

JFQ

The Fifth Service

**Plumbing the
Battlespace**

Global Mobility

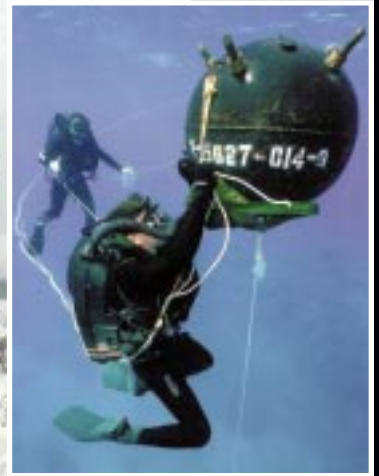
The Prussian Model

**Multinational
Doctrine**



98
Spring

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 1998		2. REPORT TYPE		3. DATES COVERED 00-00-1998 to 00-00-1998	
4. TITLE AND SUBTITLE Joint Force Quarterly. Number 18, Spring 1998				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) National Defense University, 260 Fifth Avenue (Building 64, Room 2504), Fort Lesley J. McNair, Washington, DC, 20319				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 148	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



*Now is the moment to be farsighted as we
chart a path into the new millennium.*

*—National Security Strategy
for a New Century*



A Word from the Chairman

Iwould like to share my thoughts with the readers of *Joint Force Quarterly* on the enduring priorities of the Armed Forces. After many years in uniform I have learned three basic lessons that focus my activities as Chairman. The first is that in our lethal profession there is no substitute for being ready when called. The next is that our people and their families are our most precious asset and that if we take care of them they will never let the Nation down. Finally, we must think about tomorrow even while fighting today. These are my priorities. Are we ready? Do we take proper care of our people? Are we preparing adequately for the future? Answers to these questions will define our success as a joint force well into the next century.

Readiness

Maintaining a high state of readiness to execute national security strategy is our first priority. Our Armed Forces are the best trained, finest equipped, and most capable in the world. Military power, in conjunction with a strong, dynamic economy and skilled diplomacy, guarantees that our citizens and territory are protected and that our democratic ideals and way of life will be sustained. Maintaining strong, proficient

forces around the world, backed by flexible, strategically deployable forces from the continental United States—and the ability to selectively apply them anywhere—is a major stabilizing factor internationally and a key component in the U.S. role as a global leader.

Since the Cold War we have often used our forces in support of national interests. There is no doubt that the resulting operational tempo affects

(continued on page 4)



1 A Word from the Chairman

by Henry H. Shelton

FROM THE FIELD AND FLEET

7 Letters to the Editor

9 Shaping America's Joint Maritime Forces: The Coast Guard in the 21st Century

by James M. Loy

FORUM

Plumbing the Battlespace

17 Intelligence Support of Military Operations

by Ike Skelton

23 Satellite Reconnaissance of the Future

by Thomas G. Behling and Kenneth McGruther

31 Organizing National Level Imagery and Mapping

by John Strebeck

38 Meteorological and Oceanographic Conditions

by Bruce R. Kitchen

44 Joint Combat Search and Rescue—Operational Necessity or Afterthought?

by James E. Moentmann, Edward E. Holland, and Gary A. Wolver

COMMENTARY

52 American Primacy and the Defense Spending Crisis

by Gary J. Schmitt

57 The Joint Force Commander and Global Mobility

by Walter Kross

62 Wanted: A NATO Logistics Headquarters

by William N. Farnen

67 The Prussian Model and Military Planning Today

by Holger H. Herwig

76 An Officer Corps for the Next Century

by Richard H. Kohn

81 Prospects for Military Education

by Leonard D. Holder, Jr., and Williamson Murray

91 Professionalizing Command, Education, and Doctrine

by Thomas C. Hone

99 Unintended Consequences of the Goldwater-Nichols Act

by Christopher M. Bourne

PHOTO CREDITS



The cover features *USCGC Gallatin* during Balltops '96 (U.S. Coast Guard/Rob Wyman). The front inside cover depicts airborne troops, Northern Edge '98 (U.S. Air Force/Adam R. Wooten); diver conducting mine training at Naval Base Guantanamo Bay, Cuba (U.S. Navy/Andrew McKaskle); B-52 landing at Naval Support Facility Diego Garcia during Southern Watch (1st Combat Camera Squadron/Raymond T. Conway); and marines going ashore with Egyptian forces for Bright Star '98 (55th Signal Company/Jean-Marc S. Schaible). The table of contents (opposite) shows NBC incident, Capabilities Exercise '98 (2^d Marine Division

Combat Camera/Timothy A. Pope). The back inside cover captures marine fast-ropping from tower (U.S. Navy/Todd P. Cichonowicz). The back cover includes *USS Shiloh* during Desert Strike (U.S. Navy); marines casting off during Revised Capabilities (U.S. Marine Corps/C.D. Clark); F-16 being cleared for take off (U.S. Air Force/William B. Fallin); soldiers returning after air assault, Bosnia (55th Signal Company/Tracey L. Hall-Leahy).

109 Making the Case for Multinational Military Doctrine

by Jay M. Vittori

OUT OF JOINT

116 A Little Bit Joint—Component Commands: Seams, Not Synergy

by C.P. Ankersen

123 Joint Reserve Forces: An Evolution in Military Affairs

by Donna L. Hopkins

OF CHIEFS AND CHAIRMEN

134 Randolph McCall Pate

THE JOINT WORLD

135 Organization, Doctrine, Education, and History

OFF THE SHELF

138 Putting Geography Back into the Military Canon: A Review Essay

by Ewan W. Anderson

140 . . . to the Shores of Turtle Bay: A Book Review

by Michael A. Sheehan

142 Leaner, Meaner (and Dejected?) Soldiers: A Book Review

by Harry G. Summers, Jr.

143 A Trans-Atlantic Mid-Life Crisis: A Book Review

by Thomas-Durell Young



130 Adversarial Use of Chemical and Biological Weapons

by John F. Reichart

Joint Force Quarterly

Hans Binnendijk

Director
Institute for National Strategic Studies
Editor-in-Chief

Robert A. Silano

Director of Publications
Institute for National Strategic Studies
Editor

Martin J. Peters, Jr.
Production Coordinator

William A. Rawley
U.S. Government Printing Office
Art Director

Calvin B. Kelley
Copy Editor

JFQ is published for the Chairman of the Joint Chiefs of Staff by the Institute for National Strategic Studies, National Defense University, to promote understanding of the integrated employment of land, sea, air, space, and special operations forces. The journal focuses on joint doctrine, coalition warfare, contingency planning, combat operations conducted by the unified commands, and joint force development.

The opinions, conclusions, and recommendations expressed or implied within are those of the contributors and do not necessarily reflect the views of the Department of Defense or any other agency of the Federal Government. Copyrighted

ISSN 1070-0692

portions of this journal may not be reproduced or extracted without permission of copyright proprietors. An acknowledgment to *Joint Force Quarterly* should be made whenever material is quoted from or based on its contents.

This publication has been approved by the Secretary of Defense. All previous issues have been published electronically and are available over the Internet at the address indicated below. Paid subscriptions to *JFQ* are offered through the U.S. Government Printing Office.

The editors invite articles and other contributions on joint warfighting, interservice issues that support jointness, and

topics of common interest to the Armed Forces (see page 144 for details). Please direct all editorial communications to:

Editor, *Joint Force Quarterly*
ATTN: NDU-NSS-JFQ
300 Fifth Avenue (Bldg. 62)
Fort Lesley J. McNair
Washington, D.C. 20319-5066

Telephone: (202) 685-4220 / DSN 325-4220
Fax: (202) 685-4219 / DSN 325-4219
e-mail: JFQ1@ndu.edu
Internet: <http://www.dtic.mil/doctrine>

June 1998

Joint Force Quarterly

GEN Henry H. Shelton, USA
Publisher

ADVISORY COMMITTEE

LTG Richard A. Chilcoat, USA ■ *National Defense University*
Chairman

BG David A. Armstrong, USA (Ret.) ■ *Office of the Chairman*

VADM Dennis C. Blair, USN ■ *The Joint Staff*

A. Denis Clift ■ *Joint Military Intelligence College*

Col K.A. Conry, USMC ■ *Marine Corps Command and Staff College*

MG John S. Cowings, USA ■ *Industrial College of the Armed Forces*

Brig Gen Jerry M. Drennan, USAF ■ *Air Command and Staff College*

Maj Gen Timothy A. Kinnan, USAF ■ *Air War College*

Brig Gen William R. Looney III, USAF ■ *Armed Forces Staff College*

Col David M. Lumsden, USMC ■ *Marine Corps War College*

RADM Thomas F. Marfiak, USN ■ *National War College*

Brig Gen Ralph Pasini, USAF ■ *The Joint Staff*

MG Robert H. Scales ■ *U.S. Army War College*

RADM James R. Stark, USN ■ *Naval War College*

BG John R. Wood, USA ■ *U.S. Army Command and General Staff College*

EDITORIAL BOARD

Hans Binnendijk ■ *National Defense University*
Chairman

Col Paul Balash III, USMC ■ *Marine Corps War College*

Richard K. Betts ■ *Columbia University*

Col J. Lee Blank, USAF ■ *National War College*

COL William D. Bristow, Jr., USA ■ *U.S. Army Command and General Staff College*

Eliot A. Cohen ■ *The Johns Hopkins University*

COL Robert A. Dougherty, USA ■ *U.S. Military Academy*

Aaron L. Friedberg ■ *Princeton University*

Col Robert J. Garner, USMC ■ *Armed Forces Staff College*

Alan L. Gropman ■ *Industrial College of the Armed Forces*

CAPT Chester E. Helms, USN ■ *Naval War College*

Mark H. Jacobsen ■ *Marine Corps Command and Staff College*

Thomas L. McNaugher ■ *The RAND Corporation*

William H.J. Manthorpe, Jr. ■ *Joint Military Intelligence College*

John J. Mearsheimer ■ *The University of Chicago*

LTG William E. Odom, USA (Ret.) ■ *Hudson Institute*

Lt Col Robert C. Owen, USAF ■ *Air Command and Staff College*

COL Thomas D. Scott, USA ■ *U.S. Army War College*

James H. Toner ■ *Air War College*

LtGen Bernard E. Trainor, USMC (Ret.) ■ *Harvard University*

■ A WORD FROM THE CHAIRMAN

(continued from page 1)

readiness, and I am particularly concerned by signs of decreasing readiness on the tactical level. On the operational and strategic levels, we are fundamentally sound and able to conduct operations across the conflict spectrum, but we assume greater risks if called on to fight a second, overlapping major theater war. Such risks are measured in terms of longer deployment timelines and thus potentially greater losses in combat.

We have implemented various initiatives to reduce risks and better manage readiness. They include better control of selected low density/high demand assets through the global military force policy, a 15 percent man-day reduction in the joint exercise program during FY98, and greater use of contractors and allied capabilities. In addition, we are refining tools such as the joint monthly readiness review to ensure better visibility on readiness across the force.

