFE (2000, p. 23) noted: "Without the threat of a ground invasion, Serbian forces were free to disperse and hide from NATO aircraft. . . . While flying at high altitudes has been cited by some as the primary reason for the inability to kill tanks and fielded forces, finding, fixing, and attacking dispersed and hidden forces proved a challenging task at any altitude."

[16]See Hosmer (2001). Hosmer found that the Serb leaders "apparently believed that NATO had both the intent and the freedom of action to destroy their country's entire infrastructure if need be" (Hosmer, 2001, pp. xxii and 131). They might have held out longer, if they had perceived NATO's real inhibitions. For a comprehensive analysis of the air operation and its effects, see Lambeth (2001).

[17]For an account of special operations in the Panjshir Valley and around Bagram, see Priest (2002, pp. A1, A12–A13). Priest interviewed more than 30 members of the 5th Special Forces Group at Fort Campbell, Kentucky.

forces to abandon their positions and attempt to flee.[18] With the help of well-directed, precise air support, Northern Alliance troops quickly enjoyed overwhelming success, prompting Pushtun elements in central and southern Afghanistan to change their allegiance. Subsequently, Marine and light Army forces used air power to help destroy remnants of Taliban and al Qaeda forces lurking in mountainous terrain near the Pakistan border.

The operations in Kosovo and Afghanistan demonstrated that air power is far more effective against fielded forces when they are opposed on the ground. Afghanistan also demonstrated that new methods of target designation coupled with precision munitions have enormously increased the effectiveness of close air support. "Precision" implies not only greater effect on the targets but also greatly reduced risk of fratricide. In addition, opposing forces have less chance to escape the effects of air power by "hugging" U.S. forces. These developments are of great value to the Army's new medium-weight forces, especially if these have to enter combat with less-than-optimal artillery support.

Doctrine for Air-Land Operations

The Army's new medium-weight forces, starting with the SBCT, will have less passive protection than current heavy forces. They will probably also have less organic indirect fire, both in terms of systems and ammunition stocks. As a result, air support, especially close air support, will become increasingly more important and may be absolutely necessary for success in many situations but especially during early-entry operations. If so, doctrine for air-land operations will assume pivotal importance.

During the 1980s, the Army developed doctrine for air-land operations, articulated in the Army's capstone operational document, Field Manual (FM) 100-5, *Operations*, which went through iterations in 1982, 1986, and 1993.[19] This doctrine responded to the demands of NATO's central front. It was frankly inspired by the German *Blitzkrieg* during World War II. The Army coordinated air-land doctrine with the Air Force to some extent, although it never became joint doctrine. In contrast to air-land doctrine, the current FM 3-0 (FM 100-5 renumbered to correspond to the joint system) is centered on land forces and

---

[18]For an overview, see Cordesman (2001). Cordesman (2001, p. 8) finds that the Taliban and al Qaeda forces had to concentrate in defense of key cities, implying that U.S. aircraft could target them day and night.

[19]For a recent critique, see Fastabend (2001, pp. 37–44). Fastabend (2001, p. 43) writes: "To compare these operational concept-like statements end to end—from 1982 through 1986 to 1993—is to see an Army that is progressively 'losing it.' Each attempt at the articulation of an operational concept is progressively more vague, more jargonized, and more compromised by genuflection to the Army's numerous stakeholders."

says little about the coordination of land and air forces. Its example of "Close Combat"—Landing Zone X-Ray in the Ia Drang Valley—makes no mention of close air support, although close air support played an important role (U.S. Army, 2001c, sidebar below paragraph 4-9). During this operation, the forward air controller attached to 1st Battalion, 7th Cavalry, gave the codeword "Broken Arrow," meaning that a unit was in danger of being overrun. As a result, the controller had aircraft stacked at 1,000-foot intervals from 7,000 to 35,000 feet waiting to receive targets (Moore and Galloway, 1992, p. 175). The example of "Operational Maneuver and Fire" (U.S. Army, 2001c, sidebar below paragraph 4-15) in FM 3-0 is drawn from the Persian Gulf War. Again the discussion concerns only land forces, although air forces made a major contribution to success.

FM 3-0 addresses air efforts in a few sentences, awkwardly subsumed under the heading "Fire Support Coordination"—e.g., "Army force commanders recognize the enormous potential of synchronizing maneuver with interdiction" (U.S. Army, 2001c, paragraph 2-70). Without saying how this potential can be realized, it goes on to emphasize the "full understanding and strict adherence to common maneuver control mechanisms and [fire support coordinating measures]" (U.S. Army, 2001c, paragraph 2-71), especially the fire support coordination line. But measures of this sort relate much better to deliberate, linear warfare than to the fluid, dispersed warfare envisioned in FM-3 and the Army's concept for the Objective Force.

In contrast, the Air Force has devoted considerable attention to the subject of air-land synergy. Its doctrine subsumes close air support and air interdiction under the concept of "counterland" operations, usually conducted in coordination with friendly land forces. According to Air Force doctrine, the proper coordination of air and land operations creates a dilemma for enemy commanders: If they mass to defend against land forces, they will offer good targets to air forces; if they disperse and hide from air forces, they will be easily defeated by land forces (U.S. Air Force, 1999, p. 28). Future iterations of Army doctrine should take a similar approach.

The Special Operations Paradigm

In October 2000, Chief of Staff of the Army Gen. Eric K. Shinseki announced his decision to equip ordinary soldiers with the black beret worn by Rangers.[20] In his statement to the Army, General Shinseki said that the black beret symbol-

[20]Rangers protested losing a symbol of elite status and were eventually allowed to adopt a tan beret. As a result, the Army now has berets in four colors: black across most units, tan for Rangers, maroon for airborne soldiers, and green for Special Forces.

ized excellence and was especially appropriate for the transition to "an Objective Force with early entry capabilities that can operate jointly" (Shinseki, 2000). It would be easy to deride or even deplore this decision to give every soldier a symbol of elite status.[21] Indeed, proliferation changed the headgear's meaning. It came to imply an Army-wide standard, not elite status. In another sense, this controversial decision might be on target: The Army's special operations forces may indeed offer a useful paradigm for future development.

Special operations forces, such as the Rangers, will always be a small part of the entire Army. It is both impractical and unnecessary to man an entire Army with people meeting the standards of the Special Forces. However, the Army needs to consider seriously whether the characteristics of special operations, especially its "jointness" at tactical levels, might well be the Army's future. Special operations are in their very nature joint, constantly requiring contributions from several services for success. Special operations forces rely on speed, stealth, and very violent action to accomplish their missions. They lack the combat power to endure long engagements with an enemy's conventional forces. Therefore, air support can be essential not only to their success but to their very survival. Air Force MH-53 Pave Low helicopter and MC-130 Combat Talon aircraft often enable the insertion and recovery of Army special operations forces. Air Force combat control teams accompany these forces and are outwardly hardly distinguishable from Army troops, except by their specialized equipment. These teams perform a variety of tasks, including strikes by a wide variety of aircraft, such as the Air Force's A-10s and AC-130 gunships. Operation Enduring Freedom in Afghanistan provided a powerful example of this synergy when Special Forces A Teams accompanied by combat control teams produced swift, dramatic success for the Northern Alliance against the Taliban.

Of course, most Army forces have more staying power than special operations forces do and are therefore less dependent on air power. New Army forces may increase their responsiveness by adopting methods pioneered in special operations. They may engage enemy forces more rapidly, operate in greater depth, disperse more widely, disengage more frequently, and generally eschew the more deliberate, linear pattern of historical Army operations. If so, they will need that close, habitual association with other services, especially with the Air Force, that have long characterized special operations. Viewed from this perspective, the Chief of Staff of the Army may have invoked the right symbol when he prescribed the black beret for conventional Army troops.

---

[21]See, for example, Roos (2001, p. 2).

Suppression of Enemy Air Defenses

One area for fruitful teamwork is the suppression of enemy air defenses. Suppression will be of increasing importance to allow operation of unmanned aerial vehicles, both Army-operated systems and those operated by other services, such as Predator. In addition, air defense suppression may be vital to special operations, airborne operations, and deep operations using attack helicopters. Had Army helicopters been employed in Kosovo, for example, air defense suppression would have been critical to reducing their vulnerability.[22]

The Air Force and Navy are currently developing the unmanned combat aerial vehicle, which will initially concentrate on suppressing air defenses. This system may prove highly effective, but the Army can also make an important contribution to suppression. The MLRS and Army Tactical Missile System are extremely useful in this role because of quick response, great accuracy, and devastating fire. Moreover, these systems can relocate before an enemy's counterbattery fire arrives and need not surmount air defenses. Once fed targeting data, they are ideal weapons to suppress and destroy any air defense systems within range—300 kilometers for the Army Tactical Missile System. Air Force doctrine notes: "don't use [special operations forces] when the mission can be accomplished with aircraft and don't use direct attack munitions when standoff weapons can be used" (U.S. Air Force, 1998, p. 22). It might add, "don't use aircraft at all, when surface-to-surface fire can be used."

Partnerships Across All Operations

To make all of this a success, the Army and Air Force need to develop close working relationships between Aerospace Expeditionary Forces and the Army's rapidly deployable forces, including its new SBCT. For example, an SBCT and an Air Expeditionary Wing might plan and train to operate together as an air-land team. Because the SBCT gains mobility by being a lightly armored force supported by towed artillery, it forfeits the armor protection and massive firepower of today's heavy forces. As a result, an SBCT will need more responsive air support and more of it. To replace the shock generated by heavy forces, it can call for precise and devastating attacks from the air. Such teamwork

---

[22]Suppression of enemy air defenses (SEAD) was a "go/no-go" criterion for AH-64 missions, but suppression was normally conducted to support air strikes and therefore was not available when such strikes were not flown—for example, because of poor weather. See Headquarters, U.S. Army, Europe (1999, entry headed "SEAD"). Alternatively, Task Force Hawk might have fired the Multiple-Launch Rocket System (MLRS) against areas where Yugoslav air defense systems were likely to be, but such area fires would have risked too much collateral damage—for example, to refugee columns.

demands careful preparation in peacetime, especially if the Army forces must enter combat soon after their arrival in theater.

Tactical Partnership

Partnership at the tactical level also offers prospects of great payoffs but presents great challenges as well. The Army has recently begun a far-reaching transformation that should eventually produce the Objective Force, a force distinguished by new equipment and a radically new concept of employment:

> Soldiers and leaders enabled by advanced technologies will provide revolutionary increases in operational capability. Information systems provide dominant situational understanding enabling combined arms units to conduct simultaneous, non-contiguous, distributed operations. Weapons technology breakthroughs promise significantly greater tactical, operational, and strategic lethality from smaller, more agile forces. Platform designs in an arrangement of system-of-systems technologies will enable decisive maneuver, horizontal and vertical, day and night, in all terrain and weather conditions. . . .
>
> The hallmarks of Objective Force operations will be developing situations out of contact; maneuvering to positions of advantage; engaging enemy forces beyond range of their weapons; destroying them with precision fires and maneuver; and tactically assaulting enemy capabilities or locations at times and places of our choosing. (U.S. Army, 2001b.)

In this vision, land operations would increasingly resemble air and naval operations in fluidity, dispersion, and long-range engagement. Rather than maintaining contact with enemy forces along a recognizable line—the forward edge of the battle area or more simply the "front"—U.S. land forces would maneuver in unpredictable ways and initiate engagements at extended range. They would not have to make contact to discover the capabilities and locations of enemy forces. Instead, they would gain this information through improved means of reconnaissance and employ standoff fires to destroy enemy forces that could respond effectively. Tactical assault, implying close combat—i.e., combat within the range of enemy direct fire weapons—would occur only at U.S. choosing as necessary to complete the enemy's destruction.

To fully realize the concept would require connectivity and decision aids well beyond the current state of the art that are supported by appropriate doctrine. Consider, for example, Objective Force units maneuvering in the presence of the enemy. They are equipped with the Future Combat Systems, whose variants include rocket and artillery platforms, which can deliver long-range precision fires. They include the Comanche attack helicopter, new unmanned aerial vehicles, and robotic land vehicles mounting sensors and weapons. Moreover, Air Force units, trained to work in close partnership with Objective Force units,

are overhead. Having assessed enemy dispositions, the Objective Force units open fire at extended ranges. Some of the responding fire comes from a bunker not previously identified. Within minutes, an Air Force fighter busts the bunker with a large concrete-penetrating weapon. In the course of this attack, an unidentified air defense system launches a missile at the fighter. Within a few seconds of the launch, one of the Objective Force fire systems lays a carpet of dual-purpose munitions across the site. After engaging all identified targets, the Objective Force units close for the kill. Suddenly, enemy forces open fire from within several buildings. To get a better picture, the Objective Force commander has an Air Force drone approach for a closer look. With friendly forces only a few hundred meters away, an Air Force bomber drops guided bombs neatly into the roofs. The Objective Force units employ robotic vehicles to clear the ruin safely.

This sort of close partnership would demand an extraordinary degree of interoperability and cooperation, if only to prevent fratricide. But as Army forces become digitized, commanders should know where their forces are all the time, an incredible breakthrough in land combat. Armed with this knowledge, they could partner with air power to an extent hitherto realized only by special operators. They can identify targets to aircraft while suppressing air defense systems that threaten them. They can build a more complete picture of enemy dispositions by drawing on a wide variety of sensors extending from the earth's atmosphere into space. Their partnership can extend into close combat, the ultima ratio of land power.

CONCLUSION

The Army's vision of future warfare is attainable only in a joint context. To achieve this vision, Army forces must deploy very rapidly, go immediately into combat operations, operate in distributed, nonlinear fashion, develop situations out of contact, attain very high levels of situational awareness, and engage beyond range of enemy weapons. To accomplish any of these tasks will demand contributions from other services, especially in strategic lift, logistic support, surveillance, reconnaissance, close air support, and interdiction. It would not be too much to say that the Army's vision is a joint vision.

The Army and Air Force would gain from closer teamwork, but obstacles exist in both services. Inspired by progress in precision engagement and impressive operational success, airmen may feel tempted to think that air power should be applied in isolation. They may even feel tempted to espouse a national strategy that relies on strategic air attack. But the United States will very seldom conduct all-out bombardment of enemy countries; neither can it defeat all enemies from the air. Moreover, air power becomes far more effective when combined

with land power, as illustrated by contrasting operations in Kosovo and Afghanistan.

For their part, soldiers have to rethink their assumption that air forces should simply support the land forces' scheme of maneuver. Often they do, but, at other times, the relationship may be more of an equal partnership. At one point, air forces may conduct interdiction and provide close air support to land forces as they advance in enemy-held terrain. At another point, land forces may fix enemy forces in place so that air forces can pummel them. The overall plan should best use their complementary capabilities without assuming that either is always paramount.

Army officers normally think of firepower and maneuver as complementary.[23] In the traditional definition, "firepower" refers to the weapons employed by land forces. In World War II, firepower meant primarily artillery, the single greatest killer on the battlefield. To a great extent, the function of maneuver forces was to fix enemy forces so they could be attacked by artillery that was more responsive, more precise, and more devastating than their own. As air power becomes more effective on the battlefield and Army forces become lighter to maneuver more rapidly, Army officers need to include air attacks in their definition of "firepower."

Obviously, the Army's weapons cannot be replaced by close air support. Misusing fixed-wing aircraft as "flying artillery" would be very bad for the Air Force and disastrous for the Army. Land forces must have their own firepower, including mortars, rockets, and artillery, to ensure quick, reliable, on-call response day and night in all weather. Of course, occasionally, air forces will fly nearly continuous patrols waiting for calls from the ground. It would be a deplorable waste of aircraft if they were routinely used to supplant the indirect fire weapons normally organic to land forces, even assuming comparable responsiveness.

The air-land partnership should not subordinate either land or air forces but rather exploit their complementary strengths. Operating alone, land forces may not be able to defeat enemy forces before they can escape. Operating alone, air forces may not be able to target enemy forces, which can stay hidden. Operating together, air and land forces can destroy the enemy, whether he stays or flees.

---

[23]"Firepower and maneuver complement each other. Firepower magnifies the effect of maneuver by destroying enemy forces and restricting his [sic] ability to counter friendly actions; maneuver creates the conditions for the effective use of firepower. Although one element might dominate a phase of an action, the synchronized effects of both are present in all operations. The threat of one in the presence of the other magnifies the impact of both. One without the other makes neither decisive" (U.S. Army, 2001c, paragraph 4-11).

REFERENCES

Air Force Magazine, "Letters," "Newsweek and the 14 Tanks," letter from John Barry, and "From Stephen P. Aubin," reply from Stephen P. Aubin, Vol. 83, No. 8, August 2000, pp. 6–7.

Barry, John, and Evan Thomas, "The Kosovo Cover-Up," *Newsweek*, May 15, 2000, pp. 23–26.

Chairman of the Joint Chiefs of Staff (CJCS), *Joint Vision 2010*, foreword by Gen. John M. Shalikashvili, USA, Washington, D.C., July 1996.

_____, "Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 5123.01A," Washington, D.C., March 8, 2001a.

_____, *Unified Action Armed Forces (UNAAF)*, Joint Publication 0-2, Washington, D.C., July 10, 2001b.

_____, *Doctrine for Joint Operations*, Joint Publication 3-0, Washington, D.C., September 10, 2001c.

Clark, Wesley K., *Waging Modern War*, New York: Perseus Books, 2001.

Cordesman, Anthony H., "The Lessons of Afghanistan: War Fighting, Intelligence, Counter-Proliferation, and Arms Control," Center for Strategic and International Studies, Washington, D.C., 2001, available at http://www.csis.org/features/cord_011030.htm.

D'Amico, Lt. Col. Robert J., USAF, "Joint Fires Coordination: Service Competencies and Boundary Challenges," *Joint Force Quarterly*, Spring 1999, pp. 70–77.

Davis, M. Thomas, "The JROC: Doing What? Going Where?" *National Security Studies Quarterly*, Washington, D.C., Georgetown University, Summer 1998.

Department of Defense (DoD), *Quadrennial Defense Review Report*, September 30, 2001.

Fastabend, Col. David A., USA, "That Elusive Operational Concept," *Army*, June 2001, pp. 37–44.

Fishel, John T., "Operation Uphold Democracy: Old Principles, New Realities," *Military Review*, U.S. Army Command and General Staff College, Leavenworth, Kan., Vol. 77, July–August 1997.

Gehman, Jr., Adm. Harold W., USN, "Progress Report on Joint Experimentation," *Joint Force Quarterly*, Summer 2000, pp. 77–82.

Grant, Rebecca, "True Blue: Behind the Kosovo Numbers Game," *Air Force Magazine*, Vol. 83, No. 8, August 2000, pp. 74–78.

Hendrix, Gen. John W., USA, "U.S. Army Forces Command: Warfighting Readiness Is the Highest Priority," *Army*, October 2001.

Hosmer, Stephen T., *Why Milosevic Decided to Settle When He Did*, Santa Monica, Calif.: RAND, MR-1351-AF, 2001.

Lambeth, Benjamin S., *NATO's Air War for Kosovo*, Santa Monica, Calif.: RAND, MR-1365-AF, 2001.

Macgregor, Col. Douglas A., "Command and Control for Joint Strategic Actions," *Joint Force Quarterly*, Winter 1998–1999, pp. 25–33.

Moore, Harold G., and Joseph L. Galloway, *We Were Soldiers Once and Young*, New York: HarperCollins, 1992.

The National Security Strategy of the United States of America, Office of the President, Washington, D.C., September 2002, available at http://www.whitehouse.gov/nsc.

Priest, Dana, "'Team 555' Shaped a New Way of War: Special Forces and Smart Bombs Turned Tide and Routed Taliban," *Washington Post*, April 3, 2002, pp. A1, A12–A13.

Reimer, Gen. Dennis J., USA, and Gen. Ronald R. Fogleman, USAF, "Joint Warfare and the Army–Air Force Team," *Joint Force Quarterly*, Washington, D.C., Spring 1996, pp. 11–17.

Roos, John G., "B-Day: 14 June, Army's 226th Birthday Looms as Beret-Day for the Service," *Armed Forces Journal International*, May 2001.

Schwarzkopf, H. Norman, *It Doesn't Take a Hero*, New York: Bantam Books, 1992.

Shinseki, Gen. Eric K., USA, "[Army Chief of Staff] Sends—The Army Beret," electrical message issued 030011Z November 2000.

U.S. Air Force, Headquarters, *Global Engagement: A Vision for the 21st Century Air Force*, approved by Sheila E. Widnall, Secretary of the Air Force, and Gen. Ronald R. Fogleman, Chief of Staff, Air Force, Washington, D.C., 1996.

_____, Air Force Doctrine Document 2-1.1, *Counterair Operations*, Washington, D.C., 1998.

_____, Air Force Doctrine Document 2-1.3, *Counterland*, Washington, D.C., 1999.

U.S. Air Forces in Europe (USAFE), "The Air War over Serbia," report prepared by the Studies and Analysis Directorate, USAFE, April 2000.

U.S. Army, Europe, *Task Force Hawk: USAREUR's After Action Review*, August 1999.

U.S. Army, Headquarters, *United States Transformation Campaign Plan*, Washington, D.C., April 10, 2001a.

_____, Headquarters, *Concept for the Objective Force*, with foreword by Army Chief of Staff Gen. Eric K. Shinseki, USA, Washington, D.C., October 5, 2001b.

_____, Headquarters, *Operations*, Field Manual 3-0, Washington, D.C., 2001c.

U.S. Marine Corps, Headquarters, *Expeditionary Maneuver Warfare, Marine Corps Capstone Concept*, Washington, D.C., February 2002.

U.S. Navy, Headquarters, *From the Sea: Preparing the Naval Service for the 21st Century*, approved by Sean O'Keefe, Secretary of the Navy, Adm. Frank B. Kelso II, Chief of Naval Operations, and Gen. Carl E. Mundy, Jr., Commandant of the Marine Corps, Washington, D.C., September 1992.

"A View from the Top," briefing, U.S. Naval Forces, Europe, prepared at Naples, Italy, June 1999.

Vogel, Steve, "A Carrier's Quiet, Key Mission," *Washington Post*, December 24, 2001, p. A8.

Weinberger, Sharon, "C-130 Will Provide Airlift for FCS; No Role for Future Transport Rotorcraft," *Aerospace Daily*, March 12, 2002.

Chapter Nine

MOVING RAPIDLY TO THE FIGHT

John Gordon and David Orletsky

INTRODUCTION

The leadership of the Department of Defense (DoD) has repeatedly called for improvements in the deployability of U.S. military forces, given the characteristics of future threats and contingencies. Chapter Three in this volume describes how the war on terrorism adds urgency to the need for rapid military responses.

In reaction, all the military services are increasing their strategic responsiveness. The Air Force has devoted considerable effort to making the next generation of aircraft easier to maintain and more self-sufficient. It has established regional "hub" bases, such as the one at Andersen AFB on Guam, repositioned assets at bases where forces may deploy, and reduced the amount of material needed by support units. The Navy and Marine Corps have introduced new ship types and operational concepts that reduce the amount of logistics support for Marine forces that move ashore and permit more of the supporting fires to come from Navy ships.

Likewise, the Army has been pursuing many of the same types of strategies. Compared with even the 1990–1991 deployment to the Persian Gulf, the Army today can deploy forces faster to a crisis location. Equipment has been prepositioned on land in Southwest Asia and aboard ships in the Indian Ocean. Experiments with high-speed, shallow-draft vessels to improve port flexibility and intratheater movement continue. Perhaps most visible are efforts to introduce so-called medium-weight forces that span the gap between powerful but slow-to-deploy heavy forces and relatively weak but quick-to-deploy light forces.

The centerpiece of the Army's transformation plan is its goal to deploy forces rapidly to contingencies around the world. What this means in practice

---

Editor's note: The deployment analysis presented in this chapter is based on a RAND Project AIR FORCE study conducted in FY 2001. See Vick et al., 2002.

remains a matter of considerable debate and will be a function of not only what policymakers might want but also what technology can provide.

This chapter reviews the Army's plans and the challenges that it faces in making its forces rapidly deployable. Broadly, the chapter argues that the Army cannot meet its deployment goals if it depends only on strategic airlift. The combination of the allocation of airlift that the Army can reasonably expect to receive and the infrastructure limitations in the places it can expect to fight means that only relatively small units—a battalion task force—can deploy extremely rapidly. Even a dramatic expansion of the airlift fleet will often have no effect on shortening deployment times because airport throughput is often the limiting factor. Therefore, the Army's current focus on constraining its force capabilities to meet aircraft limitations does not seem to be the best course of action. However, a shrewd combination of SBCT basing, prepositioning, and relatively modest investments in fast sealift could dramatically improve the strategic responsiveness of early deploying Army units.

THE ARMY'S DEPLOYMENT GOALS

The current Chief of Staff of the Army has set ambitious goals for the deployment of Army forces in the future. He has said that "with the right technological solutions, we intend to transform the Army, all components, into a standard design with internetted [command, control, communications, computers, intelligence, surveillance, and reconnaissance] packages that allow us to put a combat-capable brigade anywhere in the world once we have received executive liftoff, a division on the ground in 120 hours, and five divisions in 30 days" (Shinseki, 1999).[1] Stung by the perception from recent Kosovo experience that the Army was slow to deploy, General Shinseki set the bar quite high with these goals, and they have profound implications both for the Army and for various elements in the Department of Defense.

Implications of the New Army Deployment Goals

The "anywhere in the world" deployment goal within the prescribed time frames is particularly demanding. When the realities of a constrained airlift fleet and the limited number of aircraft that can be received at most airfields in regions outside of the most developed countries are considered, the Army's

[1]There has been some controversy surrounding the exact nature of the Army's deployment goals. Some in the Army contend that the 96-hour requirement only applies to the post-2010 Objective Force and was only intended as a "stretch goal" for the near-term Stryker Brigade Combat Teams (SBCTs). An examination of the various Army sources and documents reveals confusion on this point. Clearly, the Army intended for the SBCTs to be much more deployable than today's heavy forces, for which deployment by air is feasible for only small elements.

deployment goals become even more challenging, according to related RAND research. Nevertheless, although the "96-hour, 120-hour, 30-day" goal may be unachievable, at least for the foreseeable future, the Chief of Staff has clearly placed great emphasis on making the Army more strategically deployable and better prepared to respond to unanticipated future crises. What follows is a review of some of the factors that will influence the Army's ability to meet, or even come close to meeting, its deployment goals.

Designing the Future Army Around Airlift

A significant feature of the Army's newly designed midterm Stryker Brigade Combat Team (SBCT) that is to be fielded from 2003 through 2008 and the even more distant Objective Force (to be fielded in the post-2010 period) is the extent to which the future Army is being designed around an airlift requirement. The SBCTs are being equipped with modified versions of the General Motors Canada Light Armored Vehicle III (LAV III), which the U.S. Army has named the "Stryker." Versions of the LAV III make up a family of vehicles that include 10 variants; each SBCT includes about 300 of these, plus about 900 soft-skinned support vehicles. All the LAV III variants are supposed to be transportable in Air Force C-130 cargo planes. Therefore, the SBCT's vehicles cannot weigh more than about 20 tons and must fit into C-130's cargo bay.[2] Although the C-130 is not normally used for intercontinental deployments, the Army elected to impose a C-130 constraint on the future combat vehicles because it hopes to use that aircraft to redeploy some of its units within an area of operations.

Plans for the Objective Force call for it to be composed of more-advanced units that can perform a wider range of missions than the SBCTs or current Army heavy and light organizations. The Future Combat Systems (FCS), a "system of systems" employing a much more advanced family of combat vehicles, forms the centerpiece of the Objective Force. Some vehicles are envisioned as manned, while others will be robotic. As was the case with the "Strykers" of the

[2]Limiting the vehicle dimensions to C-130 cargo compartment size is an enormous constraint. The C-130's cargo compartment is 41 feet long, 10 feet wide, and 9 feet high (these specifications are available at www.fas.org, accessed September 22, 2002). For comparison, the C-17 cargo compartment is more than 85 feet long, 18 feet wide, and 12 feet 4 inches high forward of the wing and 13 feet 6 inches high aft of the wing (these specifications are also available at www.fas.org, accessed September 22, 2002)—more than twice the length, nearly twice the width, and several feet of additional overhead clearance. Although the C-130J-30 is 15 feet longer than other C-130 variants (including the C-130J), the primary constraints imposed by the C-130 cargo compartment are height and width. The Stryker has been successfully loaded on a C-130 but with only inches to spare on each side (this information is available at www.lewis.army.mil/transformation/TransNews/2002_news_articles/06280201.htm, accessed September 22, 2002). In addition, the tires of the Stryker vehicle must be deflated to satisfy the height constraint. The severity of these size constraints impairs the potential to enhance capability of the vehicle by limiting where and how additional subsystems can be incorporated.

SBCTs, the FCSs of the Objective Force are supposed to be capable of deploying in a C-130. All the limitations associated with that aircraft's capacity will therefore constrain the design choices of the Army's future combat vehicle development and thereby the capability of the units. Given the inherent limitations associated with airlift, it may not be appropriate to design the entire future Army around an airlift goal, in particular the highly limiting C-130 case.

Airlift Allocation

The amount of airlift available depends on many factors. Among these are the degree of mobilization of the military airlift fleet, the amount of civilian airlift available, the level of peacetime military operations that can be deferred, and the allocation of the available airlift between and within each service.

The degree of mobilization of the airlift fleet and the amount of participation (if any) by the civilian carriers are national decisions that will depend on the particular crisis and are greatly affected by the world situation at the time. Many factors affect these decisions, including the character of U.S. national interests; the views and participation of the allies; the existence of other crises that may draw on U.S. assets and attention; the time available to deploy combat power; the degree of disruption to the airlift fleet and civilian air transport economy that can be tolerated; and whether the dangers preclude the use of civilian assets. Civilian reserve aircraft could be used for support operations in the rear, safer portions of an operational area but are unlikely to be used where there is a ground or air threat. For purposes of this discussion, the analysis that follows assumes that the reserves are not called up and that civilian aircraft are not used to deploy major equipment to the area of operations. Additionally, the analysis assumed that the personnel of the SBCT arrive in the operational area either on the military cargo planes that deliver the unit's equipment or on commercial carriers. The net effect is that the personnel are essentially transported "free" for analytical purposes.[3]

Because every crisis is different, it is not possible to predict the percentage of the airlift fleet that each service—let alone each element within the service—will receive. Depending on the nature of the threat and the mission that the joint force commander has been given, decisions will be made on how the

[3]This analysis is based on the airlift contingency planning factors that assume full participation of the Active Component and 25 percent Reserve Component utilization. This level of mobilization can be achieved without the major disruption that typically occurs with a major call-up of reserve forces and is referred to as the Contingency Nonmobilized Use Rate; it is the level suggested for such operations as Just Cause, Restore Hope, and Provide Comfort. The Use Rate is the accepted factor to use for small operations involving a subset of aircraft to generate flying hours (AFPAM 10-1403, 1998, p. 26).

available airlift will be allocated among the elements of the joint force. To come close to making its ambitious deployment goals, particularly if the crisis is unfolding where Army forces are not prepositioned, the Army will need a very large percentage of the airlift fleet. In Operation Desert Shield, the Army received roughly 35 percent of the transport aircraft that landed in Saudi Arabia in August 1990 and somewhat lower percentages in September and October (Keaney and Cohen, 1993). Most analyses assume that the entire Army will receive something on the order of 30–40 percent of the aircraft in the opening weeks of a future crisis (Gritton et al., 2000). A final consideration in the allocation of airlift involves potentially competing requirements within the Army. Because the SBCT lacks some critical elements, such as helicopters and extensive logistical support, the joint force commander could elect to reduce the airlift to the SBCT in order to deploy these other capabilities. The analysis presented assumes 80 C-17 equivalents are used to deploy the SBCT.[4] This represents about 40 percent of the planned strategic airlift fleet in the middle of this decade and about one-third of the total fleet near the end of the decade because C-17 production is expected to continue at the rate of about 15 aircraft per year.

Maximum on Ground and Port Capacity

The amount of airlift available for deployment of each element of combat power to the crisis is not the only factor that must be considered. An equally important influence on deployment time is the throughput of airports. A major determinant of the deployment time for an airlift operation is typically referred to as the airfield maximum on ground (MOG) limit.[5] When the working MOG limit is combined with the amount of time that each aircraft requires on the ground to complete the necessary functions (e.g., load and unload, refuel, etc.), the cargo throughput of the airbase is determined. Throughout this analysis, we assumed 24-hour operations to maximize the amount of cargo that could be moved through the airbases. The unfortunate reality is that outside Japan, North America, and Western and Northern Europe, the capacity of ports and airfields is generally limited. Even within Europe, many areas have limited throughput capacity.

---

[4]The planning assumptions about the composition and weight of the SBCT appear in Footnote 20 in this chapter.

[5]The MOG limit used throughout this chapter is a measure of airfield throughput. "Although this term literally refers to the maximum number of aircraft [that] can be accommodated on the airfield (usually the parking MOG), it is often specialized to refer to the working MOG (number of aircraft [that] can be simultaneously 'worked' by maintenance aerial port, and others), the fuel MOG (maximum number of aircraft [that] can be simultaneously refueled), or other constraining factors." See AFPAM 10-1403 (1998, p. 24). Although it is often expressed in C-141 equivalents, we use C-17 equivalents in this chapter.

The working MOG limit must be considered at all bases used during a deployment operation—the aerial port of embarkation (APOE), en-route bases, and the aerial port of debarkation (APOD). The APOE is typically a base designed and well suited for airlift operations—for example, USAF bases located close to Army installations. If en-route bases are required, the air mobility planner typically has considerable latitude in routing and will choose stops at well-suited bases and may very well rely on several airports for the operations. Because many of the airports around the world are of poor quality by Western standards, the APOD is typically the base with the least developed infrastructure where the working MOG limit will most likely come into play.

In many parts of the world, the limited capacity of ports and airfields severely limits the speed at which U.S. forces could arrive. Saudi Arabia of the Desert Shield time period, with its excellent ports and numerous airfields, was the exception, not the norm in most parts of the world outside North America, Japan, and Europe.[6]

Army Deployment Goals Compared to Programmed Airlift

What would it take to meet the Army's deployment goals of a brigade in 96 hours and an entire division in 120 hours? While the answer depends heavily on the specific scenario, we examined one case: a 15,000-ton Army brigade, located in Germany, deploying to Saudi Arabia. In many respects, this is a very favorable case because it is a far shorter distance than what "anywhere in the world" could mean. Additionally, Saudi Arabia has numerous airports and military airfields, so MOG is not a limiting factor in the way it would be in so many other, less developed countries.