The Reserve components are helping more than ever to meet global commitments. In Haiti, Bosnia, and elsewhere National Guard and Reserve forces have deployed capabilities for regional contingencies and peacetime support activities, many of which are not readily available

we have implemented various initiatives to reduce risks and better manage readiness

in the active force. As Secretary of Defense Cohen has said, we cannot achieve flexibility and interoperability for the full range of military operations without a seamless total force. This year senior assistants from the Reserve components have been added to the Joint Staff in order to improve support and employment of Reserve forces—our trump card in maintaining readiness and global leadership.

Although such initiatives help manage the pace of operations, we are approaching the point where demand for our forces exceeds supply and where we cannot execute U.S. strategy with an acceptable level of risk. While we have a unique role as a force for peace and stability throughout the world, fighting and winning the Nation's wars can never take second place. With increasingly stretched forces, we must carefully examine each proposed requirement and ask hard questions. Is the military the right tool for the job? Are there clearly defined attainable objectives? What are their costs, particularly in terms of



DOD (R.D. Ward)

The Joint Chiefs of Staff (from left): General Joseph W. Ralston, Vice Chairman; General Henry H. Shelton, Chairman; General Dennis J. Reimer, Chief of Staff of the Army; General Charles C. Krulak, Commandant of the Marine Corps; Admiral Jay L. Johnson, Chief of Naval Operations; and General Michael E. Ryan, Chief of Staff of the Air Force.

readiness, quality of life, and modernization? In an unstable world we must prudently choose where and when to employ forces to preserve our warfighting edge.

Force protection is central to readiness and a continuing focus of every commander. Terrorist attacks are a major threat. Consequently both the

the quality of life of servicemembers and their families is the basis of readiness

CINCs and individual services are redoubling the effort to provide servicemembers with the best possible force protection doctrine, education, procedures, and technology. The Secretary designated the Chairman as his principal advisor and the DOD focal point for all matters related to force protection. Recent enhancements provide

an improved organizational focus, better policy, more intelligence emphasis, increased state-of-the-art technology, and added physical security funding. These steps are making a major difference in our ability to protect the force. As I travel around the world it is heartening to see that force protection is a concern of commanders on all levels and an integral part of their mission analysis and assessments.

People

The quality of life of servicemembers and their families is the basis of readiness. We put people in demanding situations under challenging professional conditions. Our standards are high and often require personal sacrifice. Given the current pace of military operations, we must enable our soldiers, sailors, marines, and airmen to focus on the mission without undue concern for their families and quality of life.

The fundamentals of sustaining a quality force—competitive pay, accessible medical care, an attractive retirement system, and decent affordable housing—are key to training and readiness. The Joint Chiefs and I are committed to supporting and maintaining quality of life programs, which remain at the top of our list of priorities.

Recruiting and retention are good measures of our performance in this area because finding and keeping the right people is linked to it. In an era when the Armed Forces must compete against a healthy economy and dynamic job market, we must offer a quality of life to servicemembers that reflects the uniqueness of military service and allows us to retain quality people.

A safe, professional working environment based on trust and teamwork is also essential. All members of the military must have confidence in their ability to both serve and progress in an environment free of discrimination and harassment. Like society, the Armed Forces are composed of men and women from a variety of cultural, ethnic, and religious back-

grounds. This diversity is a source of strength that must be nurtured and supported. It is based on our bedrock commitment to the dignity of the individual. Support for equal opportunity is essential to

everything that we do and remains a core value of military service. When American families send us their most treasured asset—their sons and daughters—we owe them no less.

Modernizing

Readiness and quality of life are inextricably linked to the future because the foundations of the joint force for the next century are being laid right now. Developing and fielding modern, next-generation systems—together with the requisite doctrine, operational concepts, and training—will be decisive for victory. Modernization efforts revolve around *Joint Vision 2010*, the operational template for future operations. As I discussed in the last issue of the journal, *JV 2010* continues to mature as we refine and test operational concepts and transition to the implementation or operationalization phase.

Modernizing the force is an imperative that emerged from the Quadrennial Defense Review. I support its decisions on force structure as a blueprint for recapitalization and modernization. But we also need legislative relief from laws which inhibit innovation and doing things smarter, better, and cheaper. Our ability to maintain the best military in the world will depend upon harnessing the efficiencies and cost savings of reengineering the infrastructure.

Rapid advances in technology and operational concepts portend a true revolution in military affairs which offers a decisive military advantage over potential enemies. It embraces

technological innovations as well as corresponding advances in organization, training, tactics, and command and control. Exploiting the full potential of RMA requires linking emerging technologies in a coherent framework of joint and service doctrine and organization—all based on an accurate appraisal of the threats and challenges which may arise in the new century.

With current funding levels, however, the modernization programs needed for RMA cannot be executed without compromising readiness. As the QDR report concluded, our military is fully committed to executing national security strategy, so further cuts are not feasible. Instead we must streamline DOD business practices and realign infrastructure. That means additional base closures to eliminate unneeded facilities and installations. Although not easy to achieve politically, we must match infrastructure with force structure in order to prepare for the future.

As the premier military power in the world we enjoy a unique opportunity to learn from the past and apply its lessons to ensure our continued freedom and prosperity. The 20th century has seen high achievement and stark tragedy, but America has emerged with the strength and vision to play a leading role in international peace and stability. We must move forward with determination to shape the future for our children and their children. With the continued support of Congress and the American people, I am confident that the Armed Forces will help build a new century, perhaps the best we have yet known.

HENRY H. SHELTON
Chairman
of the Joint Chiefs of Staff

**modernizing the force is
an imperative that emerged
from the Quadrennial
Defense Review**

Letters . . .

ON THE ROAD TO TCHEPONE

To the Editor—John Collins has done both aficionados and students of the Vietnam War a favor by discussing the operational considerations involved in blocking the Ho Chi Minh Trail in “Going to Tchepone: OPLAN El Paso” (*JFQ*, Autumn/Winter 97–98). But there is a sequel to his account. Westmoreland had the opportunity to go into Laos, but America lacked the political will.

While preparing to conduct Operation Pegasus (the relief of Khe Sanh) in March 1968, the 1st Cavalry Division got another mission: destroy those remnants of the North Vietnamese forces in the A Shau Valley that had attacked Hue during the Tet offensive. At the time, I was a district advisor in Khe Sanh attached to the division to support planning for Operation Pegasus. On April 1, 1968 the division plans officer, Major Paul Schwartz, started to brief a much less difficult concept than OPLAN El Paso for an attack into the A Shau Valley to General John Tolson, commanding general of 1st Cavalry. The plan was to attack along Route 9 and to continue beyond Khe Sanh into Laos, leapfrog south along the Ho Chi Minh trail, block and destroy it, and then enter the valley from the north. Once inside Laos the division (+) would conduct a rear-guard action while attacking towards Hue. We thought that at the least strategic surprise could be attained. At the time, a major factor was the supplies that had been stockpiled at Khe Sanh to enable it to survive the siege (60+ days). We thought the division could draw down the supplies instead of hauling them down highway 9, as eventually happened. We planned to temporarily block/destroy the trail and later shift the supply base to the coast which was possible because of an extensive use of airmobility assets to resupply. A ground line of communications would not be needed while we were in Laos. In addition, almost an entire corps was in place, including elements of the 4th and 26th Marine Regiments, 1st Cavalry Division, a South Vietnamese airborne brigade, and a special operations battalion-equivalent (from Special Operations Group Forward Operating Base 3), as well as extensive artillery, logistical, and engineer augmentation.

Tolson quickly dismissed the concept and asked if we had heard the speech that President Johnson had given the previous night in which he announced a partial bombing halt. We had not. “What you are proposing is not politically feasible,” Tolson said. He then turned and left.

This was a classic case of applying political constraints on operations in Vietnam. We will never know if the losses incurred during Operation Lam Son 719A (as Collins noted) may have been

avoided and the war shortened if an attack into the A Shau Valley had been deemed feasible. It underscores the necessity to establish political and military objectives before a conflict begins.

—COL Bruce B.G. Clarke, USA (Ret.)
Topeka, Kansas

CRIMPED WINGS

To the Editor—In his provocative two-part article on “Military Innovation and Carrier Aviation” (*JFQ*, Summer 97 and Autumn/Winter 97–98), Jan van Tol makes a significant contribution to the literature on systems acquisition and force structure. But while there is much merit in his analysis, it is not accurate to declare that “the Royal Air Force crimped naval aviation efforts from the start by removing aircraft and naval aviators from the control of the Royal Navy.” During World War I many naval aviators, chafing in a climate characterized by overemphasis on traditional approaches to combat and power projection, championed creation of a separate service which they could—and later did—join with the establishment of the RAF in 1918.

It is false to assert that Britain produced “lower quality” aircraft in the interwar period than did America, that the RAF was the “repository of all post-1918 aviation assets,” that the RAF “did not have an ethos of experimentation,” and that the rationale for the RAF “depended on maintaining and selling its fixed vision of strategic bombing.”

Before the United States entered World War II, Britain fielded excellent aircraft (such as the Spitfire, Mosquito, and Sunderland) and developed the Whittle and Merlin engines. It had a robust aviation infrastructure that supported military, commercial, and industrial requirements, including a worldwide export market.

Pre-war RAF leaders, far from being limited by a strategic bombing mindset, were open to innovative uses of airpower, some of which (such as air control and presence operations) are still with us. Indeed, if the RAF had been so constrained, it could not have waged the Battle of Britain.

Whatever problems the Royal Navy faced in the field of aviation during the interwar years, they cannot be attributed to the RAF; rather, they stemmed from the naval culture of the day.

—Richard P. Hallion
Air Force Historian

To the Editor—The articles on the evolution of carrier aviation by Jan van Tol posed important questions about military innovation. Concerning his point on why experiments with multi-carrier strike forces were not conducted, I would offer the following observations.

First, the lethality of a carrier strike against enemy carrier forces was overestimated. Prior to World War II, aviators assumed that a deckload strike could sink several carriers at once; but in reality it took a carrier air group to sink another carrier. Dispersion was seen as key to carrier force survivability. It made multi-carrier operations infeasible while maintaining radio silence. Because no one was willing to give up on surprise, this option was rejected.

Second, during the time carrier tactics were being developed at the Naval War College there was no effective way of detecting enemy strikes at long range. The solution (radar) did not appear until just before the United States entered World War II. The sudden shift in tactics contributed to the general confusion produced by unbloodied units fighting for the first time. As a result, it took time for the proper tactics to develop.

It is worth noting that American naval aviation, though it experienced teething problems in the first year of the war, rapidly adapted to a changed environment. Surface warfare counterparts, by comparison, were much less able to develop the new tactics made both possible and necessary by an unexpected operating environment.

—Kenneth Prescott
San Diego, California

THE FRICTION OF HISTORICISM

To the Editor—Just because Williamson Murray bloviates in the face of profound change (*JFQ*, Autumn/Winter 1997-98) doesn't mean we should ignore some of the questions that lie beneath his rhetoric. One is the proper role of history—or more accurately, a certain historian's view of what transpired in the past—in thinking about the future.