Distance is the first critical factor in deployment times. The distance from Ramstein AB in Germany to Saudi Arabia is 2,000 to 3,000 nautical miles depending on the location of the airfield in Saudi Arabia and which countries permit overflight. In this scenario, a deployment distance of approximately 2,500 nautical miles is assumed, which permits routing around some countries—for example, flying over the Adriatic Sea instead of the Balkans—and a destination in Central Saudi Arabia.

For ease of comparison, this analysis is conducted in C-17 equivalents. Using the air mobility planning factor of 45 short tons per C-17 sortie (AFPAM 10-

[6]This is not to imply that MOG is an immutable number. If equipment offloading can be done more rapidly than planners anticipate, a given airfield can handle more aircraft. Similarly, if aircraft do not have to refuel on the ground, the airfield can process more aircraft. However, supplanting ground refueling with air refueling adds another dimension of complexity to the operation, and air tankers have many claimants.

1403, 1998), the availability of aircrews in the Active Component augmented with about 25 percent of the Reserve Component,[7] and a 15,000–short ton SBCT,[8] this mission could be accomplished in four days (or 96 hours) by devoting about 80 C-17 equivalents to the deployment operation or about 40 percent[9] of the strategic airlift fleet (C-5s, C-141s, and C-17s) projected for the middle of this decade.[10]

The potential constraint of airbase MOG then must be considered. Accomplishing this deployment would require a total MOG in excess of eight at both the departure and arrival ends of the deployment, assuming 24-hour operations and each aircraft spending 135 minutes on the ground to load, unload, refuel, etc. Although it is safe to assume that this level of MOG will be available at bases in Germany and Saudi Arabia, the issue of "hot loads" with ammunition would likely limit throughput and constrain the deployment. The base at Ramstein is fairly typical and has a hot-load MOG of one or two. If more than 20 percent of the SBCT sorties carry ammunition, the 96-hour goal will not be met. If the decision is made to deploy reactive armor (which contains explosives) with the SBCT, the number of hot loads will drastically increase. Even if all reactive armor were deployed on specific sorties, this requirement alone would require that about 10 percent of all SBCT deployment sorties carry hot loads.

Turning now to the more difficult goal of deploying a division in five days, the airlift requirement becomes prohibitive. Assuming that a division would weigh approximately 70,000 short tons[11] (more than four times the weight of the

---

[7]This crew availability assumption provided for an 11.7 Use Rate.

[8]The Army combat crews are assumed to deploy in the same airlift sortie as their equipment to minimize the airlift requirement, which would increase the average C-17 sortie load by about 5 percent to about 47 short tons. This calculation assumes about 3,500 personnel weighing 400 pounds each, accounting for the individual and personnel gear.

[9]As of mid-2002, a total of 87 C-17s had been delivered with production running at about 15 aircraft per year. The initial C-17 buy stood at 120 Total Active Inventory (TAI)—not counting 13 aircraft owned by Special Operations Command. Although a portion of the funds for an additional 60 C-17s has recently been appropriated, these aircraft will not be delivered until the middle to later part of this decade—after the likely retirement of the C-141 fleet, scheduled for 2006. Therefore, this analysis computed the available airlift fleet using 120 TAI C-17s resulting in 104 Primary Aircraft Authorized (PAA); the current C-5 inventory of 66 PAA C-5As (76 TAI) and 44 PAA C-5Bs (50 TAI); and the current C-141 inventory of 55 PAA (63 TAI). This level of strategic airlift results in about 202 C-17 equivalents, using the planning factors presented in AFPAM 10-1403 (1998). Although upgrades are being discussed and undertaken to enhance the reliability of the older aircraft in the fleet, no change in the Use Rate of the C-5s or C-141s was assumed. The number of C-17 equivalents would likely increase if the C-5 and C-141 upgrades did in fact enhance reliability.

[10]It should be noted that C-130s were not considered part of the aerial force deploying the SBCTs. The C-130 is normally used for intratheater movements because of its limited payload and slow speed and because the vast majority of the fleet lacks in-flight refueling capability. These factors constrain its ability to move significant amounts of cargo over long distances.

[11]The reader will note that the division is assumed to weigh more than three SBCTs. This stems from the additional division-level units that are required. We assumed that three SBCTs would each

SBCT) and using the same C-17 operational assumptions as the earlier case, the deployment of the division from Germany to Saudi Arabia in five days would require about 330 C-17 equivalents (considerably more than all the airlift fleet) with a total MOG of about 33 at both ends of the deployment—thus requiring several very capable airfields for both embarkation and debarkation. Having to move hot loads, of course, would place additional demands on airlift.

As this case makes clear, deploying medium-weight Army units by airlift for anything but fairly small-scale operations (brigade-sized or smaller) is unattractive under most circumstances. In particular, the Army's stated goal of being able to airlift a division-sized element within five days is infeasible in the SBCT time frame and will remain so under most conceivable circumstances.[12]

THE STRATEGIC MOBILITY TRIAD

Airlift is but one of the means the Army has to deploy its forces. Indeed, in most past deployments, airlift has transported only a small fraction of the Army's units and supplies. Today, strategic mobility is achieved by what is referred to by the Army and DoD at large as a *strategic mobility triad* (airlift, sealift, and prepositioned equipment) and needs to be introduced when addressing the Army's ability to move rapidly to the fight.

Airlift

Airlift has the advantages of speed and the ability to reach deep-inland locations inaccessible to ships. To reduce deployment times, additional aircraft could be added to the USAF inventory. However, this approach would be expensive given that the C-17 costs roughly $180 million per aircraft. Furthermore, adding airlift might not significantly improve the Army's ability to deploy large-scale forces by air. For example, if 100 additional C-17s were added to the USAF's current total capacity, assuming 90 percent of the new aircraft could be devoted to a crisis and 50 percent of that total going to the Army and each flight required two days to complete a round trip, the net increase would only be an additional 1,000 tons of Army cargo moved per day.[13] Additionally, where working MOG is limited, usable airlift is limited by the throughput of the airports. With a medium brigade weighing some 15,000 tons including initial

weigh roughly 15,000 tons and the division-level units would make up the balance of the total division tonnage of 70,000.

[12]Today's heavy forces, armed with 35-ton Bradley fighting vehicles and 70-ton Abrams main battle tanks, can normally be deployed by air in only very small units because of the weight of those forces.

[13]Again, this calculation assumes the contingency planning factor payload of 45 short tons average per C-17 sortie.

supplies, it can be seen that adding even a fairly significant number of USAF cargo planes will not greatly improve the Army's ability to deploy by air.

Prepositioning

The Army has positioned unit equipment sets in areas of vital interest for many decades. During the Cold War, several division equipment sets were located in Germany. In the event of a major crisis, the personnel and certain items of equipment would be flown from the United States to link up with the prepositioned equipment sets. This process was periodically rehearsed in the Reforger (Return of Forces to Germany) exercises.

When the Persian Gulf crisis erupted in August 1990, no Army equipment was waiting on the Arabian peninsula. One of the main lessons of that conflict was the need to preposition Army equipment in the region, both ashore and afloat. Today the Army has two sets of heavy brigade equipment ashore on the Arabian peninsula: one in Kuwait, the other in Qatar. Additionally, equipment for a large (four-battalion) brigade sits on several ships at Diego Garcia in the Indian Ocean. Therefore, as the buildup in Iraq has shown, the Army can deploy the equivalent of a complete heavy division in the amount of time required to fly the personnel and break the equipment out of storage. Because the terrain in the Gulf region is ideal for heavy forces, the Abrams and Bradley fighting vehicles in these equipment sets is optimal. The Army has plans to position additional equipment sets ashore and afloat in areas of vital interest.

Prepositioning equipment ashore allows for the most rapid employment of the gear because ships do not have to be unloaded at a port. Additionally, the presence of the equipment sets could deter a potential aggressor because it signals U.S. intent to defend its interests in the area. The disadvantages of prepositioning ashore are that the United States has to "guess right" that the area that contains the prepositioned equipment is the area that is actually threatened and that the equipment and supplies may be vulnerable to destruction or contamination by an enemy attack.

Maritime prepositioning offers greater strategic flexibility. For example, the Army equipment set at Diego Garcia can be moved to any port in the Indian Ocean basin within a few days. Equipment aboard ship can also be periodically returned to U.S. bases for upgrading. A significant advantage of maritime prepositioning is that as a crisis unfolds, the ships can be moved to the general vicinity, thus reducing the amount of time required to arrive at a port and unload once a decision is made to actually commit forces. Maritime prepositioning allows forces to be moved in a crisis before a host nation agrees to accept deployment. In addition, because these ships may move covertly, steaming on "warning" has limited political effect. A final benefit of maritime prepositioning

is that since the equipment is already loaded on the ships, the total deployment time will be several days shorter than one that requires loading.

Disadvantages are also associated with maritime prepositioning. If a crisis is deep inland, as was the case in Afghanistan, there may be no port available to unload ships. Ships are also large, tempting targets. The loss of one ship could equate to more than a battalion's worth of equipment. Finally, the current generation of prepositioned ships requires secure port facilities for unloading or extensive at-sea unloading assistance. Therefore, the harbors that the ships require become targets for enemy attack. It should also be noted that prepositioning is expensive because ships and equipment are tied up awaiting a possible crisis and must be maintained in that status.

Sealift

Sealift is treated somewhat differently from maritime prepositioning, although both concepts employ ships, of course. In this context, sealift refers to ships that load Army equipment in the United States or overseas ports and move it to ports where the crisis has developed.

During World War II, the overwhelming majority of the Army's equipment deployed by sea on slow (less than 10 knots) Liberty and Victory ships. During the Gulf War, the Navy had eight fast (maximum speeds of more than 30 knots) cargo ships, plus numerous slower vessels and contracted commercial shipping to move Army equipment. This sealift force accounted for roughly 95 percent of all the cargo moved to the Gulf region. Recognizing this value, mobility studies in the 1990s resulted in an increase in DoD's fast cargo ship fleet.

The main advantage of sealift is its huge capacity. Most modern fast military cargo ships can carry well over 20,000 tons of supplies and equipment (*Jane's Fighting Ships*, 2000, pp. 836–839). All the programmed C-17s and C-5s of the Air Force can carry a maximum of roughly 23,000 tons of equipment under ideal conditions.[14] Once a flow of ships is established from U.S. bases to ports in the vicinity of a crisis, the tonnage arriving by sea will rapidly dwarf the amount that can be delivered by air. Finally, sealift, like airlift, allows a force to be configured for a particular crisis, which is not the case with maritime prepositioned equipment, where planners are limited to what is already aboard the ships.

---

[14]This calculation assumes the maximum load for all aircraft (C-17 is 80 tons per sortie, C-5 is 110 tons per sortie) and a force of 120 C-17s and 125 C-5s. This, however, greatly overestimates the level of airlift available because typically 10 percent to 15 percent of the total inventory is undergoing maintenance and upgrades and is therefore not configured for deployment. In addition, cargo aircraft rarely (if ever) fly at their maximum load.

Sealift has disadvantages, too, some of which are shared with maritime prepositioning ships. These include slower speed, the need for ports, and the inability to get to a crisis deep inland. By concentrating on a relatively limited number of large ships, the potential loss associated with a single sinking is also considerable. Nevertheless, in a major crisis that takes place anywhere close to the world's ports, it is likely that today and for the foreseeable future the vast majority of Army equipment will be deployed by sea.

FUTURE STRATEGIC MOBILITY: THE CASE OF THE SBCT

As described above, the Army is in the process of converting some of its light and heavy brigades to medium-weight units. In this section, we investigate several different deployment scenarios, varying the basing and the size of the unit to be deployed, to assess the Army's ability to meet its goals with the new unit.

Airlifting the SBCT

Currently, the first SBCT will be the 3rd Brigade of the 2nd Infantry Division at Fort Lewis, Washington. It is scheduled to be operational by the spring of 2003. The second SBCT will be the 1st Brigade of the 25th Infantry Division also at Fort Lewis and should reach operational capability by FY 2004. The third and forth SBCTs will be the 172nd Infantry Brigade in Alaska and the 2nd Armored Cavalry Regiment (light) at Fort Polk, Louisiana, and are scheduled to be operational in FY 2005 and FY 2006, respectively. The fifth SBCT is scheduled for Hawaii and the sixth for the Pennsylvania National Guard.

Figure 9.1 shows how far an Army SBCT could deploy in the 96-hour time frame from the currently planned bases. Using 40 percent of the airlift fleet—an optimistic apportionment of airlift—and leaving aside airport throughput constraints, a Stryker Brigade weighing 15,000 short tons could be deployed about 2,500 nautical miles from the four bases mentioned above. The shaded area in this figure indicates the areas of the globe that the SBCT cannot reach in 96 hours.

This figure shows that global deployment in 96 hours from these bases is not possible using the current airlift fleet and a historically reasonable apportionment of airlift. Once again, airfield throughput constraints were not considered here, which could dramatically increase deployment times. Second, the geographic location of the bases is not conducive to quick deployments throughout the world. Further, the base at Fort Lewis provides *no* quick reaction advantage

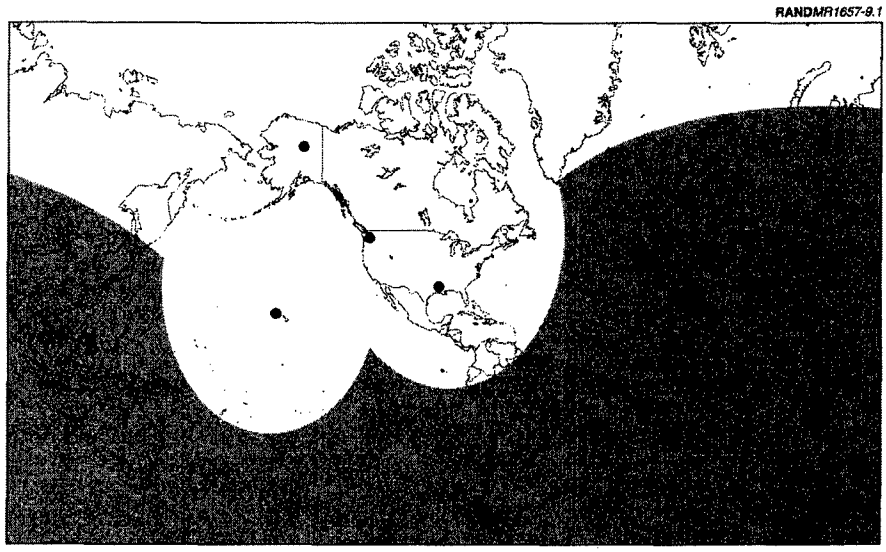


Figure 9.1—SBCT (15,000 Short Tons) 96-Hour Deployment Capability from Planned Bases Using 80 C-17 Equivalents with No MOG Constraint

over the available reaction time from the other three bases.[15] Also, the SBCT based in Alaska provides a 96-hour capability with fairly limited utility—the ability to reach Siberia, Canada, and Greenland within the time frame. The SBCT in Alaska, however, would be the first to reach the Korean peninsula, requiring about five and a quarter days. The SBCT in Hawaii covers a good part of the Western Pacific; however, few significant population centers or plausible deployment locales for U.S. ground operations fall within this zone. The SBCT in Hawaii would be the first to reach the Indonesian province of Irian Jaya, requiring about six days. This SBCT would also be the first to reach Jakarta requiring nearly nine days to deploy.

The SBCT based in Fort Polk, Louisiana, seems to provide the most capability to reach potential hot spots in 96 hours with the ability to cover Central America, the Caribbean, and parts of South America.[16]

---

[15]Put another way, with all things being equal (e.g., overall MOG and hot-load MOG constraint at the APOEs, time required to assemble the SBCT and move to the APOE, positioning of the airlift fleet), an SBCT could not be deployed to any part of the world (with the exception of Canada, Baja California, and parts of the western United States) faster from Fort Lewis than an alternate SBCT from one of the other bases.

[16]Note that all these calculations ignore MOG and hot-load constraints. In all cases where a 96-hour deployment is identified, a MOG of eight or nine C-17 equivalents is required at both the APOE and APOD, requiring highly advanced airbases at both ends of the deployment. Further, hot loads would slow the deployment if sufficient hot-load MOGs were not available at all airbases.

This raises the question of the utility of having all SBCT bases in the United States. Figure 9.2 shows the reach of the SBCT from one U.S. base (Fort Polk), a base in Germany, and a base in the Western Pacific—we choose the Philippines, but other countries could be equally suitable.[17] Significantly more areas of interest are reachable in 96 hours from these bases. The Western Pacific base provides easy reach to all parts of Indonesia and the Korean peninsula—both are within the 96-hour range ring. The 96-hour reach from the base in Europe includes most of Southwest Asia, approximately the northern half of Africa, the Balkans, and parts of Asia.

What if the requirement were changed to call for the deployment of units smaller than a brigade? If the Army were to configure a battalion-sized task force from the SBCTs (weighing roughly one-third of the overall brigade total tonnage), then many possibilities open up for deploying within the 96-hour goal. As shown in Figure 9.3, a battalion of the SBCT, by being able to deploy about 9,000 nautical miles, has near global reach in 96 hours using the same parameters as above. The shaded area in Figure 9.3 shows the part of the world

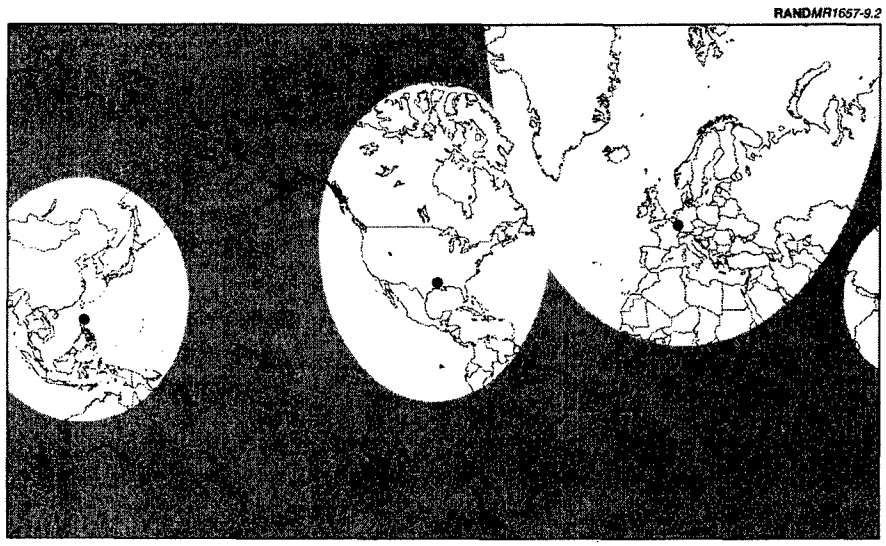


Figure 9.2—SBCT (15,000 Short Tons) 96-Hour Deployment Capability from Geographically Dispersed Bases Using 80 C-17 Equivalents with No MOG Constraint

[17]We are not advocating these particular bases but merely using them as an example to show the increased reach achievable using overseas bases. The Quadrennial Defense Review 2001 directed that an SBCT base in Europe be explored.

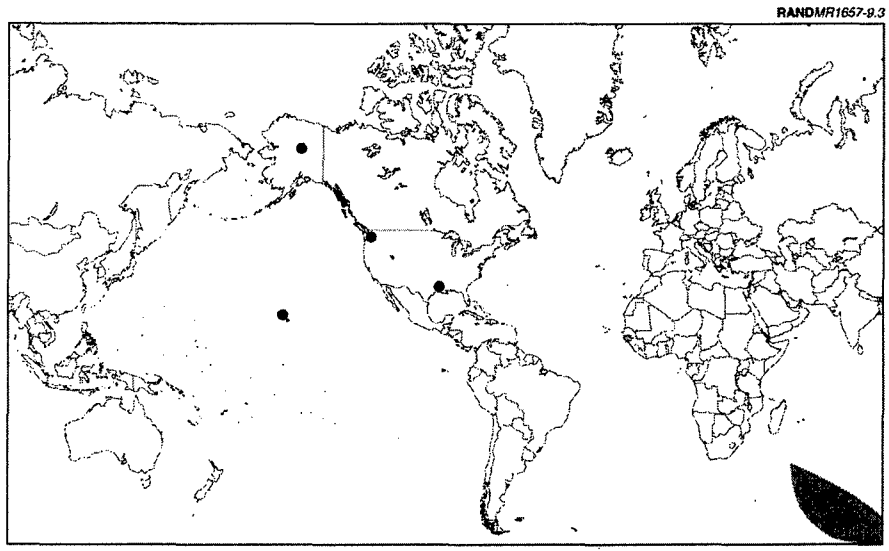


Figure 9.3—One Battalion of the SBCT (5,000 Short Tons) 96-Hour Deployment Capability from Planned Based Using 80 C-17 Equivalents with No MOG Constraint

where more than 96 hours would be required to deploy a battalion. This deployment would require a more manageable MOG of four C-17 equivalents at all bases used in the deployment.[18]

The preceding discussion does not address infrastructure constraints. Figure 9.4 presents the deployment time as a function of MOG. These calculations assume a deployment distance of 3,000 nautical miles and consider two cases of different average payloads (45 and 55 tons[19]) and two different on-ground times: 1 hour and 45 minutes, the expedited planning factor time for the C-17, and 1 hour and 24 minutes, which reduces the expedited time by 20 percent (AFPAM 10-1403, 1998, Table 5, p. 15). Because neither time permits on-ground refueling, both cases would require tankers or the use of en-route and recovery bases for refueling, which significantly increases the complexity of the operation and, in the case of the latter, slightly increases the time. As can be seen from Figure 9.4, a MOG of six is required to complete the operation in four days even with these optimistic assumptions on airbase throughput and efficiency of mobility operations. Averaging these ground times over a four-day period using

[18]However, once again, the hot-load MOG must be available.

[19]Carrying troops and their personnel gear with the vehicles would increase each payload by about two tons.

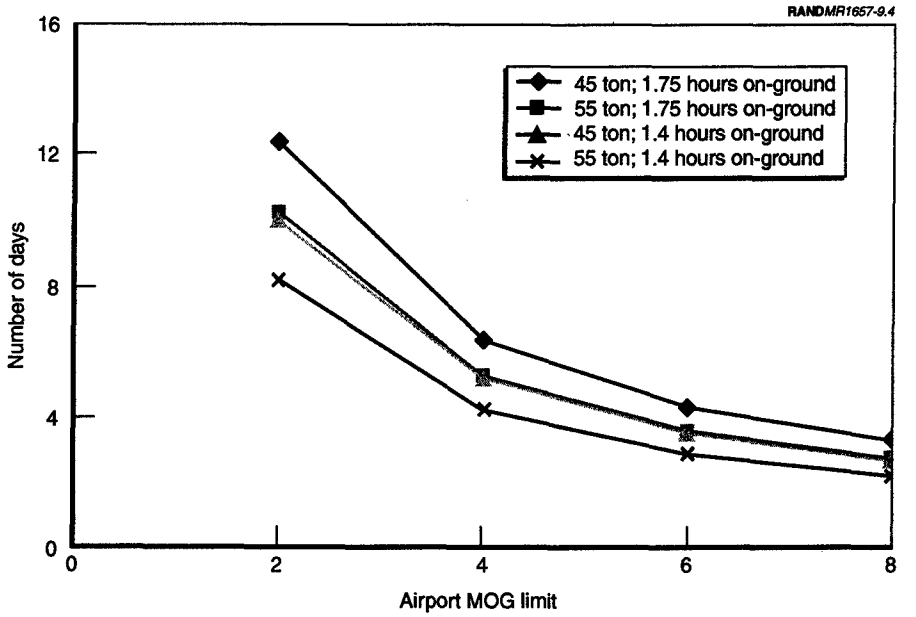


Figure 9.4—Deployment Days When Constrained by MOG Limit (3,000 Nautical Mile Deployment)

an airport in the developing world may not be possible. For example, in deploying Task Force Hawk to Kosovo, the U.S. military was required to share the total MOG with other organizations and only received a MOG of two. An SBCT conducted under these conditions could not meet the 96-hour goal.

A concern not captured here is the potential for the SBCT to get heavier.[20] As discussed earlier in this chapter, the possible need to deploy reactive armor is being discussed. Also, the level of sophistication of all vehicles in the SBCT is proposed to be very high. These high-tech vehicles may be heavier then their

[20]The overall deployment weight is assumed to be 15,000 short tons, including three days of supplies (2,500 short tons—now seen to be too high). It is important to recognize that deploying with only three days of supplies without a theater buildup may be too risky to implement. An SBCT deployment weight of 12,500 short tons is, by itself, a highly optimistic assumption. As of this writing (about a year before the expected initial operational capability of the first ready SBCT), shortfalls (survivability, firepower, sustainment, etc.) are becoming apparent and alternatives to eliminate the shortfalls typically result in a heavier unit. For example, the vulnerability to direct fire of the Stryker is a particular concern and a potential solution is the deployment of reactive armor for each vehicle. An initial estimate on the deployment weight of these reactive kits is 3.75 short tons per vehicle. Given that the SBCT has 300 Strykers, deploying enough reactive armor just for these vehicles would increase the deployment weight of the unit equipment by nearly 10 percent (an increase of more than 1,225 short tons). (The potential requirement for reactive armor was a topic of the 311th Support Command [Corps] Joint Operations Conference, Universal City, Calif., March 15–17, 2002, which one of the authors attended.)

stock counterparts and given the typical trend of military acquisition may increase in weight as the unit evaluates performance and identifies deficiencies. To correct unforeseen deficiencies, additional subsystems are often added resulting in a greater deployment weight. For these reasons, we are more comfortable with an average payload of 45 short tons, thus allowing modest growth in deployment weight of the combat vehicles without necessarily adding more airlift sorties. In addition, the 45–short ton payload is more consistent with the experience of Task Force Hawk in which the average C-17 payload was about 40 short tons. Finally, the 15,000-ton figure does not include various support units, such as helicopters, that the SBCT would require in most contingencies.

Even using optimistic assumptions for allocation of airlift assets, average payloads, on-ground times, tanker availability, MOG limit, and hot-load MOG limit, meeting the SBCT global deployment goal is generally not possible. However, the SBCT does provide an important capability, and it can deploy more quickly than a heavy brigade unless the latter's equipment is prepositioned in the operational area. The Army needs to identify realistic parameters for these deployment throughput factors and what changes will be needed to reach these levels. Then realistic deployment time lines can be developed and a basing structure identified to permit the SBCT to support U.S. national interests within these deployment time lines.

Sealifting the SBCT

Given the limits of airlifting the SBCT, what about the possibility of sealifting the SBCT? Currently, the large sealift ships that are in Military Sealift Command's inventory are the Large Medium-Speed Roll-On/Roll-Off (LMSR) ships and the Fast Sealift Ships (FSS). These very large ships have a sustained speed around 24 to 27 knots and about 12,000 nautical mile ranges. At 25 knots, these ships can cover 600 nautical miles per steam day. Based on historical estimates (Vick et al., 2002), loading and unloading should take about 1.7 days if the port is large enough to accommodate these massive ships. Using these assumptions, a 5,000 nautical miles deployment would take two of these large ships about 12 days, including loading and unloading operations. These estimates assume that both ships could unload in the port simultaneously. Many ports in the developing world are not large enough to support ships of this size. In those cases, transloading the vehicles to smaller vessels, sometimes referred to as lighters, would be required, which would further lengthen the operation—3.1 days per operation, according to estimates derived from various joint and Marine publications (Vick et al., 2002).

The inability of these large ships to enter many of the world's ports is a major disadvantage. Small, fast ships that can unload in even very small ports are

available today and could offer considerable leverage. However, range and payload are sacrificed to achieve higher speed. For example, a 315-foot catamaran named "Joint Venture High-Speed Vessel" built by the Tasmanian company Incat is undergoing sea trials with the U.S. military. This vehicle has shown it can deploy 450 short tons and 325 personnel to a range of 1,100 nautical miles at an average speed of 35 knots (*Incat News*, 2001). The small size of these ships could allow for the unloading of many ships simultaneously—a potential for real timesaving during the unloading operation. These small catamaran ferries with roll-on, roll-off capability will likely result in load/unload times measured in hours because they seem well suited to the types of vehicles and ports planned for the SBCT and potential deployments. However, deployments in excess of 1,100 nautical miles would require refueling. This could be done by stopping at an intermediate port or using an oiler to conduct an under-way refueling. Each refueling would likely add about an hour to the deployment time.[21] Speeds in excess of 35 knots could be achieved at the expense of either range or payload. Ports within about 1,000 nautical miles could be reached in about a day, while distances up to about 3,000 nautical miles are achievable in about three days with two under-way refuelings. This is an enormous capability that should be considered in greater detail and is especially interesting when considered in conjunction with overseas basing and prepositioning.

POSSIBLE DEPLOYMENT ENHANCEMENTS

The Army and the other services are examining a number of possible enhancements to today's deployment capabilities. Some of the more significant possibilities are described here.

High-Speed Ships

The Navy has had cargo ships capable of speeds of more than 30 knots since the early 1980s. Ships of this speed are not generally considered to be commercially

[21]If current oilers are used, they would have to put out ahead of the faster catamarans. Alternatively, some catamarans could be converted to oilers, offering the ability to accompany the troop-carrying ships. Based on past experience, under-way refueling will likely require the ships to slow to 15–20 knots and could also require a change in heading in rougher seas. Refueling should take 30 minutes to an hour. The best case (20 knots, original heading) would add 15 to 30 minutes to the transit time. In the worst case, the sea state might require the refueling to take place on a heading directly opposite of the desired destination. In that case, the refueling would take place at the slowest speed that still allowed steerage. Assuming 10 knots in the wrong direction for an hour, that would add an hour and 15 minutes to the deployment time. The catamarans carrying the SBCT would likely depart on a staggered timetable if refueling were required. We thank RAND colleague John Schrader for sharing his expertise and experience in at sea replenishment and refueling. This footnote was adopted from Vick et al. (2002). We thank colleague Alan Vick for this analysis and clear explanation.

viable because of their very high operating costs. This reality will probably hold well into the future with the exception of some specialized fast ships that fill a niche market (such as the high-speed auto ferries in Europe or those that move select cargo items across the Atlantic). Therefore, the next generation of fast ships likely must be government owned and operated, or, if they are privately owned vessels, substantial government subsidies will be required for the companies that operate them if the government expects to have these ships available for short-notice military deployments.

Although no such ship currently exists, advocates contend that near-term technology (five years of effort) is at hand to build a class of ships that can sustain speeds of 40 to 60 knots, to a range of several thousand nautical miles carrying several thousand tons of payload. In the near term (the next 10 years), it may be technically possible to build a ship capable of carrying 5,000 tons of cargo at speeds of more than 40 knots with a range of 10,000 miles. Larger ships of this type are also feasible. One commercial company, FastShip Atlantic, is planning to operate a small number of 40-knot ships capable of transporting 12,000 tons of cargo from Western Europe to East Coast U.S. ports (U.S. Joint Forces Command, 2000). These ships are scheduled to become operational around 2005. However, a keel has yet to be laid, shedding doubt on the likelihood of maintaining this schedule and perhaps on technological feasibility.

According to optimistic estimates, a ship that could sustain 55 knots over a range of 4,000 nautical miles, carrying 5,000 short tons of payload, is a possibility (Giles, 1997). This capability could provide deployment on the same order as those that *might* be available using a very large portion of the airlift fleet and assuming very high MOGs at all airbases. A fast sealift ship with a payload around 5,000 short tons could deploy the SBCT and initial sustainment that we assumed in this analysis using three ships. These ships may have fairly small length and draft dimensions, ensuring access to many ports throughout the world that are inaccessible to the much larger LMSR and FSS. If we assume that the ports that will be used are large enough that all three ships can load and unload simultaneously and further assume that each of these functions require about a half day to complete, the SBCT could be deployed nearly 4,000 nautical miles in the 96-hour time frame.[22] This compares with an "operational radius" of about 2,500 nautical miles if 80 C-17 equivalents are used to deploy a unit of the same weight.[23]

---

[22]These calculations are based on three days of steam time (four days minus a half day to load and a half day to unload). In three days, at 55 knots, the vessel could reach nearly 4,000 nautical miles (55 knots × 24 hours per day × 3 days = 3,960 nautical miles).

[23]Neither of the calculations presented here considers the time required to move the unit to the airbase or seaport from home station. It would be a more challenging and complex operation in the

Although in the conceptual phase, even faster, surface-effects vessels may be possible. Advocates estimate that these ships may be able to move 5,000 tons of cargo at speeds of 70 knots for distances of 7,000–8,000 miles. Both types of vessel could be built to military specifications, including strengthened decks and special equipment to facilitate offloading at austere ports or even in a logistics-over-the-shore mode (Giles, 1997).

More Airlift

In addition to more ships, the airlift fleet could be expanded. The C-17 is in production, as is the C-130J. Of the two aircraft, the C-17 is clearly the superior long-range transport. The planned buy of 120 C-17s was based on the 54.5 million ton-miles per day airlift requirement established in MRS-05 (*Inside the Air Force,* 2002). Subsequently, the Air Force entered into a follow-on agreement with Boeing to add 60 more C-17s to the fleet, bringing the total to 180 aircraft. About 15 aircraft per year are being produced with the 180th aircraft expected to be delivered near the end of this decade. There is also discussion about eventually bringing the total to 222 aircraft. As pointed out earlier in this chapter, even 100 additional C-17s would not significantly increase the Army's ability to deploy units that are in the 15,000-ton weight class, although an increase in the number of C-17s would clearly be a welcome addition to the nation's airlift capability.

Because the Army is configuring its new units to conform to the C-130, buying more of this aircraft is another option. Currently, USAF has some 700 C-130s of various types, including tankers, most of which are in its Reserve Components (roughly 100 of these are dedicated to special operations). The new C-130J/C-130J-30 version is in production. This aircraft has greater speed and can take off and land in shorter space than can the earlier versions of the plane. Although it has only slightly higher allowable payload capacity, it does offer more range given a constant payload than older C-130 models have. An increased number of C-130s could enable the Army to plan for more use of this aircraft. It should be noted, however, that C-130s are generally not available for long distance, intercontinental cargo hauling because they have limited range compared with C-17 and C-5 and most lack in-flight refueling equipment.[24] Additionally, C-130s are a theater commander's asset and are needed to support operations of all components, especially air operations. Thus, an

case of sealift because the entire unit (or at least large portions) would be required to move to the port simultaneously, as opposed to sequentially, as is the case for airlift.

[24]The C-130J-30 is capable of in-flight refueling.

increased number of C-130s could help, but a larger number of these planes would not translate into a capability dedicated only to supporting the Army.[25]

Increased Use of Prepositioning

Another option that could increase the deployability of Army forces would be to preposition more equipment. This could include both ashore and afloat (maritime) prepositioned sets. The major limitation of ashore prepositioning—having to "guess right" where a crisis could occur—would still be a potential limitation of this concept, as would be the problem of obtaining permission from host nations to locate equipment stocks ashore. Maritime prepositioning would retain all the strengths and potential weaknesses discussed earlier. The next generation of prepositioned ships could, however, include important enhancements, such as the ability to handle helicopters, improved ability to load and unload under austere conditions, and better self-defense suites than are available on today's ships.

Deployment from prepositioned sites could either be done with airlift or sealift, depending on the situation. Figure 9.5 shows the four-day air deployment from four bases globally dispersed: Fort Polk, Germany, Diego Garcia, and Guam. As was the case for deployments from the United States presented earlier, each range ring is 2,500 nautical miles in radius, but the geographically dispersed starting points provide significant coverage of key regions of the globe. Once again, this 2,500 nautical mile ring was computed without consideration of airfield throughput constraints. Assuming a more typical MOG limit of four, this 2,500 nautical mile deployment would take about eight days.

Maritime prepositioning has a major advantage, since the unit is already loaded, thus saving several days at the beginning of the deployment operation. Maritime prepositioning sites at Diego Garcia and Guam permit access to many key regions in a few days. Two steaming days (at 40 knots) from Guam covers much of the Western Pacific, including the Korean Peninsula, much of Indonesia, the Philippines, and Taiwan, while two steaming days (at 40 knots) from Diego Garcia covers much of Southeast Africa, South Asia, and the southern tip of Southwest Asia. Steaming another day from Diego Garcia allows access to all

[25]The Army is currently exploring the feasibility and potential utility of a Future Transport Rotorcraft (FTR). This is a notional aircraft that could be a helicopter or tilt-rotor (essentially a scaled-up version of the Marines' V-22). The FTR, however, has significant technical and operational challenges that must be overcome. Furthermore, purchasing the number required to lift a brigade (375–400 troops) could be difficult for the Army to afford.

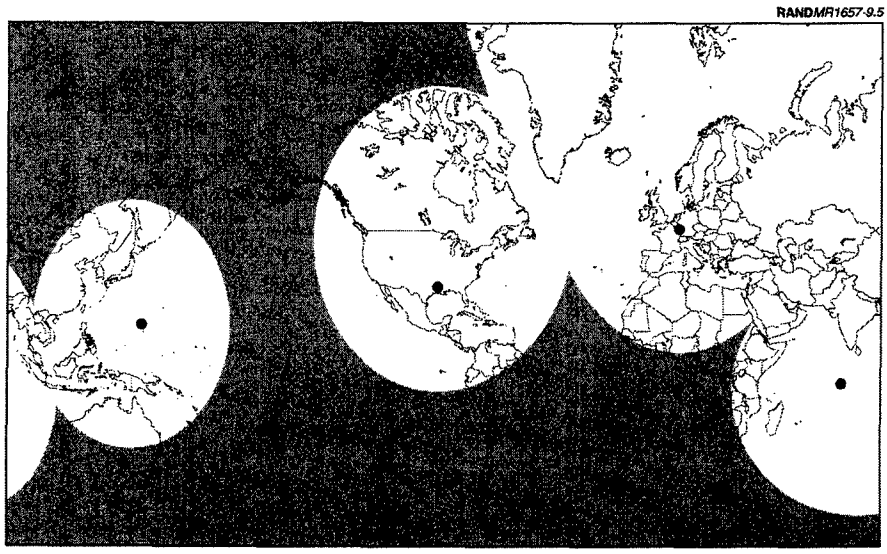


Figure 9.5—SBCT (15,000 Short Tons) 96-Hour Deployment Capability from the United States, Germany, Diego Garcia, and Guam Using 80 C-17 Equivalents and No MOG Constraints

ports in Saudi Arabia and Kuwait. A day or two of port operations[26] (depending on the number of these roll-on, roll-off catamarans that can be unloaded simultaneously at a given port) makes 96-hour deployments a possibility to key regions of the world using maritime prepositioning. An additional benefit of maritime prepositioning is the ability to steam the ships on warning. This could cut the deployment times considerably because the ships could be en route to a region prior to all political concerns being met with regard to port access, etc.

A major criticism of maritime prepositioning is that having multiple sets of the Strykers prepositioned throughout the world may be cost-prohibitive and operationally infeasible. One possibility is that the Strykers and personnel are based in the United States and deployed by air during a crisis, while the other vehicles and supplies are prepositioned in the theater (either land or maritime).[27] Assuming 300 Strykers for each SBCT and assuming three Strykers per C-17 sortie, 99 sorties would be required to deploy the Strykers. Assuming an airlift allocation of 80 C-17s, the 300 Strykers could be deployed to a distance of more than 5,000 nautical miles in less than 96 hours given a MOG of four or five

[26]Deploying 15,000 short tons with 450–short ton payload catamarans would require about 33 ships. This would be a fairly complex unloading operation and could take some time depending on port facilities available.

[27]We thank RAND colleague John Halliday for suggesting this approach.

and 24-hour airbase operations. Deploying the Strykers by air would have the added benefit of reducing the number of catamarans required to deploy the remainder of the unit to about 20 (from about 33). That would simplify port operations. This mixed prepositioning strategy would allow the SBCT to be deployed over vast distances in fairly short time frames while eliminating some of the major concerns about prepositioning the SBCT.

This mixed strategy, however, has important operational challenges. First, the deployment location must have a suitable port and airfield essentially collocated or within a fairly short drive of one another. Second, maintaining operational security may be difficult in all but the most benign deployment locations because the unit will need to link up on arrival. Unless the port and airfield are at the same location, portions of the unit will need to be on the move without all of the combat equipment that has been designed into the unit. Further, because the Strykers will arrive over time, while the rest of the unit will arrive by ship all at once, Strykers will be in the theater with no support equipment for several days.

To demonstrate the potential advantages of maritime prepositioning, we analyzed an SBCT deployment to the city of Tanjung Bara in the Indonesian province of Kalimantan Timur. Table 9.1 presents six potential deployment options for this scenario. Option 1 is the base case in which an SBCT is air deployed from Hawaii (Hickam AFB) to Tanjung Bara. An en-route stop at Guam was chosen to refuel the aircraft. Option 2 is this same deployment from Hawaii to Tanjung Bara using current sealift ships—the FSS or LMSR. Option 3 shows the potential timesavings of using fast catamarans, assuming that the fast catamaran could operate in the open ocean. Options 4, 5, and 6 are prepositioning options. Option 4 deploys the SBCT with airlift while Option 5 uses fast catamarans and maritime prepositioning. Option 6 is a mixed strategy in which the 300 Strykers are airlifted from Hawaii, while the remaining vehicles are assumed to be maritime prepositioned on fast catamarans at or near Guam.

The airlift options presented use the same airlift planning factors that were used throughout this chapter. In all sealift options explored, we assumed 1.7 days to unload the ships (with the exception of Option 6 for which we assumed one day because the Strykers were being deployed by air). Options 2 and 3 also used the 1.7 days to load the ships.[28] It is important to note that this 1.7 days to unload

[28]An unload time of 1.7 days was used even in Option 2—the long-distance deployment from Hawaii that would require large, deep-draft ships. It is questionable that ships of this size could unload directly at the piers in Tanjung Bara and may require lighters to complete the operation. Other RAND analysis suggests that, with the appropriate equipment, an unload time of 3.1 days would be more appropriate for the unloading operations using lighters. See Vick et al. (2002) for a complete discussion of this topic.

Table 9.1

Comparison of Deployment Options to Tanjung Bara

Option	*Description*	*Distance (nm)*	*Comments*	*Deployment Time*
1	Airlift from Hawaii, en-route stop on Guam	3,302 + 1,791	Airlift planning factors	8.3 days (with a MOG of 4)
2	Sealift from Hawaii using FSS/LMSR ships (24 knots)	5,089	Assume: 1.7 days to load, 1.7 days to unload, and 1 day to assemble	13.2 days
3	Sealift from Hawaii using Fast Cats (35 knots)	5,089	Assume: 1.7 days to load, 1.7 days to unload	9.7 days
4	Airlift from Guam	1,791	Airlift planning factors	3 days (with a MOG of 11) 8 days (with a MOG of 4)
5	Prepositioned Sealift from Guam using Fast Cats (35 knots)	1,790	Assume ships loaded; 1.7 days to unload, refueling required	3.9 days
6	Mixed strategy—Guam maritime prepositioned most vehicles using Fast Cats (35 knots); Hawaii Hickam AFB), Airlift 300 Strykers with en-route stop on Guam	Sealift: 1,790 Airlift: 3,302 + 1,791	Sealift: Assume ships loaded; 1 day to unload (fewer ships than Option 5); refueling required; airlift assumes 2 Strykers per C-17 sortie (MOG 5) 1 day to assemble	4.2 days (with a MOG of about 5)

in Option 2 assumes that both of these large ships can unload directly in the port simultaneously. If this is not the case and the ships must either be unloaded sequentially or using lighters, the time will increase. In Option 2, we assumed that an additional day would be required to assemble the forces, because they would be arriving all at once from large FSS and/or LMSR ships. In the other airlift options, we assumed that the arrival of forces was slow enough to allow the forces to be incorporated into the unit as they arrived. In the options that used fast catamarans only (Options 3 and 5), we assumed that these small ships provided the possibility of more flexibility in unloading operations. Ships could be loaded so that complete elements of combat power are delivered by a subset of the deployment armada, enabling the assembly of combat units while the unloading operation is ongoing. In addition, more piers and berths could be used, allowing more ships to be unloaded simultaneously. As a result, we assumed that the unload and assembly of these forces could be completed in 1.7 days. If these assumptions are overly optimistic, an additional day should be added to account for assembly time. Option 6 assumed an additional day to assemble the SBCT because most of the unit will be arriving by ship while the Strykers arrive by air and because it will likely take some time to link up the various parts of the unit. All cases that use catamarans assume that under-way refueling was available and added one hour to the deployment time for each refueling.

Table 9.1 shows the advantages of prepositioning. Option 4 shows that a huge MOG—unlikely in the developing world—would be required to achieve deployment times in the three-day range when the entire SBCT is deployed by air. A MOG of four is far more likely in developing countries and will result in a deployment time of around eight days. Option 5 shows the clear advantage of using maritime prepositioning and fast catamarans.

Option 6 shows that the short times associated with maritime prepositioning (Option 5) could be approached using a mixed strategy in which the Strykers are airlifted while the rest of the unit is deployed from prepositioned sets on fast catamarans at Guam. Although this approach has significant operational challenges, the deployment analysis shows that short deployment times are at least a possibility using this approach. Option 6 would require close coordination of ship and Stryker arrival, as well as adequate port and airbase facilities.

CONCLUSIONS

The uncertainties associated with the nature of the future threats place a real premium on the Army being able to deploy quickly to places all around the world. However, achieving rapid deployability entails enormous challenges. Success will depend on the Army's understanding the nature of the future

strategic environment as well as the opportunities and limitations imposed by technology.

What this analysis suggests is that where and how the Army medium forces are based is the most critical factor, rather than how much airlift is available or the size and weight of the combat vehicles. It is also the case that only a small portion of the Army can realistically be expected to deploy by air in the event of a major crisis. So prepositioning of equipment, both afloat and ashore, and overseas basing become very attractive options.

Sealift, the other part of the "deployment triad," also has a role, especially for deploying the Army's medium and heavier forces from the United States. In some cases, it can be as strategically responsive as airlift. Therefore, priority should be given to judicious increases in the size and speed of sealift, with a focus on what is most technologically feasible—the 25–40 knot vessels with large cargo capacities.

The current Army transformation plan that envisions all vehicles based on the future combat vehicle fleet (i.e., the FCS) being C-130-transportable needs additional consideration. The C-130's limited payload, short range, slow speed, and lack for the vast majority of the fleet of an air-refueling capability make the C-130 an aircraft less desirable for strategic deployments. It has the potential operational benefit of enhanced intratheater mobility, but many demands will be placed on the C-130s by all elements of a joint force, and their use will be limited by operational concerns about their survivability.

A 20-ton C-130-sized vehicle may be the right choice for deploying to operations in countries where the infrastructure is less developed and the air and ground threat environment is limited. It is questionable, however, in the near to midterm, whether medium-weight vehicles could provide the full range of combat capability currently provided by heavily protected and armed vehicles. Seeking a complete transformation of all future units to medium-weight combat vehicles on the basis of enhancing strategic responsiveness is not justified. A mix of heavy and light vehicles would provide greater flexibility allowing the future Army to most effectively tailor force packages to the crisis situation.

This is not to say that a medium-weight option is not appropriate for a portion of the Army. However, given the very limited benefit accruing from C-130-transportability and the fact that only a small portion of the Army will deploy by air in the event of a large crisis, the size and weight limits of the FCS should be reevaluated. The utility, suitability, and feasibility of potential operational concepts under various conditions and threat environments should be demonstrated before specific weight and size limits are imposed on future combat vehicles. Trade studies to evaluate the operational effectiveness of various vehicle sizes and concepts of operation coupled with a technical evaluation of

what can realistically be achieved from various size/weights of vehicles should be conducted to determine the appropriate characteristics of the FCS.

The Army's approach to rapid deployability should shift from its recent emphasis on airlift to a focus on the totality of the operational performance of its forces, including combat capability, strategic and intratheater mobility (along with the expected survivability of intratheater air assets), and basing. This approach will guarantee that the Army will be able to effectively answer the nation's call for rapidly deployable, highly capable ground forces well suited for the varied, difficult, and unpredictable crisis situations of the future.

REFERENCES

Air Force Pamphlet (AFPAM) 10-1403, "Airlift Planning Factors," March 1, 1998.

Keaney, Thomas A., and Eliot A. Cohen, *Gulf War Air Power Survey,* Washington, D.C.: Government Printing Office, 1993.

Giles, David L., "Faster Ships for the Future," *Scientific American,* Vol. 277, No. 4, October 1997, pp. 126–131.

Gritton, Eugene, Paul K. Davis, Randall Steeb, and John Matsumura, *Ground Forces for a Rapidly Employable Joint Task Force: First Week Capabilities for Short-Warning Conflicts,* Santa Monica, Calif.: RAND, MR-1152-OSD/A, 2000.

Incat News, "Incat Military Cat Leaves for the U.S.," September 20, 2001, available at http://www.incat.com.au/news/news.cgi?articleID=63122, accessed May 6, 2002.

Inside the Air Force, "Despite Heavy Demand, [Air Mobility Command] Predicts No Change in Airlift Requirement," March 8, 2002.

Jane's Fighting Ships 2000–2001, Surrey, UK: Jane's Information Group, 2000.

Shinseki, Gen. Eric, Chief of Staff of the Army's AUSA speech, October 1999.

U.S. Joint Forces Command, "A White Paper for Strategic Deployment," Norfolk, Va., May 10, 2000.

Vick, Alan, David T. Orletsky, Bruce Pirnie, and Seth G. Jones, *The Stryker Brigade Combat Team: Rethinking Strategic Responsiveness and Assessing Deployment Options,* Santa Monica, Calif.: RAND, MR-1606-AF, 2002.

Chapter Ten

TAKING CARE OF PEOPLE: THE FUTURE OF ARMY PERSONNEL

Susan Hosek

> People are our most important asset. The physical, material, mental, and spiritual well being of our soldiers, families, and civilians are inextricably linked to our readiness.
>
> —Gen. John M. Keane, Vice Chief of Staff, U.S. Army (Keane, 2001).

The quotation above echoes numerous statements by various senior military and civilian leaders on the importance of personnel for all of the U.S. military services. The U.S. Army, in particular, requires a steady flow of high-quality personnel to operate its equipment, maintain its complex machinery, and ensure its capacity to respond rapidly to a wide variety of contingencies around the world. Reflecting their importance, the cost of paying the Pentagon's military and civilian employees is its single biggest cost—roughly $130 billion annually. While the enormous cost and importance of U.S. Army personnel has long been recognized and extolled, the issue has recently received even more attention, stemming from the increasing difficulty that all of the services have had in recent years in meeting their goals for recruitment.

In FY 1998, the Navy fell short of its recruitment goal by nearly 12 percent. In FY 1999, the Army missed its goal of 74,500 recruits by 6,291, an 8 percent shortfall, while for the first time since the creation of the all-volunteer force in 1973, the Air Force also missed its goal, by about 5 percent. Only the Marine Corps, with its relatively small size and particular ethos, was immune from a recruitment shortfall. At the same time, the services reported that their efforts to retain personnel had experienced similar difficulties, particularly in certain key technical areas, such as maintenance crews (Asch and Hosek, 2000). While recruitment and retention goals have been met more recently, wider demographic and labor market trends are still troubling. Surveys show that the fraction of high school seniors with some propensity to join the military declined 15 percent over the decade of the 1990s (Orvis and Asch, 2001). Subsequently, the decline appears to have ended.

These trends are developing at a time when the world security environment has prompted the U.S. political leadership to adopt fairly radical changes in the national security strategy and to make ever more frequent use of the U.S. military and, in particular, the U.S. Army's unique capabilities to apply force rapidly and precisely. Over the past decade, Army personnel have met a series of contingencies, each presenting new challenges that differ markedly from the conventional war they trained for and pursued so successfully in the Persian Gulf. Future contingencies may resemble Somalia, Bosnia, and Afghanistan in some aspects, but they will undoubtedly present other new and unexpected challenges. Bruce Nardulli, in Chapter Three of this report, concludes that these contingencies will likely become more frequent and occur in dangerous, difficult, and unpleasant environments.

The Army has responded to the challenge of the new security environment and the requirements in the national security strategy with a fairly radical program of transformation that will inevitably place new demands on its personnel. Soldiers will have to learn how to use new equipment and employ more flexible tactics. Officers and noncommissioned officers (NCOs) must be able to adjust to unexpected situations. A fast tempo will almost certainly continue, if not accelerate, and soldiers will face numerous uncertainties.

These factors have led some observers to see a crisis in personnel that threatens readiness, morale, and even the viability of the Army's transformation program.[1] Implicit in this view is the idea that Army transformation will make that crisis worse. This chapter will demonstrate that the severity of that crisis is overstated. The Army has already begun to reverse some of the trends described through various innovative programs. Nonetheless, adjusting to demographic changes, to the new security environment, and to the new personnel demands of a transformed force will necessitate permanent changes in personnel management. Many of these changes, such as those involving assignment and deployment policies and reshaping the training system, are already under study or being implemented. Other, more sweeping changes will occur if the Army alters its approach to unit manning and deployment, as the Secretary of the Army is urging.

However, while these efforts are important, the lesson of recent years is that personnel management is analogous to taking an antibiotic: Feeling better should not lead one to stop taking the medicine. In the mid- to late 1990s, an unusually strong civilian economy reminded us that even a downsized defense establishment needs to tend to its recruiting structure or face potentially serious shortfalls. With renewed effort and added resources, many downward

[1]See, for example, Suro (2000) and Blazar (1999).

trends were reversed at the end of the decade. While no personnel crisis is evident today, recent experience makes clear that competitive compensation, as well as effective personnel management and support, must be nurtured if they are to be sustained. Taking care of the Army's people will require continual efforts to identify changing personnel needs and to develop cost-effective programs for meeting those needs.

Unfortunately, those efforts are likely to be impeded by a lack of understanding of precisely which policies most influence the Army's ability to recruit and retain effective personnel. In particular, this chapter identifies four key issues in the Army personnel management system in which policy is hindered by unanswered questions. First, the chapter looks at what the Army needs to know to recruit not just the necessary numbers of personnel or even the highest-quality personnel but also the "right" personnel. Next, the chapter describes the known effects of deployment on personnel and assesses the possible impact of moving the Army away from the system of individual replacements toward a policy that would cause cohorts of soldiers to join and leave military units together. Third, it examines how the Army can make its personnel training system more appropriate and cost-effective. Finally, it examines how trends in compensation and family life in the Army might affect the ability of the Army to attract and retain personnel. These are far from the only relevant issues in the Army personnel management system, but they are all areas that will be affected by the demographic and geopolitical trends mentioned above and in which they are critical uncertainties.

RECRUITING THE RIGHT TALENT

To maximize performance and minimize costs, the Army wants to recruit the "right" talent, not the "best" talent. Recruiting youth whose aptitudes substantially exceed those needed to perform Army jobs well increases recruiting costs. This may be offset by lower training costs, but retention will likely suffer if soldiers are bored or uninterested. We have ample evidence from earlier years that underqualified recruits lead to inadequate performance. Our knowledge about the relationship between aptitude and experience and individual or team performance has not been translated into the requirements for personnel quality and experience. Research has also generated knowledge about how to cost-effectively recruit high-quality youth. However, steadily increasing college enrollment and shifting demographic trends present new challenges to recruiters.

The research related to quality and recruiting supports two recommendations:

- Determine the requirement for quality of personnel (measured by education and aptitude) as well as number of personnel.

- Attract high-quality youth to all military occupations by aggressively pursuing new markets, including individuals with some college and competitive college degrees and Hispanics and other growing ethnic groups.

Studies that have carefully explored the relationship between personnel quality and performance have consistently shown that enlisted performance increases with aptitude and experience (Winkler, 1999). In the absence of information about performance requirements, however, it is difficult to know when personnel quality is high enough. For many years, recruiters have been asked to meet a minimum goal of 60 percent "high quality" in the enlisted force—defined as high school graduates whose aptitude is measured in the top half of the distribution. This goal arises from experience rather than systematic study, and, without much more information, most policymakers simply prefer more quality to less. After the Cold War, recruit quality soared when accessions were cut severely during the drawdown, whereas recruiting resources were sustained at old levels well into FY 1992. Quality fell when recruiting resources were cut below the levels needed to sustain the downsized force (Figure 10.1). A concerted effort to strengthen recruiting, with an assist from the economy, has restored quality to the 60 percent goal. The all-volunteer Army has learned how to recruit and undoubtedly will be able to update its knowledge to meet new conditions. First, though, it must learn what quality it needs in the enlisted force.

Even less is known about the relationship between measures of quality and performance in the officer ranks. Research on Navy officers has shown that

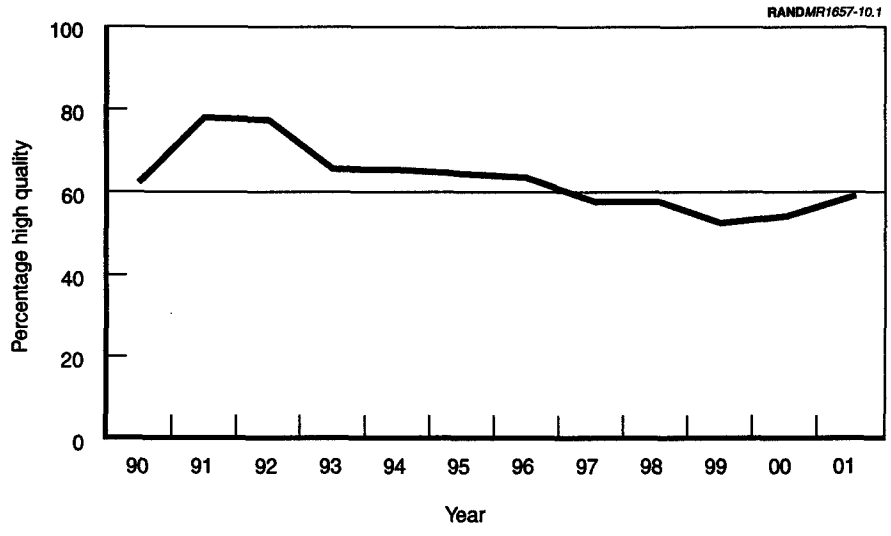
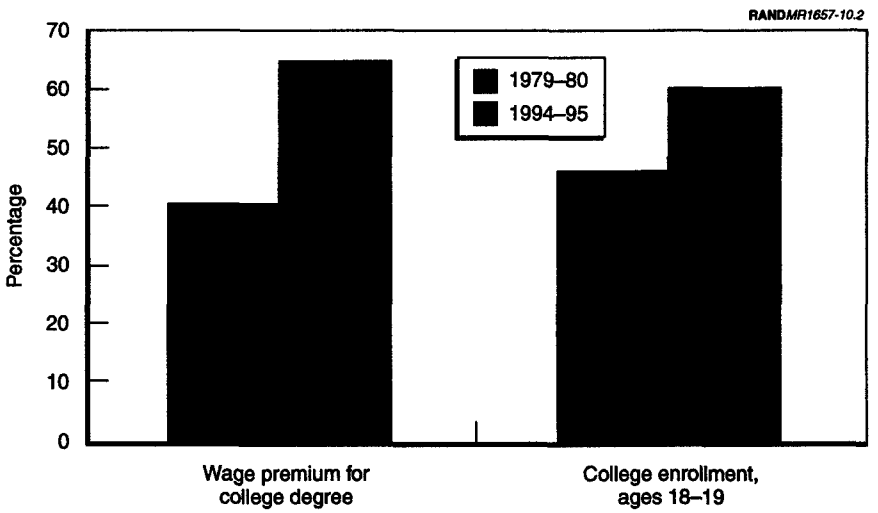


Figure 10.1—Post–Cold War Recruiting

officers who graduated from more-selective colleges and had higher grade point averages obtained higher performance ratings in midcareer and were more likely to be promoted to O-4 (Office of the Under Secretary of Defense, 1999). Again, we can measure correlations between measures of ability and performance, but we cannot readily determine the requisite level of quality in different occupations or overall.

If high levels of aptitude and performance should become more critical in the future than they have been in the past, more research will be needed to understand the trade-off between personnel and quality across and within military occupations. This research poses significant methodological challenges and will require a major investment in time and resources. For the present, simple goals and anecdotal evidence must guide recruiting objectives.

Although the Army lacks the specific evidence-based quality targets for judging recruiting effectiveness, some concern is warranted because the prime recruiting market has shrunk steadily over the past 20 years as more young adults pursue post secondary education. Figure 10.2 shows the increases in the wage premium paid for a college degree, measured as a percentage of the wage paid for a high school degree, and in college enrollment. Interestingly, the premium for only some college is relatively small, so those who enter college presumably aspire to a four-year degree, although quite a few take 10 years or more to finish (Hosek and Sharp, 2001). As one would expect, those who enter college have



SOURCE: Asch et al., 1999.

Figure 10.2—Change in Wage Premium for College and College Enrollment

higher aptitude test scores. These statistics indicate that some young adults who once would have entered military service as a route to a better future may be turning to post secondary education instead.[2]

Despite these trends in higher education, the Army managed to meet its recruiting quality goal throughout most of the 1990s, even given the strong economy. At the end of the decade, however, the percentage of Army recruits who qualified as high-quality dipped below 60 percent as entry pay fell relative to civilian youth wages. Compensation is discussed later in this chapter, but it is important to note here that the competitiveness of military pay will depend on the opportunities for higher wages through higher education, not just on the generally stagnant wages of high school graduates.

One reason Army recruiting has remained as strong as it has in the face of a surging economy is undoubtedly the offer of a generous educational benefit for service, largely in the form of the Montgomery GI Bill and the Army College Fund. Nearly all enlists now choose to enroll in the GI Bill, and many earn college credits while on active duty. Nevertheless, a sizable "degree gap" emerges by age 30 between individuals who left military service and those who remained in service. Possible explanations include a smaller payoff to higher education in a military versus a civilian career and the difficulty of fitting higher education into a demanding military job. To remain competitive with civilian employers, the Army may need to offer more enlisted personnel the opportunity to gain a commission upon the completion of a four-year degree.

One obvious approach for accommodating higher education in enlisted service is to offer educational benefits before, instead of during or after, enlisted service. The Army's College First program does just that. Current RAND research is evaluating this program for the Army.

So far, we have focused on enlisted recruiting. Officer commissioning sources include the U.S. Military Academy, the Reserve Officer Training Corps (ROTC), and Officer Candidate School. As a result of the post–Cold War drawdown, the percentage of officers entering the Army from the different sources has shifted. For example, the percentage from the Academy has grown. Another important change has been the growth in the fraction of ROTC graduates who had financial support during college. To the extent that military compensation and job characteristics compete well with civilian employment opportunities, the Army should be able to attract high-quality college graduates. To the extent that this is not the case, ROTC scholarships can be enhanced to compete for talented college students (similar to those attending West Point), although many may

[2]Asch, Kilburn, and Klerman (1999) provided a detailed analysis of the issues surrounding higher education and military recruiting.

not stay for a career. Given the challenges the Army is likely to face in the future, an officer corps capable of leadership and innovation should be a high priority.

Diversity in the enlisted and officer ranks has been an important objective for many years now. The nation is committed to ensuring that all racial and ethnic groups have an equal opportunity to serve and committed to a relatively representative military force. The 2000 census confirmed a dramatic change in the composition of the U.S. population, and the Army has begun to expand its outreach to rapidly growing groups, particularly Hispanics. Equally important will be the continuing efforts to ensure equal opportunity for men and women who serve.

Among the many recent studies of women and minorities are several conducted at RAND that document continuing challenges in this area (Hosek et al., 2001; Harrell and Miller, 1997; Harrell et al., 1999). One such challenge is promoting diversity in the special operations forces (Harrell et al., 1999), where African-Americans in particular are underrepresented. In this case, some of the qualifying skills (e.g., swimming proficiency) serve as barriers to entry, but lack of knowledge and discomfort in occupations dominated by soldiers from other races and ethnicity groups also appear to be important. Soldiers' occupational preferences and assignments should be monitored, and efforts to decrease disparities across occupations should continue. Another study of women and minority officers reached very similar conclusions about perceived barriers and noted that research in civilian settings described the same phenomena (Hosek et al., 2001).

MANAGING ASSIGNMENT AND DEPLOYMENT

As Figure 10.3 shows, 60 percent of enlisted personnel whose first term ended in 1999 had at least one episode of long (more than 30 days) or hostile deployment during the three-year period after training and before they completed their obligations.[3] Approximately one-half of the personnel who had some deployment experienced some duty in a hostile zone. The average episode lasted 4.6 months for nonhostile and hostile deployments. Although comparable data are not available for earlier years, other evidence clearly shows what everyone in the Army already knows: Deployment is much more common than it was during the Cold War.

[3]The data cited are from Hosek and Totten (2002). Additional data are presented in Sortor and Polich (2001).

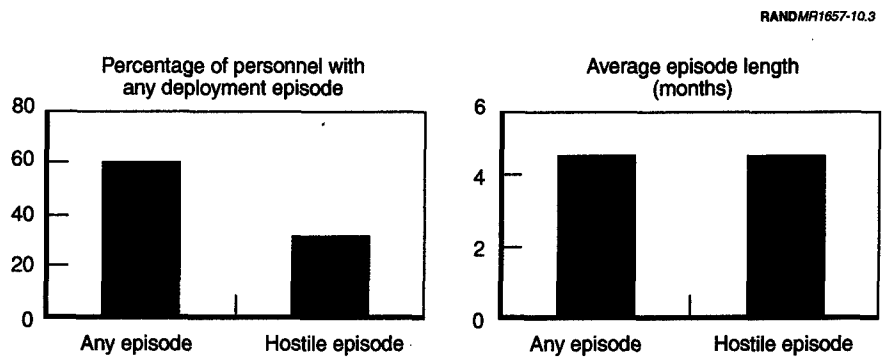


Figure 10.3—Frequency of Deployment in the Army During the Late 1990s

The Effect of Deployment on Retention

What has been much less clear is the effect of increased deployment on retention. Concern about the effects of deployment and other duty away from home on the quality of life for military personnel and their families grew as overseas involvement mushroomed in the 1990s. However, analysts quickly discovered that the data needed to inform this issue were not available. The first round of studies, while helpful as a general assessment, raise as many questions as they answer.

The results of these first studies are generally consistent. They find that, overall, reenlistment in the Army has been higher for personnel with some deployment experience than for personnel with none. However, reenlistment for those who have three or more deployments, compared with two deployments, is slightly lower, so more is not always better.

At a more detailed level, research suggests that, as one might expect, soldiers react differently depending on the locations and conditions of deployments, as well as their durations. Moreover, the reenlistment effect varies based not only on the destination of the deployment but also on the origin. Deployment from permanent duty stations in Europe unambiguously increases reenlistment, whereas deployment from the United States only has a positive effect if it lasts less than three months. In contrast, longer deployments from Europe and any deployment from Asia reduce reenlistment. Because its units may well be deployed more often in the future in hostile and difficult situations, the Army must understand what makes deployment rewarding and design policies to improve the soldier's experience, wherever they deploy to, and to compensate those who draw the most unpleasant duty. This issue deserves an effort comparable to the effort devoted to recruiting.

The problem with all of these measures is that the effects of more frequent deployment on the Army personnel system extend well beyond taking soldiers away from home (Sortor and Polich, 2001). Deployments create additional work for those who are deployed and those not deployed during the planning, deployment, and recovery stages. They absorb the time of unit leaders and often require transfers of personnel to make sure deployed units are at full strength and necessitate additional training. The result is a ripple effect on personnel in both the units that deploy and the units that give up personnel and support the deployments.

Deployment on top of maintaining readiness for major theater war and sustaining individual warfighting skills is thought to generate stress throughout the Army. Staying home may not be easier in many instances than deploying. Unfortunately, meaningful measures of the effect of workload and work stress on retention are not available. A regular data collection effort, employing surveys and measures that are developed by experts and are valid and reliable, would be well worth the investment.

Managing Personnel and Unit Readiness

As operational deployments of Active Component units have become more frequent, turbulence of active-duty personnel has received increased attention. Even modest deployments can send ripple effects throughout the Army. Units marked for deployment must borrow qualified personnel from other units, increasing the need for predeployment training and creating turbulence in donor units. The situation is especially acute among NCOs. Deploying units find that as many as 40 percent of their personnel are not deployable, primarily because they recently returned from an unaccompanied tour, are scheduled for a required move, or anticipate release from active duty (Polich, Orvis, and Hix, 2000).