That it can be dangerous to “jump into the future” without “an understanding of history” is hardly debatable. Of course, such an understanding and how it either helps or hinders one's ability to influence the future is another matter. Dismiss Murray's assertion that the French army and air force, British army, Royal Navy, U.S. Air Corps, and Italian army, navy, and air force all “jumped into the future without reference to the past” as quaint hyperbole. (He knows that debates during the inter-war years in those institutions were as well larded with appeals to historical authority as today's.) His more notable point is the demand for accurate references to history if designers of future militaries are to “get it right.” That is, after all, the essential rule of historicism, for without acknowledging that there really are differing explanations of the past, those who are less interested in gazing backward have little use for historians. Despite his tirade, some of Murray's work leads one to suspect that in more serious, less propagandistic moments he could

point to historical cases in which failing to quickly and profoundly change resulted in the catastrophe that he fears. History doesn't dictate against rapid and sometimes radical change. Bureaucracy, arrogance, complacency, smugness, and dogma do.

This raises another issue: how should we think about change over the next decade or so? Here again there may be disagreement between Murray's rhetoric and reality, for one suspects that he understands how nonsensical it is to claim, as he does, that current assets "in light of today's strategic environment will be needed over the next

twenty to thirty years." Such assets reflect what was needed, built, and honed in a strategic environment that has waned. They were not designed for today and certainly not for 2025. That is why there is unanimous agreement (unless Murray really believes we must freeze our assets for three decades) that the Armed Forces need to change, and close to unanimity that they ought to change in the direction the *revolutionaries* advocate. The debate is not about the requirement to change. It is about the rate of change.

That being the case, it is curious that Murray sees a disconnect between my call for debate, experimentation, and reasoned discussion on the one side and speculative projection about a force

structure (circa 2007) on another which might result if the Nation decided to accelerate the change. It appears that those who promote faster change must spell out details on the structural implications of their views and support honest, extensive tests and experiments to determine if they are correct. The alternative is to be vague about what could be done and resist testing and experimentation. But even the good professor would reject that approach. Wouldn't he?

—James R. Blaker
Science Applications
International Corp.

Look for *Joint Force Quarterly* on the Joint Doctrine Web Site

<http://www.dtic.mil/doctrine>

<http://www.dtic.mil/doctrine/jel/index.html>

http://www.dtic.mil/doctrine/jel/jfq_pubs/index.htm



For more information about the Joint Doctrine Web Site, contact the Joint Doctrine Division, Operational Plans and Interoperability Directorate (J-7), at (703) 614-6469 / DSN 224-6469.

Shaping America's Joint Maritime Forces:



Cutters refueling
in the Pacific.

U.S. Coast Guard (J.L. Snyder)

The Coast Guard in the 21st Century

By JAMES M. LOY

Now is the moment to be farsighted as we chart a path into the new millennium. As borders open and the flow of information, technology, money, trade, and people across borders increases, the line between domestic and foreign policy continues to blur. We can only preserve our security and well-being at home by being actively involved in the world beyond our borders.

—National Security Strategy for a New Century

Admiral James M. Loy is the 21st Commandant of the U.S. Coast Guard.

For the Coast Guard three core objectives of national security policy are critical to politico-military plans, programs, and operations: bolstering economic prosperity, promoting democracy abroad, and enhancing security by effective diplomacy and with forces that are ready to fight and win. "To achieve these objectives," our national security strategy states, "we will remain engaged abroad and work with partners, new and old, to promote peace and prosperity."

These compelling and enduring objectives will continue to shape the Coast Guard's vision. They indicate how the multi-mission Coast Guard—as the Nation's premier maritime agency—will respond to needs at home and abroad even as it prepares for unknown future requirements that will inevitably be thrust upon it.



U.S. Coast Guard (Dave Santos)

Counter-drug training in Central America.

Challenges to our security today and tomorrow—especially maritime security—will no longer be strictly military threats from other countries. A variety of transnational threats and challenges have much broader effects that envelop the environmental, economic, and social well-being of

national and international capabilities which complement those of the Navy and other services as well as civilian agencies.

The need to control America's landward borders, territorial seas, and exclusive economic zones will intensify in the first decades of the 21st century. Indeed, future threats to U.S. security will be even more varied than today. Our national security strategy acknowledges that:

... the dangers we face are unprecedented in their complexity. Ethnic conflict and outlaw states threaten regional stability; terrorism, drugs, organized crime, and proliferation of weapons of mass destruction are global concerns that transcend national borders; and environmental damage and rapid population growth undermine economic prosperity and political stability in many countries.

Growing numbers of illegal migrants will seek entry into the United States, creating social, economic, and political problems and generating demands for expanded Coast Guard interdiction along our maritime borders. Similarly, the flow of illegal drugs will become harder to counter as global and regional drug cartels employ more advanced equipment and technology. Capabilities such as radar-evading stealthy boats and aircraft and sophisticated counter-information technology will enable the cartels to challenge law enforcement organizations with greater daring.

Domestic and international terrorism will also continue to proliferate, placing a premium on our ability to detect, deter, and respond to such threats. There will be a critical need to safeguard American ports and waterways from attack and sabotage in peace and war—especially from groups with access to chemical or biological weapons.

Militarily, the United States is facing far different threats today than during the Cold War. While a peer competitor is not expected to emerge until after 2010, the Armed Forces must be able to meet the operational requirements of winning two nearly simultaneous major theater wars. In addition, smaller-scale contingencies of varying size and intensity—as well as non-combat military operations other than war (MOOTW)—will demand effective and flexible U.S. forces that can be forward-deployed and support peacetime diplomacy and crisis-response operations in key areas of the world. Both local and regional crises will continue to proliferate and become more dangerous as sophisticated weapons become more available to nations as well as sub-national groups intent on challenging the United States and its allies and friends.

the need to control landward borders, territorial seas, and exclusive economic zones will intensify

our citizenry and are thus a critical focus for the Coast Guard of tomorrow.

Maritime forces provide unique, complementary, and much-needed assets to humanitarian, law-enforcement, regulatory, and military operations to meet these challenges head-on. Although the relationship between the Navy and the Coast Guard has never been better—with unprecedented levels of operations, officer exchanges, integrated staffs, interoperability, and planning—we must think in new, mutually supportive ways about maritime forces for the next century.

Responding to Maritime Challenges

The Coast Guard is not a navy but a distinctive force with a separate identity and purpose. Each of its four roles—law enforcement, environmental protection, safety, and national defense—contribute to the economic, social, environmental, maritime, and military security of the Nation. An agency of the Department of Transportation, it is the smallest of the five services. And although the majority of its responsibilities lie close to home, its missions have global implications. It is unique among the Armed Forces in that it has statutory law enforcement authority and is not subject to the limits of the Posse Comitatus Act. Its people, systems, and platforms provide both

Patrolling off Cape Canaveral.



U.S. Coast Guard (C.S. Powell)

Maritime Challenges 1997, an assessment by the Office of Naval Intelligence, addressed many of the important maritime security challenges faced by the Coast Guard daily:

- smuggling narcotics, illegal aliens, and technology or importing untaxed cargoes
- growing complexities of multiflagged, multinational maritime corporations
- sanction violations by pariah states of restrictions imposed by the United Nations or other international governing bodies
- destabilizing arms traffic
- illegal transmission of key components or precursors of weapons of mass destruction
- disruptions or discontinuities in maritime trade access, the lifeline of the global economy
- illegal exploitation or contamination of the maritime food supply
- circumvention or violations of environmental protection laws
- piracy, terrorism, and crime and violence at sea
- sudden uncontrolled mass migration
- threats to the sealift support needed to sustain military operations.

That many of these challenges to maritime security are not strictly military underscores the importance, relevance, and vitality of the Coast Guard's law enforcement role—a core competency developed during 200 years of service.

Security Imperatives

As our national military strategy makes clear, the Armed Forces must provide a wide range of options to promote and protect U.S. interests. This includes capabilities to support multifaceted peacetime military engagement initiatives, to conduct and sustain multiple concurrent smaller-scale contingency operations in both peacetime and crisis, and to respond to regional aggression and conflict in the face of weapons of mass destruction and a variety of asymmetric threats.

The unique capabilities of multimission flexibility and organic self-sufficiency inherent in maritime forces generally make them particularly appropriate to a broad spectrum of peacetime and crisis-response operations. The Coast Guard, along with the other sea services, has a long history of peacetime engagement. Active presence in forward areas—including port visits and other show-the-flag operations, training and exercises with regional navies and coast guards, and working with local maritime agencies and organizations—has important benefits:

- demonstrates firm political, military, and economic commitments to allies and friends
- helps underwrite regional stability
- enhances U.S. access to and familiarity with overseas operating areas
- facilitates coalitions in future emergencies

- promotes interoperability between U.S. and foreign maritime forces
- nurtures regional stability and deterrence
- provides timely initial-response capabilities to various crises, humanitarian or military.

A cursory survey of the last few years illuminates the key contributions of the Coast Guard to national maritime and security needs. During the Haitian political crisis of the early 1990s, for example, a Navy amphibious assault ship was turned away from landing at Port-au-Prince by a volatile crowd. Meanwhile, Coast Guard cutters continued to return illegal Haitian migrants to the same port. Such low-visibility visits were an important communications channel to local political and security officials and were indispensable to the overall U.S. diplomatic response and support for the U.N. attempt to restore democracy. The Coast Guard acts as the lead service for the Haiti Multi-Agency Maritime Initiative, an effort to improve maritime infrastructure and security.

Moreover, the Coast Guard has played a major role in supporting U.N. sanctions halfway around the world. Its law enforcement detachments (LEDETs) have conducted tens of thousands of searches of ships suspected of violating U.N. embargoes. During the embargo of the former Yugoslavia, LEDETs served on Navy surface combatants and provided the law-enforcement and search expertise to conduct boardings and detect contraband. Such maritime interdiction operations (MIOs) were also conducted by LEDETs riding Navy warships in the Persian Gulf and Red

the Coast Guard has trained forces in the Republic of Georgia, Colombia, Bolivia, and Haiti

Sea. The Coast Guard was so successful in this forward-presence mission that *USCGC Morgenthau* deployed to the Gulf to assist U.S. Central Command in enforcing U.N. embargoes against Iraq. This also was a resounding success and generated a request from that unified command for another cutter deployment in 1998.

Coast Guard deployments to the annual Central/South American UNITAS exercises, Port Security Unit exercise in South Korea, numerous mobile training team (MTT) visits, and hundreds of port calls have demonstrated that a continuous program of forward deployments by its cutters provides nontraditional support to regional and theater engagement strategies of unified commands. Since 1986 the Coast Guard has deployed 5,000 MTTs to 65 countries. It trains 2,000 students in-country and 300 in its schools annually in the United States. Moreover, a dozen countries have cadets enrolled full-time at the Coast Guard Academy.

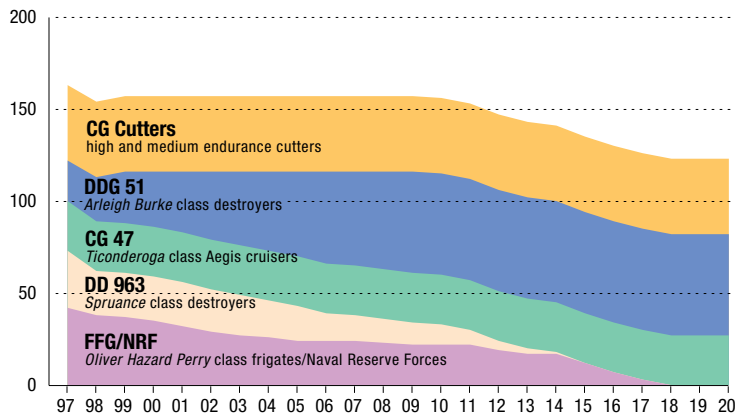


U.S. Coast Guard (Robin Resler)

During the mid-1990s international engagement activities have reaped tremendous benefits. The Coast Guard has enabled and supported ratification of bilateral interdiction treaties with several Caribbean nations, organizing counter-narcotic cooperative patrols. The Commandant also served as the President's senior military advisor at the 1997 Caribbean Summit, which addressed regional counter-narcotic, law enforcement, and humanitarian issues. The Coast Guard has trained forces in emerging democracies: the Republic of Georgia, Colombia, Bolivia, and Haiti. It has deployed cutters to Eastern Europe to share information with ministries and maritime forces and engaged the Russian Federal Border Service to increase maritime cooperation in the north Pacific. All such activities contribute to the security and prosperity of the United States as well as to nations that are key to regional peace and stability.

The Coast Guard has deployed two cutters—*USCGC Dallas* and *USCGC Gallatin*—to the Mediterranean, Black, and Baltic seas. Port security units and aviation squadrons also have been sent to Turkey, the northern Red Sea, and the Persian Gulf. Its assets have taken part in numerous exercises with foreign maritime forces and made hundreds of visits worldwide. The striking aspect of these and other links is the similarity between

Correcting the Shortfall—A National Response



Coast Guard and host-nation forces. As a Navy admiral recognized after the 1995 deployment of USCGC *Dallas*, the Coast Guard is

the right force to reach the majority of these navies, especially the Partnership for Peace navies. What these countries need and can afford is Coast Guard-type missions and associated force structures. The Coast Guard is an excellent example of how to merge together an agency with military and civilian duties.

So valuable were those deployments that USCGC *Legare* spent two months deployed to Baltic and Mediterranean operating areas and conducted numerous port visits and exercises with NATO naval forces and other regional navies.

The Department of State and unified commands focus on several essential attributes that the Coast Guard brings to shaping and responding to maritime security needs. It interacts with a large and diverse number of agencies in host countries. Its forces and missions closely match those of many foreign navies. And the presence of Coast Guard forces is often instantly acceptable because of their worldwide humanitarian reputation.

Deepwater Perspective

Joint Vision 2010 has defined a common direction for all the services—including the Coast Guard—to meet the future. Emerging technologies are to be merged with innovative operational concepts that will greatly improve the Nation's ability to conduct joint operations across the range of peacetime, crisis, and wartime missions. Key to this future is information superiority which, along with operational and technological

innovation, will enable four operational concepts that are to serve as the template for future forces:

■ *Dominant maneuver* is the multidimensional application of information, engagement, and mobility capabilities to position and employ widely dispersed joint land, sea, air, and space forces to accomplish operational tasks.

■ *Precision engagement* is a system of systems that enables forces to locate the objective or target, provide responsive command and control, generate the desired effect, assess the level of success, and retain the flexibility to reengage with precision when required.

■ *Full dimensional protection* is the multilayered offensive and defensive capability to protect our forces at all levels from attack while maintaining freedom of action during deployment, maneuver, and engagement.

■ *Focused logistics* is the fusion of information, logistics, and transportation technologies to provide rapid crisis response, track and shift assets even while en route, and deliver tailored logistics packages and sustainment directly on the strategic, operational, and tactical levels.

Within these architectures for today's and tomorrow's forces, the Coast Guard can provide key capabilities for joint and multinational operations:

- port security units
- harbor defense commands
- coastal patrol boats
- major cutters with embarked helicopters
- patrol and logistics support aircraft
- maritime interception/boarding teams
- shipboard helicopter detachments for U.S. Navy and other-country warships
- environment protection teams
- explosive loading teams
- aids to navigation teams
- search and rescue units

While the Coast Guard does not foresee significant changes in its missions and operations, it will carry them out in different ways. This expectation has shaped thinking on recapitalizing for the next century. For example, the *search* portion of the search and rescue mission will likely undergo dramatic changes. Finding mariners in distress will be simplified by new technology. Traditional aids to navigation (such as buoys and lights) will become fewer, replaced by virtual navigation and integrated electronic navigation systems. Safe and efficient use of new megaports for megaships will require efficient vessel traffic systems and partnerships with non-governmental agencies.

Marine pollution incidents should become less frequent but potentially more severe because of the growing volume of traffic and the more hazardous material being shipped. Requirements for drug interdiction will depend on the effectiveness of efforts to reduce demand and possible shifts to synthetic drugs. Moreover, the United States will remain the destination of choice for many illegal immigrants. And, although high-seas fish stocks will decline, consumer demands

Haitians boarding
USCGC Bear at
Guantanamo Bay.



U.S. Air Force (Vince Jones)

for seafood will grow to create an increased need to protect resources in the U.S. exclusive economic zone.

For defense and military missions, Coast Guard capabilities lend themselves best to naval coastal warfare operations in the littorals and to force protection operations at the land-sea interface (protecting ports, over-the-shore logistics sites, and amphibious objective areas). Assets and skills used daily in peacetime will remain valuable for military operations and will be needed especially because littoral operations are likely to increase in importance. Accordingly, the service will work with naval component commanders to provide tailored expeditionary force packages comprised of Coast Guard units teamed with Navy mobile and inshore warfare, mine warfare and explosive ordnance disposal, and mobile diving and salvage units.

Because of the growing sophistication of naval weapons systems, the Coast Guard will not perform high-end warfighting missions. This does not mean it will not have a warfighting role. In a recent letter on the combat capability of future replacement cutters, the Chief of Naval Operations underscored that his service's "policy has been and will continue to be to ensure the Coast Guard is prepared to carry out assigned naval warfare tasks."

In short, the demand for high-profile, visible overseas presence by U.S. forces will almost certainly expand as natural disasters, humanitarian crises, nationbuilding programs, and threats to national interests generate calls for active engagement and involvement. But the Navy and Marine Corps are increasingly challenged to meet all commitments, especially as active and Reserve forces are downsized as the result of fiscal constraints. From its 600 ships at the end of the Cold War, the Navy will have no more than 330 by the year 2002, of which only 116 will be multimission surface combatants—the highest of the Nation's high-mix forces. This fact of life has significant implications for both the Navy and Coast Guard.

The Navy is shaping its future force in response to national military strategy, *JV 2010*, and *Forward . . . From the Sea*. Among other needs, surface combatants must be capable of prevailing in major theater war and must focus on critical technologies and systems to provide theater ballistic missile defense and to counter weapons of mass destruction—high-end and high-tech capabilities. Such ships also must conduct the full array of responses for small-scale contingency operations.

The Navy has identified the way ahead for surface forces. No longer relegated to an escort role, its general-purpose surface forces will possess significant assets to directly influence events



U.S. Coast Guard (Carolyn Chelika)

HH-60J on
USCGC Escabana.

the Coast Guard is a force-in-being, capable of many important MOOTW

ashore in the future. With regard to surface combatants, two current initiatives involve developing Aegis theater ballistic missile defenses and a precision land-attack capability, again with a focus on more effectively and completely supporting land campaigns.

More to the point of force structure, in 2008 the Navy plans to commission the lead unit of what some term a maritime fire support ship—the DD21 land-attack destroyer—the next generation of surface combatants and a major leap in combatant design and operational concept. Beyond that, moreover, early units of the USS *Ticonderoga* Aegis guided missile cruisers will be replaced by a future concept identified as the air dominance warship in the 2015–20 period.

Meanwhile, the Navy has been actively shedding older cruisers, destroyers, and frigates, recalling a quip made by Admiral Lord Nelson, who

complained bitterly to his captains after the victory over the French at the Battle of the Nile. Prior to the battle, Nelson spent weeks sailing the Mediterranean trying to locate the French, protect his lines of communications, and convoy supply and troop ships. He declared that if he died then and there the surgeon would see carved on his heart “More frigates!” Surely he spoke for all naval commanders, past, present, and future, who know that quantity has a quality all its own.

The Coast Guard has 41 major cutters to safeguard maritime security and support national strategy. In the era of a 600-ship Navy, 40 or so cutters were a virtual afterthought. But today with regional instability and strife around the world and 116 surface combatants in the Navy, cutters and several hundred coastal patrol boats take on a new significance. In this regard the Coast Guard is a force-in-being, capable of many important MOOTW, small-scale contingency operations, and force protection in a major theater war. Fundamentally, the President and unified commanders



U.S. Coast Guard

require a full spectrum of naval capabilities to meet the maritime challenges of tomorrow.

Within a dozen years, two classes of major cutters—12 *Hamilton* class high-endurance and 16 *Reliance* class medium-endurance—almost simultaneously reach the ends of their useful service lives and must be replaced, as will older medium-endurance ships and patrol boats. In response to multiple projections of future requirements, the Coast Guard has initiated the concept exploration stage in the replacement of its deepwater capability. Deepwater means any operation—civilian or military—conducted more than 50 miles from the coast. These assets must meet the full spectrum of maritime challenges, and the Coast Guard stands ready—*semper paratus*—to respond.

Today, the nascent deepwater integrated system envisions a system of systems approach to recapitalizing the Coast Guard in the next 50 to 100 years. We are addressing surface and airborne platforms and systems; command, control, communications, computers, intelligence, surveillance, and reconnaissance (C⁴ISR) technologies; and systems needed to satisfy and adapt to future mission requirements as an integrated package. There is a real need to solve the cutter platform equation, and we are examining a range of platform design concepts, C⁴ISR systems, and organic/offboard systems. At the same time, we will continue to focus on the C⁴ISR architecture to link surface and airborne systems with shore-based command structures and allow the seamless integration of our assets with those of other services—not just the Navy. Likewise, we will replace shore-based, fixed-wing, and shipboard rotary-wing

aircraft once embarked on the deepwater cutter replacement program. The bottom line is to meet the needs of taxpayers in an effective and efficient manner by using mission needs capabilities and life cycle costs as selection parameters.

Future challenges to our national security will no longer be focused strictly on military threats, and operations at sea will require the capabilities of not only the Navy and Marine Corps, but also of the Coast Guard—and on a scale not seen in the past. In reality, that tomorrow is already here. The Coast Guard and Navy worked hand-in-hand to carry out Haitian and Cuban mass migrations missions in 1994. We conduct counter-drug operations together on a daily basis. Coast Guard law enforcement detachments serve on Navy ships in the northern Persian Gulf.

Referring to the revolution in military affairs at a recent Naval War College symposium, the Chief of Naval Operations noted that “The real revolution will be in thinking not things.” Thus he challenged his audience “to launch another revolution, a revolution of shared purpose, operational integration, and common effort.”

The Coast Guard stands four-square behind the Navy in this effort and has called for a similar revolution between the Navy and Coast Guard. The shortfall in our surface capabilities to meet future threats demands a national response. The collective Navy-Coast Guard responsibility is to prepare adequate maritime forces now. To do that, we must shed our service parochialism and the not-invented-here attitude. Together we must provide the best maritime capabilities at a price Americans are willing to pay. Good stewardship of the public trust demands no less. **JFQ**

The author acknowledges the assistance of Captain Bruce Stubbs, USCG, of Headquarters, U.S. Coast Guard, and Scott Truver of the Center for Security Strategies and Operations, Techmatics, in preparing this article.