Continuing unit deployments, along with traditional requirements to replace individual soldiers returning from overseas and moving from U.S. tours of fixed duration, combine to raise the rates of personnel turbulence to levels that cause concern in many parts of the Army. Further, unit deployments conflict with the inherently individual nature of personnel and individual training policies. Typically, soldiers are recruited, enlisted, trained, assigned, promoted, moved, and separated as individuals rather than as units. Despite the unit deployments, the Army must continue to supply individual replacements to its nondeploying organizations both overseas and in the United States. The two policies place conflicting demands on the system.

Expecting that reducing turbulence would contribute to cohesion, which in turn would enhance unit readiness, the Army Secretary recently directed a re-

view of the Army's current policy of staffing its permanently stationed units through individual replacements (*Army Times,* 2002, p. 14). The Secretary has directed his staff to assess a policy that would cause cohorts of soldiers to join and leave military units together. Units permanently based in the United States would train to a specified level and then rotate for perhaps six months in Europe, Korea, and other locations around the world.

But the linkages among stability, cohesion, and readiness are not well understood. Cohesion is a complex, multifaceted concept and is not unambiguously beneficial to unit performance (Mitchell, 1982; Forsyth, 1990; MacCoun et al., 1993). Task cohesion can improve unit performance; social cohesion can diminish it. Further, there is evidence that unit performance may have a greater effect on cohesion than cohesion has on unit performance (Mullen and Cooper, 1994).

As with any policy change, a shift to unit manning carries with it not only potential benefits but potential downsides as well. Designing changes that improve stability, cohesion, and readiness without inducing undesirable consequences will be a challenging task, given the Army's complex personnel management system. Research implies that stability can enhance social cohesion, though not necessarily task cohesion, which is most likely to improve performance (MacCoun et al., 1993). However, maximizing stability could have downsides. For example, freezing soldiers in their jobs during a deployment contributes to stability of teams and small units and probably to the social cohesion of these teams and units. However, this policy would preclude a soldier promoted during the deployment from stepping into a more responsible, vacant position. Both the soldier and the unit forgo the benefits of having that soldier fill the position.

Unit manning also creates a force with much more variable readiness than is currently the case. Today, because of the individual replacement policy, replacements are constantly streaming into units. As a result, no unit is as ready as it would be if all its personnel remained for an extended period of time, as they would under a unit manning policy. But under unit manning, units just beginning to form a cohort are almost totally unready and units that have just given up their cohorts are totally unready. This concentrated unreadiness is the inevitable price the Army must pay to achieve higher stability in units that trained and deployed as one.

The Army has experimented with and abandoned unit manning and unit rotations in various forms several times since the 1950s. Typically, the Army has terminated the policies because they actually exacerbated some combination of the problems they were intended to ameliorate—unreadiness, cost, and personnel turbulence (U.S. GAO, 1993). This history suggests that many factors are

at work and that policy changes may fail unless those factors are more clearly understood.

Answers to the following questions should help the Army reach a well-reasoned policy with regard to unit manning and avoid earlier problems:

- What is the extent of the current readiness problem, and is it growing worse or improving? How does the problem vary across types of units, and why?
- What other policies, besides the individual replacement policy, contribute to the problem?
- Given that variants of the unit manning policy have failed in the past, what conditions are different this time, or what previously untried variation might make the policy more successful? Are there new problems that the unit manning policy might create in the current environment?
- What other policy options might be employed to solve the problem?
- How would the change in policy be implemented and monitored?

COST-EFFECTIVE TRAINING

The Army training establishment faces difficult challenges in the future as it supports Army transformation and the capability to respond to a complex and shifting threat. Future soldiers must be proficient enough in individual and team efforts to adapt to new and unanticipated situations. The resources available for training will be constrained by the investment needed for transformation. Thus, the future will need to build on the efforts of the recent past to restructure and modernize training. Initiatives to coordinate active and reserve training (Total Army School System) and exploit new technology (The Army Distance Learning Program) will form the foundation for future initiatives to instruct in new systems and tactics, at the individual and unit levels.

RAND research, conducted throughout the 1990s, points to three strategies for improving individual-training performance while reducing resources (Arroyo Center, 2001):

- Integrate active and reserve training institutions.
- Leverage new technologies: Expand the use of new computer-based technologies in the classroom and for "flexible" distance learning.
- Increase the use of the private sector.

Integrating active-duty and reserve training could be accomplished through a "hub and spoke" system, in which the Active Component school would serve as

the hub, while schools run by the Reserve Component would form the spokes. Soldiers in both components would train at the school nearest to their unit. Analysis of this concept, conducted for maintenance occupations, projected savings in travel costs of 15 to 47 percent, depending on how specialized the course offerings are. In addition, soldiers would spend less time away from home, some training facilities could be closed, and the declining workload in Active Component facilities would free manpower for other purposes. Finally, an integrated training system should facilitate consistency in training across components and the integration of active and reserve units in operations.

Various RAND studies of computer-assisted instructional technology indicate that it could also generate significant savings by cutting course time and substituting for some hands-on training on real equipment (Winkler, 1995). These studies investigated training for tank crewmen and cannon fire direction. Other research suggests, however, that a mix of computer-assisted and hands-on training would be best for ensuring proficiency. Provided that the most cost-effective methods are used, distance learning appears especially promising for reclassification training and cross-training to relieve occupational shortfalls and for leadership development of NCOs and officers. These training needs are growing in importance with Army transformation (Arroyo Center, 2001).

Throughout the Department of Defense in recent years, activities once performed by military or civilian personnel have been turned over to the private sector. In this vein, Army schools have contracted out such tasks as course development and base operations. To explore private-sector opportunities fully will require reconsideration of the structure of Army training leading to a strategic plan for reengineering the system, including both classroom and support activities. This would be a major effort, involving careful tests of new concepts. The research done at RAND and elsewhere points to the possibility of significant improvements in efficiency and performance, but much remains to be done to fully understand the potential opportunities in this area.

COMPENSATING AND SUPPORTING SOLDIERS AND FAMILIES

Compensation is one of the keys to recruiting and retaining soldiers who can meet the challenges of Army transformation and the continued high pace of activity. Responding to evidence of a military "pay gap" and the heavy demands on personnel after the Cold War ended, the Department of Defense and Congress have focused on compensation in recent years. Since FY 2000, this has led to increases in the annual military pay adjustments and additional targeted increases for career personnel. The Ninth Quadrennial Review of Military Compensation (QRMC), recently released, has concluded that further targeted increases are needed. This QRMC also concluded that some new and innova-

tive compensation elements might be needed in the future to provide sufficient flexibility in shaping the force. Future compensation must accomplish the following:

- Pay must remain comparable to the earnings opportunities in the civilian sector for those the military wishes to attract and keep. Growing civilian earnings disparity may make the single pay table concept untenable.
- Compensation must be evaluated in a family context that considers how Army service affects spouse employment and earnings.
- Most specific to the Army, policymakers must take into account how the structure of pay and benefits will reflect evolving utilization of the Reserve Component of part-time soldiers and the relationship of the reserve to active service.

Pay Comparability

Taking into account some significant trends in civilian earnings, the picture of military-civilian pay comparability is a complex one. Extensive RAND research has identified new methods for measuring comparability, showing that the widespread belief in an across-the-board pay gap is overly simplistic.

The standard measure of military-civilian pay comparability—comparing the rate of growth in base pay with the Employment Cost Index (ECI)—shows that military pay failed to keep pace with civilian pay throughout the 1980s and into the 1990s. The RAND research refined this standard comparability measure to reflect the composition of military personnel and to consider different subgroups—e.g., enlisted personnel versus officers and junior versus senior ranks (Hosek and Sharp, 2001).

Figure 10.4 compares the growth in military pay for all enlisted and all officer personnel with the growth in pay for civilian workers with the same characteristics (e.g., age, education). The bars show, for each year, the difference in the percentage growth in military pay and civilian pay from 1982 to that year. For example, the pay growth for enlisted personnel from 1982 to 1990 was almost equal to the pay growth for comparable civilian workers, but a pay gap of 15 percentage points had opened for officers. By 2002, enlisted pay had grown more rapidly than comparable civilian pay and the officer pay gap had grown. The recent military pay increases have been higher than the increases in civilian pay, so the positive gap for enlisted personnel is projected to increase between now and 2010 and the negative gap for officers is projected to narrow.

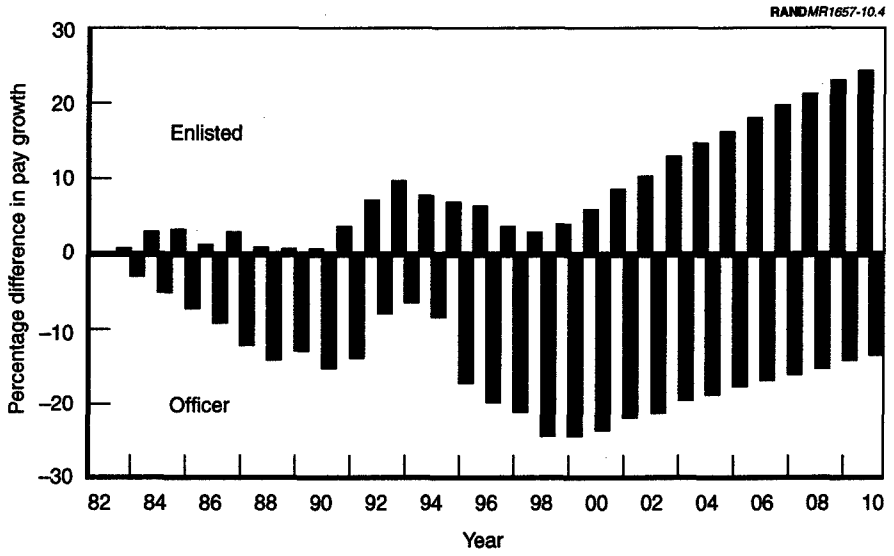


Figure 10.4—Enlisted and Officer Military-Civilian Pay Gap Over Time

As we discussed earlier, the earnings of college-educated workers have increased over time relative to the earnings of high school graduates. Like their civilian counterparts, enlisted personnel now accumulate more college credits during their years of service than was formerly the case, and quite a few complete a four-year degree. Because the structure of the military pay table has changed relatively little over time, it has not kept up with the earnings opportunities of an increasingly well-educated force, particularly for midgrade enlisted personnel and junior officers (Office of the Under Secretary of Defense for Personnel and Readiness, 2002). An earlier analysis, focusing on the Army, also raised doubts about the competitiveness of an enlisted career in light of higher wages for college-educated civilian workers (Hosek and Sharp, 2001).

Recently, a combination of higher civilian unemployment and higher military pay has alleviated some of the concerns about pay, but care must be taken to sustain compensation into the future.

Retaining Families

Over time, voluntary service has led to a more senior and career-oriented Army. In 1973, 40 percent of the enlisted force were past their first term, but that percentage rose steadily and reached 60 percent in the mid-1990s (Kirby and Thie, 1996). In the Army, average length of service increased during the same period from under 5.5 to 7.5 years.

Today's Army increasingly is made up of families. About half of the enlisted personnel considering whether to reenlist after the first term are married. By the end of the second term, this fraction is closer to three-quarters. Marriage rates in the military overall are higher than in the civilian sector (Wardynski, 2000). Military personnel marry and have children earlier. Therefore, compensation and personnel support must be considered in a family context, and several recent studies have taken the first steps in this direction.[4]

For many years, researchers studying the civilian population have noted that married workers take their spouse's employment situation into account in making job decisions. As the labor force participation rate of women and the contribution of wives' earnings to family income have grown, fewer husbands base their decisions solely on their own earnings opportunities. For years, the labor force participation rate of military wives also rose, but it remained lower than the rate in the civilian population. Today, more than 70 percent of military wives have paying jobs and a military-civilian difference remains only for college-educated wives. More than half of the mothers of preschool children now work (Figure 10.5).

There are reasons to anticipate that Army spouses—male and female—may find it difficult to work as much or earn as much as their civilian counterparts. Their location is often determined by the needs of the Army without consideration of employment opportunities, increases in deployment and associated heavy duty leave them with a larger share of family responsibilities, and frequent moves lead to frequent job changes. Until recently, little was known about spouse earnings, and research on the consequences for retention has yet to be done.

A RAND study of female military spouse employment and earnings (Hosek et al., 2001) showed that over a long period (1987–1999), military wives earned on average $10,241 per year, whereas their civilian counterparts earned $15,884. Military wives are less likely to work, and even employed military wives work fewer weeks and slightly fewer hours in a week than their civilian counterparts.

The study was also able to evaluate some commonly held beliefs about military spouses' employment opportunities. First, military personnel whose spouses have a stronger interest in the labor market and better opportunities may be less likely to remain in service. This hypothesis implies that wives of career

[4]Some have pointed to the benefits offered to married personnel as an explanation for the higher marriage rate. Other plausible explanations include assignment far from home, which undoubtedly encourages young soldiers to marry rather than face long separations, and release from barrack living once soldiers are married. We cannot tell whether fewer personnel would be married if differential housing allowances did not exist or if junior enlisted personnel were allowed to live in their own apartments.

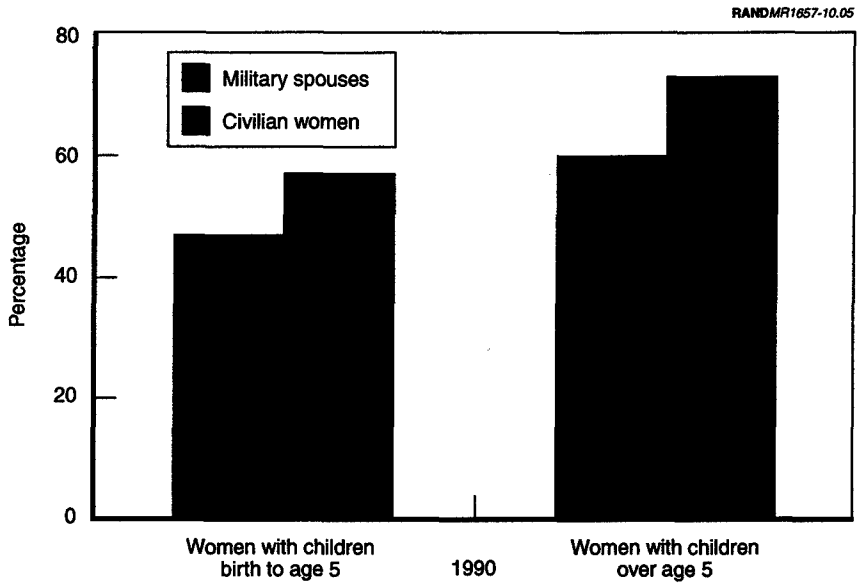


Figure 10.5—Percentage of Mothers Who Work: Military Spouses Versus Civilian Women

military personnel would be expected to have a weaker attachment to the labor force and lower earnings. The evidence is consistent with this hypothesis. Second, as expected, the analysis shows that the frequent moves experienced in the military exact a toll on military wives' earnings. However, a third hypothesis—that military spouses face more restricted employment opportunities because more of them reside in rural areas—is not supported by the evidence. Further research will be needed to understand military spouse employment opportunities and their impact on retention.

Army personnel, and their families, pay other prices because of the demands of service, but they also benefit in myriad ways. Quality of military life was raised as a major policy issue in the 1990s, and budgets for the programs that support personnel and families were increased. More new housing has been built in recent years, although the stock of military housing still lags in quality behind civilian housing (Buddin et al., 1999). The Department of Defense operates the largest and possibly the best employer day-care system in the country, at considerable cost (Zellman and Gates, 2002). TRICARE, the military health plan, has improved in responsiveness and added benefits throughout the past decade. The countless other programs include a number of innovative efforts to support deployed personnel and their families. These programs aim to sustain the quality of life for those serving their country and to enhance retention

and personnel readiness. Because of shortcomings in data and appropriate evaluation methods, too little is known about how cost-effective the numerous programs are in meeting either purpose (Buddin, 1998).

Assuming that the demands on Army personnel and budgetary constraints continue unabated, the modest investment needed to learn more about the most pressing needs of soldiers and the cost-effectiveness of different approaches for meeting those needs would be well worthwhile. For example, a significant number of junior enlisted personnel face serious financial problems. The problem is more prevalent in the Army, especially among those who are deployed or work longer hours, than it is among similar young adults in civilian life (Buddin and Do, 2002), even if one controls for income. Indeed, junior personnel with higher incomes fare no better than those with lower incomes, suggesting that higher pay is not a solution. Formal counseling programs, which many of these young soldiers appear to need, are less widely used than the extent of the problem suggests they should be. As with other key programs, the Army should systematically evaluate the various approaches being used in different locations and induce greater participation by junior personnel, perhaps through outreach to their units.

Compensation and Support in the Reserve Components

The Army relies heavily on its Reserve Components for force structure, and the use of Guard and Reserve units has increased to support overseas deployments and, during the last year, increased further as the nation has responded to the September 11 attacks.

Reserve compensation was the subject of the sixth QRMC more than a decade ago. The ninth QRMC included reserve compensation in its broader review of military compensation, recommending consideration of several changes in special pays related to deployment and overseas duty. As members of the Guard and Reserve spend more time on active duty, disparities in compensation and support—already apparent in some respects (e.g., basic allowance for housing)—will become more problematic. Rationalizing compensation and support for the full-time force and the part-time force is best done before the perception of "unfairness" grows.

Providing benefits and other support for reservists is complicated by movement between active and inactive status, by the growing number of reservists who routinely contribute well over the minimum days, and by geographic dispersion. Below are just some of the issues that need to be addressed to transform the Reserve Components from a Cold War standby force into a regularly employed contingent workforce.

The problems of leaving full-time civilian jobs for extended call-up are obvious, but solutions remain to be worked out. As the level of reserve participation has increased, some members might make a career of contingent reserve duty, or commit to considerable participation for an extended period of time, if an appropriate compensation package were available.

Switching from civilian to military health plans upon activation, and then back to the civilian plans again, places an added burden on family members. Many of them live in areas where the military TRICARE plan is not well-developed. Further, the 2000 Survey of Reserve Component Personnel indicated that almost 30 percent of enlisted members have no civilian insurance. Further, reservists who contribute on a more regular basis get no additional benefit. Congress expressed concern and asked for information about reserve health benefits in reporting out the FY 2002 defense authorization. Other benefits and support programs face similar challenges.

CONCLUSION

A great deal of political will and a fair amount of money are available for improving the U.S. Army's personnel management system. These resources cannot guarantee an efficient and effective personnel system without a deeper understanding of the likely effects of various alternative policies.

The greatest unknown comes in understanding how deployments should affect personnel policies. The complex effects of more frequent deployments on recruitment and retention remain highly uncertain. It is thus extremely difficult to predict how an increased operational tempo associated with, for example, an increased number of antiterrorist missions will affect Army readiness. Given this uncertainty, initiatives to, for example, move from a policy of individual replacements to one of unit manning must be thoroughly evaluated before they are implemented.

In terms of recruitment, the Army needs to better understand the level of quality required, overall and in each of the various occupations, to be able to fill those positions with personnel who are neither over- or underqualified. Educational benefits will also be important to successful recruiting, but programs that provide education before Army service should be investigated further. On the question of training, a great deal of progress has been made, but important questions remain about the potential of new learning technologies and privatizing various aspects of Army training.

Understanding of the politically contentious issue of compensation would be improved if there were less focus on the gross comparability of military pay with the civilian sector. Instead, more research needs to done on understanding

how the compensation of specific occupational specialties compares with their civilian equivalents, on how military pay and benefits affect overall family income, and on how the structure of compensation affects retention and the relationship between the Army's Active Component and Reserve Component.

Finally, ensuring that soldiers are not overburdened, units have ready personnel, and soldiers are adequately compensated will be insufficient to meet the demands of a transformed Army and future uncertain threats. In the future force, leaders may need to command more diverse and versatile units. As the Army reshapes its forces to meet the requirements of the new security environment and the new national security strategy, it will field legacy units, interim units reshaped from these legacy units, and entirely new kinds of units. At this early stage, it is unclear whether this highly variegated force structure should be manned by individuals who specialize in only one of these unit types or whether many will be asked to master more than one type. Either way, both officers and senior enlisted personnel will need different and productive educational and operational experiences. Yet, a recent study concluded that the tactical foundation of recent infantry and armor officers declined in the 1990s as junior officers spent less time in field training and platoon leadership (Leed, 2002). Anticipating what learning and experience will be required and how to provide them will be difficult at best, and continuing assessment and refinement will probably be needed in these important areas.

REFERENCES

Army Times, "Secretary Pushes for Large-Scale Reform," September 16, 2002, p. 14.

Arroyo Center, "Rebuilding the Schoolhouse: Making Army Training More Efficient and Effective," Santa Monica, Calif.: RAND, RB-3025-A, 2001.

Asch, Beth, M. Rebecca Kilburn, and Jacob A. Klerman, *Attracting College-Bound Youth into the Military: Toward the Development of New Recruiting Policy Options*, Santa Monica, Calif.: RAND, MR-984-OSD, 1999.

Asch, Beth, and James Hosek, "Military Compensation Trends and Policy Options," Santa Monica, Calif.: RAND, RB-7533, 2000.

Blazar, Ernest, "Trouble Ahead," *Washington Times*, January 27, 1999, p. A6.

Buddin, Richard, *Building a Personnel Support Agenda: Goals, Analysis Framework, and Data Requirements*, Santa Monica, Calif.: RAND, MR-916-OSD, 1998.

Buddin, Richard, Carole R. Gresenz, Susan D. Hosek, Marc N. Elliott, and Jennifer Hawes-Dawson, *An Evaluation of Housing Options for Military Families*, Santa Monica, Calif.: RAND, MR-1020-OSD, 1999.

Buddin, Richard, and D. Phuong Do, *Assessing the Personal Financial Problems of Junior Enlisted Personnel*, Santa Monica, Calif.: RAND, MR-1444-OSD, 2002.

Forsyth, D., *Group Dynamics*, Needham Heights, Mass.: Allyn & Bacon, 1990.

Harrell, Margaret C., and Laura L. Miller, *New Opportunities for Military Women: Effects upon Readiness, Cohesion, and Morale*, Santa Monica, Calif.: RAND, MR-896-OSD, 1997.

Harrell, Margaret C., Sheila Nataraj Kirby, Jennifer Sloan, Clifford M. Graf, Christopher J. McKelvey, and Jerry M. Sollinger, *Barriers to Minority Participation in Special Operations Forces*, Santa Monica, Calif.: RAND, MR-1042-SOCOM, 1999.

Hosek, James, and Mark Totten, *Serving Away from Home: How Deployments Influence Reenlistment*, Santa Monica, Calif.: RAND, MR-1594-OSD, 2002.

Hosek, James, and Jennifer Sharp, *Keeping Military Pay Competitive: The Outlook for Civilian Wage Growth and Its Consequences*, Santa Monica, Calif.: RAND, IP-205, 2001.

Hosek, Susan D., Peter Tiemeyer, M. Rebecca Kilburn, Debra A. Strong, Selika Ducksworth, and Reginald Ray, *Minority and Gender Differences in Officer Career Progression*, Santa Monica, Calif.: RAND, MR-1184-OSD, 2001.

Keane, Gen. John M., "Prepared Testimony Before the Senate Armed Services Committee Readiness Subcommittee," July 11, 2001.

Kirby, Sheila Nataraj, and Harry Thie, *Enlisted Personnel Management: A Historical Perspective*, Santa Monica, Calif.: RAND, MR-755-OSD, 1996.

Leed, Maren, *Keeping the Warfighting Edge: An Empirical Analysis of Army Officers' Tactical Expertise*, Santa Monica, Calif.: RAND, MR-1378-A, 2002.

MacCoun, R. et al., "What Is Known About Unit Cohesion and Military Performance," in B. D. Rostker et al., *Sexual Orientation and U.S. Military Personnel Policy: Options and Assessment*, Santa Monica, Calif.: RAND, MR-323-OSD, 1993.

Mitchell, T. R., *People in Organizations: An Introduction to Organizational Behavior*, 2nd Edition, New York: McGraw-Hill, 1982.

Mullen, Brian, and Carolyn Cooper, "The Relationship Between Group Cohesiveness and Performance: An Integration," *Psychological Bulletin*, Vol. 11, No. 2, 1994, pp. 210–227.

Office of the Under Secretary of Defense, Personnel and Readiness, *Career Progression of Minority and Women Officers*, August 1999.

_____, *Report of the Ninth Quadrennial Review of Military Compensation*, Volume 1, March 2002.

Orvis, Bruce, Herbert J. Shukiar, Laurie L. McDonald, Michael G. Mattock, M. Rebecca Kilburn, and Michael G. Shanley, *Ensuring Personnel Readiness in the Army Reserve Components*, Santa Monica, Calif.: RAND, MR-659-A, 1996.

Orvis, Bruce, and Beth Asch, *Military Recruiting: Trends, Outlook, and Implications*, MR-902-A/OSD, 2001.

Polich, J. Michael, Bruce Orvis, and W. Michael Hix, *Small Deployments, Big Problems*, Santa Monica, Calif.: RAND, IP-197, 2000.

Sortor, Ronald E., and J. Michael Polich, *Deployments and Army Personnel Tempo*, Santa Monica, Calif.: RAND, MR-1417-A, 2001.

Suro, Robert, "Captains' Exodus Has Army Fearing the Future," *Washington Post*, October 16, 2000, p. A2.

U.S. General Accounting Office (U.S. GAO), *Army Force Structure: Current System for Assigning Troops to Europe Has Advantages Over Alternatives*, GAO/NSIAD-94-42, November 1993.

Wardynski, Casey, *Military Compensation in the Age of Two-Income Households: Adding Spouses' Earnings to the Compensation Policy Mix*, Santa Monica, Calif.: RAND, RGSD-154, 2000.

Winkler, John D., "Improving Training at School and Work: Lessons from RAND Research on Army Individual Training," Santa Monica, Calif.: RAND, DB-144-A, 1995.

_____, "Are Smart Communicators Better? Soldier Aptitude and Team Performance," *Military Psychology*, Vol. 11, No. 4, October 1, 1999, pp. 405–422.

Zellman, Gail L., and Susan M. Gates, *Examining the Cost of Military Child Care*, Santa Monica, Calif.: RAND, MR-1415-OSD, 2002.

Chapter Eleven

MAKING THE POWER PROJECTION ARMY A REALITY

Eric Peltz and John Halliday

During the Cold War, the U.S. Army evolved into a powerful force but not necessarily a powerful *projection* force. Focused primarily on defending Europe against the threat of heavy Soviet forces, it enjoyed the luxury of stationing units, equipment, and a large supporting infrastructure in Europe, with a similar but smaller presence in the Republic of Korea as well. Its light forces provided some strategic mobility but lacked much staying power in the face of a serious enemy threat. The buildup to the Gulf War in 1990 epitomized this Army. Light forces moved quickly to Saudi Arabia in the first weeks of the crisis but could offer little resistance to Iraq's heavy forces. The Army's heavy forces followed, coming mostly by sea, but it took many months to bring the Army's armored fighting power fully to bear. That this was a formidable force was demonstrated handily in February 1991, but it was not a force that could be projected rapidly to relatively unprepared theaters.

The logistics system that evolved in these circumstances was similarly big, slow, and inflexible. The ability to position logistics units and materiel forward in Europe and Northeast Asia relieved the system of much urgency or any sensed need to minimize the logistics "footprint"—the men and materiel needed to support combat forces. To the contrary, an aversion to risk led the logistics system to err on the side of building massive piles of supplies behind Army forces. As we saw in the Gulf War, the system delivered so many tons of supplies to Saudi Arabia that, ironically, it became inefficient and no one knew which supplies were designated for which forward unit. Thus, while logistics planning was both conservative and meticulous, it was also slow and inflexible.

Nothing could be less appropriate to the new security environment than a ponderous and inflexible support system. Although the Army still plans for big

---

Editor's note: This chapter summarizes research conducted for a project titled "CSS Transformation," sponsored by the Army's Deputy Chief of Staff, G-4, and carried out in the Military Logistics Program of the RAND Arroyo Center.

wars, its main operational diet since 1991 has been a series of deployments to relatively unprepared and often very distant theaters. Most of these post–Cold War contingencies have been relatively small in scale, and in many cases light forces have been adequate to the tasks, which often have not been war at all but rather humanitarian relief (Somalia, 1993) or political stabilization (Bosnia after 1995, Kosovo since 1999). Still, the message is clear. While the Army cannot avoid big wars using heavy forces—as the deployment to Iraq has demonstrated—the present era requires an Army that can move a powerful military force to distant, perhaps unprepared, theaters fast. And it needs a logistics system to match those requirements.

The National Security Strategy singles out only a few specific military goals, but these pose very significant challenges for the Army's logistics community. According to the strategy, "While maintaining near-term readiness and the ability to fight the war on terrorism, the goal must be to provide the President with a wider range of military options to discourage aggression or any form of coercion against the United States, our allies, and our friends" (*National Security Strategy,* 2002, p. 30). In particular, the strategy calls for "transformed maneuver and expeditionary forces" (*National Security Strategy,* 2002, p. 30).

To their credit, Army logisticians recognized these challenges well before the current transformation effort took off in 1999 and began to use commercial practices to quickly deliver spare parts to combat forces. The main vehicle here was the Army's "Velocity Management initiative," a rigorous approach aimed at improving the ways supplies are provided and maintenance is conducted. Since its inception in the mid-1990s, the Army has been able to increase strikingly the speed and reliability with which materiel is delivered to units both at home and overseas. As field commanders have gained more confidence in the new system's speed and efficiency, they have also been able to "broaden" the stocks of spares they carry with them when they deploy. No longer needing to carry three tank engines with them, for example, they have dispensed with two and filled the space thus created with other parts they might need (Dumond et al., 2001). For virtually no additional cost, the Army has improved the readiness and flexibility of its deploying forces.

The formal transformation process launched by Army Chief of Staff Gen. Eric K. Shinseki in October 1999 enters this logistics setting as a mixed blessing. On the one hand, it adds a new and different set of forces to a force posture that already includes many different kinds of systems needing support. On the other, this process explicitly calls for transformation of the logistics system. General Shinseki recognized that the extent to which Army forces need support and the way that support is delivered to them are every bit as important to creating a flexible, power projection Army as the new combat forces themselves. Thus he wisely placed the transformation of what the Army refers to "combat service

support" (CSS) forces on par with the transformation of its combat forces. In particular, Shinseki called for a dramatic shrinkage in the "logistics footprint" of all future Army forces, with an emphasis on brigades. As it happens, such an initiative changes in the entire Army logistics system. In this sense, the transformation process has added energy and high-level attention to the broader logistic reforms already under way.

This chapter begins by looking at key strategies for meeting General Shinseki's goal of shrinking the logistics footprint of the Army's new combat forces, and how these are being incorporated into the new Stryker Brigade Combat Teams (SBCTs). Admittedly, that means we focus on what the Army is trying to become, rather than what much of it remains today. The chapter then briefly turns to the question of whether this transformation process can be usefully extended to the rest of the Army and what else needs to be done to ensure that the Army's logistics system can support its forces as they operate in the new strategic environment and carry out the goals of the new national security strategy.

STRATEGIES FOR SHRINKING THE LOGISTICS FOOTPRINT

Looking back on the activities of the various Army logistics organizations, we see emerging five strategies for achieving the goals set out for transforming the logistics system, or what the Army calls CSS transformation:

- forward positioning,
- improved deployment capabilities,
- demand reduction,
- modular support, and
- distribution-based logistics.

Forward positioning (placing forces or equipment closer to anticipated operations) and *improved deployment capabilities* are addressed in Chapter Nine. By reducing the logistics footprint, these other three strategies improve mobility at the tactical through strategic levels.

Demand reduction involves cutting both the demand of the forces being supported (to include CSS personnel and equipment) and the amount of CSS personnel and equipment necessary to provide a given level of support.

The strategy of *modular support* involves initially providing maneuver units only the support capabilities essential during combat operations, thereby improving the mobility of the units. The additional support capabilities are then

organized into separate modules. These might include one for higher operating tempo or sustained combat operations, one for special situations, and one for quality of life. Each of these can then easily be brought into the combat zone at the appropriate time without burdening transportation assets when the module is not needed. Modular support primarily decreases the initial logistics footprint, thereby increasing tactical, operational, and strategic mobility.

Modular support is not new but rather represents a return to older force-design concepts, such as in the World War II infantry division design, which minimized organic assets. Modular support tends to be applied when the Army needs to project power, which requires high mobility. In contrast, the current heavy division was developed in response to the need to have powerful divisions ready to defend in a fixed location with potentially disrupted strategic lines of communication, making strategic mobility less important and creating the need to have robust capabilities on the ground in the anticipated combat zone. The assumed situation was "maximum" intensity, and the ability to augment was expected to be limited.

The strategy of *distribution-based logistics* involves providing equal or better CSS capabilities with fewer unit resources and supplies. It replaces "warehousing" (storage, picking, packing, and reconfiguring loads) supplies in maneuver units, or for that matter anywhere in the combat zone, with frequent, consistent flows of materiel.

In the next section, we discuss three of these strategies in more detail and illustrate their specific effects by describing how the Army is applying them to the new SBCT.

The Strategy of Demand Reduction

While the CSS community can find ways to provide capabilities more effectively and efficiently, dramatic reductions in the logistics footprint will likely also require significant demand reduction. This reduction obviously should not be at the expense of combat capability, but the operational community needs to be aware of the "costs" associated with support requirements and make these a part of the force and equipment design decisionmaking processes. These substrategies are available to reduce the demand for CSS resources.

Platform Efficiency. Typically, people think of reducing demands on the logistics system through such means as better fuel efficiency, smarter munitions, and better reliability and maintainability. We term this type of reduction "platform efficiency," which is primarily about applying new technologies or designing the systems more effectively. One that quickly comes to mind is the hybrid engine that promises to reduce fuel consumption. In the case of CSS equip-

ment, a built-in load-handling system on cargo vehicles reduces the need for load-handling vehicles. One might even consider newer ideas such as on-board water generation from vehicle exhaust as "CSS platform efficiencies." These types of initiatives reduce the amount of CSS assets needed to provide a given level of capability. For platform efficiency to succeed, whether in reducing the consumption demands of equipment or in making CSS equipment more efficient, these considerations will need to be introduced from the outset and throughout the Army's materiel development and acquisition processes. In the past, supportability requirements have often been too narrow or not treated as critical to the development of a system.