Intelligence Support of Military Operations



Global Hawk reconnaissance aircraft.

DOD

By IKE SKELTON



U.S. Navy (Joe Hendricks)

Some have described the 20th century as an epoch of total war for the American people. The assertion has considerable justification. Two world wars and the conflicts in Korea, Vietnam, and the Persian Gulf have marked decisive points in our history. In addition to hot wars, we have seen the peaceful conclusion of the Cold War, which required a massive investment in defense and the establishment of large military forces.

Combined, these conflicts—hot and cold—resulted in millions of deaths, countless injuries, endless destruction, warped economies, disrupted families, and other misery. Yet this Nation and its allies survived. The Armed

Forces have redeemed the Wilsonian ideal of making the world safe for democracy. Taking a long view, America and its allies did not for the most part go to war in vain. U.S. security interests have been protected and American ideals have set a global standard even in countries that fail to live up to them. American shortcomings are real, but they pale in contrast with those of powers which have met with defeat—Nazi Germany, imperial Japan, the Soviet Union, and Saddam Hussein's Iraq.

Given the decisive impact of war in this century, no one should be foolish enough to resort to combat unless it is unavoidable. Even the young have seen enough—via television if in no other form—to know about limited war. Most believe, however, that to avoid war or avert defeat should war break out we must be prepared to fight effectively.

The Honorable Ike Skelton is a member of both the Committee on National Security and the Select Committee on Intelligence in the U.S. House of Representatives.

We can't predict the nature of warfare in the next century. But we do know that we must prepare for an array of new contingencies. Technology is changing so rapidly that some observers refer to an emerging military

most of the Nation's intelligence effort is concentrated in the Department of Defense

technical revolution (MTR). Many regard capabilities based around air-launched precision-guided munitions (PGMs) and information systems as key to the American way of warfare in the coming decades. PGMs were used with considerable effect in the Gulf War and have become a focus of strategic planning. Although expensive and not a panacea, they can do extensive damage and minimize the loss of non-combatant lives.

Precision munitions, however, require reliable information: good intelligence. PGMs must be targeted exactly. The urgent need for precise intelligence to conduct operations—information superiority—underscores the need to grasp the evolution of military intelligence. Notwithstanding public fascination with covert operations mounted by the Central Intelligence Agency, most of the Nation's intelligence effort is concentrated in the Department of Defense. Aside from bureaucratic distinctions between the national and the tactical level, intelligence support has become increasingly important for military operations in the post-Cold War world.

Because of its growing importance and the absence of debate on the subject, it is useful to review the course of military intelligence from a peripheral concern of headquarters staffs to an integral component of every combatant command down to the lowest tactical echelon. That evolution reflects, in particular, the close relationship between intelligence capabilities and the effectiveness of aerial bombardment.

The Two World Wars

The intelligence arms of the Army and the Navy date back to the last century, and Air Force intelligence was

part of that service since its inception in 1947. Much of the early intelligence work by the services focused on gathering basic intelligence—order of battle, terrain, ports, and foreign defense industries. It came from reports by attachés whose major qualification for assignment abroad was an independent income. Except during World War I, much of the military intelligence effort could charitably be described as superficial. Even the excellent analysis done by a handful of cryptographers did not prevent the Japanese attack on Pearl Harbor.

But intelligence did not initially occupy a significant role in one particular military technical revolution earlier in this century. Following the lead of the Italian airpower theorist Giulio Douhet, military aviators sought victory by attacking enemy industrial and political centers. These assaults aimed at destroying the economy of a sophisticated nation without defeating its forces in the field. But airmen did not seriously analyze the nature and location of key enemy facilities. Photographic surveillance was often an orphan; the emphasis was on acquiring and training to use bombers.

Airpower came of age in World War II, but its accomplishments did not

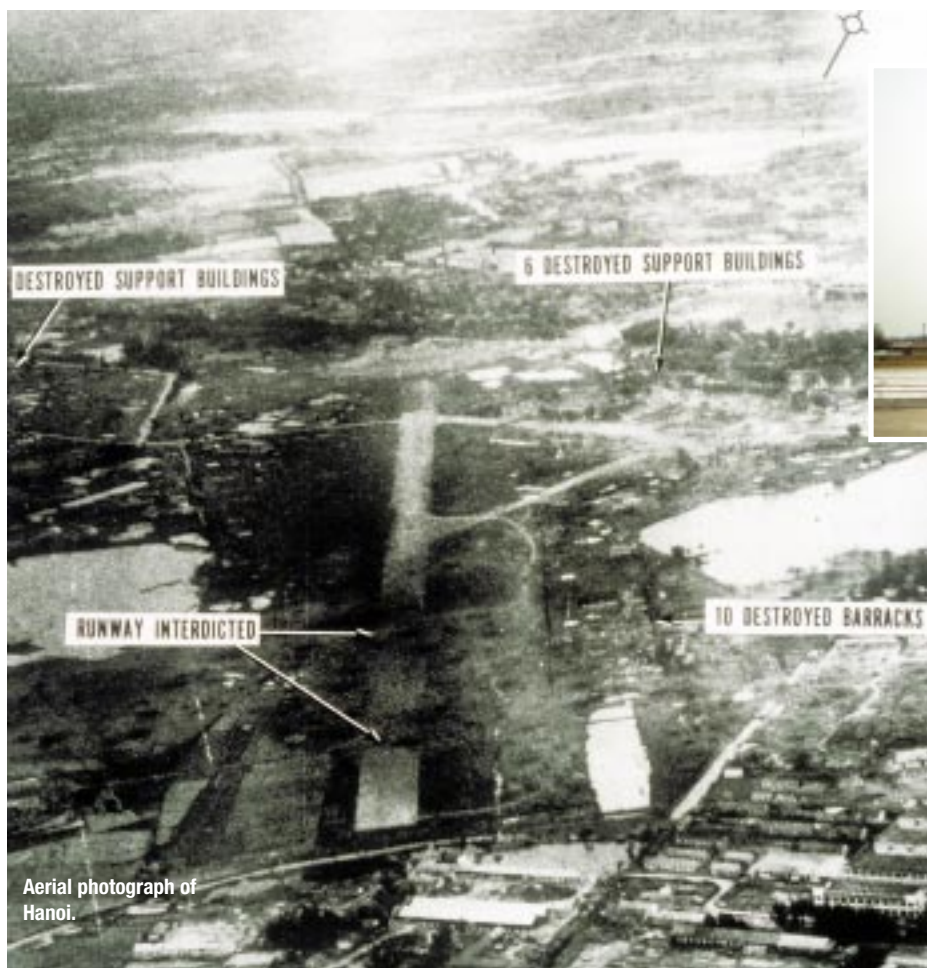
completely validate the strategy favored by its supporters. Despite the emergence of independent air forces, advocates of strategic bombing never demonstrated that it alone could defeat an enemy. It was not precision attacks against German factories and transportation centers that characterized the initial stages of the air campaign in Europe, but massive nighttime area bombardment designed to break enemy morale. It proved frustrating to hit targets with sufficient precision to knock out industries for significant periods. Without adequate fighter protection (especially early in the war), navigational capabilities, and intelligence data, the bombing of Germany was largely directed at its urban population centers. Later, when air superiority was achieved, daylight precision bombing of key targets contributed to the Normandy invasion and the drive into Germany; but it did not preclude bloody ground fighting. Moreover, post-war analyses of Allied bombing suggested that its effects were often inflated.

The success of bombing was limited by both aircraft and bombsight capabilities as well as German opposition, but the availability of intelligence was also a critical factor. It was difficult to take usable photographs at night and reconnaissance by day was hazardous. Analysis of pressure points in



Information Warfare
Center, Kelly
Air Force Base.

DOD (John K. McDowell)



Aerial photograph of Hanoi.

the enemy economy took time. Damage assessments were largely casual and inaccurate. Intelligence analysts and operators were often at loggerheads on bombing results.

The bombing campaign against Japan presented a somewhat different challenge. Although its economy was highly developed, the Japanese industrial base was generally not concentrated in large, easily identifiable complexes but in small factories or homes. Intelligence clearly indicated that Japan was preparing to counter a possible American landing on its home territory with massive ground forces which would inflict horrendous U.S. casualties. Thus there was a persuasive case for area bombardment, and it was undertaken in 1945 with ruthless efficiency against tinderbox cities such as

Tokyo, Osaka, and Kobe. The campaign reached a climax with atomic bomb attacks on Hiroshima and Nagasaki. Although Japan had been weakened by military defeats and a highly effective economic blockade, airstrikes, especially the atomic bombs, hastened the end of the war. Civilian losses from both conventional and atomic attacks were enormous.

Despite the limitations of air campaigns, there were advances in military intelligence during World War II, including photographic reconnaissance based on the work of George Goddard and other pioneers who adapted specially-designed cameras for aircraft use. Careful analysis was done by civilian experts brought into the Office of Strategic Services to identify targets vital to German and Japanese war efforts. Combined American and British experts achieved great cryptographic



DOD (John K. McDowell)

successes, setting a pattern for post-war collaboration.

The Cold War

The defense establishment was reorganized after World War II. The National Security Act of 1947 created the post of Secretary of Defense, a separate Air Force, and the Central Intelligence Agency to coordinate all source analysis and human intelligence collection. The late 1940s brought fiscal austerity, and military intelligence atrophied along with other defense capabilities.

As part of the build-up in the wake of the Korean War, military intelligence agencies began to grow and acquire the organizational structure that would make them major components of the Cold War military. New and specialized agencies would emerge to deal with cryptography, photographic interpretation, and satellites; and an intelligence community was organized under the Director of Central Intelligence to ensure collaboration and prevent expensive duplication of effort.

Much defense planning was based on increasing nuclear capabilities. These weapons made it possible to design air campaigns that could realistically destroy an enemy industrial base along with virtually everything else. The logic of nuclear warfare as it evolved, however, did not lead to a widespread acceptance of its practical utility. Once nuclear parity was

Assembling laser
guided bomb.



U.S. Navy (Heather Humphreys)

reached, decisionmakers perceived that the use of nuclear weapons was inherently a worst case scenario and that, short of direct threats to the national

during the Cold War the intelligence community necessarily focused on the Soviet Union

survival, their military usefulness was strictly limited.

During the Cold War the intelligence community necessarily focused on the Soviet Union together with the Warsaw Pact and Communist China. Concern over the military capabilities and intentions of the communist world, especially after a nuclear strike on American territory became possible, led to the growth and technological sophistication of U.S. intelligence. The requirement for accurate information on a secretive Soviet Union led to overflights by manned aircraft (in the wake of the shoot down of a U-2 in 1960) and the development of satellites that could peer into the deep recesses of communist territory with increasing discrimination beginning in the early 1960s. It became possible to accurately

calculate the number of Moscow's intercontinental missiles and launch platforms and assess Warsaw Pact intentions regarding NATO. Moreover, the intelligence community provided information for arms control agreements and defense planning.

The key recipients of intelligence were Washington decisionmakers—the White House, the Secretaries of State and Defense, and the Joint Chiefs of Staff. Decision cycles were lengthy, and there was opportunity for exhaustive studies and voluminous national intelligence estimates.

Given the danger of nuclear war, intelligence support of military forces engaged in limited wars, even in Southeast Asia, was largely a byproduct of assets designed for superpower targets. Satellites might be redirected for a time, reconnaissance aircraft assigned to tactical missions, and signals from Third World countries exploited; but the emphasis—and the organization and methods of intelligence agencies—remained on the Soviet threat.

Bombing campaigns during the Korean and Vietnam conflicts failed to accomplish all (or even most) of what their proponents predicted. For various reasons it was deemed unwise in both wars to attack the sources of industrial

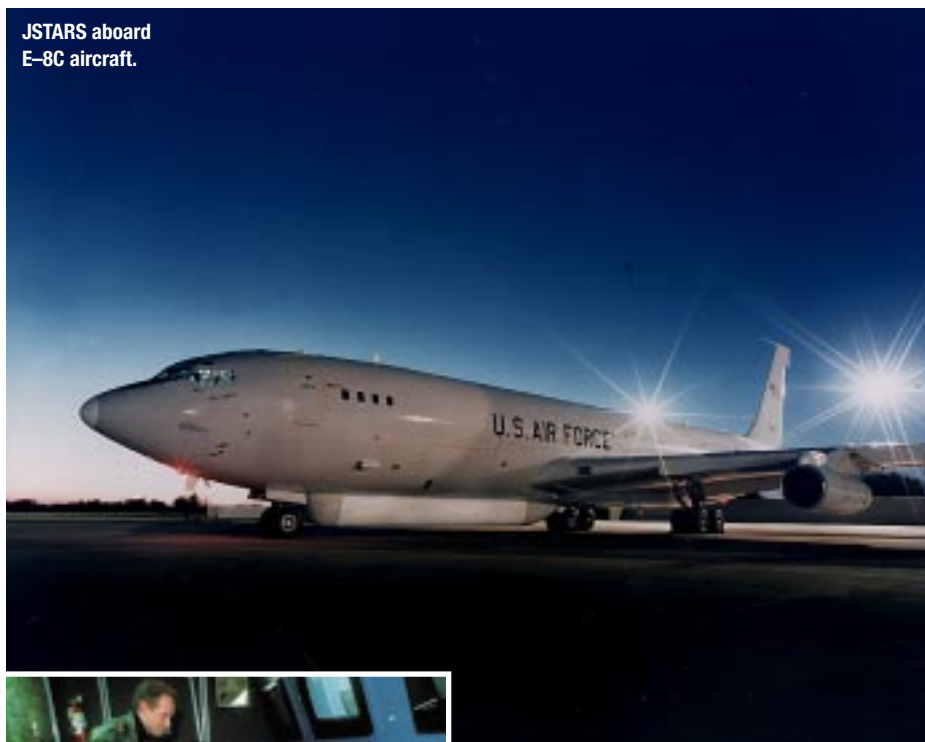
production since they were outside the theaters of operations—in the Soviet Union or China. The primary effort was on interdiction and tactical support to combat units. The outbreak of the Korean War required a frantic effort to rebuild surveillance systems to enable allied forces to target North Korean facilities. While air superiority and the destruction of the few strategic targets were accomplished early in the war, the effort to interdict enemy supplies and reinforcements was limited by inadequate targeting data and weaponry. Although airpower contributed significantly, it did not “isolate the battlefield,” and the war dragged on for three years.

There was enormous debate during the Vietnam conflict over a bombing campaign known as Rolling Thunder. Target selection by political leaders in Washington and political constraints on American strategy hampered prosecution of the war. All sides were concerned that sophisticated and expensive aircraft were being used on minor targets such as individual trucks and small troop concentrations. But locating targets was difficult. Aerial surveillance was hindered by triple canopy jungle and the effects of ground sensors were mixed. The extent to which interdiction actually reduced communist infiltration was widely disputed. Today most observers concede that the costly air campaign did not accomplish its goals, at least until targets in Hanoi were struck in 1972.

The Armed Forces went through a difficult downsizing and readjustment in the years after Vietnam, but those years also saw the start of a technological shift resulting from improvements in electronics and communications. These advances, most related to computerization, were not at the time widely seen as changing the nature of operations. The focus of military planning remained on the threat posed by a Soviet Union whose decline was not immediately apparent.

Since the mid-1980s some of the most notable technological advances have occurred in the field of military intelligence, including lasers, cameras, radars, sensors, miniature television

JSTARS aboard
E-8C aircraft.



Interpreting imagery
from U-2 sensors.

DOD (Rose S. Reynolds)

links, e-mail, networked computers, and new forms of communications equipment.

After the Cold War

The collapse of the Soviet Union revolutionized the geopolitical environment in which the intelligence community operates. Although nuclear forces in the former Soviet Union must not be overlooked, most observers believe the United States is likely to face challenges far different from those of the Cold War. That means intelligence agencies which long focused on the Soviet Union must now provide real-time tactical intelligence on places such as Somalia, Cambodia, Bosnia, and Iraq. This requires new collection and communications

systems as well as organizational flexibility that does not come easily to any bureaucracy. Yet there are interesting continuities between intelligence today and that of the pre-Cold War era. Technological advances make it possible to accomplish missions once considered impractical.

The Iraqi invasion of Kuwait in 1990 was countered by a coalition led by the United States. The dramatic victory in Desert Shield/Desert Storm reflected not only the changed nature of war but the emergence of advanced and arguably revolutionary military technology. Capabilities developed during the Cold War, especially laser-guided PGMs, proved particularly useful against Iraqi forces even though extensive adaptation and jury-rigging were necessary. It was possible to identify and attack military (chiefly air defense), industrial, and communications facilities, largely by crippling combat capabilities. The enemy was blinded by a precision air attack on its command centers, but there was no direct attack on the Iraqi population. Air defense networks were destroyed, columns of tanks were identified and reduced to scrap metal, and Iraqi aircraft fled to

Iran for safety. The air campaign helped ensure enemy resistance to the ground campaign was vastly weakened and allied casualties were light. Despite media claims, airpower alone did not achieve victory; the ground campaign was necessary to drive Iraqi troops out of Kuwait.

For television viewers far from the battlefield, dramatic footage caught laser-guided PGMs delivered exactly on target, occasionally entering specified windows. Leaving aside the possibility that the military released only the best coverage and the fact that PGMs were just a fraction of the ordnance used, precisely striking targets demonstrated that the capabilities propounded by airpower pioneers decades ago was realized on the battlefield. PGMs are costly and wars will still be fought "on the ground and in the mud," as General George C. Marshall commented, but these weapons are nevertheless a major part of future warfare.

Looking Ahead

PGMs depend on precise intelligence. For a bomb to enter a window, detailed information is needed on the use and configuration of the building. Obtaining it is not simple or inexpensive. While satellites, manned reconnaissance aircraft, and unmanned aerial vehicles (UAVs) may offer excellent overhead photography, not all targets are above ground. In addition, photography may not yield information on the interior. Other disciplines are necessary, including signals intelligence and human intelligence. Analysts must combine disparate data from all collection sources and give it to the decision-maker within a definite timeframe. Hard decisions have to be made regarding priorities; mapping the entire earth would be prohibitive even for the world's only superpower.

In an MTR innovations in weapons and equipment lead to new doctrine and organizations. Decades passed before the Air Force became a separate service. Even then many military leaders and civilian strategists failed to fully integrate airpower into planning and operations. Today, new

Northrop Grumman

B-26s after attacking
German fuel dump.



intelligence technologies, organizational structures, and the knowledge and skill to exploit them are being introduced simultaneously. A phenome-

Congress and the Pentagon carefully studied the effectiveness of intelligence during Desert Storm

non of Desert Storm was the way in which informal liaison among various echelons and stateside components supplemented formal command patterns. This situation was especially noticeable when hard-pressed intelligence officers in the Persian Gulf region established direct links to Washington-level analysts by e-mail or secure telephone.

The Gulf War was a decisive victory which provided a host of lessons. Leaving aside the absence of good intelligence on Saddam Hussein's intentions before his invasion of Kuwait, there were unacceptable delays in

transmitting data and aligning various computer links. Reams of paper were hand-carried within the theater because of inadequate transmission capabilities. The accuracy of bomb damage assessments (BDA) was controversial. The nature and extent of Iraq's chemical weapons capabilities and programs were a mystery until long after the end of hostilities.

Congress and the Pentagon carefully studied the effectiveness of intelligence during Desert Storm and incorporated its lessons into subsequent operations, especially Bosnia. Interoperability and the connectivity of communications capabilities reportedly are greatly expanded. Procedures for BDA have been examined. Efforts have been made to bring diverse elements of the intelligence community together to support commanders, and better links have been forged with the intelligence activities of foreign militaries. But anomalies exist. Decades after Goddard's work in configuring aircraft with

special camera systems, naval aviators in combat jets have used hand-held cameras to photograph ground installations in Bosnia.

Mastering the lessons learned during Desert Storm as well as the infrastructure established to support U.S. and NATO forces in Bosnia are only initial steps towards integrating intelligence into the post-Cold War defense establishment. Concepts such as dominant battlefield awareness, information superiority, and full dimensional protection may not adequately describe how forces will fight, but they are evolving in both Congress and the Pentagon. By all accounts the military of the future will demand more effective information and intelligence. This is a necessity unless one plans to fight with obsolete technology, larger numbers of troops, and more civilian casualties.

Careful employment of advanced weaponry based on sophisticated intelligence can permit attacks on military assets, decisionmaking headquarters, and communications networks without the area bombing of cities which characterized World War II and was envisioned in the nuclear strikes of the Cold War. They can launch planes or missiles against vital targets, not jungle trails or empty buildings. But there are unavoidable costs. Increased intelligence may absorb a greater portion of the defense budget. In the sprawling intelligence community, there are undoubtedly cases of waste and duplication. At the same time, increased investments in advanced intelligence technologies is clearly in the national interest. **JFQ**

Satellite Reconnaissance of the

Future

By THOMAS G. BEHLING and KENNETH McGRUTHER

Yalu River separating
China and North Korea.

The intelligence community is responding to a Presidential tasking that calls for more direct support of military operations. It is also adjusting to concepts presented in *Joint Vision 2010* that are based on the assumption that commanders will enjoy information superiority—an ability to see and hear

virtually everything of importance—to control the course and outcome of any military operation. However, developing such a capability could take a decade or longer.

There may not be a consensus on the import of *JV 2010* for intelligence requirements that deal with targeting, damage assessment, and simultaneous operations until 2005. This would pose a serious dilemma. In 2005 it will be too late to change reconnaissance satellites in orbit to meet these requirements, and it will take several more

Thomas G. Behling and Kenneth McGruther are affiliated with the Office of Plans and Analysis at the National Reconnaissance Office.

years to develop and launch new satellite systems. Moreover, other nations will have increasing access to satellite-derived intelligence to support their operations while America's ability to use space to freely collect intelligence may be challenged.