Force Efficiency. Force efficiency also continues to receive significant attention—reducing the logistics footprint through initiatives that require fewer assets or systems to execute any given mission. Providing greater situational awareness, sensors, networks, and increases in information-processing power can, for example, reduce the required number of combat systems. The organic reconnaissance, surveillance, target acquisition, military intelligence, and signal assets in the SBCT provide situational awareness and information dominance over most potential adversaries, which increases the capabilities of its medium-weight combat vehicles.

SBCT development has also emphasized vehicle commonality, which reduces support requirements. Spare parts can be used on similar vehicles, making inventory more efficient and effective (increased demand at the individual part level enables the stocking of a larger percentage of a vehicle's parts). Another promising concept is common ammunition, which again makes inventory more efficient and reduces CSS footprint. Force efficiency requires rigorous treatment in the requirements development and acquisition processes. Attention must be given at both the platform level and at a higher, integrative level that ensures that each individual program fits well in the overall force design.

Personnel Efficiency. Personnel efficiency can also improve through initiatives that enable fewer people to do the same job. This can be achieved through system and design improvements. For example, better designs can reduce the special tools and the expertise needed to troubleshoot problems and replace components, thereby decreasing the demand for highly trained maintenance personnel. Operators or crews could then do many more maintenance tasks. By further expanding their maintenance training, the overall number of maintainers in the force could be reduced. Tools that provide more transparency in the logistics system can provide the opportunity for logistics managers to be used more efficiently. Other possibilities, such as increasing the skill levels of those in some logistics career fields through new career management and personnel policies, offer further potential. Better-trained people could do more jobs and be more productive, thus reducing the number of people needed.

Mission Focus. Finally, demand reduction is sometimes a product of a change in a force design that arises when a mission changes, as with the SBCT. By virtue of being "optimized" for medium- and lower-intensity small-scale contingencies, it does not need to have heavy weapon systems, such as the Abrams tank—most situations envisioned for the Stryker brigade require only limited mounted assault and an antitank capability. Elements that are not part of the organic brigade design can still be provided as augmentation on demand. What this means for logistics is that the team does not need to have its own organic assets to meet any eventuality, neither does it need those to support these other kinds of weapon systems.

Figure 11.1 provides one example of the powerful effect that demand reduction can have on force design. The SBCT adopts a new mission focus—medium- and lower-intensity—and relies on force efficiency initiatives to be effective with Stryker vehicles. Compared with a standard brigade combat team (BCT) equipped with tanks and Bradleys, this force has much lower demand—for a given operational tempo—for fuel, ammunition, and maintenance because of better fuel efficiency, increased reliance on remote fires, and better projected reliability. Based on Stryker reliability estimates, the direct maintenance hours, and thus the number of maintainers needed, is 35 percent lower than for a heavy brigade combat team. This reduction is depicted in this figure, which shows heavy brigade combat team and SBCT direct maintainer requirements based on actual and projected manpower requirements criteria (MARC) hours for the respective brigade combat teams.[1]

The Strategy of Modular Support

In a strategy of modular support, the capability of a combat unit consists of only what is essential to conduct initial combat operations, with additional capabilities designed and introduced as needed. When deployment speed is of the essence, such as halting an enemy advance, the unit is kept lean. Other modules can be added as the situation on the ground changes. For example, a capability to prepare hot food is not necessary during periods of intense combat and adds to the deployment burden without increasing the short-term fighting power of a unit. Thus, it and other base operating support capabilities can be

[1]This technique can be used to assess maneuver force design effects from demand changes. In general, CSS resources within a brigade combat team or smaller unit are a function of unit workload. When this workload changes, the force design process can estimate the changes in required resources. Above the brigade level, force structure requirements are more difficult to estimate. To do this, one generally must use total force excursions through the Army total force modeling process or to conduct a special study to determine an estimate.

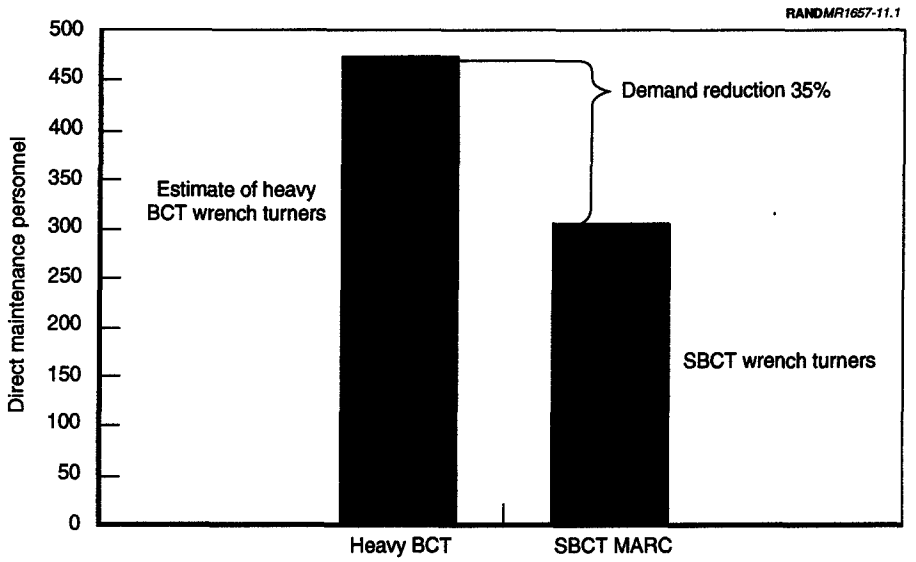


Figure 11.1—The Use of Strykers Instead of Tanks and Bradleys Reduces Demand for Maintainers and Other Resources

modular. In cases when a unit does not have to deploy rapidly—with no emerging crisis to prevent and no situation that must be dealt with immediately—these modules can be part of the initial deployment, can follow behind the initial deploying unit quickly, or can even be set up first. In this case, providing good quality of life for the soldiers is more important than keeping the initial deploying force as lean as possible.

Modular support also keeps things out of the unit that may be needed in theater or during a deployment but do not have to be present during maneuver operations. This could involve, for example, scheduled service capacity, similar to what most of us know as oil changes and tune-ups in our cars. Today, stripping out these capabilities is difficult when a force deploys because, in many units, the same person does different types of maintenance. An alternative in such a strategy would be to have a dedicated organization that would provide service capacity whenever needed.

In short, modular support is about making possible what we might call "Spartan" support where it is of value. Support should only remain "Spartan" as long as the mission dictates. It also has the benefit of improving the robustness of support when that is required. In summary, it is really about improving the ability to tailor the level of support to the situation.

Generally, modular support can be applied in two ways. The first is to reduce the scope of capabilities organic to a given unit by removing infrequently needed capabilities, those that can be forgone for a short period, or those necessary for tasks that can be deferred. When determining the scope of needed organic capabilities, it is critical to ensure that all functions of the unit are considered—not just CSS. For example, the support battalion needs to have enough soldiers for force protection in the brigade support area and for supply distribution—whether as a duty of the CSS personnel or perhaps dedicated support battalion personnel.

The second way is to reduce the stock of supplies and accept increased risk. For example, a policy of refueling only when fuel levels drop to a specified level or every other day, whichever happens first, enables a force to have fewer organic fuel trucks. In situations of high operational tempo, this risk can be reduced by adding a module with more fuel trucks.

It is critical to note that every modular support initiative requires a plan and the resources for providing the removed capability when needed. Options include military unit augmentation, host nation support, locally contracted support, and the Logistics Civil Augmentation Program. Such capabilities must be available in peacetime at bases at home as well as when deploying elsewhere.

It is important, however, that the CSS community clearly explain the trade-offs that result from implementing modular support—both in terms of capabilities and resource requirements, along with the benefits and risks associated with these decisions. Perhaps most important, the ideas developed with regard to how to provide capabilities not embedded in a unit must be implemented.

Modular Support Applied to the SBCT. The SBCT organizational and operational planning document (O&O) and force design heavily incorporate modular support and distribution-based logistics. Before beginning a discussion of how they have affected the SBCT's footprint, though, a warning is in order. To a certain degree, the personnel reductions we discuss were at least partially imposed on CSS functions without thorough analysis. In effect, the Army set caps to achieve the CSS goals. This forced the CSS community to determine how these numbers could be reached without compromising essential mission needs, which fostered new ways of thinking about CSS support. The community had to think about what functions and capabilities must always be part of a unit and then how those capabilities that do not have to be embedded in a unit can be provided when necessary. Some of the decisions produce trade-offs between the size of the footprint and amount of capabilities as well as between those resources that needed to be organic maneuver force resources and others. Innovative thinking produced changes that likely would not have occurred otherwise.

The implementation of this strategy of modular support has greatly reduced the SBCT's logistics footprint. Eliminating the capability to provide hot food for the first 20 days of a deployment has done away with 104 personnel and 19 mobile kitchens. Such food service, among other modular capabilities, will be provided by the Combat Service Support Company.

In the maintenance area, modular support concepts for the SBCT primarily consist of moving capabilities from the brigade that are not critical or not normally done during combat operations or that can be deferred for limited periods. The "modularized" capabilities include scheduled service capacity, nonessential unscheduled maintenance capacity, and component repair. These will require augmentation in garrison for many services as well as for full, unscheduled maintenance. In garrison, the CSS Companies, contract services, and the base directorate of logistics are providing this. In a deployment, the CSS Companies will have to augment the SBCT after some period of time (doctrinally three weeks), depending on the intensity of operations. For longer deployments, service capabilities must be provided, either through a similar augmentation or by contractors as the situation demands.[2]

In the transportation area, modular support concepts include eliminating capacity organic to the Stryker brigade to move replacements, prisoners of war, or U.S. citizens. Operational risk was accepted in fuel delivery, with a move to every other day or as needed (if sooner) fuel delivery, rather than current practice of topping off fuel tanks every day regardless of fuel consumed to be as ready as possible.[3] Having the SBCT receive loads of ammunition configured in advance has also reduced the number of supply personnel. A process is under way to develop and implement preconfigured loads for rations, bottled water, ammunition, and other kinds of supplies.

The Strategy of Distribution-Based Logistics

The faster and more reliable distribution processes become across a range of environments and scenarios, the more the Army can reduce the need for inven-

---

[2]The reduced maintenance capacity was initially thought to lead to a need for extra ready-to-fight end items in some situations to make up for maintenance backlogs. However, Combined Arms Support Command and RAND Arroyo analyses indicate that this does not appear to be the case—maintenance backlogs do not develop in simulations. However, targeted ready-to-fight items still appear to have value for sustaining readiness.

[3]Again, if the tempo of operations increases so that fueling becomes necessary every day or the environment becomes more dangerous, the SBCT will need additional fuel trucks. At the same time, the risk is mitigated through information—i.e., logistics leaders will have a better understanding of the status of the fleet than they have had, which forced them to top off every day. Traditionally, the amount of fuel remaining in each vehicle is unknown. Having this information enables more targeted refueling and thus more efficient utilization of assets.

tory in maneuver units and in the combat zone. Reducing the need for inventory reduces the requirement for containers and vehicles, for personnel to operate them, for personnel to maintain the vehicles and support the operators, and so on.

A number of methods can improve the speed and reliability of distribution and make these capabilities robust across as great a range of environments and scenarios as possible. One is simply to ensure that the distribution processes are as well designed as possible. This involves trying to eliminate all situations in which material just sits, remove superfluous steps from processes, and identify common errors. This is what the Army's seven-year-old Velocity Management[4] effort has been about. It has not been about improving process times through investment in additional resources or better technology. Instead it has been about finding ways to use existing resources more effectively. Velocity Management's successes have proven that significant gains can be made simply through better process design.

A crucial element of effective distribution-based logistics is knowing as quickly as possible when and where resources are needed and then knowing whenever these needs change until the delivery is complete. Thus, real-time, complete, and precise information—in other words, as close to perfect logistics situational awareness as possible—becomes vital. The faster the logistics system knows of a demand and the more precisely and accurately it knows the status of its stocks, the less inventory needs to be held in forward units, and the less stocks are needed to hedge against uncertainty. Information provides protection. An example is the fuel truck decision in the SBCT, which uses better knowledge about fuel status to mitigate risk. A host of new information system tools and capabilities are currently in the process of being developed or fielded to achieve better logistics situational awareness.

Information system tools have been fielded on all the SBCT CSS vehicles that provide direct support to the other units. These include what is called the Force XXI Battle Command Brigade and Below system, which provides real-time situation awareness to users (e.g., electronic maps with friendly forces, estimates of enemy forces, operational graphic overlays), and the Movement Tracking System, which monitors the location of vehicles to enable real-time, in-transit visibility of vehicles and cargo as well as enhancing the ability for logistics leaders to reroute vehicles. Additionally, logistics leaders have the Combat Service Support Control System, which draws data from Standard Army Information Systems to provide near real-time logistics resource status. What this system can produce is limited, given its reliance on the legacy Standard Army

[4]Recently renamed Army Distribution Management (ADM).

Information System batch processing. The Global Combat Support System–Army is in development to replace the full range of these legacy transactional and unit logistics management systems. Those planning for the Objective Force are reviewing platform-centric data needs (e.g., maintenance faults, fuel status, ammunition status) and how most effectively to make this information available to those who need it.

Distribution-based logistics is more effective when the movement of materiel is streamlined. More-efficient processes for handling material and equipment can substantially affect the overall distribution time and also reduce the logistics footprint. We have identified three programs that work in concert to generate their benefits: modular, intermodal containers; multimodal platforms with embedded load-handling systems; and configured loads. In some cases, the enablers are only effective together, such as the heavy tactical truck with an integrated handling system and compatible containers. In many respects, these programs create the same types of benefits as those that improve the logistics processes and thus are complementary.[5]

Through the continuation of Velocity Management (now Army Distribution Management) and the more recent joint Strategic Distribution initiative, the Army, together with the Defense Logistics Agency and the U.S. Transportation Command, is well on its way to making rapid time-definite delivery a reality and is showing the tremendous power of process improvement efforts. Figure 11.2 shows that the median delivery speed of on-hand parts from the wholesale system to Army units deployed and stationed outside the continental United States (outside CONUS) has improved by about two-thirds since 1994. The 95th percentile, an indicator of process variability, has shown similar improvement (95 percent of all requests were received by the 95th percentile time). The CSS community is now leveraging the lessons learned in improving spare parts distribution performance to begin improving distribution of all classes of supply.

Improving distribution is a dominant theme in the SBCT O&O. Storage and warehouse capacities have been kept low for all classes of supply. Thus, the SBCT must go elsewhere on a frequent, reliable basis for stocks, and this requires a high level of situational awareness across the logistics system. Such flows must be established immediately on deployment, calling for the Army to

[5]The Army may face an additional challenge in the future, and that is the need to supply forces over long distances and without secure lines of communication. Even when ground lines of communication seem secure, airdrop may have to be rapidly available when such lines are cut either by natural causes or enemy interdiction. For example, during Operation Enduring Freedom, an avalanche cut the only ground line of communication from the north. This could call for precision aerial delivery and intratheater airlift.

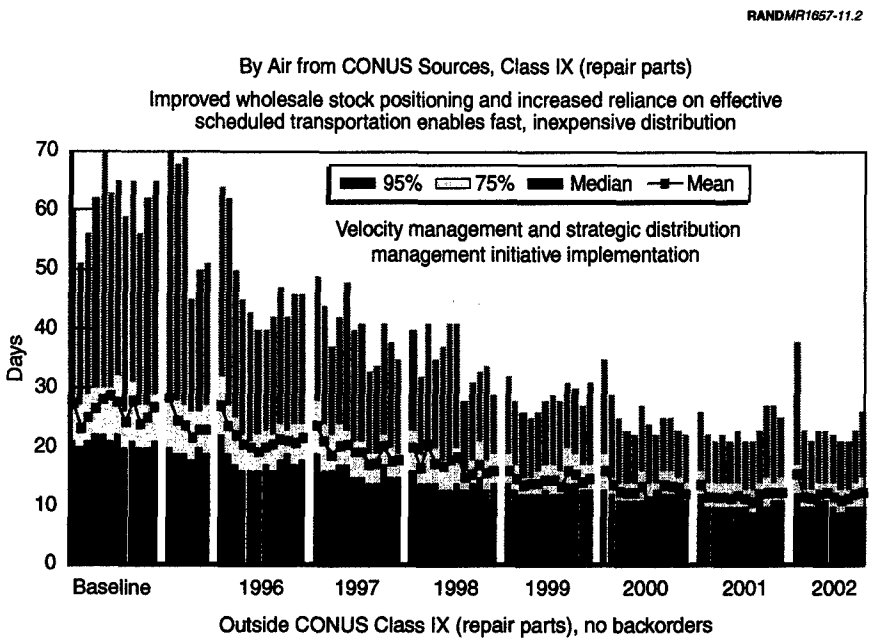


Figure 11.2—The Army Is Leveraging Principles Learned in Its Continual Improvement of Class IX Distribution

plan and ensure that these requirements are resourced in all geographic combatant commands. Additionally, initial sustainment might have to be by air. Beyond putting in a distribution system capable of rapid, time-definite delivery, distribution-based logistics requires that the requisite resources, whether spare parts or other classes of supply, be available for distribution when needed.

These multiple ways of improving distribution and reducing demand have combined to help reduce SBCT's logistics footprint. In terms of hardware, cargo trucks will have built-in load-handling systems and containers will be compatible and intermodal. The SBCT doctrine being implemented relies on configured loads to produce even greater benefit, by reducing cargo truck requirements and the personnel necessary to handle and reconfigure ammunition.

Above, we showed that the SBCT design has reduced the total maintenance demand for equipment by about 35 percent from that for a heavy brigade combat team. The switch from tanks and Bradleys to the Stryker enables a major reduction in maintenance personnel. Then, design concepts that apply the modular support strategy reduced the maintenance personnel by 59 percent from the unadjusted MARC level, for a total reduction from support required for

a traditional brigade combat team of about 75 percent. This has been the result of shifting responsibility for some maintenance actions (namely, services) to organizations outside the brigade, of deferring some maintenance actions from the operational phases, and of accepting a potential backlog in times of high operating tempo.

This shift in maintenance requirements by echelon and time also significantly helps in reducing the logistics footprint. Separating maintenance into two categories, one to reside in the maneuver force and one necessary for long-term support, enables more rapid deployment and employment and increased tactical mobility through more flexible overall Army force design.

In addition, some actual reductions do occur. For example, in garrison the SBCT is being augmented with contractors to conduct services. Because contractors do not have to devote time to sustaining common military skills, such as marksmanship, and because they generally have higher skill levels (from higher experience levels and the ability to focus exclusively on maintenance), contract maintainers are often more productive than Army military maintenance personnel. Thus, it takes fewer contract maintenance personnel to conduct services. In addition, centralizing a pool of similar assets generally enables them to be used at a higher rate without increasing the time the customer waits for the return of a piece of equipment. This increases the potential productivity of the assets.[6]

EXTENDING THESE STRATEGIES

At the brigade level, a good story is emerging for CSS transformation as a result of these three strategies, along with those involved in forward positioning and improving deployability. Further good news is that the same general principles appear to offer significant opportunity for units above the brigade level. In fact, two separate high-level Army studies have shown that these five strategies

[6]In the original design of the Stryker brigade, experts attempted to estimate the effects of key maintenance policy decisions. They estimated that shifting service capacity from the SBCT reduced its organic maintainer requirement by 10 to 25 percent and that shifting routine unscheduled maintenance and most component repair capacity reduced the SBCT organic maintainer requirement by a little more than 20 percent. However, this still left a projected gap between the needed maintainers and the SBCT organic force design equivalent to 13 percent (38 maintainers) of the unadjusted MARC hours. This euphemistically becomes the "planned backlog." The potential need for ready-to-fight equipment originally resulted from this planned backlog, although recent simulations by the Army and by RAND Arroyo indicate that if the Stryker brigade meets its design reliability requirements, it will likely have adequate maintenance capacity for most situations. The Stryker brigade design has recently been adjusted, resulting in an increase in equipment and thus an increase in maintenance requirements. At present, only the effects of services have been assessed from the new numbers. Program management offices estimated this at about 10 percent of the requirement. Noncritical repairs and component repairs have not been reassessed as a percentage of the MARC.

could substantially reduce logistics structure above the division level.[7] However, to date, these strategies have not been applied broadly to levels above the division or even to the legacy forces within divisions.

The strategy of demand reduction can be useful in all parts of the Army. For example, improved fuel efficiency may reduce the fuel truck requirements in a brigade for battlefield distribution. Similarly, fewer trucks would be needed above brigade level to deliver fuel to the brigade, and the theater stockpiles could be lower, reducing the storage infrastructure.

In general, modular support will likely have less effect at higher echelons because much of the benefit in maneuver units comes from shifting the resources to these other echelons—not necessarily eliminating them or moving them out of theater. Many will have to be on call. However, there may be some areas where modular support can lead to reductions in the combat zone. For example, the two-level maintenance concept can be expanded to higher-level units. Then component repairs can be done anywhere, relying on improved distribution to move the broken components and deliver repaired ones. Thus opportunities exist to reduce component repair activities in direct and general support maintenance activities.

Improvements in distribution could have significant potential at the higher levels. This is the case because planned theater stock inventories can often be substantial—upward of 30 days of supply. This requires substantial higher-level CSS structure (both units and bases), which in turn drives a need for more personnel and supplies, such as for force protection. Instead of needing 30 days of supply, the theater might only need, say 15 days. Combined with demand reduction, the overall reduction in theater stocks and the associated structure could be substantial.

CONCLUSIONS

The Army is making real progress in adapting its logistics system and past practices to the new strategic and operational realities. It is moving away from a system organized around the Cold War notion of supplying large-scale forces over extended periods of time in prepared theaters. Beginning in the 1990s, the Army has been able to increase strikingly the speed and reliability with which spare parts are delivered to bases both at home and overseas.

---

[7] In 1999, a task force conducting a Combat Services/CSS Review for Army Transformation asked the Center for Army Analyses to conduct several Force Analysis Simulation of Theater Administrative and Logistical Support excursions to examine the potential benefits of several force design strategies. In 2002, the Army's Logistics Transformation Task Force revisited some of the same options examined by the 1999 task force.

In designing its new SBCTs, the Army has substantially improved the so-called tooth-to-tail ratio—i.e., the ratio of combat arms personnel to CSS personnel. It has reduced the CSS deployment footprint by more than 50 percent compared with that of a mechanized brigade. It is also far more deployable. The Army is beginning to look at ways that the lessons and principles designed for the new forces can be applied to the existing Army combat forces and their supporting logistics systems. The direction that the Army must move is becoming clearer, but still more needs to be done if it is to supply rapidly deployable expeditionary forces that may be called on to go anywhere on, relatively speaking, a moment's notice.

REFERENCES

"The Army's CS/CSS Transformation: Executive Summary," Deputy Chief of Staff, Logistics, Briefing, January 21, 2000.

Army Logistics Transformation Task Force, TAA 11 Recommendations, Decision Paper, August 2002.

Combat Arms Support Command (CASCOM), Interim Division Concept for Combat Service Support Operations, v1.44.

_____, Interim Division Sustainment Rock Drill 27–30 August 2001 After-Action Review.

Corps WFX briefing, 1st COSCOM, January 2002.

Dumond, John, Marygail K. Brauner, Rick Eden, John R. Folkeson, Ken Girardini, Donna J. Keyser, Eric Peltz, Ellen M. Pint, and Mark Wang, *Velocity Management: The Business Paradigm That Has Transformed U.S. Army Logistics,* Santa Monica, Calif.: RAND, MR-1108, 2001.

Enabler Funding, Deputy Chief Staff, Logistics, spreadsheet, January 28, 2002.

Galway, Lionel, Mahyar A. Amouzegar, R. J. Hillestad, and Don Snyder, *Reconfiguring Footprint to Speed EAF Deployment,* Santa Monica, Calif.: RAND, MR-1625-AF, 2002.

Galway, Lionel, Robert S. Tripp, Timothy L. Ramey, and John G. Drew, *Supporting Expeditionary Aerospace Forces: New Agile Combat Support Postures,* Santa Monica, Calif.: RAND, MR-1075-AF, 2000.

Jackson, Dennis K., Director of Logistics, U.S. Central Command, letter to John Dumond, June 22, 2002.

Kedzior, Richard, *Evolution and Endurance: The U.S. Army Division in the Twentieth Century,* Santa Monica, Calif.: RAND, MR-1211-A, 2000.

May, Ingo, Future Combat Systems Technologies Briefing: Summary of Army Programs, January 11, 2000.

The National Security Strategy of the United States of America, Office of the President, Washington, D.C., September 2002, available at http://www.whitehouse.gov/nsc.

Peterson, Stephen P., FRED2 (Footprint Reduction Phase 2) Interim Results Briefing to Deputy Chief of Staff, Logistics, April 2, 2001, FOUO.

Sixty Years of Reorganizing for Combat: A Historical Trend Analysis, Fort Leavenworth, Kan.: Combat Studies Institute, U.S. Army Command and General Staff College, CSI Report No. 14, January 2000.

Training and Doctrine Command, Headquarters, The Interim Brigade Combat Team, Organizational and Operational Concept, v4.0, June 30, 2000.

Tripp, Robert S., Lionel Galway, Timothy L. Ramey, Mahyar A. Amouzegar, and Eric L. Peltz, *Supporting Expeditionary Aerospace Forces: A Concept for Evolving to the Agile Combat Support/Mobility System of the Future,* Santa Monica, Calif.: RAND, MR-1179-AF, 2000.

U.S. Army Forces Command, 9-13 Sep 02 SBCT EAB CSS Update briefing, October 1, 2002.

Chapter Twelve

RESOURCING THE TWENTY-FIRST CENTURY ARMY

David Kassing

Military force planning is often described as a simple linear process. First national interests are identified. Then threats to U.S. interests and values are assessed. Next policy and strategy for meeting the threats are defined. Finally programs are developed to execute the strategy effectively and efficiently. While a certain fundamental logic underlies this formulation, in fact, the planning process is much more complex. Multiple, interacting processes function to ensure that the resulting forces are not only effective and efficient but also affordable and consistent with domestic and international political concerns. These goals sometimes clash, so compromises, somehow effected, determine resource allocations. Uncertainties about threats, technologies, budgets, and costs allow the necessary room for compromises.

Many organizations, interests, and events influence the size of the defense budget. Some are within the control of the defense establishment; many are not. Perceptions of threats, the performance of the economy, fiscal policy, and the demands of demographics are largely beyond any significant Department of Defense (DoD) control. Congressional actions result from many powerful and sometimes conflicting influences. DoD's voice on Capitol Hill is regularly heard and often attended to, but Congress can importantly affect only 10 or 20 percent of DoD's annual requests.

This report addresses the implications of the new national security strategy for the Army. Strategy may be thought of as the way policymakers choose to use the resources they have available to achieve the ends they seek. When ends and means do not meet, strategic planners can modify their goals, change their choice of means, accept the risk that their strategy may fail, or seek greater resources. Goals are often elastic and risks are always ambiguous. Resources are generally measurable, but the process of getting to resource decisions can be murky.

The subject of this chapter is the question of means—i.e., the funding implications of strategic changes for the U.S. Army in the first decades of the twenty-first century. Though the numbers are "hard," their interpretation is not always simple. The outcomes of the policy and budgetary processes balance many considerations, and the weights given these factors can and do change. Real-world events often have far greater impact on the results than cool analyses or owlish commentary.

The analysis begins with an examination of past and projected allocations of resources in the Department of Defense, and within the Army, to identify how they have been affected by global political-military changes. Next comes a brief review of aggregate defense spending and the key debates about how much total DoD spending is desirable. From this basis, the argument proceeds to look ahead, first by examining prospects for DoD and Army budgets through 2010. This analysis involves both competing demands from the civil sector and within the Pentagon. Given those projections, this analysis examines two key issues for the Army. One is funding for the ongoing global war on terrorism, including the requirements of homeland security. The second is the availability of resources necessary to implement the Army's vision and transformation plan. Since Army transformation funding requirements will continue well past 2010, the analysis concludes with speculation about the availability of needed funding through 2020.

HAS STRATEGY DRIVEN FUNDING?

During the past 25 years, major changes on the international scene have resulted in two sets of strategic plans: one for the Cold War, the other for the recent post–Cold War period. In 2002 a third approach to strategic planning began taking shape, as the new DoD leadership started to plan for the early twenty-first century and an ongoing global campaign against terrorism. Each strategy has been associated with more specific guidance on force planning that directly influences the military services' programs.

Changing Strategic Planning

During the Cold War, the United States used diplomatic and economic means, supplemented by arms-control agreements, military alliances, and forward-positioned forces, to contain Soviet power. Military forces were designed and deployed to provide strategic and conventional deterrence of threatened aggression by the Warsaw Pact and North Korea. Toward the end of the Cold War, U.S. conventional forces were structured and deployed "primarily" to deter Soviet military power with additional capabilities for "less ominous" threats (Weinberger, 1988, p. 33). The planners required "a mix of ground forces that

are trained to respond to a variety of needs" (Cheney, 1990). These needs included forward defense, reinforcement capabilities, rapid deployment, prepositioning, and war reserves. Planning issues debated during the Cold War included the size of attack to be expected, the amount of strategic warning NATO would have to mobilize defenses on the Central Front, the importance of the NATO flanks, and the potential for escalation.

The end of the Cold War and the collapse of the Soviet Union demanded a new approach to planning military capabilities. In October 1993 the report of DoD's Bottom-Up Review began:

> The Cold War is behind us. The Soviet Union is no longer. The threat that drove our defense decisionmaking for four and a half decades—that determined our strategy and tactics, our doctrine, the size and shape of our armed forces, the design of our weapons, and the size of our defense budgets is gone. (Aspin, 1993, p. 1.)

By the end of the 1990s, the defense strategy was summarized as "Shape, Respond, Prepare." The primary goals of the strategy—"promoting security at home and abroad, promoting prosperity, and promoting democracy and human rights"—relied markedly on diplomatic efforts and economic policies. Secretary of Defense William Cohen described the military implications:

> The strategy directs the Defense Department to help shape the international security environment in ways favorable to U.S. interests, respond to the full spectrum of crises when directed, and prepare now to meet the challenges of an uncertain future. (Cohen, 2000, p. 4.)

The force-planning construct in the 1990s aimed to size and structure DoD's forces to fight and win two "nearly simultaneous" major theater wars (MTWs). Threats from Iraq and North Korea provided the context for the two contingencies. Ground forces were deployed abroad to support national interests and engage allies. The Army was tasked to structure forces for sustained operations, power projection, and forcible entry. More specifically, the Army was required to station forces abroad, be ready to provide reinforcements, deploy on demand, and preposition combat and support equipment at sea and ashore.

In January 2001, as the new administration took over, Donald Rumsfeld, the President's nominee for Secretary of Defense, identified as his first objective "the challenge of bringing the American military successfully into the twenty-first century" when threats to U.S. interests are not obvious (Rumsfeld, 2001). The terrorist attacks of September 11 dramatically underscored the difficulties of anticipating and protecting against diverse threats.

The Pentagon completed the 2001 Quadrennial Defense Review (QDR) in the immediate aftermath of the terrorist attacks (DoD, 2001, p. 17). Its central aim

was to change defense planning from one based on identifiable threats to planning to provide the types of capabilities the nation is likely to need. The force-planning construct aims to shape U.S. military forces to provide "a richer set of military options" and to mitigate risks for

- Defending the United States.
- Deterring aggression and coercion forward.
- Swiftly defeating aggression in overlapping major conflicts.
- Conducting some small-scale contingency operations.

As discussed earlier in this report, the new DoD strategy is very much a work in progress. The QDR 2001 reports that the present U.S. military force accepts "moderate operational risk" in some contingencies and "high risk" in others. The administration's plans for managing these risks are still being developed.

It is reasonable to think that these significant changes in national security strategy, defense planning, and force-planning constructs would have measurable effects on the allocation of resources within DoD. On the other hand, critics of DoD often cite inertia in programs and budgets as one of its major problems. This section reviews patterns of past and planned spending to see what they reveal about how DoD resource allocations change when strategy changes.

At the aggregate level, there are four types of change to examine. The first is the total resources allocated to defense. The second is the allocation of funding among the Army, the Navy Department, and the Air Force. A shift in strategy may favor the capabilities of one service over the others, leading to a change in service shares of total funding. Third, a change in strategy may affect the balance between spending for near-term training and operations and investment for future capabilities. For instance, the September 2001 terrorist attacks and the ensuing war on terrorism might be expected to shift attention to near-term requirements. The result could be relatively less investment to acquire capabilities needed in the more distant future. Finally, a change in military strategy could result in different allocations of funds among DoD's major force programs. A strategy of projecting military power from the United States would require more airlift and sealift than one that relies on forward basing.

Resource Allocation Effects of Changing Strategic Planning

To examine the effects of changes in broad military strategies, we will examine three periods. They are chosen to avoid periods when major conflicts and contingency operations distort the DoD pattern of resource allocation. The FY 1985 to FY 1989 period is used to identify patterns of resource allocation toward the

end of the Cold War. The five years from FY 1996 through FY 2000 represent the post–Cold War era, a period when the initial uncertainties about defense requirements had matured. The pattern for the early twenty-first century is drawn from DoD projections for FY 2003 through 2007.[1] These are the administration's initial projections, and they will quite likely be revised, perhaps significantly, as Secretary Rumsfeld refines operational plans and programs and as new strategic, economic, and technical developments occur. The program and budget reviews in fall 2002 may result in significant resource reallocations.

Three other caveats are appropriate. First, DoD's leaders have always preferred "balanced" forces and programs. Like beauty, balance is mostly in the eye of the beholder, and thus striking a "balance" does not encounter systematic constraints. Second, even small shifts of funds among services or programs can have significant effects. In the data that will be examined below, a shift of 1 percent in funding generally equates to $3 billion to $4 billion dollars a year—surely enough to yield significant changes in military capabilities. Finally, correlation is not necessarily causation. Though changes in patterns of spending may take place at the same time as changes in strategy, they may be determined by other causes, such as domestic political considerations.

Level of Defense Spending. Total funding allocated to DoD varies distinctly among the three periods examined here. Table 12.1 uses average annual spending (measured in constant 2003 dollars) for each period to highlight the magnitude of the changes.

Increases in defense funding associated with the defense buildup initiated by President Reagan ended in FY 1985, and funding fell somewhat through the rest of the 1980s. For 1995 through 1999, funding allocated to DoD was essentially flat but at a much lower level, only 70 percent of the late Cold War funding.

Table 12.1

Average Annual DoD Funding in Three Different Strategic Periods

Period	Average Annual Funding (in billions of FY 2003 dollars)
Late Cold War (1985–1989)	$431.7
Late 1990s (1995–1999)	$302.2
Projected (2003–2007)	$389.9

SOURCE: DoD, 2002, Table 6-3.

[1]All DoD funding estimates were taken from DoD (2002) (the "Green Book") and are in constant FY 2003 dollar estimates provided there.

Now the projections of future funding for DoD are rising sharply though the previously projected levels but are still short of late Cold War funding.

These funding changes reflect altered perceptions of significant threats to vital interests. The Cold War was a long-term ideological struggle with a substantial military dimension. The Korean War, the Berlin blockade in 1960, and the Cuban missile crisis drove that home. The Soviet Union sponsored revolutionaries who threatened democracies in the Western Hemisphere and elsewhere around the globe. Threatening statements by Soviet leaders reinforced public appreciation of the threats. Warsaw Pact conventional military forces were substantial. The Soviet Union alone maintained more than 200 divisions, a substantial "blue water" navy that included 125 nuclear-powered submarines, and an air force with more than 5,000 tactical aircraft. NATO faced most of this military power across the "inner-German border." The expectation of combat there drove the organization, positioning, training, and operations of the great majority of the U.S. military for some 40 years.

All that had disappeared by the mid-1990s. The Warsaw Pact collapsed and the Soviet Union disintegrated. Soviet forces pulled out of forward positions in East Germany and other Warsaw Pact states, substantial parts of the Soviet Navy were laid up, and overall military strengths were reduced significantly. Absent the threat that had underpinned defense spending, public support for continued defense spending at Cold War levels disappeared, and DoD funding fell. Though new "transnational" threats, such as terrorists, were identified, what public discussion took place was largely limited to debates in specialist forums about the reality of terrorist capabilities. Debate over the allocation of defense resources examined the balance of investment for the future (under the rubric of the "revolution in military affairs") and spending to provide capabilities for the types of contingencies occurring in Somalia, Haiti, Bosnia, and Kosovo.

September 11 changed the terms of that debate. Countering terrorist threats by defeating them abroad and protecting citizens and property in the homeland became the top priority. Funding for DoD, which had begun to grow somewhat at the end of the 1990s, got a substantial boost. The administration's plans split this boost, approximately evenly, between meeting the demands of the global war on terrorism and ensuring homeland security on the one hand and pursuing transformation on the other.

Changes in threats have two fundamental effects. They alter the allocation of resources to defense and thus create requirements for new security strategies. Whether these effects occur simultaneously or whether funding reductions force strategy changes cannot be disentangled here. However, it seems safe to conclude that strategy changes per se do drive DoD funding levels.

Service Allocations. Table 12.2 shows that the two shifts in strategy have had only small effects on the allocation of resources among the services.[2] The Army gained about the same share during the Cold War as it is projected to achieve from 2003 through 2007. The results for the other services are similar. The obvious conclusion is that, if a shift occurred in military planning, programming, and resource allocation as a result of changes in national security strategy, it took place within the individual services, not between them.[3] It should also be apparent that defense dollars have never been allocated among the services in equal one-third shares.

Focus on Present Needs or Invest for the Future? One of the important recent debates over defense spending was between those who thought that the United States should focus spending on capabilities for ongoing operations and those who argued that DoD needed to look to more-distant future threats. The former emphasized the need for present-day force structure and readiness; the latter sought to "transform" forces by investing in advanced systems, reorganizing forces, and adapting training and leadership. Readily available DoD budget estimates do not bear directly on this issue. However, DoD appropriations may be used as approximations. Personnel and operations and maintenance accounts generally address current activities. Research and development and

Table 12.2

Allocation of Total Obligational Authority Among Military Services Is Not Affected by Changes in Strategic Planning

	Late Cold War	Late 1990s	Early Twenty-First Century
Army	29.2%	30.0%	29.8%
Navy	36.0%	36.2%	35.4%
Air Force	34.7%	33.8%	34.9%

SOURCE: Calculated from DoD, 2002, Table 6-3.

NOTE: Total Obligational Authority (TOA) is the sum of all Budget Authority (BA) available to DoD in a given year. It includes BA carried over from prior years and various accounting adjustments in addition to new BA. The DoD and Army TOA estimates were taken from DoD (2002, Table 6-3, pp. 76–79). Constant dollar comparisons remove the effects of price changes so the results identify "real" changes in the level and allocation of resources.

[2]Table 12.2 addresses only the funding provided to the three services, and thus each column sums to 100 percent. The allocation of resources to DoD-wide activities—mainly the defense agencies—is thus set aside for the calculation of percentages. The amounts set aside have varied with reorganizations, accounting rules, and other administrative practices aimed at achieving efficiencies in businesslike activities.

[3]This has not always been the result of strategy changes. In the 1950s, the shift to a "massive retaliation" strategy reduced the Army's share of service funding from 30 percent to 25 percent. At the same time, the Air Force's share grew from 35–40 percent to 45–47 percent (author's calculations). This analysis was suggested by Bacevich (1986, pp. 15–18).

procurement accounts focus on providing systems and facilities for future forces. But the distinction is not pure. Spending on personnel who direct and perform acquisition activities, for example, cannot be separated from the spending for those involved in current operations. Some procurement supports ongoing operations, and it too cannot be identified. There is no assurance that these will somehow balance out, but distortions are likely to be relatively small. Table 12.3 presents the results for this rough estimate.

Accepting the qualifications, three observations can be made. First, the shift from the Cold War to the post–Cold War strategy was associated with a sharp fall in investment in future military capabilities. That meant that the proportion going to current activities rose accordingly. DoD's allocation of resources to future investment did fall in the 1990s. Second, the shift in strategy to meet the needs of the early twenty-first century is shifting the current allocation back toward future capabilities. Third, DoD has managed to reduce the proportion of spending allocated to civilian and military pay, but that has not offset the steady rise in the proportion of funding required for nonpersonnel operation and maintenance costs.

Allocation Among Major Programs. DoD routinely divides its spending into broad categories called "major programs" that loosely aggregate spending into a taxonomy set up in the 1960s. The original intent of such programs was to help DoD leaders manage in terms of outputs, but these broad categories do little to achieve that worthy goal. However, the aggregations to major programs, displayed in Table 12.4, provide another useful perspective on how the results of resource allocation processes have changed as strategy has changed.

Clearly, the end of the Cold War and the shift to post–Cold War planning rules led to a sharp deemphasis of spending for strategic forces and the proportion of

Table 12.3

Allocation of TOA to Current Activities Increased with the End of Cold War Planning

	Late Cold War	Late 1990s	Early Twenty-First Century
Procurement, RDT&E, and Construction	40.0%	31.6%	35.9%
Pay for Personnel	43.5%	45.2%	37.4%
Operations and Maintenance (excluding pay)	16.5%	23.2%	26.6%

SOURCE: Calculated from DoD, 2002, Table 6-2.

DoD spending going to nuclear forces fell sharply. The share of resources going to general-purpose forces also fell significantly. At the same time, relative spending on Guard and Reserve forces and airlift and sealift grew, as might be expected under the new strategic planning guidelines. Intelligence and communications spending also grew significantly, driven by advancing technology and the falling unit costs of information technologies. In DoD programs, systems with falling unit costs (and at least as much capability) have been substituted for systems and forces where unit costs are increasing. This is sensible management regardless of strategic conditions. The result is an increase in the other "overhead" program categories—activities difficult to relate to specific forces.

The initial results of Secretary Rumsfeld's planning and programming have made only small changes from the pattern of post–Cold War planning they inherited. The proportion of funding allocated to the four "Forces" programs continued to fall, and the share going to the force enabler programs—Intelligence and Communications and Airlift and Sealift—grew somewhat. Here too the result is a growth in the all other or "overhead" programs.

Table 12.4

Allocation of DoD TOA Among Major Programs Has Changed Since the End of Cold War Planning

Major Program	Cold War (%)	Post–Cold War (%)	Early Twenty-First Century (%)
Force Programs			
Strategic Forces	7.8	2.6	2.2
General-Purpose Forces	40.3	35.3	35.0
Special Operations Forces	1.1	1.3	1.5
Guard and Reserve Forces	5.9	8.4	7.6
Enabler Programs			
Intelligence and Communications	9.5	11.5	12.4
Airlift and Sealift	2.2	4.1	3.7
Research and Development	9.0	9.7	9.6
All Other Programs	24.2	27.1	28.0
Total	100%	100%	100%

SOURCE: Calculated from DoD, 2002, Table 6-5. Other programs includes Central Supply and Maintenance; Training, Medical, and Other Personnel-Related Activities; Administration; and Support to Other Nations.

This analysis, though only suggestive, answers the broad question posed at the start of this section with a qualified "yes": Strategy has driven funding. The allocation of DoD funding among the services has not been altered by changes in strategy, but the split between spending on near-term activities and investment in future capabilities changed with the end of Cold War threats. Funding for development and procurement was cut more sharply than funding for operating forces. Some Army units were returned to the United States, and a greater proportion of bases abroad were closed than those at home. The large decline in funding for strategic forces and the increase in spending for airlift and sealift largely resulted from the demise of the Cold War, as strategy and posture shifted to deal with large regional contingencies. However, the steady increase in the share of funding for programs categorized as intelligence and communications is most likely a consequence of the rapid change of relevant technologies.

The end of the Cold War meant both significantly reduced military threats and the development of a new national security strategy. The reduced threat led to a "peace dividend" of some 30 percent of defense spending and to the development of what was called the "two-MTW" force planning construct. This new planning guidance led the Army to revise its prepositioning posture and DoD to invest in strategic mobility. Lower budgets also added impetus to the search for efficiencies in DoD management. At the same time, advances in technology lowered procurement unit costs and improved the performance of munitions; weapon systems; intelligence, surveillance, and reconnaissance systems; and command, control, and communications systems. These developments are leading to substantial improvements in the efficiency and effectiveness of DoD forces, enabled by improved precision fires.

In broad terms, the prominence of the Soviet threat led to public support for large defense forces and budgets. When that threat disappeared, support for defense spending dwindled accordingly. The much greater effectiveness enabled by advanced technology proved attractive to DoD and service planners because it promised to lower the cost of important military capabilities.

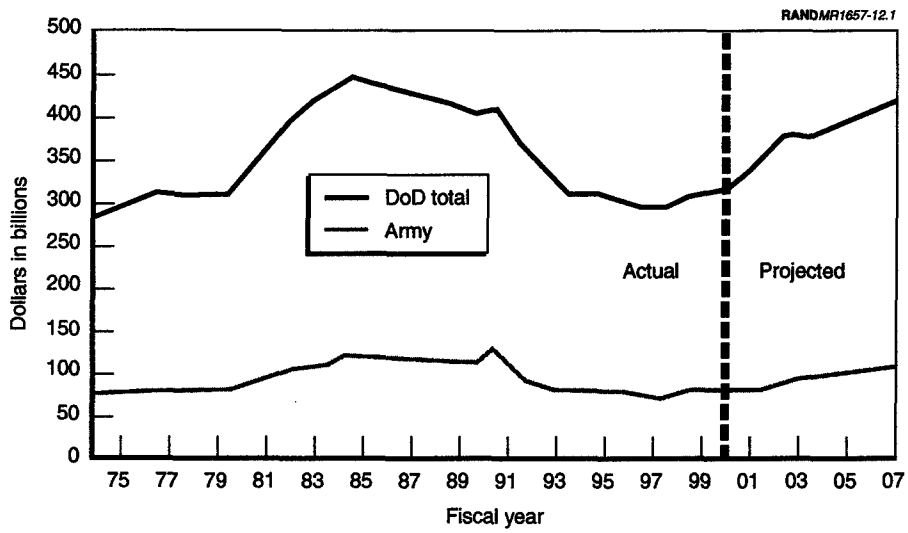
HOW MUCH FUNDING MIGHT THE ARMY GET?

The size of the DoD budget is the most direct and comprehensive measure of the means available for defense planners to employ, and for this reason it is often a key issue in domestic politics. It is, therefore, appropriate to begin with a brief review of trends in aggregate DoD and Army resources. This section examines changes in the past levels of DoD funding and projects future Army funding based on foreseeable trends.

Past Patterns

Figure 12.1 presents the familiar record of the ups and downs in total defense spending from 1975 through 2002. The spending estimates are for TOA expressed in constant FY 2003 dollars. The effects of the Reagan buildup and the post–Cold War drawdown are unmistakable. From a post-Vietnam low in 1975, DoD's TOA (in constant 2003 dollars) grew by more than 50 percent to a peak of $446 billion in 1985. With the end of the Cold War, DoD's spending had declined by the late 1990s to near the level of 1975. Army spending closely tracks the DoD total, peaking in 1985 and hitting bottom in 1998. (The increase in 1991 reflects spending associated with the Gulf War.)

The figure also provides the Bush administration's projections of DoD spending out to FY 2007. Clearly, defense spending is projected to increase substantially. TOA also rises sharply relative to earlier plans. For the three years where comparisons can be made directly, Secretary Rumsfeld's Pentagon is expecting to spend some 13 percent more (measured in constant dollars) than its predecessors. The Army will be sharing in this increase. Projected Army TOA for 2007 is $103 billion in constant FY 2003 dollars and $114 billion in then-year 2007 dollars.



SOURCE: DoD, 2002, Table 6-10.

Figure 12.1—Projected DoD Funding Approaches the Reagan Buildup Peak

Too Much or Too Little?

Both the level of aggregate spending and structure of programs within DoD budgets have been sharply debated in recent years. "How much defense spending is enough?" is a complicated question, requiring fine judgments of matters where even well-informed people may honestly disagree.

In fact, the Bush administration's estimates for future DoD spending were quickly second-guessed. Michael O'Hanlon suggests that they are considerably larger than needed.[4] The debate over how much aggregate defense spending is needed hinges on judgments about future defense requirements. Disagreements are wide, for a variety of reasons. Writing before September 11, some skeptics compared the amount of U.S. spending with estimates of military spending by potential opponents and observed that the United States outspends the combined defense budgets of all of its potential opponents. Lawrence Korb concluded that an FY 2000 budget of $300 billion would be "more than adequate to safeguard U.S. interests around the world."[5] From this fact, skeptics infer that DoD spending requirements are inflated and so can be safely reduced.

Other analysts identified a mismatch between the announced strategy and the resources provided to support it. The shortfall was variously estimated. Independent estimates ranged from "at least $100 billion per year" to maintain the QDR 1997 force (by the Center for Strategic and International Studies [Gouré and Ranney, 1999, p. 125]) to $20 billion annual spending (by Michael O'Hanlon [2001, p. 233; 2002b, pp. 103–117] of the Brookings Institution[6]). At about the same time, the Congressional Budget Office (CBO) estimated that $327 billion would be required to maintain the current DoD force structure on a "steady state" basis. In the three years just before this estimate was published, DoD spending had averaged about $276 billion a year. Thus, CBO implied that DoD was spending $51 billion less than needed to maintain the existing force in the long run.[7]

Some analysts question long-term defense spending plans from a quite different perspective, that of the competition for resources within the federal budget process. They estimate that growing needs in other sectors will limit aggregate

---

[4]Michael O'Hanlon (2002a, p. 63) judges that the spending increases planned for the Rumsfeld Pentagon are "roughly twice as much as necessary for the years ahead."

[5]See Korb (2001, pp. 35–54). Korb's estimate would be $325 billion in FY 2003 dollars. Gordon Adams (1998, pp. 184–191) observes that "no other country is likely to have the budgets, forces, technology or defence organization to match the U.S." with other countries decades behind.

[6]O'Hanlon argues that Secretary Rumsfeld's FY 2003 budget "goes too far" and suggests that the defense program for 2007 be cut by $40 billion (8.5 percent) below the Secretary's plan.

[7]The estimates are in CBO (2000, Summary Table 3, p. xii).

resources available for defense. Their estimates envision increasingly tough competition for the nation's resources from other government programs and agencies. Demographic trends are clear and hardly arguable. Outlays for Social Security and health care for senior citizens are certain to rise. Economic growth is unlikely to allow both these increases and significantly higher defense expenditures (Ippolito, 2001). Thus, long-term defense funding is surely to be considered a source of uncertainty for Army planners.

What Mix of Forces?

Besides debating issues about DoD's top-line budgets, many commentators argue that the composition of programs should be altered. Because the level and mix of military forces are clearly interdependent, these arguments must also be considered. Apart from persistent and important debates over particular weapon systems, two related questions are debated. Some critics charge that the Army is not planning for the "right" contingencies. They point out that Army forces are designed to fight major wars, not the types of contingencies that have been happening since the end of the Gulf War.[8] Others make much the same point by asserting that the Army remains wedded to forces inherited from the Cold War or that the Army is moving too slowly to transform. Still others think that the Army's transformation is moving so rapidly that the risks of failure are dauntingly large. Some analysts think that Army planning is fragmented and undisciplined.

During the Cold War, the Army was structured into heavy (armored and mechanized infantry) and light (air assault and airborne) divisions. The Army Transformation plan lays out plans for a quite different Army structure. Although few parameters of this future force are fixed, as development and experimentation have yet to be started in earnest, it is relatively clear that the future force must be lighter, more deployable, and more responsive than today's heavy forces. Just how air assault and airborne capabilities will be accommodated in the future force remains an open question.

Army Funding Prospects to 2010

How large will DoD's aggregate spending be in 2010 and beyond? How large will the Army's share be? Answering these questions begins with an analysis of

---

[8]In an April 15, 2000, report, the United States Commission on National Security/21st Century suggested that planning focused on major theater wars was preventing the development of capabilities "needed for the varied and complex contingencies now occurring and likely to increase in the years ahead." The commission argued that DoD needed to adapt "portions of its force structure" for peacekeeping and humanitarian contingency operations (*Seeking a National Strategy*, 2000, pp. 14–15).

economic growth and total federal government spending. Then the analysis narrows to consider the availability of funds to DoD and the Army. The art of long-term economic forecasting is always a risky one, and projecting budgetary outcomes is even more uncertain. This analysis will use widely available official forecasts as the basis for projecting government, DoD, and Army budgets to 2010. The net is first cast widely to consider economic growth and all federal spending.

The President's Council of Economic Advisers, the Office of Management and Budget (OMB), and the Congressional Budget Office (CBO) all provide forecasts of economic activity for at least five years, and the OMB and CBO both project budget-related trends as well. Though they differ in details—including some that are of great interest to certain agencies—their aggregate forecasts are quite similar. All foresee a rosy future with a quick end to the 2001 recession followed by a long period of steady economic growth. Forecasts for gross domestic product (GDP) extended to 2010 vary less than 1 percent.[9]

Figure 12.2 provides the baseline projections of the CBO for the size of the U.S. GDP and the total outlays of the federal government in billions of current or "then-year" dollars (CBO, 2002a).[10] CBO's budget projections are made under the assumption that existing laws and policies will remain unchanged throughout the decade. Changes in the economy will have an indirect impact on the budget, but changes in tax policy and legislation on expenditures would also directly change the CBO estimates.

The CBO projects that GDP will grow by more than 50 percent in the current decade and approach $15.5 trillion in 2010. Under current laws and policies, outlays by the federal government are expected to grow as well but at a slower rate. The result is that federal government revenue rises somewhat faster than outlays resulting in a small total budget surplus by FY 2006. At the end of the decade, according to recent CBO estimates, the surplus is expected to approach $177 billion, about $50 billion greater than the federal government surplus reached in FY 2001.[11]

The pattern of government outlays, measured in billions of then-year dollars, as driven by laws and policies now on the books is displayed in Table 12.5. The results of current policies are immediately clear. Surpluses are used to reduce

---

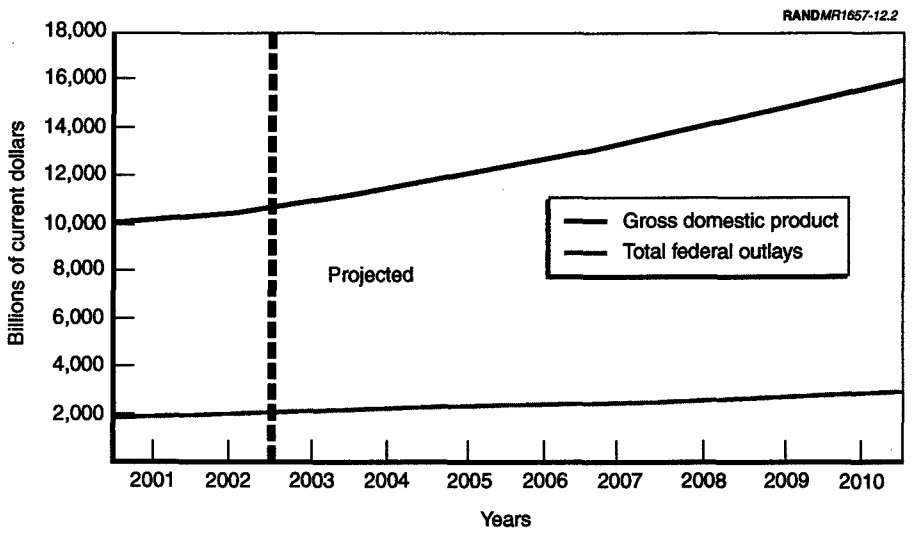
[9]GDP measures the value of the total output of goods and services produced within the United States for final use and valued at market prices.

[10]GDP and outlay estimates are from Table 1-2, p. 3.

[11]These estimates are taken from CBO (2002b). The total surplus calculation includes the revenues and expenditures of "off-budget" Social Security accounts, which show a surplus each year. The nation's narrower on-budget accounts (excluding Social Security and Postal Service transactions) are projected to show deficits in excess of $100 billion through 2010.

the government's debt, and interest payments fall accordingly. Mandatory outlays include Social Security payments, Medicare costs, veterans' income security outlays, unemployment compensation, and other similar programs written into law. These payments are expected to grow by 64 percent between 2001 and 2010 as the result of established social policies and clear demographic trends. Discretionary outlays fund the programs of the Department of Defense, space programs and other scientific research, the government's transportation activities, education and training, and a wide variety of domestic programs. By CBO's projection, total discretionary outlays increase by 44 percent, while defense outlays grow somewhat slower, at 42 percent. This continues a long-established trend. The defense share of discretionary outlays is projected to fall from about 55 percent in the 1970s (and nearly 60 percent in the 1980s) to just 46.7 percent in the 2000 to 2007 projections.

But these CBO projections are based on current policy. The President's budget is a huge compendium of funding, legislative, and policy proposals that would change policy. Some of these proposals will be enacted, and some will be rejected. Events as well as political concerns will dictate additional changes. Experience suggests that the net effects of year-to-year changes made by Congress typically are relatively small. However, some congressional changes, such as higher-than-requested pay raises and benefits, have far-reaching and compounding effects. Moreover, congressional constraints, such as those



SOURCE: CBO, 2002b. GDP and outlay estimates are from Table 1-2, p. 3.

Figure 12.2—Baseline Projections of Economic Growth and Federal Spending

Table 12.5

Baseline Projection of Federal Government Outlays (billions of then-year dollars)

Fiscal Year	Net Interest	Mandatory Outlays	Discretionary Outlays	
			Total	Defense
2001	206	1008	649	306
2002	170	1113	733	349
2003	164	1161	782	368
2004	191	1200	803	376
2005	208	1248	827	387
2006	213	1309	845	393
2007	212	1386	864	399
2008	209	1471	889	413
2009	204	1560	912	424
2010	195	1657	936	436

SOURCE: CBO, 2002b.

limiting or postponing closures of military bases, also have significant cumulative cost and program implications.

The Department of Defense could expect increases in funding if greater-than-expected economic growth generates increased revenues, if fiscal policymakers supported higher taxation or greater deficits, if growth in mandatory spending were to slow, or if Congress were willing to shift expenditures from civil sector discretionary spending into defense.

These possibilities are weak reeds for anticipating growth in military spending. The economy may well grow at somewhat smaller-than-expected rates for longer than recently projected. Support for either significant tax increases or a deliberately higher federal deficit is also unlikely to materialize. Neither is Congress likely to propose limitations on mandatory social expenditures or cut back on nondefense discretionary outlays. Such expenditures have large and widespread constituencies and powerful support in Congress. In sum, the chance that economic growth, changed fiscal policy, or reallocated congressional priorities will result in increased outlays for DoD and the Army is slim at best.

To summarize, given the political and fiscal realities and the stability of the Army's share of DoD's spending on the military services, Army planners could reasonably expect funding between $112 billion and $122 billion (in then-year dollars) by 2010. A budget of $117 billion is a reasonable point estimate. This is a "no surprise" estimate, though the ongoing global war against international

terrorists may hold many surprises. Changes in the Army budget as a result of the September 11 attacks on America provide an example of the effects of a substantial surprise.

WHAT ARE THE RESOURCING IMPACTS OF TERRORIST ATTACKS?

The sophisticated and unanticipated terrorist attacks of September 11 have had immediate effects on Army resource requirements. They helped resolve some earlier debates and shifted the balance in others, but they have not changed every aspect of Army plans and programs.[12] In the short run, funding changes are being made to meet three new requirements: funding the war on terrorism abroad, resourcing the demands of homeland security activities, and increasing the protection provided for Army forces and families worldwide.

In the longer run, projecting operations and costs is difficult because of the great uncertainty. The President and the Secretary of Defense have repeatedly told the public to expect a long and difficult campaign. Much activity is classified, and even unclassified information is now guarded more carefully. More important, the strategy, forces, tactics, and technologies for meeting each of the three new requirements are far from settled. A second major terrorist attack, even if only partially successful, could lead to significant new demands for military and Army capabilities. A great deal of money is now being poured into state and local security measures, and private enterprise is also providing protection for its key assets. Much of this should directly and indirectly reduce the requirements for military capabilities to prevent terrorist attack and to respond when attacks are not prevented.

The total cost of Army operations resulting from September 11 is not easy to pin down. Available budget proposals combine the costs of the war on terrorism abroad, homeland security activities, and force protection. Moreover, the President's budget for FY 2003 proposed that DoD be appropriated a reserve to manage the allocation of resources for the war on terrorism in response to unpredictable and rapidly changing operational needs. Rather than venture an estimate of which military department might need how much funding, the Secretary of Defense would provide the needed funds from the Defense Emergency Response Fund after receiving and reviewing service requests for war-related funding. The amount of funding requested as an unallocated reserve—$10 billion—and the apparently limited congressional oversight of the actual spending made this a controversial proposal. In a subsequent budget amendment, the

[12]In particular, arguments over the feasibility of major terrorist attacks have been stilled and the debate over how best to organize for homeland security has moved from the abstract to legislative review of concrete proposals from the White House.

President recommended that $2.55 billion be allocated to military personnel costs, $5.57 billion to operations and maintenance, and $1.88 billion for procurement, research, and development. But these estimates are still not associated with the individual military services. As might be expected, congressional leaders and staffs seek more and more detail about this approach, however sensible it may be as a device for allowing rapid military response to unanticipated developments in the global war on terrorism.

Global War on Terrorism

The global war against terrorist organizations unfolded quickly and laid significant demands on the Army. Army Special Forces were employed early and extensively in Afghanistan. They facilitated a broad range of direct U.S. support to Afghan forces opposing the Taliban and al Qaeda, including information, logistics support, and, most prominently, by directing air support on the battlefields. Other Army units provided force protection, facilities, logistics support, and intelligence for U.S. and coalition forces operating in and around Afghanistan. Army units have also undertaken operations against Taliban and al Qaeda concentrations. In March 2002, for example, Operation Anaconda employed several hundred soldiers in a strike against significant enemy force that had been located in the mountains south of Kabul. Overall, several thousand soldiers have been deployed to Central Asia, including units from the 101st Air Assault, the 10th Mountain, and 82nd Airborne Divisions, as well as a variety of specialized communications, logistics, medical, and other support forces. Since May 2002, the Army's XVIII Airborne Corps has led the Combined Joint Task Force operating in Afghanistan (CJTF 180). The global war against terrorism has also employed smaller Army units (primarily Special Forces acting as trainers) in the Philippines, Yemen, and Georgia.[13]

Homeland Security

Homeland security demands for Army capabilities were immediately and clearly recognized. Within a month of September 11, more than 9,500 Army National Guard and Reserve soldiers had been mobilized, just over two-thirds of them in military police and infantry units. A month later, another 4,500 had been called into federal service and employed in a variety of roles including homeland security, force protection, border security, and operations abroad. At

[13]CBO estimates that DoD's incremental costs of "prosecuting the war in Afghanistan" in FY 2002 were $10.2 billion. Operations support costs make up about 80 percent of this estimate, while transportation and incremental personnel costs make up the balance. They estimate that similar DoD-wide costs for FY 2003 could range from $7.2 billion to $9.0 billion depending on forces assigned and operational tempo. See Crippen (2002).

year's end, 9,000 Guardsmen on state active duty were prominently employed to beef up security at more than 400 of the nation's largest airports. By that time, more than 21,000 Reservists and Guardsmen had been mobilized and remained in federal service on active duty. Roughly 40 percent were supporting Operation Enduring Freedom, and 60 percent had homeland security assignments (mostly force protection). By the end of May 2002, the Guard role at airports had been taken over by the Department of Transportation's Transportation Security Agency. Nevertheless, the number of Army Guard and Reserve soldiers on active duty continued to rise, reaching nearly 37,000 at midsummer.

The White House estimates that the total cost of homeland security is about $100 billion a year. Of this total, the private sector spends more ($55 billion) than federal, state, and local governments ($47 billion). The federal government provides the lion's share of government spending ($38 billion); state and local authorities provide the rest (*National Strategy for Homeland Security*, 2002, pp. 63–66). The FY 2003 DoD budget submission provided 22 percent of total federal homeland security spending, about $8.3 billion.

Force Protection

Military personnel, installations, and platforms are considered important targets for al Qaeda and other terrorists. Thus, antiterrorism and force protection, which includes protection of military personnel, civilian employees, family members, facilities, and equipment, has taken on far greater urgency since September 11. Throughout the Army, installation security protection levels have increased. Public access is limited, visitors must pass identification checks, patrolling is increased, and coordination with local law enforcement officials has been stepped up. Beyond these direct measures, vulnerability assessments and training and awareness programs have been enhanced. Force protection goes beyond such preventive measures and includes emergency response planning, equipping, and training as well.

All this requires additional funds and personnel. Many of the military police mobilized in October 2001 were used to augment organic installation security forces and enforce tighter force-protection procedures. They must be paid and supported. At some installations, new sensors and other devices will be acquired and used to supplement or replace manpower. At most installations, force-protection planning and training efforts have been enlarged. At some, construction of new facilities may be required.

Requirements for installation access control, weapons of mass destruction consequence management, and security awareness can be expected to persist throughout the global war on terrorism, however long it may last. As noted below, the Army has been unable to fund all the requirements it has identified.

Budget Implications of the Global War on Terrorism

DoD spending in the President's budget for FY 2003 grew to $379.3 billion, an increase of $48.1 billion over FY 2002. The Army's budget portion of the President's budget for FY 2003 rose exactly $10 billion to $80.9 billion. Though the magnitude of DoD growth is large, approaching 15 percent, such factors as inflation, pay raises, health care accruals, improved cost estimates, and the cost of the war (estimated as $19.4 billion) consume all but $9.8 billion of the available DoD funds.[14] In short, the FY 2003 DoD budget provided an increase that was just under $10 billion to support transformation and other DoD priority initiatives.

The Army Staff was in the final stages of developing its five-year program on September 11. Consequently the programs the Army provided to the Office of the Secretary of Defense at the end of September could not fully reflect the cost implications of the global war on terrorism. However, the Army reportedly reallocated $3.9 billion from FY 2003 through FY 2007 to meet the most critical homeland security and force-protection requirements. This equates to just less than $800 million a year of additional costs. Beyond those funded expenditures, the Army's immediate review of the consequences of the September 11 terrorism also developed a requirement for an additional $7.2 billion over the same period for antiterrorism and force-protection programs. Taken together, the total requirement works out to over $2.2 billion a year (Winograd, 2001).

These estimates do not appear to include any of the incremental costs of military operations abroad, in Afghanistan or elsewhere. Unanticipated contingency costs are normally handled through supplemental funding requests, and this has been the case, so far, for the war on terrorism at home and overseas. According to the Defense Department's comptroller, DoD has spent over "$2 billion per month" to support the war in Afghanistan (Operation Enduring Freedom) and to protect the United States (Operation Noble Eagle) (Zakheim, 2002). The size of the Army portion of this cost is difficult to nail down. If the cost proportions in the supplemental request apply to the total cost as well, the annual Army cost would be about $6.3 billion.

DoD's supplemental request for FY 2002 provides a second basis for estimating Army costs since September 11. It identifies total Army costs for military operations; mobilization of personnel; and command, control, communications, and information as $3.7 billion from a DoD total of $14 billion (Zakheim, 2002). This is 26.4 percent of the total and 31.6 percent of the funding for the three

[14]This information is drawn from a February 1, 2002, *Background Briefing* (2002).

military departments in the supplemental request. If these proportions hold for FY 2003, although they may not, the Army costs for FY 2003 for ongoing operations would be in the range of $5 billion.[15]

It seems safe to conclude that the Army's funding requirements for operations at home and abroad since September 11 fall in the $5 billion to $6 billion range and that more than half of the amount funds operations overseas.

As in earlier wars and large-scale contingency operations, Army budgets are being increased to fund Army contributions to the global war on terrorism. Forces are deployed; reserves have been mobilized; equipment is being used intensively; operations costs have gone up; fuel, parts, and other supplies consumption rates are higher; allies are provided supplies and other U.S. support; and, in general, a host of unusual expenditures are being made. History suggests that Congress generally funds most, if not all, of contingency-related costs. Replacements for equipment destroyed or left behind are funded, contingency-associated manpower costs are covered, consumables are restocked, and other directly associated costs are funded. However, it is not easy to distinguish contingency costs from day-to-day spending needs.[16]

The lesson is that, although contingencies result in larger Army budgets, the increases cover, at best, only the direct costs of operations. Put another way, Army budgets may grow as a result of September 11, which showed that international terrorist threats are clear and present, but the increases will not necessarily bring additional funding to support the Army transformation.