Space is rapidly becoming commercialized. U.S. success during Desert Storm can largely be ascribed to superior information from its spaceborne intelligence system. Changes in the highly competitive field of space reflect this progress. Three American firms plan to launch commercial im-

the Armed Forces have traditionally predicated doctrine on weight of effort

agery systems before 2000, and at least ten nations will have imagery systems with resolution to one meter or less by 2010. That information will likely be available in the marketplace.

Once others take advantage of space-borne intelligence technology, the reconnaissance gap with the United States will narrow, making covert military operations more difficult. There will be developments that thwart capabilities to see effectively from overhead systems. That interdiction could include attacks on U.S. satellite reconnaissance systems. Such threats are being scrutinized by the National Reconnaissance Office (NRO), which has the task of developing, launching, and operating imagery and signals intelligence satellites. Current systems must be replaced in the next decade. And although decisions on replacements are being made now, some questions remain unanswered.

As NRO develops the next generation of reconnaissance satellites, it is endeavoring to cope with the implications of change. Should satellites be built to support the policymaker or operator? What priority should be given to satellite system defense? What is the role of commercial remote sensing satellites? Who should be supported as budgets are cut? How will requirements change collection operations? The way in which NRO and the intelligence community at large respond to

these questions will be critical to the joint warfighter. Decisions on collection systems can no longer be made without the direct participation of operators. Operations must be planned and directed according to formal doctrine—analogue to military doctrine—that provides general guidance.

New Doctrine

The Armed Forces have traditionally predicated doctrine on weight of effort. America out-produced and out-fought its enemies in World War II. Consequently, measures of effectiveness in combat usually rested on attrition: body count, damage inflicted, and survivability rates.

Damage assessment was therefore critical. But *JV 2010* is based on time, not attrition. Rapid and flexible maneuver, long-range weapons with high accuracy, and just-in-time logistics are possible with and dependent on accurate and timely information. Properly executed, *JV 2010* will force an enemy to adjust continually to agile operations that seize, maintain, and exploit the initiative. Its major tenets are:

- *dominant maneuver*—multidimensional application of information, mobility, and engagement capabilities to position and employ widely dispersed land, sea, air, and space forces to accomplish operational tasks

- *precision engagement*—the ability to detect and locate a target and, through responsive command and control, generate the desired effect, assess the outcome, and retain the flexibility to re-engage as required

- *full dimensional protection*—maintaining freedom of action during deployment, maneuver, and engagement whatever the threat

- *focused logistics*—fusing information, logistics, and transportation technologies to directly deliver tailored logistics packages and sustainment appropriate for specific operations.

The Joint Staff and services have yet to translate this vision into doctrine to guide planning and operations. They are, however, moving that way through games, model-based analyses, and field exercises. In July and August 1997, for example, the Navy used its major annual wargame,

Global '97, to study specific ways that *JV 2010* would be applied to scenarios set in the future, not just for naval forces but for joint task forces operating in the Pacific and Southwest Asia.

JV 2010 assumes that superior information will not only be available but virtually perfect, in near-real time, and not interrupted in crises. A new vocabulary must be compiled to express this idea. For example, sensor-to-shooter implies that intelligence data will be fed directly to operators who pull triggers or fire missiles. Dominant battlespace awareness is the ability of commanders to see the big picture in sufficient detail to develop operational plans and make real-time tactical decisions. The revolution in military affairs refers to this new information-based warfare. Recently, the term net-centric warfare has been coined as an alternative to platform-centric warfare.

Underlying this vocabulary are assumptions about future operations. Among them is that virtually everything significant about the battlefield will be available to a force that fields a network of satellites and theater systems—ground- and sea-based as well as aircraft, including unmanned aerial vehicles (UAVs)—and that best exploits and disseminates information. All raw data will be fused and focused to provide a clear picture. Organizations will be flattened to create more direct connectivity among commanders and units. Individuals on much lower levels will make decisions. Communications systems will be able to carry such information. In the end, the tempo of war will be vastly increased, and only those who keep up with the rapid flow of information will succeed.

Moreover, if one can see everything in time to react, then there will be little need to plan. Others will not find this advantage to be destabilizing; consequently they will not interfere with the flow of perfect information to commanders. However such assumptions, imbedded in *JV 2010*, are untested. If these concepts are viable, measures will be needed to protect information systems, control the use of space, and deny an enemy access to vital information.



Baghdad.

Intelligence and Doctrine

Both directly and indirectly through other members of the intelligence community, NRO is looking to the Armed Forces to determine what sort of information they need and how quickly. The National Security Agency (NSA), National Imagery and Mapping

Agency (NIMA), Defense Intelligence Agency (DIA), Central Intelligence Agency (CIA), and various service activities form the intelligence community. But the services are unclear about how future doctrine will be applied

and are not prepared to describe the specific intelligence requirements to support it. Absent linkages to emerging doctrine, decisions about intelligence programs are likely to be based on traditional rather than emerging doctrine and current rather than future force structures and organizations.

One example of this disconnect can be found in the realm of analytical support and training, wherein the services are developing techniques to better educate commanders to apply intelligence capabilities against real world threats. At the behest of the Joint Requirements Oversight Council, which is chaired by the Vice Chairman, the services have combined to develop the joint simulation and modeling system (JSIMS) to imbed ISR into future exercise simulators. The goal is laudable but the process does not encompass how new types of operations will influence extant models of intelligence practices. Bureaucratic and procedural linkages of existing intelligence organizations and systems are basically being built into models to train future warfighters, not innovative ones needed for operations envisioned by *JV 2010*.

As a result decisions about future satellite design will likely be made primarily by technical experts instead of operators, reflect an understanding of early 1990s requirements vice emerging requirements, focus on the least costly rather than the most militarily effective means of supporting the requirements, and use inappropriate measures of effectiveness. While substantial performance improvements could still be achieved, one will nonetheless be denied support for the operations envisioned in *JV 2010*.

The debate between wide area and rapid revisit point coverage for imagery satellites may illuminate this point. Since Desert Storm, most attention has been focused on support of wide area coverage of the battlefield since it is relatively easy to describe what is needed from satellites by way of area coverage. Simply put, shoot a large area, then determine what's there by looking at the details. Much effort has gone into systems that provide this

capability with a high degree of assurance. Certainly wide area coverage suffices for strategic purposes such as finding out who is building new military sites and equipment or for fixing the battlefield—that is, periodic snapshots to determine the location and movement of large formations. Rapid responsiveness is not critical in such cases. Using Desert Storm as the model, the demands of wide area coverage would dictate the best satellite architecture for the future.

JV 2010 suggests otherwise. Rapid maneuver and long-range precision ordnance presume access to precise, dynamic, highly responsive data: on-call, real-time, target-quality. In the realm of overhead reconnaissance, this

weapons systems are made far more powerful by virtue of ISR advantages

means rapid revisit point coverage would be a priority: that is, the looking for specific targets and at designated locations. However, imagery satellites cannot stay in one place relative to the ground but rather are designed and programmed for a specific planned orbit. (Of course, satellites can be placed in geo-synchronous orbit far enough from earth—about 22,000 nautical miles out—where they essentially stay in the same place relative to a point on the ground. But while performing missions such as missile warning, communications, and weather reporting, they are too distant to obtain the resolution useful for military imagery.) What satellites will look for must thus be determined beforehand. They are launched into orbits that are difficult to change and must be told during each orbital pass both what to look for and where to aim.

As a result the demand for responsiveness put on imagery satellite systems will be extreme. Moreover, timely response requirements must be met without compromising wide area coverage in support of the strategic warning needs of the National Command Authorities. Similar issues could be raised about signals intelligence satellites. Adapting the architecture for satellites and the C⁴ISR system requires

rethinking everything from system design to operational concepts.

While more time could be taken to consider these issues, things sometimes cannot wait in the evolution of military hardware. Each service copes with the problem differently. For example, the Navy typically builds multi-purpose platforms along generic lines (aircraft carriers, destroyers, submarines) but changes its weapons as new technologies become available. The Air Force is more prone to leap from generation to generation based on new technologies such as stealth.

A third approach is to push leading edge technology and apply it in new ways. That means having the freedom, commitment, and will to take risks atypical in the budget process. In the past, for example, NRO encouraged and gambled on promising technologies. While some

failed, others were very successful, which is partly why U.S. intelligence is far ahead of the rest of the world.

That such gambles could be taken at all was the result of a unique convergence of interests: public and specifically congressional acceptance that the Soviet threat was of such a magnitude that NRO programs would be judged primarily on performance and schedule, not cost. The services, on the other hand, have been subjected to much closer scrutiny and thus developed technology in accordance with the art of the politically possible, which lowered the risk and the planning horizon. However, weapon systems developed by the services are made far more powerful by virtue of the ISR advantages held by the United States.

Research and development is essential to maintaining a space advantage. It may not require the sort of breakthroughs possible during the Cold War, but continued technological innovation and evolutionary development are necessary to retain the information dominance on which *JV 2010* is based. But there will be false starts. Innovation rarely succeeds on the first try. The penalties for failure must be

minimized. We cannot afford to play it safe. In the end, innovation might best be pursued within a broad, qualitative understanding of future military requirements.

Determining Requirements

The task of determining operational intelligence requirements that are relevant to emerging doctrine should be guided by using past practice. The requirements for intelligence satellites have been typically developed by focusing on the threat or positing future scenarios, then asking CINCs and others to specify the amount and sort of coverage needed to support operations. Surveys were conducted of targets of interest to determine total volume and capacity performance, and then they were validated, filtered, and reviewed by the services and CINCs, and finally they were codified.

Fundamentally that is a reactive process. It was not designed or intended to account for whether forces would operate differently in ten to twenty years because there was no basic change in doctrine during the Cold War. In fact, until Desert Storm it was not clear how new technologies would influence operational art. Since then determining ISR requirements has been anticipatory. NRO began by examining future requirements in wargames, including those sponsored by the war colleges. In Global '96, sponsored by the Navy, several insights emerged pertaining to ISR.

- Military success depends on the fusion-analysis-dissemination loop, intelligence on new threats, near-continuous coverage of high interest targets, and adequate strategic warning.

- Devising measures of effectiveness to assess the importance of battlespace awareness for engagement outcomes is crucial for asset acquisition, deployment, and employment. One way to get ISR capabilities on annual CINC integrated priority lists (requirements for future warfighting capabilities) is to ensure ISR models are built into the front end of warfare assessment models.

- Streamlining the flow of intelligence from sensor systems to operators will require flatter command structures, more autonomy to forward-operating forces, and commensurate revisions in training, doctrine, and command.

- However effective collection against specific battlefield operations becomes, we must prepare the battlefield by learning about enemy intentions in addition to enumerating capabilities and selecting targets.

The "Army after Next" wargame played in January 1997 highlighted space protection issues for satellite reconnaissance. Once conflict seemed imminent to an enemy, there was a rush to war to disable space reconnaissance systems. Space attacks, with linkages to ground-based systems in supposedly secure sanctuaries, contributed to the escalation of conflict into home territories. Most of the players concluded that credible space doctrine and policy must be developed in order to deter attacks on future space assets across a range of threats.