IS THE ARMY TRANSFORMATION AFFORDABLE?

Army leaders recognize that the war on terrorism is likely to preoccupy DoD leaders for many years. They also recognize that it is necessary to look further ahead and provide the Army with the capabilities to meet the challenges of the more distant future.

To do this the Army is undertaking broad-based and substantial initiatives to organize, train, and equip its forces for joint operations in the 2020s and beyond. The overarching goal of Army Transformation has been to make the

---

[15]The incremental costs of the war on terrorism abroad depend importantly on the size of forces engaged, their tempo of operations, the mix of joint forces employed, and the location of the operations. Changes in these factors, which seem apparent, affect not only the total cost increment but also how it is divided among the services.

[16]A recent General Accounting Office (GAO) report examined about $2.2 billion of contingency operations spending from FYs 2000 and 2001. It identified some $101 million of "questionable expenditures," just 4.6 percent of the total. Expenditures questioned included expenses that would have been incurred even if there had been no contingency, repetitive expenditures for common items of equipment, and other "seemingly unneeded expenditures" (GAO, 2002).

Army's heavy forces more responsive and its light forces more sustainable in combat operations. Building "full spectrum" capabilities into Army units is part and parcel of this transformation.[17]

As discussed elsewhere in this report, Army Transformation is proceeding along three closely related paths, each aimed at fusing into an "Objective Force" sometime after 2010. One path is concerned with modernizing and maintaining the readiness of the Army's current force (the "Legacy Force") so that it can meet warfighting requirements while the Objective Force is being developed, tested, and trained. The second path, referred to as the "Interim Force," is organizing, training, and equipping six Stryker Brigade Combat Teams (SBCTs). Armed with weapon systems that need little or no development and so can be quickly acquired, these Interim Force units are designed to explore new operational concepts and undertake operational missions when appropriate. The third path focuses directly on preparing the operational and organization concepts for the Objective Force and developing the "system of systems" technologies, combat systems, and supporting capabilities needed to put these concepts into practice. The net effect is to shift Army funding away from long-planned investments to improve Legacy Force (Force XXI) capabilities and into Interim Force procurement and Objective Force development.

Army Transformation aims to provide substantially improved capabilities across the spectrum of future operations. More-responsive ground force deployments would provide the nation with an additional options for deterring cross-border invasions; rapidly protecting, seizing, or destroying time-critical targets; limiting the scope of humanitarian and natural disasters; or performing any of the wide variety of potential ground force missions. Transformed forces are being designed to operate as dispersed units rather than on a linear battlefield, achieving increased tactical mobility by using helicopters and other airlift. This capability would enable Army forces to move rapidly in response to pertinent intelligence, surveillance, and operational information. Speed of response by a capable force often has a decisive effect in military operations. But this mode of operation increases reliance on seldom-perfect information systems and potentially vulnerable low-level aviation.

In 2002, the Army combat force was composed of 32 Active Component brigades and 36 Reserve Component brigades. Ten heavy brigades were constituted as a "counterattack corps." The transformation begins by creating six SBCTs with an initial operating capability expected in 2003. These SBCTs should be fully fielded in 2008.

---

[17]For the initial statement of the new Army Vision, see U.S. Army (1999). For a more recent update, see Shinseki (2001), which elaborates the description, scope, and goals for Army initiatives to enable the Objective Force.

Then the transition of other active and reserve Legacy Force units to Objective Force capabilities is expected to begin. In the plan, all active Army Legacy Force units except the 10 brigades of the counterattack corps will have been transformed by 2020, and 10 of the Reserve Component brigades will also have completed transformation. At that time the force is expected to have 30 Objective Force Brigade Combat Teams, six SBCTs, and 26 Legacy Force units (the 10 Active Component brigades of the counterattack corps and 16 in the Reserve Component).

The counterattack corps is then completely transformed by 2026, and the last Reserve Component Legacy Force brigades are to be transformed by 2030. By 2031 the last of the SBCTs would be replaced by Objective Force brigades. At that time the Army would have a total of 62 Active Component and Reserve Component Objective Force brigade combat teams.[18]

In the years since General Shinseki announced his vision, the Army Staff has steadily elaborated and extended the initial concepts. At one time, the vision of the Objective Force was considered to focus almost exclusively on the Future Combat Systems as the central element in the planned system of systems. By summer 2002, the Future Combat Systems was moving rapidly toward a definition of the Future Combat Systems' vehicles, sensors, networks, weapons, robots, and air vehicles. Even so, building the Future Combat Systems has been described as "a high-risk venture" (Dunn, 2002, pp. 28–33).[19]

However, the scope of the transformation will be far larger than the Future Combat Systems. First, the Future Combat Systems are not the only combat system in the Objective Force. The Comanche helicopter, the Objective Force Indirect Fire program, and the Objective Force Warrior are other essential elements of the Objective Force's combat capabilities.[20] There will also be significant costs for new command, control, communications, computers, intelligence, surveillance, and reconnaissance capabilities for planning and executing Objective Force operations. Second, combat service support must be transformed in a manner that reduces its "footprint" without jeopardizing vital support to fighting units. This calls for advances in support technologies and redesign of support processes. Third, the full capabilities of the Army's force-generating establishment must be adapted to meet ambitious force deployment

---

[18]This is the Army Transformation plan as initially conceived and recently articulated by the Army (GAO, 2001, p. 10).

[19]Referring to Army Transformation, GAO reported in November 2001 that "The Army's plans are highly dependent on near-term technological advances that are highly uncertain and long-term funding commitments" (GAO, 2001, p. 2).

[20]See White and Shinseki (2002, pp. 9–10). The Objective Force Indirect Fire and Concept Demonstration, Precision-Guided Mortar Munitions, the Excalibur munition, NetFires, and several other prospective indirect-fires capabilities are being developed *in lieu of* the Crusader.

goals. Fourth, installations must be prepared to host Objective Force units, maintain and train them, and deploy them when contingencies arise. Fifth, realizing the full potential of the Objective Force requires agile leaders and soldiers who are steeped in doctrine developed to maximize the Objective Force responsiveness and effectiveness across the spectrum of future ground operations. Transforming the Army is, thus, a large and costly undertaking, one that faces substantial technology, cost, and schedule risks.

Beyond these organic Army systems and activities, the Army has been pressing for larger and faster strategic airlift and sealift systems and forces to meet the challenging mobility goals that have been laid down. Such systems, which would be expensive to develop, procure, and operate, would normally be procured and operated by the Air Force and the Navy, where interest in these future systems is moderate at best.[21]

Tactical mobility raises yet other potential issues. If the Objective Force is to be designed to move rapidly about the battlefield by air, then a large program of new tactical lift aircraft would be required. The design and cost of an advanced maneuver transport have yet to be determined. Whether these would be an Army or a joint asset is not clear. What is clear is that achieving ambitious strategic and tactical mobility goals would add significantly to the cost of the Objective Force.[22]

Affordability Analysis

Affordability analysis implies a comparison between the amount of resources likely to be available for Army Objective Force programs and their prospective total costs. Total costs would include research and development, procurement, construction, military personnel, operations costs, and contractor support and cover the 30 years it is expected to take to field the full Objective Force. The analysis begins with a comparison of an earlier major Army reequipping, the

---

[21]See Chapter Nine, "Moving Rapidly to the Fight." A recent Army wargame, Vigilant Warrior 01, employed four new types of airlifters: an advanced maneuver transport, an advanced theater transport, and two types of ultralarge lighter-than-air airships. The same game also played two new types of sealift ships: a shallow draft, high-speed ship and a theater support vessel that used the same technologies. See Wass de Czege and Majchrzak (2002, pp. 16–20). None of these strategic lift vehicles is being developed by DoD, and prospects for both commercial development and their subsequent availability to DoD for contingency use are remote. The Air Force is continuing to acquire C-17s as the backbone for future airlift capabilities, and the Navy is just completing the procurement of 19 Large Medium-Speed Roll-On/Roll-Off ships.

[22]These issues are still being debated in Army circles, but there is little doubt that a new tactical airlift aircraft designed to move 20-ton vehicles would be another lengthy, risky, and costly development and procurement program. Force size and aircraft survivability are other issues to be addressed.

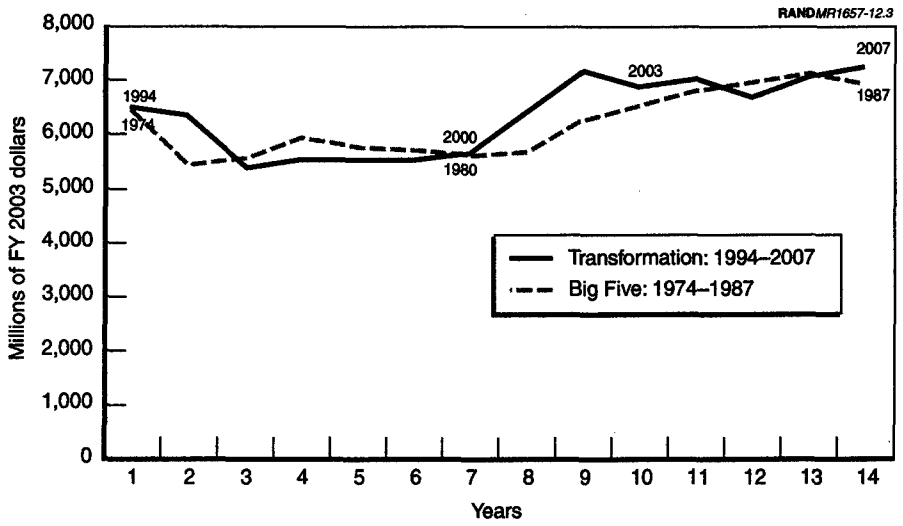
acquisition of the Army of Excellence to the Transformation effort now underway.

Acquiring the "Big Five." Army leaders invite comparison of the ongoing Transformation with the "Big Five" programs of the 1970s and 1980s. In testimony to the Congress, the Secretary of the Army (White, 2002) sketched what he called "the Army's big five of Comanche, Crusader, Future Combat Systems, the interim vehicle, and our digitization." The Director of the Army's Objective Force Task Force averred, "In complexity and resourcing, [Future Combat Systems are] equivalent to fielding the post-Vietnam 'Army Big Five' simultaneously to the same unit" (Riggs, 2002; Objective Force Task Force, 2002).

The Army of Excellence and many Army XXI capabilities were the product of planning and engineering efforts conducted in the 1970s and continued in the 1980s. Then the Army developed, tested, experimented with, and bought several major weapon systems that collectively became known as the "Big Five." The five systems were the Abrams tank, the Bradley fighting vehicle, the Patriot Air Defense Missile System, the Apache helicopter, and the Black Hawk helicopter. Each of these systems was in development for long periods that, for the most part, overlapped in a 13-year period between 1974 and 1987. The level of total Army research, development, test, and evaluation (RDT&E) expenditures (translated into FY 2003 dollars) during this period is shown in Figure 12.3. This figure also presents RDT&E expenditures between 1994 and 2007 in the same coin. If the first unit of the Objective Force is to be equipped in 2008, as is now planned, then the required technology development must be largely accomplished by FY 2007.

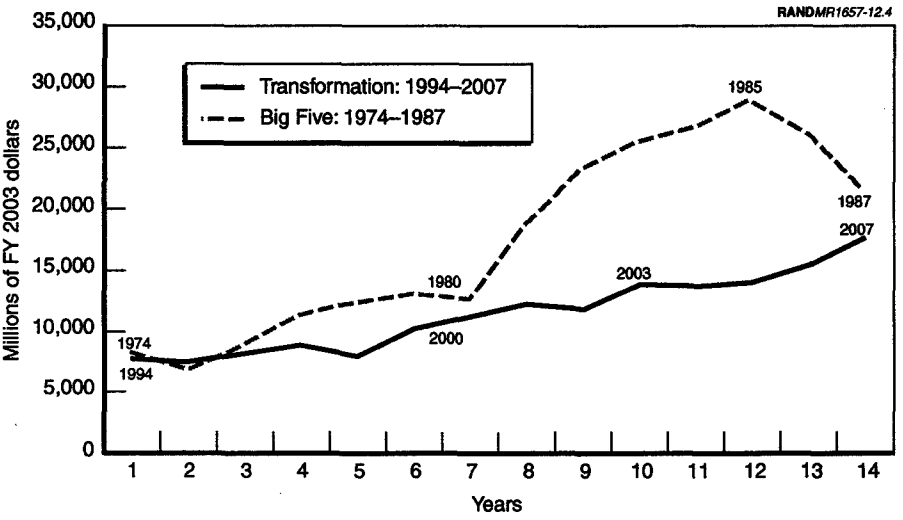
Figure 12.3 reveals two notable contrasts. First, research and testing spending grew steadily at the end of the Big Five's development period. Projected Army RDT&E funding is essentially level from 2002 through 2007. This rough comparison suggests that the Army may well have to increase RDT&E funding toward the end of the present decade if it is to have any hope of achieving the goal of a 2008 roll out for the first Objective Force brigade. That is reinforced by the second observation. The Army is spending about $2.3 billion less on developing the Objective Force than it did when the Big Five systems were being brought to fruition. This comparison suggests that Objective Force development may be underfunded, by at least several hundred million dollars a year in the coming years.

A similar comparison for Army procurement accounts in the 1970s and 1980s is shown in Figure 12.4. The contrast in funding for Big Five procurement is much clearer. During the Reagan buildup, the Army chose to keep a fixed active-duty personnel end strength and spent substantial amounts to acquire the Big Five and related systems. Procurement approached $30 billion (in FY 2003 dollars)



SOURCE: Developed from DoD, 2002, Table 6-19.

Figure 12.3—Army RDT&E Funding for the "Big Five" Compared with RDT&E Programmed for the 1994 to 2007 Period



SOURCE: Developed from DoD, 2002, Table 6-19.

Figure 12.4—Comparison of Army Procurement Funding During the 1970s and 1980s with Army Procurement Programmed for the 1994 to 2007 Period

in 1985. The Army procurement accounts through 2007 grow to about $17 billion (also in FY 2003 dollars), but they do not reflect a similar burst in procurement. That must come later. The Army expects to achieve a rate of fielding three Objective Force brigades a year after 2010.

Funding for Procuring Army Transformation. Whether funding for Objective Force brigades and other necessary procurement of supplies, equipment, and munitions can be fitted with Army budgets in the 2011 through 2020 period depends not only on the size of Army budgets but also on how DoD and the Army set future priorities. Several basic considerations must be taken into account in projecting funding for Army Transformation. First, the Army has a consistent record of strongly defending its end strength. This analysis assumes that the active Army is held close to the current 480,000 end strength. Second, military pay will keep pace with inflation and perhaps even grow faster. Third, Army operations and maintenance expenses, as a proportion of total spending, have grown in recent years.[23] Fourth, the Army and the other military departments have substantial backlogs of real property maintenance and infrastructure improvements that remain unfunded and must be addressed eventually. Finally, considerable required Army procurement is not directly associated with fielding Objective Force brigades, including modernization of the Legacy Force units. However, at some point the need for funding of modernization for Legacy Force units is obviated by their imminent transformation into Objective Force units.

The two main parameters for projecting Army funding for future procurement are the rate of growth in total budgets and the portion allocated to procurement accounts. This analysis uses the projection of $114 billion for FY 2007 Army TOA as the baseline. Extrapolating from this baseline, using a modest 3.5 percent annual rate of growth in then-year dollar funding for the Army yields total Army funding for the 2011 to 2020 decade of about $1.54 trillion. Allocating 15 or 20 percent of the total to procurement yields totals of $231 billion and $308 billion available for procurement between FY 2011 and FY 2020. Alternatively, assuming a more substantial 5 percent annual rate of growth for Army budgets in then-year dollars gives an estimate of $1.75 trillion for total Army funding and estimates of $262 billion and $349 billion in total procurement over the decade. This analysis of affordability examines whether Army procurement budgets in this range would be sufficient to fund all needed procurement between 2011 and 2020.

---

[23]Army operations and maintenance accounts took 30 to 31 percent of outlays in the late 1980s. During the late 1990s, this proportion had grown to 34 to 35 percent. CBO has examined these trends for DoD and points to several explanations: increased spending on infrastructure, including environmental protection and health-related benefits, and the inability to cut infrastructure to the same degree that forces have been reduced. See CBO (1997). More recent CBO analysis (CBO, 2001a) found "no evidence to support the services' contention that spending on [operations and maintenance] for aging equipment has driven total [operations and maintenance] pending."

Such steady increases in Army funding (in then-year dollars) are rare but not without precedent. During the Reagan defense buildup in the 1980s, total Army funding grew an average annual rate of nearly 9 percent and the portion allocated to procurement averaged 22 percent. Army budgets increased—in larger and smaller amounts—every year between 1976 and 1992. But in the 50 years between 1950 and 2000, the next largest run of Army budget increases was during the 1960s, when funding for the war in Vietnam generated increases from 1964 through 1969.[24]

How much funding will acquisition of the Objective Force brigades require? The question is not easy to answer. The Army has not provided any total cost information and is not likely to do so in the near future.

Costs of Army Transformation. The Objective Force requires the development, testing, and integration of a large number of ground and air technologies. These include sensing in diverse battlefield environments, communicating reliably within combat forces on the move as well as with higher headquarters and joint forces and systems, managing signatures and enhancing survivability, improving tactical mobility, employing robotics, networking fires, improving gun and missile lethality, minimizing support requirements, and mating all these new technologies with the soldiers who will fight with them. Uncertainties about all these technologies and processes prevent detailed cost estimation at this time.

The Army has several reasons for not publishing estimates of the long-term costs of the Transformation programs. Many of the combat systems and concepts are not yet sufficiently developed, so inputs for costing analyses are lacking. Support systems planning is only just beginning to come to grips with the extensive changes required to reduce both footprint and deployment times, so again costing factors are absent. Similarly, plans for doctrine, training regimes, and installation investments are in the early stages. These plans will eventually be detailed and costed, but they are not sufficient for that purpose yet.

Though life-cycle costs are the gold standard of affordability analysis, operating costs also depend on design details yet to be developed. This analysis will focus on two of the main elements of cost that can now be tentatively addressed: procuring the Objective Force and modernizing the Legacy Force. These are undoubtedly the largest share of future Army acquisition costs.

Absent comprehensive estimates by the Army, some scraps of information can be used to make rough and ready estimates. In June 2000, the House Appropriations Committee reported:

---

[24]As reported in DoD (2002, Table 16-6).

> The fiscal year 2001 budget requests for the Department of the Army marks the first year of a 12- to 15-year, $70 billion effort to transform its Cold War legacy force—designed for a different era and a different enemy—into a force built on speed, lethality, versatility, survivability, and sustainability.[25] (U.S. House of Representatives, 2000.)

The split of this $70 billion estimate between research and development and procurement is not provided. But if RDT&E were to be $10 billion to $12 billion in total, then the average procurement cost of the Objective Force brigades would be about a billion dollars each.

Another early estimate suggests that equipping one SBCT would cost $375 million. This appears to be limited to the purchase of the major weapon systems. Equipping an Objective Force brigade could cost two or three times as much, more than a billion dollars. A later projection is that $1.5 billion is needed to fully fund the acquisition of a single Stryker brigade. This estimate has reportedly been used by OSD as the procurement savings from deleting an SBCT for the Army's program.[26] This appears to be a rounded and generous estimate of the total cost of a Stryker brigade's equipment. An Objective Force brigade would surely be costlier. How much more so is difficult to estimate.

For this analysis, an estimate of $2 billion per Objective Force brigade (in FY 2001 dollars) will be employed for the basic affordability analysis. The sensitivity of results to this assumption will be examined. The Army's plan to acquire 62 Objective Force brigades would then require $124 billion spread over the 21 fiscal years from FY 2008 through FY 2029. This works out to about $6 billion a year, or $60 billion for the decade. All these estimates are in FY 2001 dollars. Translating the FY 2001 estimate of $2 billion to then-year dollars for the FY 2011 through FY 2020 period yields an average annual cost of procuring a single Objective Force brigade of $3.1 billion in then-year dollars. Acquiring three brigades a year for 10 years would cost $93 billion.

Procurement Trade-Offs. During the 10 years from 2011 through 2020 the Army is planning to acquire and field Objective Force brigades (at the rate of three per year), the Comanche, accomplish limited modernization of the Legacy Force, and procure the systems necessary to transform engineer, logistics, medical, transportation, and other support force capabilities. Future Army leadership will have to assess the trade-offs among these funding requirements.

The baseline estimate developed for Objective Force procurement will require $93 billion during that decade. Funding for the Comanche is not included in

---

[25]Though it is not so stated, it is likely that this estimate is in FY 2001 dollars. The analysis below proceeds on that assumption.

[26]As reported in Winograd (2002).

Objective Force procurement costs, but Comanche procurement is an essential part of the transformation. In a recent restructuring of the Comanche program, the Defense Department cut planned procurement by nearly 50 percent and deferred initial operational capability to 2009 (Wall, 2002, pp. 27–30).[27] Most of the procurement costs will be incurred after 2010. The analysis here assumes that this could be as much as $30 billion in then-year dollars.

By 2010, procurement of the six Stryker brigade's equipment sets will have been completed. Investments in modernizing the Legacy Force combat units will also be required even beyond 2010. The size of Legacy Force expenditures are directly related to the pace and extent of the acquisition of Objective Force brigades. The slower the pace and the fewer brigades given Objective Force capabilities, the larger the costs for modernizing and maintaining the Legacy Force. Nevertheless, modernization costs for Legacy Force brigades will clearly be less costly than procurement of Objective Force brigades. If the Army's full plan is implemented as outlined earlier, 20 Legacy Force brigades would be in place by 2025. Major systems, such as the Abrams tank, Bradley infantry fighting vehicle, Apache helicopter, combat unit C4 systems, and integral support systems, will all require modernization to keep pace with threat systems, to operate with Stryker and Objective Force units, and to keep pace with modernization in joint forces. This is assumed to cost an average of $4 billion a year in then-year dollars between 2011 and 2020.

Beyond these combat force acquisition requirements, some additional procurement funding must be used to acquire necessary supplies and equipment not directly tied to the number of combat brigades. This includes acquisition of transport helicopters, air defenses, missiles, all kinds of ammunition, small arms, medical systems, logistics and other support vehicles, and spare parts. Extrapolating from recent Army procurement patterns, this analysis assumes average annual expenditures listed below.[28]

Aviation not tied to Objective Force brigades	$1.44 billion
Missiles	1.81
Ammunition	1.81
Other procurement	4.32
Wheeled and tracked vehicles not for the Objective Force	0.71
Total	$10.10

[27]A further review of the Comanche program is set for May 2003.

[28]These estimates are derived from information in recent Army budget presentations. See U.S. Army (2002a; 2002b; 2003). Similar documents for earlier years were also consulted.

Thus, during the decade these other necessary procurement accounts would consume $101 billion.

Table 12.6 summarizes the results. Only in the case where Army TOA grows at an annual rate of 3.5 percent and 15 percent of the total allocated to procurement is the resulting amount, $232 billion over 10 years is insufficient to meet all foreseeable procurement costs. If Army TOA grows at 5 percent per year, a 15 percent allocation meets just about all the needs considered here. If Army leadership can devote 20 percent of available funding to procurement, there would be more than enough to meet all acquisition requirements.

Controlling the costs of Objective Force systems is important. If the costs assumed here should double, only the most generous set of assumptions—5 percent growth with 20 percent given to procurement—is sufficient for all needs. If Objective Force procurement costs should grow only 50 percent, or $46 billion, an increase not inconsistent with the DoD experience in acquiring complex weapon systems, then larger allocations to procurement funding are needed to pay for all the acquisition costs of the Army Transformation.

This affordability analysis is based on current projections of the security environment and current approaches for preparing capabilities to deal with foreseeable threats and instabilities. The year 2020 is 17 years off, and much can happen in the intervening years to change those presumptions and policies. Moreover, no basis exists for detailed estimates of the personnel and other operating costs for organizing, training, and equipping Objective Force brigades. If leadership priorities should change, perhaps as a result a much expanded and high-tempo global war on terror operations, even 15 percent may be an overestimate of the Army's allocation of funding for procurement. This could also be the result of leadership decisions to increase spending on personnel or to reduce installation maintenance backlogs soon and substantially. If

Table 12.6

Army Procurement Funding, FY 2011–2020 TOA[a]

Annual Rate of Growth	3.5%		5.0%	
Percent to Procurement	5%	20%	15%	20%
Estimated Procurement	$232B	$308B	$262B	$350B
Objective Force	93B	93B	93B	93B
Comanche Program	30B	30B	30B	30B
Transformation Support	101B	101B	101B	101B
Remainder: Legacy Force	8B	84B	38B	126B

[a]Assumes FY 2007 Army Budget of $114 billion TOA.

the economy stagnates or if public opinion should turn against defense spending, even the assumed 3.5 percent growth in the Army budgets may not be sustainable.

A recent CBO study (2003a) has projected the budget and economic outlook. A second study (CBO, 2003b) examined the long-term implications of DoD force and procurement plans. Like earlier CBO projections, the new analysis of budget prospects assumes that current policies remain in place. Differences from earlier projections thus reflect policy changes enacted, developments in the economy, and technical changes made by CBO analysts. The January 2003 CBO projections indicate that federal government deficits will be deeper than those expected in August 2002. Then, for example, the FY 2004 deficit was estimated to be $111 billion; by January 2003, the estimate was $145 billion—30 percent larger. This sort of change may well cut into the growth of defense spending in the next few years, slowing somewhat the development of Objective Force and other new Army systems and capabilities.

CBO's analysis of defense spending through 2020 concludes that continuing all DoD programs now envisioned implies budget levels that average $428 billion annually between 2008 and 2020. By this estimate, DoD resource needs would exceed those achieved at the peak of the Reagan defense buildup in the 1980s. Both operating and support costs and investment funding requirements are projected to increase. CBO notes that Army investment "would need to grow by $6 billion between 2007 and 2008 and reach a peak of $35 billion in 2012." If Army costs are not controlled better than in the past, peak spending would reach $45 billion. While the approach and details of the CBO analysis are different, the general conclusion—that the Army will have to find a way to devote greater funding to development and procurement—is consistent with the long-term affordability analysis just discussed.

There may well be firm and binding constraints on military spending in the decades after 2010. These constraints are a consequence of an aging population and the foreseeable retirements of the baby-boom generation. The population over 65 and hence eligible for mandatory entitlement program benefits (Social Security, Medicare, and Medicaid) will grow from about 31 million in 2000 to nearly 54 million in 2020.[29] More significant, it will grow relative to the numbers of covered employees paying Social Security taxes. Today, there are about 30 Social Security beneficiaries for each covered worker; by 2020 that number will rise to 40. Spending on Social Security is projected to grow more

[29]Population numbers are from the National Population Projections—Summary Tables, January 13, 2000, as published in U.S. Census Bureau (2001, Table 13, p. 15).

than 50 percent in the next three decades.[30] Thus, tough choices will have to be made. Either benefits to the elderly will have to be reduced or taxes on workers increased or substantial deficits accepted. Some palliative measures in these directions are likely to be enacted, but pressure on all discretionary accounts, including defense, is likely to grow. Thus, the assumption of sustained growth in defense and Army spending may be vulnerable.

In summary, the estimates here and the qualifications summarized above provide only an initial and unofficial perspective on the affordability of the Army Transformation in the long run. The key resourcing assumptions are the rate of growth for Army funding, the costs of Objective Force systems, and the proportion of Army budgets allocated to procurement.[31] The "compound interest effect" of TOA growth over many years, when supplemented by an assumption that 20 percent of the total Army budget goes to acquisition, delivers sufficient resources to fund the acquisition of three Objective Force brigades a year between 2011 and 2020, Comanche procurement, and Legacy Force modernization, all at a time when total demand on procurement monies is expected to be large.

Another key planning assumption is that the procurement of Objective Force systems will proceed on the schedule now envisioned. The history of delays and disappointments in ambitious development programs is not encouraging on this score. If Future Combat Systems development slips and procurement is delayed, total Objective Force costs will grow. In particular, schedule slips are likely to lead to additional RDT&E costs as well as added costs for modernizing and maintaining Legacy Forces over a longer period.

The estimates of future Army funding and Objective Force costs are based on rough and ready inputs and broad assumptions. Improved estimates of the affordability of the Army Transformation must await definition of force plans, details for the Objective Force in particular, and the implications of transformation for the entire active and reserve combat and support force. These are best provided by Army planners and programmers. Equally significant, the estimates include neither the substantial costs for new strategic lift ships and airlift vehicles that the Army assumes will be available nor any funding for advanced intratheater air transportation. The costs for both are likely to be significant.

---

[30]See CBO (2001b) for a careful overview of these issues and the policy options.

[31]This analysis assumes throughout that the Army's full transformation plan is implemented at the rates now planned. But it can be argued that the returns to transformation diminish and that the full force need not be transformed to gain significant benefits. As the Deputy Secretary of Defense has put it, "transformation can't mean transforming 100 percent of your force overnight. It's more probably like transforming 10 percent of your force over the course of a decade. But if you can change that 10 percent, you can, in fact, change the capability of the entire force" (Wolfowitz, 2002).

CONCLUSION

Army budgets are the result of complex and interacting processes that respond to economic and fiscal developments, developments in the international security environment, and domestic political changes. Major changes in the threat, such as occurred with the collapse of communism and the September 11 terrorist attacks on the United States, drive domestic politics, and this has direct and observable effects on DoD funding. Military strategy changes respond to these sweeping developments. Neither events nor the associated strategy changes seem to have affected the Army's share of the funding for the military services. The administration has increased planned Army funding to $114 billion in FY 2007, and this funding could to grow to more than $200 billion by 2020. While the global war on terrorism boosts Army funding, these increases are at best only enough to cover the incremental costs of counterterrorism and homeland security activities.

The Army is beginning to implement a long-term plan that would transform the Army completely in the next 30 years. At this stage, estimates of the success or failure of the Army Transformation are premature. The forces are not fully designed, development is still in the early stages, and testing for the Objective Force components is at least five years ahead. Costs are not known, and the future budgets depend on many uncertain developments. In addition to the resources the Army must provide, achieving the capabilities projected for the Objective Force will also require significant expenditures and support from the joint community for lift, situational awareness, and command and control.

Even if the Future Combat Systems and the Army Transformation stay on schedule, the Army's fiscal crunch for the Objective Force will come after FY 2010. The estimates in this chapter suggest that the Objective Force may be affordable, but only if Army budgets grow significantly and steadily, if Objective Force systems costs are controlled, and if Army leaders give high priority to Objective Force procurement. The affordability of the Objective Force will depend on economic and fiscal developments as well as the results of testing and experimentation, procurement cost estimates, and program developments that will emerge over the next decade.

In the end, the funds provided for Army Transformation will reflect not simply military strategy and affordability imperatives but also the necessary compromises among military and domestic concerns.

REFERENCES

Adams, Gordon, "Defence Planning: What Are Forces For, and How Much Is Enough," *Survival*, Vol. 40, No. 4, Winter 1998–1999, pp. 184–191.

Aspin, Les, Secretary of Defense, *Report of the Bottom-Up Review*, October 1993.

Bacevich, A. J., *The Pentomic Era: The U.S. Army Between Korea and Vietnam*, Washington, D.C.: National Defense University Press, 1986.

Background Briefing on the Fiscal 2003 DoD Budget Submission, 2002, available at http://www.defenselink.mil/news/Feb2002.

Cheney, Dick, Secretary of Defense, *Annual Report to the President and the Congress*, January 1990.

Cohen, William, Secretary of Defense, *Annual Report to the President and the Congress*, January 2000.

Congressional Budget Office (CBO), *Paying for Military Readiness and Upkeep: Trends in Operations and Maintenance Spending*, September 1997.

_____, *Budgeting for Defense: Maintaining Today's Forces*, September 2000.

_____, *The Effects of Aging on the Costs of Operating and Maintaining Military Equipment*, August 2001a.

_____, *Social Security: A Primer*, September 2001b.

_____, *The Budget and Economic Outlook: Fiscal Years 2003–2012*, January 2002a.

_____, *The Budget and Economic Outlook: An Update*, August 2002b.

_____, *The Budget and Economic Outlook: Fiscal Years 2004–2013*, January 2003a.

_____, *The Long-Term Implications of Current Defense Plans*, January 2003b.

Crippen, Dan, Director, CBO, "Letter to Senator Pete Domenici," April 10, 2002, available at http://www.cbo.gov.

Department of Defense (DoD), *Quadrennial Defense Review*, September 30, 2001.

_____, Office of the Under Secretary of Defense (Comptroller), *National Defense Budget Estimates for FY 2003*, March 2002.

Dunn, Brian J., "Equipping the Objective Force," *Military Review*, May–June 2002, pp. 28–33.

General Accounting Office (GAO), *Military Transformation: Army Has a Comprehensive Plan for Managing Its Transformation but Faces Major Challenges*, GAO-02-96, November 2001.

_____, *Defense Budget: Need to Strengthen Guidance and Oversight of Contingency Operations Costs*, GAO-02-450, May 2002.

Gouré, Daniel, and Jeffrey M. Ranney, *Averting the Defense Train Wreck in the New Millennium*, Washington, D.C.: CSIS Press, 1999.

Ippolito, Dennis S., *Budget Policy and Fiscal Risk: Implications for Defense*, Carlisle, Pa.: Strategic Studies Institute, U.S. Army War College, September 2001.

Korb, Lawrence J., "U.S. Defense Spending After the Cold War: Fact and Fiction," in Ashton B. Carter and John P. White, eds., *Keeping the Edge: Managing Defense for the Future*, Cambridge, Mass.: MIT Press, 2001, pp. 35–54.

The National Strategy for Homeland Security, Office of Homeland Security, Office of the President, Washington, D.C., July 2002.

Objective Force Task Force, *Transforming the Army to the Objective Force*, May 17, 2002.

O'Hanlon, Michael E., *Defense Policy Choices for the Bush Administration, 2001–2005*, Washington, D.C.: Brookings Institution Press, 2001.

_____, "A Flawed Masterpiece," *Foreign Affairs*, Vol. 82, No. 3, May/June 2002a.

_____, "Rumsfeld's Defence Vision," *Survival*, Vol. 44, No. 2, Summer 2002b, pp. 103–117.

Riggs, Lieutenant General John M., testimony on Ground Force Modernization, House of Representatives, Committee on Armed Services, Subcommittee on Military Procurement and Military Research and Development, April 11, 2002.

Rumsfeld, Donald, Secretary of Defense nominee, testimony before the Senate Armed Services Committee, hearing on the nomination to be Secretary of Defense, January 11, 2001.

Seeking a National Strategy, The Phase II Report on a U.S. National Strategy for the 21st Century, 2000.

Shinseki, General Eric, Chief of Staff, U.S. Army, *White Paper: Concept for the Objective Force*, November 2001.

U.S. Army, *The Army Vision: Soldiers on Point for the Nation*, October 12, 1999.

_____, Department of the Army, *The Army Budget Fiscal Year 2003*, R-02-005, February 4, 2002a.

_____, Assistant Secretary of the Army for Financial Management and Comptroller, *FY 03 President's Budget Highlights*, February 2002b.

_____, Director, Army Budget, *FY 03 Budget Overview*, February 1, 2003.

U.S. Census Bureau, *Statistical Abstract of the United States: 2001*, 2001.

U.S. House of Representatives, Committee on Appropriations, *Report on Department of Defense Appropriations Bill, 2001*, June 1, 2000.

Wall, Robert, "New Comanche Plan Gets Green Light," *Aviation Week & Space Technology*, October 28, 2002, pp. 27–30

Wass de Czege, Brig. Gen. Huba, U.S. Army (Ret.), and Lt. Col. Zbigniew Majchrzak, U.S. Army (Ret.), "Enabling Operational Maneuver from Strategic Distances," *Military Review*, May–June 2002, pp. 16–20.

Weinberger, Caspar, Secretary of Defense, *Annual Report to the Congress*, FY 1988, Executive Summary, 1988.

White, Thomas, Secretary of the Army, testimony before the House Armed Services Committee on the FY 2003 Defense Authorization, February 28, 2002, available at www.army.mil/leaders/Secarmy/28Feb02HASCPostureTranscri.doc.

White, Thomas, Secretary of the Army, and General Eric Shinseki, Chief of Staff, U.S. Army, *Statement on the Posture of the United States Army 2002*, February 2002.

Winograd, Erin Q., "Army's 2003–2007 Spending Plan Saddled with $115 Billion in Unpaid Bills," *Inside the Army*, Vol. 13, No. 4, November 5, 2001.

_____, "Cambone Crafts Proposal to Cut Army's Top Four Weapons Programs," *Inside the Army*, October 14, 2002.

Wolfowitz, Paul, Deputy Secretary of Defense, remarks delivered to the American Institute of Aeronautics and Astronautics, February 19, 2002.

Zakheim, Dov, Under Secretary of Defense (Comptroller), *Brief on FY 2002 Budget Supplemental*, July 12, 2002, available at http://www.defenselink.mil/news/Jul2002.

Chapter Thirteen

REFINING ARMY TRANSFORMATION

Thomas L. McNaugher

It is worth emphasizing again, as we conclude this report, just how far the security challenges facing the United States have evolved away from those of the Cold War. Gone are that era's grim certainties—the obvious enemy, the geographic locus of the core confrontation—and the relatively sharp planning and procurement focus they afforded. Today's challenges can emerge anywhere around the globe, including in our own homeland. Threats range from the Soviet-like conventional forces of Iraq and North Korea to guerrilla groups in Afghanistan or terrorist cells in the United States. Missions range from fighting wars to feeding people. Although weapons of mass destruction (WMD) remain prevalent, it is doubtful that nonstate actors or unreasonable tyrants that might come to possess them will respond to the Cold War's elaborate theory of deterrence.

Clearly, these challenges call for an "expeditionary" U.S. Army, an organization prepared to deploy its forces globally, perhaps speedily. The implications of this shift are truly profound. For half a century this was a "big war" army. It came in big chunks—divisions, corps, field armies. It was also a forward-deployed army, supported by massive amounts of supplies conveniently prepositioned in known theaters. Even the Army's personnel system supported big, all-consuming wars, distributing personnel more or less evenly across the active force to ensure that all units were reasonably ready for "the big one." To be sure, the Army did more than plan for a big war. During the Cold War, as throughout its history, the Army performed the occasional humanitarian relief operations or small, Granada-like wars. And of course in Vietnam it confronted a rather large counterinsurgency task—which, in the eyes of its critics, it tried to handle as a large conventional war. In part in response to its painful Vietnam experience, the Army reemphasized its focus on big wars in the years after 1973.

The nation still wants that big-war army, but over the past decade it has mainly sent small, oddly structured Army units all over the globe, often to feed starving civilians or stabilize a polity rather than to wage war. The simple word "expe-

ditionary" portends consequences that go to the heart of the organization's culture and ethos, the most arcane of its routines.

Written after the tragic events of September 11, 2001, the Bush administration's *National Security Strategy* captures these new challenges more starkly than its recent predecessors. The document does not ignore big wars, especially against "rogue" states. To the contrary, its focus on both Iraq and, to a lesser extent, North Korea, bespeak a need for big-war capabilities. Nonetheless, it shifts emphasis more sharply than ever before to smaller operations and global deployments. This is in keeping with the administration's long-standing emphasis on military transformation—meaning the use of new technologies to lighten and quicken U.S. military forces. The balance of focus across the "full spectrum" of conflict thus has moved still farther away from the Cold War's big-war emphasis.

Nothing in this report challenges that focus. To the contrary, in his chapter on the global war on terrorism, Bruce Nardulli pictures a future marked by small, perhaps very rapid counterterrorist strikes and longer-term repetitive deployments to help stabilize and rebuild failed states. Roger Cliff and Jeremy Shapiro, in their chapter on Asia—a region normally taken as the scene of great power competition involving China, Russia, and the United States—describe a host of internal and interstate disputes that will call for U.S. attention and military activities, if not outright military action.

Neither do the chapters in this report suggest that Army Transformation, as it has been defined since Chief of Staff Gen. Eric K. Shinseki's "vision" speech of October 12, 1999, is fundamentally wrongheaded. To the contrary, it makes sense for the Army to focus on smaller units (brigades), rapid deployment, lighter-weight platforms (to facilitate movement over primitive infrastructure as well as rapid deployment), and reduced logistics burdens (without which expeditionary operations are impossible). These are basic components of the drive to forge an expeditionary force out of a forward-deployed, big-war Army. Significantly, they also absorb much of the earlier, technology-driven transformation; lighter-weight units can only survive if they fully exploit new technology, in particular the fruits of the information revolution.

For all that, however, these chapters do not offer unqualified endorsement to the established transformation. There are, we argue, significant impediments to realizing transformation as it is currently described, crucial areas in which the basic concepts of Army Transformation are in need of significant refinement. This should not be surprising. Breaking the Army out of deeply rooted habits, routines, and mind-sets required a stark, extreme vision—"stretch goals," as they are often called—that may ultimately prove to be impractical but is no less important for that. Army Transformation is now into its fourth year,

however. It is both appropriate and timely to draw together in this concluding chapter the thrust of this report's diverse chapters.

THE SEARCH FOR FASTER DEPLOYMENT

No aspect of Army Transformation has received more attention than General Shinseki's call for very rapid deployment—the ability to deploy an Army brigade anywhere in the world in 96 hours "after wheels up," the rest of the division the next day, and five divisions (a fairly large corps) in 30 days. Through much of the Cold War, of course, the Army faced the need to move 10 divisions to Europe in 10 days. Given the clear focus on Europe, however, it was possible to meet this requirement by stationing six of those divisions, the equipment for four more, and considerable logistics support in Europe. The United States took the same approach to the Korean confrontation and, since 1991, to the Persian Gulf. It is the unpredictable and potentially global distribution of today's security challenges that makes the need for speed so challenging to the Army. These features of the environment also ensure that the challenge is not simply to the Army's combat forces but also to its logistics and support community—hence General Shinseki's reference to "shrinking the logistics footprint" in his vision speech.

Yet there is considerable debate, in this report as well as in the wider defense community, about the urgency of this need. Many of the smaller-scale contingencies the Army has dealt with over the past decade have not popped up all that quickly. Deployments to Haiti, Bosnia, and Kosovo, for example, were preceded by reasonable warning and time to plan and assemble forces. There have also been exceptions—the call to deliver a helicopter task force to Albania in 1999, for example. And Nardulli foresees contingencies in the global war on terrorism, especially those involving WMD, that may call for faster response than even the Army envisions today. It seems clear that the Army should offer to the nation's political leaders the capability to move at least some of its forces very quickly when called for. Whether the entire Army needs to be shaped to achieve that velocity, however, remains debatable and, in fact, most unlikely.

Far less debatable is the question of whether the Army can meet General Shinseki's demanding 96-hour goal using airlift alone: as John Gordon and David Orletsky show, it cannot, at least with full brigades based in the United States. The combination of the allocation of airlift that the Army (as opposed to its sister services) can reasonably expect to receive and the infrastructure limitations in the places it can expect to fight means that only relatively small units—a battalion task force—can deploy that rapidly. Even a dramatic expansion of the airlift fleet improves deployment times only modestly.

There are two general solutions to this challenge. Gordon and Orletsky suggest that the Army can achieve the requisite rapid deployability of its new medium-weight brigades in a major crisis through a combination of prepositioning (both ashore and afloat) and overseas basing. In Asia, Cliff and Shapiro recommend that the Army increase its presence, with Australia being one possibility for basing, and maintain prepositioned equipment on fast transport ships somewhere in Southeast Asia, their candidate being Singapore. Overall, as Nardulli points out, the geographical distribution of likely long-term commitments does not match well the overseas positioning the Army inherited from the Cold War. The service—and, more broadly, the nation—will have to look for friends and allies in more convenient locations. In this sense, rapid deployment is as much a political as a technical issue. It depends on engagement with friends and allies overseas, as the Bush administration, originally suspicious of extensive engagement, has discovered since it took office.

The other solution, fully complementary with the first, is to think in terms of units smaller and lighter than the new medium-weight brigades. Nardulli argues that responsiveness can be achieved by using subelements of the Stryker brigades in combination with other Army and Air Force components. The underlying vision is of an army of small modules that can be assembled to match mission requirements. But if speed is of the essence, the Army's existing light forces must be accounted for as well. In his chapter on joint operations, Bruce Pirnie offers different ways in which large-scale airborne operations can be provided better protection, by augmenting light divisions with medium-weight vehicles and teaming them with Air Force systems.[1]

Readmitting light forces to the discussion runs counter to the Army's focus on a single future force. It also complicates the logistics challenges associated with deploying units to distant, largely unprepared theaters. For logistics reasons alone, the Army would naturally prefer less rather than more complexity. Yet even if the Army succeeds in its pursuit of a uniform force designed around the so-called "Future Combat Systems," budget constraints will ensure that it does not recapitalize itself in a hurry. Thus, the Army almost certainly will have to maintain the personnel, equipment, organizations, and processes to support at least three quite different types of fighting forces for many years to come.

With this in mind, Eric Peltz and John Halliday offer a menu of ways in which the logistics system can be improved, using some of the same concepts—e.g., modular elements—as introduced in the other chapters. For example, the deploying units need to be able to enter an area rapidly with only Spartan sup-

[1]Previous work at RAND has suggested a variety of ways to make light forces more effective against advancing enemy Army. See especially Matsumura et al. (2001).

port but then build up a support capability that rotates in and out. In addition, at the headquarters level, small, standing, rapidly deployable command and control cells need to be developed. Tailoring supply units to the requirements of small contingencies will require introducing new kinds of transparency far down into the system. For example, creating task forces would be easier if support units were identified by capability. A dynamic redesign of support relationships and information flows at all levels is also going to be critical, if spare parts, among other supplies, are going to arrive in a timely way.

Nothing in this argument is meant to diminish the importance of the Army's initial steps toward transformation. The Stryker brigades that will soon start coming into the force offer a medium-weight capability that falls between the Army's traditional light and heavy components. They should be ideal for stability operations and smaller conflicts. While the Stryker lacks the "insurance policy" provided by 70 tons of armor, a Stryker brigade's armored firepower and mobility make it a better candidate for taking on the early stages of an enemy armored thrust than the very light 82nd Airborne Division does. The focus on brigades is also a needed corrective to the Cold War Army's attachment to much larger units. Meanwhile, because the new brigades make greater use of information technologies for networking and long-range targeting, they will allow the Army to experiment with these technologies as they build future forces.

Whether or not the new units can deploy globally in 96 hours, they will be able to deploy much faster than standard mechanized and armored units and faster still if the Army takes advantage of prepositioning and forward deployment. If the Army wishes to deploy really fast, however, it will probably have to focus its attention on even smaller units. The first of those units will soon enter the active force structure. Surely it is time for the Army to relax its tight focus on the brigade as a fixed, largely inalterable formation and offer up a variety of force packages for rapid deployment.

DESIGNING A FULL-SPECTRUM FORCE

The notion of modularity, broached above, carries over into a discussion of another important aspect of the Army's transformation, namely the attempt to offer the nation's political leaders a "full-spectrum" force capable of handling the full range of missions, from low-level conflict, humanitarian relief, and political stabilization to major armored warfare. In this case the Army's quest for a single force—the Objective Force—of like units runs sharply against history and logic. It is difficult to see how the desired light, readily deployable units will possess the flexibility required of a full-spectrum force.

Several chapters in this report argue that the new strategic environment calls for *more* diversity and specialization in Army capabilities, not less. In consider-

ing the Army's contribution to the war on terrorism, for example, Nardulli suggests that the Army must offer new and different combinations of combat power and high responsiveness. He sees in the new medium-weight Stryker Brigades the basis for a rapid light-medium strike force but harbors no particular affection for the full brigade. Rather, a battalion-sized task force that integrates special operations forces, Rangers, combat aviation, and a company of Stryker mounted infantry in light, wheeled vehicles would be much more rapidly deployable than the full Stryker brigade, while offering considerable firepower and armored mobility. In his view, the Army's approach should be more modular, in which small elements of only the most essential capabilities for a given mission are quickly merged and sent on their way.

Meanwhile, Bernard Rostker argues that "as Afghanistan shows, light units as they are currently configured are an appropriate part of the future Army order of battle." And Gordon and Orletsky conclude that seeking a complete transformation of all future units to medium-weight combat vehicles on the basis of enhancing strategic responsiveness is not justified. A mix of heavy and light vehicles would provide the Army with greater flexibility. At the very least, the Army's Objective Force must prove itself across the full spectrum before it begins to, as General Shinseki put it in 1999, "erase the distinction between heavy and light forces" (U.S. Army, 1999).[2]

In fact, the Army's past efforts to meet the full spectrum of demands placed on it have normally involved the creation of hybrid, tailored forces.[3] Units sent to Somalia and Bosnia, for example, pulled needed capabilities (medical, engineer, communications, military police, and civil affairs units, for example) from all points within the Army's overall combat hierarchy. These were placed under command of a division, but the division's command and control suite and staff both had to be augmented to ensure full control and exploitation of the attached capabilities. Given the frequency with which these deployments now arise, Pirnie suggests that the Army should not rely primarily on division headquarters but create command entities comparable to the Marine air-ground task force.[4]

---

[2]In fairness, General Shinseki began this sentence with the caveat "As technology allows . . .," and in preceding sentences he argued for retaining and modernizing heavy and light forces until "technology allows" for their collapse into the Objective Force. These caveats tend to have been lost in the implementation of Army Transformation, which sees a definite date for creation of a single Objective Force and which has underfunded modernization of other force types in favor of accelerating development of the Future Combat Systems.

[3]For a more elaborate development of the demands of full-spectrum operations and the Army's response to them, see McNaugher (2002, pp. 155–178).

[4]The Army toyed with this idea in the late 1990s, in the form of the so-called "strike force." Despite the name, this was not a force but rather a headquarters sufficiently elaborate to accept the various pieces normally needed for various operations other than war. The strike force idea was superseded

At issue here is the question of whether a single, cookie-cutter unit can be made ultraflexible or whether flexibility is better achieved by combining pieces from a diversified force structure to suit the circumstances. This report opts strongly for the latter approach. It simply is not clear how a single unit can carry with it the capabilities required to do everything from war to humanitarian relief—the more so if the unit in question is "lean and mean" in an effort to speed its deployment. More likely the Army will continue to face the need to tailor units, perhaps on a grand scale, to perform specific missions in specific environments. This is something the Army mastered many decades ago. Ironically, in an age of transformation, this is a part of its mission where the Army simply needs to do better what it has long done well.

A training dimension to the full-spectrum challenge exists as well, for troops in many cases, but especially for leaders. The "peace field" is not the same as the battlefield.[5] While many basic leadership skills carry over from war to peacekeeping, the latter calls for more patience and political and cultural sensitivity than the former. The Army recognizes this challenge, but there is little evidence so far that it has significantly broadened the education of its rising leaders or has rewarded them for success in less-than-war situations (Johnson, 2002). Rather, training for Army units and headquarters staff was and is delivered "just in time"—that is, as units prepare for deployment—while units coming out of these deployments are retrained in warfighting skills. Clearly, officer education in particular must be broadened to include nonwarfighting skills. That this must happen at the same time that the Army is broadening the warfighting skills required of its leaders makes this an especially challenging component of the drive to create a real full-spectrum force.

TURBULENCE AND SMALL DEPLOYMENTS

Wherever they deploy, and whatever their mission, the relatively small units the Army now is routinely asked to send overseas must be fully ready to go when asked—even if notice is short. Throughout the 1990s, the Army gave the nation just such units—but not without considerable organizational stress. That stress was rooted mainly in the Army's "big-war" personnel system, which uses individual replacements to spread soldiers and officers more or less evenly across the combat force, making them roughly equally ready to fight a large war on a moment's notice. The demand for smaller deployments and long-term commitments places precisely the opposite demand on the personnel system—a

in 1999 with the introduction of Army Transformation. For more on the strike force, see Caldera and Reimer (1999, p. 38).

[5]Reference to the "peace field" comes from Maj. Gen. William Nash, who commanded the 1st Armored Division when it deployed to Bosnia late in 1995. Quoted in Olsen and Davis (1999, p. 5).

need for high readiness in the individual, small deploying units. Each expeditionary deployment thus sets in motion a scramble to move fully trained people into the deploying unit.

The disruption this entails has been compounded substantially by the fact that in most cases the nation has neither declared war nor applied the usual wartime "stop-loss" procedures to fix all soldiers in place for the duration of the operation. Rather, it has relied on peacetime deployment rules in judging who can deploy and who stays home. These rules make a significant portion (30 to 40 percent) of the people in most combat units nondeployable, either because they recently returned from an overseas deployment or because they are on orders to leave their unit soon either for another assignment or civilian life.

Both Susan Hosek and Nardulli describe how operating under peacetime deployment rules for these frequent deployments creates ripple effects that can have far-reaching repercussions on both readiness and soldier quality of life. Units deploying must borrow personnel from other units and then train them. Units at the same post, or in the same division, have to pick up home-station duties left to them by the departing unit. They must also share the additional and often substantial workload associated with preparing their sister unit for deployment—helping to train the departing unit, bringing its equipment up to standard, and the like.

Army officials often lumped the resulting disruption and increased workload associated with small unit deployments under the term "tempo," and, as the 1990s wore on and the Army acquired more overseas commitments, the tempo issue attracted much attention. In fact, the word "tempo" does not capture the full complexity of what is actually happening. Moreover, the actual tempo of the Army—that is, the amount of time soldiers spent away from families and home posts—was not all that severe throughout the decade (Polich and Sortor, 2001). What stressed the organization and its members was a complex mix of turbulence, rising workload, and movement to and from overseas assignments.

This stress has prompted increased interest within and outside the Army in overhauling the personnel system, replacing the individual replacement system with a unit-manning system that would cause a cohort of soldiers to join and leave a battalion or brigade together. Units would be permanently based in the United States and once readied, and as needed, rotated as a unit to other locations around the world. With some units very ready, some would necessarily be very unready, something the Army did not accept during the Cold War. With big wars decreasing in importance, however, many are ready to accept "tiered readiness"—a division of the Army's combat units into levels of readiness stretching from unready through "ready-ing" to very ready—in an effort to overcome the stresses of frequent deployments.

Navigating the highly complex Army's personnel management system is always a challenge, especially in this case, where the linkages between unit cohesion and effectiveness, personnel stability, and readiness are highly problematic. Political problems may crop up with the shift as well because many in the political system still oppose tiered readiness. Hosek understands the sense of urgency but nonetheless cautions against rushing to judgment, for in previous Army experiments the stable manning policies actually worsened some combination of the problems they were intended to remedy. In the near term, the Army might pick up on Nardulli's suggestion that it should expand the rotation base by drawing more heavily on active forces overseas and reserve brigades and by modifying still further peacetime personnel policies to reduce the number of soldiers that are nondeployable.

AND WHAT ABOUT THE RESERVES?

Mention of the Army's Reserve Components (the U.S. Army Reserve and the Army National Guard) in this context merely scratches the surface of the complex and politically charged questions that surround Reserve Component missions and organization. One important question, raised most vocally after September 11, 2001, involves the role the Reserve Components should play in homeland defense. Many officials would hand the homeland defense mission entirely over to the Reserve Components, particularly the Army National Guard, hoping for the most part to leave control of these units with state governors. This would put the Army's homeland response close to "where the action is" while freeing the Army's Active Component for overseas missions.

Lynn Davis questions this vision. She notes how many natural disasters ultimately draw on Active Component forces, notably because governors run short of local reserve units. Neither is it clear, she continues, that the Reserve Components as now organized can be mobilized fast enough. Thus for the near term, Davis calls on the Army to dedicate Active Component capabilities to respond to such emergencies. For the longer term, she encourages the Army to find ways in which a "quick response capability" could be provided in the Reserve Components, notwithstanding the political sensitivity and expense associated with such an approach.

An equally important question stems from the role Reserve Component units play in overseas deployments. In the years immediately following the Vietnam War, the Army placed much of its combat service support units in the Reserve Components, partly to increase combat strength in the Active Component, but also to ensure that future military deployments would require Reserve Component mobilization, hence the invocation of public support so lacking during the Vietnam conflict. In a sense, those decisionmakers have gotten what they

sought—it is difficult to send Army units overseas without significant Reserve Component attachments. As Army deployments have increased in frequency, however, the reserves have been mobilized with a frequency that many fear disrupts civilian jobs and family life. Meanwhile, as some of these deployments have turned into long-term commitments, the Army has made increasing use of the Reserve Components (especially Guard units) to reduce the deployment burden on active forces. Both problems are likely to get worse in the years ahead, with the expanding demands in the war on terrorism and securing the American homeland.

As Hosek points out, so far little evidence suggests a serious recruiting or retention problem in either the Active Component or the Reserve Components. She cautions that this could change if and as deployment frequency grows in the years ahead. Thus, policymakers need to remain abreast of trends in this crucial area.

But the larger and more controversial issue is whether the country needs to revisit its post-Vietnam decisions and reallocate combat and support units across the two components. If decisionmakers wish to have on hand ready, active units that are fully deployable without reserve attachments, the obvious solution is to move some of the Army's combat service support elements from the Reserve Components back into the Active Component. Given strong resistance to increasing the Army's active strength, however, these units would likely replace a like number of combat units—a trade-off the active Army will no doubt find very difficult. Nonetheless, Davis suggests that in the future the Army is not likely to have any choice. The current Active Component/Reserve Components mix must change.

THE PUSH FOR MORE JOINTNESS

Transforming a large military organization has an intensely inward focus. Like any large organization, but perhaps more than most due to the combined-arms character of modern ground warfare, the Army is composed of myriad organizational subcomponents—often referred to as "stovepipes"—that have, over time, acquired their own organizational routines, ethos, and culture. Getting those subcomponents (such as the Army's various branches, for example) to transform in a more-or-less-coordinated fashion is a full-time job, as it has been for General Shinseki and his staff. Thus, it is perhaps not surprising that both Rostker and Pirnie accuse the Army of failing to pay sufficient attention to the capabilities of other services.

Still, underattention to jointness is regrettable because jointness improves military effectiveness and can actually help Army Transformation. Recent technological trends, particularly in information technology and stealth, have given

"strike operations"—long-range attacks with precision weapons—greater capability than ever before to destroy fielded forces and even to coerce adversaries directly. Such military operations also mesh well with both social trends in the United States that favor limits on casualties and collateral damage and military trends that give adversaries more lethal short-range systems. They also permit the gradual escalation of military power, which can be very attractive to political leaders. For political as well as military reasons, air-delivered strikes have come to play an increasingly important role in meeting the security challenges facing the United States.

Statements about this increased importance of course raise fears among ground forces personnel that their service is about to be supplanted by aircraft dropping precision-guided bombs from high overhead.[6] As we saw in Kosovo and Afghanistan, however, strike operations cannot destroy enemy ground forces (as opposed to such fixed targets as bridges and buildings) without the support of troops on the ground. The point is that technological advances have made the air-ground combination far more deadly, accurate, and operationally effective than ever. Whether the ground element supports the air element, or vice versa, will be determined by specific combatant commanders in accordance with military and political circumstances. As Pirnie puts it, "the ideal relationship would be an air-land partnership that neither partner would dominate, although either might have the lion's share of any given operation." It remains for the nation's air and ground forces—it has two of each—to offer commanders the ability to mount joint operations, perhaps on short notice.

Addressing this challenge, Rostker calls on the Army to design its new combat systems in terms of how they complement the weaponry of the other military services. In the case of its light forces, for example, the Army would judge their firepower by the full range of capabilities that the commander can bring, not by what is organic to a single Army system or unit. Note that Rostker's discussion focuses on fairly low levels of the Army's combat organization. The physical and electronic links that define jointness can no longer be confined to Army corps or joint task force commanders. To the contrary, if Special Forces and small infantry units can benefit from air-dropped munitions, as they did in Afghanistan, then joint links ultimately must be forged at very low levels indeed.

Significantly, forging these low-echelon links should be useful to the goals of Army Transformation. While air-dropped munitions cannot fully replace the Army's organic indirect fire capabilities, they can compensate for some of it. Thus in a crisis where rapid delivery is crucial, or on terrain the Army's heavy

---

[6]This was especially the case with the so-called "halt" idea, which envisioned air forces singlehandedly blunting an enemy armored invasion (Ockmanek et al., 1998).

artillery cannot navigate, organic assets can be left behind or delivered later, while aircraft flying overhead supply needed firepower. Jointness can be exploited to speed ground force deployment and enhance the firepower of light

The lower the echelon at which joint links are forged, however, the more crucial it is for the services to train together far more extensively than they do now. Surely this is one upshot from the controversy that has swirled out of Operation Anaconda, the largest engagement of U.S. forces in Afghanistan. Army units must have spotters trained and able to call in air-delivered fire. The nation's air forces must be able to trust ground force spotters. They must all speak the same language and recognize each other's operational strengths and weaknesses. This can only come from joint training—lots of it.

FIGHTING IN COALITIONS

Operations in Afghanistan show that jointness is essential but difficult to achieve. They and other post–Cold War operations also suggest that the Army's ability to cooperate fruitfully must extend beyond the other services to an array of coalition partners almost as hard to identify in advance as is the scene of the next crisis.

The word "flexibility" takes on a whole new dimension when the Army is called on to operate with states with far less sophisticated military forces and to transport and support them in a contingency. Understanding the potential problems involved in accommodating different political agendas, in sharing intelligence, and in operating with different concepts and capabilities is but the first step. As Nora Bensahel argues, the Army must introduce coalition requirements into every dimension of its transformation planning—in the design of its combat systems, in its warfighting concepts of operations, in its support requirements, and in its requirements for transport from the other services.

Clearly, there will be many cases where a technical bridge across diverse units cannot be created. Traditionally, the Army has made good use of liaison personnel in these cases. Indeed, these may be the most critical element in any future Army operation that involves coalition states. The traditional practice of pulling these officers out of combat units, however, may undermine combat readiness. Hence, Bensahel calls on the Army to create a pool of trained liaison offers in the Reserve Components.

PAYING FOR IT ALL

Can the Army afford transformation? Based on assumptions as to the rate of growth for Army funding, the costs of the Objective Force systems, and the pro-

portion of Army budgets allocated to procurement, David Kassing gives a qualified "yes."

Can it afford the alterations to transformation suggested in this report? One costly conclusion, for example, is that the Army's existing forces—the so-called "legacy" heavy and light units—remain very important to the Army's mission. Bruce Nardulli, among other authors in this report, sees many good uses for Army light forces in pursuing the war on terrorism. Until the Army's future forces prove themselves against heavy armor, the legacy heavy units will remain the nation's best bet for taking on that threat. In this sense, the legacy forces, and especially the Army's excellent heavy units, serve as a crucial strategic hedge against failure, or at least delayed delivery, of the Army's future forces. Finally, these existing forces will also provide the pieces needed for operations across the full range of missions.

Kassing makes clear, however, that these forces are underfunded—notably because funds have been drawn off in an effort to bring the Objective Force into existence in the present decade. In this sense, he highlights an emerging major trade between funding a high-velocity Future Combat Systems program and spreading investment funds more broadly across the Army's components.

Kassing also assumes that the Army's share of the defense budget will remain roughly what it is now. This appears to be a reasonably safe assumption, given the stability of service budgets shares over many years. But that stability may erode in the years ahead, given the significant ways in which the strategic environment and the modern battlefield are changing. The best way to counter this possibility is to offer the nation ground forces that clearly satisfy national needs—exactly what transformation is all about. Pursuing the suggestions offered in this report should help the Army generate strong support for its budget.

Davis proposes a complementary approach to presenting the Army budget and programs to Congress. She notes that the skills and capabilities needed for homeland security closely resemble those needed for many overseas operations. For example, at home the Army will respond to natural disasters and terrorist attacks by distributing medical and other supplies, rebuilding the infrastructure, and providing security at various facilities. Overseas, the Army will protect and distribute relief supplies, guard aid workers, separate potential combatants, and repair damaged infrastructure. Davis suggests that the Army group all of these skills and activities into a single mission, associated with specific forces and budget amounts. In other words, the Army would have a single set of requirements—and basically a single program category—for operations short of war.

Such an approach would have a number of attractions. Above all, it would allow the Army to highlight to Congress the possible demands of simultaneous homeland and overseas calls for these capabilities—demands that might, in the worst case, require substantially more personnel. It would also allow the Army to highlight the uses of Active Component and Reserve Component forces across this part of the spectrum of missions it serves. This would set the stage for resolving some very sensitive Active Component/Reserve Component issues. Hosek alerts us to one of these, namely the disparities that exist in compensation and support between active and reserve forces. This is becoming more problematic as the Army relies more heavily on its Reserve Components to support overseas deployments and homeland security tasks, and as their members spend more time on active duty.

Another attraction in this approach to defining the Army's requirements is that the Army would be in a position to sell its programs and budgets on the basis of the operations that it is, and most likely will be, undertaking, rather than on an increasingly unlikely major warfighting scenario. This has the risk of undercutting support outside the Army for its current warfighting force structure. But it could lead to larger budgets, if the Army were in a position to estimate the full costs of its operations, including those for equipment, manpower, and consumables. Otherwise, as Kassing shows, the lesson from the past is that, while contingencies result in larger Army budgets, the increases cover, at best, only the direct costs of the operations.

CONCLUSION

Each military service must provide the nation's political leaders with options in the uncertain world that lies ahead. As future crises will often be surprises in unfamiliar locations, the premium will be on flexibility and forces with multiple capabilities. Army Transformation has rightly concentrated on creating a single, multicapable kind of unit. The good news is that the capability thus created is new and needed. The bad news is that it will likely not be as flexible as many expect. Rather, that flexibility will need to arise out of the same basic factors that have created flexibility in the past—the presence in the Army of many different modules of capability, combined with the ability to assemble these modules quickly and creatively to meet specific contingency requirements.

If one accepts this refined vision of Army Transformation, operational and budgetary consequences follow. Most important, the service must reconsider the balance of its investments across its various components. Components that are today sometimes derisively referred to as "legacy forces" in fact have crucial roles in transformation. They deserve recapitalization and modernization, at least selectively. Given the tightness of the Army's budget, that can only come

at the expense of what is now called the Objective Force. This does not mean that the Objective Force should cease to exist, only that it might be slowed from its current extremely rapid pace to free investment for other purposes. Happily, doing so will also allow more time to develop and test some of the Objective Force's new technologies.

REFERENCES

Caldera, Louis, Secretary of the Army, and Gen. Dennis J. Reimer, Chief of Staff, U.S. Army, "United States Army Posture Statement, FY00," statement presented to the committees and subcommittees of the U.S. Senate and U.S. House of Representatives, February 1999.

Johnson, David, *Preparing Potential Senior Leaders for the Future: An Assessment of Leader Development Efforts in the Post–Cold War Era,* Santa Monica, Calif.: RAND, IP-224-A, 2002.

Matsumura, John, Randall Steeb, John Gordon, Russell W. Glenn, Thomas J. Herbert, and Paul Steinberg, *Lightning over Water. Executive Summary: Sharpening America's Light Forces for Rapid-Reaction Missions,* Santa Monica, Calif.: RAND, MR-1196/1-A/OSD, 2001.

McNaugher, Thomas L., "The Army and Operations Other Than War: Expanding Professional Jurisdiction," in Don M. Snider and Gayle L. Watkins, eds., *The Future of the Army Profession,* New York: McGraw-Hill Primis, 2002.

Ockmanek, David, Edward R. Harshberger, David E. Thaler, and Glenn A. Kent, *To Find and Not To Yield: How Advances in Information and Firepower Can Transform Theater Warfare,* Santa Monica, Calif.: RAND, MR-958-AF, 1998.

Olsen, Howard, and John Davis, *Training U.S. Army Officers for Peace Operations: Lessons from Bosnia,* special report, Washington, D.C.: U.S. Institute of Peace, October 29, 1999.

Polich, J. Michael, and Ronald E. Sortor, *Deployments and Army Personnel Tempo,* Santa Monica, Calif.: RAND, MR-1417-A, 2001.

U.S. Army, *The Army Vision: Soldiers on Point for the Nation,* October 12, 1999.