Space Game One, played in June 1997 by U.S. Army Training and Doctrine Command, Army Space and Strategic Defense Command, and NRO, reinforced these conclusions by pointing up the need for more effective policy, strategy, doctrine, and tactics. The game suggested that:

- Future CINCs should synchronize space warfare operations with theater campaigns.

- Space is the high ground and operational success in theater depends on retaining space-based ISR, communications, and navigation capabilities; the protection of these systems must be considered in developing deployment packages.

- Space-based threats may be virtually impossible to defeat unless protection schemes are factored into spacecraft designs and reconnaissance architectures.

Requirements for future reconnaissance satellite systems were explored in Forward Focus, a series of games conducted by NRO and the Office of the Secretary of Defense. The object was to determine the types of knowledge required by policymakers and operators in a conflict and crisis. Conclusions from the first three games recommended more agile, focused intelligence on specific events or activities, which contravened the conventional wisdom that the primary need is wide area coverage to fix the battlefield

each day. More specifically, the games pointed out that:

- The time available to plan (between request and action) was the most critical variable in determining the sort of intelligence needed.

- Wide area coverage alone was not sufficient for operations envisioned by *JV 2010*.

- In ambiguous planning situations, the demand increases for in-depth, higher-quality knowledge of more complex objectives as well as target sets.

Operators placed a greater value on responsiveness to tasking against a relatively small and discrete set of targets than detailed information requiring more time to deliver. From these findings it might be assumed that merely detecting an event or target and recognizing a few characteristics is sufficient and that *JV 2010* does not require understanding enemy intentions and plans. However, when presented with preconflict crisis avoidance and contingency planning situations the results of the games were different. Players thought it more important to understand an enemy than react to its initiatives. From their perspective, it was important to take the time to know what is happening in detail and assess possible outcomes in order to develop a full range of options.

Disconnects

Even after gaming and analysis the military has not incorporated the conceptual framework found in *JV 2010* into doctrine for intelligence requirements, which makes it difficult to translate the vision into reality. One real concern about moving too quickly to optimize satellite and airborne collection is that the most important type of support ISR systems provide to the military may no longer be orders of battle and intelligence preparation of the battlefield. Instead, specific highly-focused intelligence on the movements of terrorists, weapons of mass destruction, or illegal drugs are key features of the post-Cold War security environment. Systems optimized for support of the conventional battlefield may not be suited to provide specific data on individuals or fixed points.

In addition, while the intelligence community will assign a priority to

military support, it is clear that the Armed Forces will not be the exclusive users of data gleaned from national sensors. The primary customer for NRO material is, and will remain, the National Command Authorities.

Whereas operational data such as the location of combat units, movements, and emissions implying an imminent attack are key to commanders in the field, NCA is more interested in longer-term strategic warning. Which countries are threats, what are their intentions, and what capabilities are being developed? Longer lead time, more focus on intentions than immediate capabilities, and a different way of putting the picture together are required.

The number of customers interested in overhead imagery is growing. In addition, national satellite reconnaissance is likely to attract more interest in the future. Through civilian authorities, NRO systems help assess domestic emergencies such as the earthquake in Northridge, California, and Hurricane Andrew. During a recent interactive exercise conducted by the Federal Emergency Management Agency that posited a catastrophic earthquake along the New Madrid Fault underlying the Mississippi River, NRO was an initial source of information for the participants. Such cases would indicate that national sensor systems should not be designed solely

national sensor systems should not be designed solely for military operations

for military operations. Some alternative to direct control of national assets by the services will be required.

Finally, current force planning discourages transitioning to dependence on national systems, which runs counter to concepts found in *JV 2010*. Explanations include service parochialism, reluctance to depend on assets that the services do not control, and inherent doubts about *JV 2010* itself. The Army, for example, envisions ground combat under conditions of radically increased lethality and mobility, true battlespace transparency, and a global information environment. But in terms of formal doctrine the Army still be-



Pentagon from spaceborne imaging radar.

NASA

lieves that tasking authority for satellite systems will not intermesh with corps or division operations because access to targets cannot be assured or will not be timely, and thus the results of tasking will be opaque to requesting commanders. In the words of one Army commander, "I would be begging for coverage, and that is not acceptable."

The Navy and Air Force have similar concerns. The Navy white paper supporting *JV 2010* states that naval (as opposed to national) intelligence, surveillance, and reconnaissance will be the basis for information dominance.

A change in the current concept—that tasking national technical means is reserved to the fleet commander in chief instead of the operational level—is not apparent. For the Air Force, decisionmakers (regardless of rank or position) will have full tasking authority over national assets. But it is unclear how specific tasking of national sensors will occur or who will do it. Issues of knowledge, training, authority, and trade-offs lie buried in the details.

Turning a vision into reality is not a technical issue. National collection

systems—satellite and airborne—can be designed to do virtually anything. The disparities are cultural and doctrinal. Despite a decade of effective joint operations, the services tend to develop capabilities and doctrine independently. Although visionaries dream of global brains, systems of systems, seamless C⁴ISR networks, and inherently cooperative joint task forces, the reality on the operational, and more to the point, programmatic level is that the services remain highly parochial, mutually distrustful, and fiercely competitive for decreasing slices of the defense budget.

The prevailing attitude appears to be "If I don't own it I can't count on it." UAVs are a case in point. The services independently develop them to provide ISR support despite their high cost. Some claim that the services distrust each other or the national overhead sensor systems to meet their needs on the operational level. In fact, however, the issue should not be framed as satellites or UAVs, but rather in terms of designing and operating ISR systems to work together effectively. Toward that end, a joint rather than an individual service view would be more efficient.

Another factor inhibiting the services from embracing *JV 2010* is that many senior officers are skeptical

about concepts like the system of systems or unclear about the meaning of dominant battlespace awareness and its application to operational planning. Here the intelligence community must do more than promise; it must demonstrate its ability to deliver. And, to some extent, it must be willing to relinquish direct operational control of national satellite and airborne systems in both exercises and operational support before the military will integrate them into their planning.

Despite these issues, the concepts presented in *JV 2010* will eventually become reality; but incremental thinking and evolutionary development probably will not achieve this end.

Future ISR Systems

Once decisions on the next generation of national overhead systems are made, it may be too late to weigh military requirements. So to the extent that the services are serious about support for future operations NRO and its national intelligence partners must get together with the services and CINCs. The task must be to translate visionary concepts into specific operational requirements to include selecting criteria for the next generation of satellites.

There are two major views of how future generations of national satellite systems should be designed. One is the same but better: wide area coverage, support for national strategic warning, and perhaps marginally more coverage by changing the mix of collectors. Commercial systems are one way to provide broad area coverage for operations, at least insofar as service needs are realized. The other is what *JV 2010*, the services, and advocates of the future battlefield envision: a fused, integrated, joint, and responsive intelligence picture that directly supports the joint warfighter.

NRO must determine how to provide operational control of collection systems in specific ways to commanders. Various approaches could be tested using games and exercises, with time (or some other way of defining a percentage of the potential intelligence "take") reserved for them in real world priority allocations. Other agencies already share collection time among customers, including commanders, on a

direct allocation basis. To achieve this end satellite operating doctrine must be changed since allocations are now generally made daily in response to specific taskings.

Unfortunately, commanders may not be content with sharing and might not even exercise capabilities that they are not certain would be available in wartime. One lesson of Desert Storm is that combat units are most comfortable and practiced at integrating weapons with intelligence and targeting sensors that are organic. Rather than depend on national intelligence, commanders have instinctively preferred to control ISR assets and are likely to favor building indigenous systems such as UAVs until a process can be developed to ensure the reliability of national systems. This is a major cultural change that can only be brought about from within the intelligence community, and NRO must foster the requisite trust to change this

acceptance of space as a theater of war will require a shift in thinking as significant as that of the 1950s

deep-seated military instinct. A number of implications would stem from such a plan.

CINCs—and perhaps joint task force commanders—must understand far more about system capabilities, about what is possible and what is not, and about assigning tasks to get the questions answered. Staffs would have to do the tasking. What do they need to know to fulfill their role? What are the implications of turning control of national systems over to CINCs and JTF commanders (that is, where is the line drawn since more than data is involved)?

Moreover, ISR from sensors other than satellites, such as nationally-owned air-breathing platforms, would have to be fused with satellite data and with indigenously-collected data and the overall picture made user-friendly to commanders. For example, missile warning satellite data that is generated

by the commander in chief of U.S. Space Command, signals intelligence collected by NSA, and information from service capabilities (such as the Navy integrated undersea surveillance system) should also be fused at the national or operational level to form a single picture.

To do that, NRO, NSA, NIMA, and the services must work together outside of their own collection disciplines to anticipate future requirements for operating forces in order that the requisite systems can be designed, integrated, and fielded before they are actually needed. This is difficult and may demand that entire operational patterns and institutional self-images be changed.

Space Defense

The basic importance of data derived from space for future operational success means that our ability to operate in space is increasingly likely to be placed at risk by an adversary.

This has significant implications for the design of space architectures and associated concepts of operation. Doubters need only recall that during World War I newly-developed airplanes were seen merely as reconnaissance platforms—until the protagonists started wondering why they should be openly exposed to enemy intelligence collection and began to shoot at each other's airplanes. The result was ground anti-air warfare, then air-to-ground and air-to-air warfare, and finally control of the air as a requisite for success in operations on land or at sea. Many project it will be so with space.

Acceptance of space as a theater of war will require a shift in thinking just as significant as that of the 1950s when the superpowers built up nuclear arsenals. Herman Kahn, Bernard Brodie, Henry Kissinger, and others conceived the theory of nuclear deterrence that led to policy options, strategic plans, military doctrine, operational choices, and the notion of strategic stability. Risks in space must be conceptualized from a similar perspective to avoid a destabilizing situation whereby a disadvantaged party denies the use of space, or at least space-derived data, to the United States.

The Armed Forces must include enemy measures as well as their own countermeasures in the design, construction, and operation of future satellite systems. While active defense of NRO assets will necessarily be carried out by the military, NRO (and designers of commercial satellites) could help by designing self-defense measures into satellite architectures.

This is akin to protecting sea lines of communication against submarines, in which overall utility is measured by throughput aboard convoyed merchant ships, not by the number of escorts or submarines sunk. Mutual planning and coordination on the expected threat, convoy tactics, and countermeasures taken in various contingencies will help shipbuilders and the Navy prepare more effectively. Similarly, success in space control operations will not be measured by the number of enemy antisatellite systems destroyed, but the ability to operate utilizing ISR collected from space. U.S. Space Command could perform a function in space analogous to that of the Navy on the high seas. As *Space Vision 2020* indicates, "it would merely be stating an operational reality to think of space as an [area of responsibility]" in the same way as the Pacific, Atlantic, or European regions.

NRO can improve its dependability by including the requirement to enhance space control in assessments of satellite architecture. For example, it could achieve defense in depth by building critical satellite systems that operate beyond the range of ground-based anti-satellite systems. Or it could emphasize rapid regeneration (ready-launch) in design criteria. Other options could also be explored. This is not the task of NRO alone since it also affects commercial satellites on which the Nation depends. Nor is the consideration of hard-kill countermeasures an exclusive domain of the military. An overall strategy is required, complete with supporting deterrence policy.

Taking such considerations into account about space warfare would signal a marked change to the business-as-usual approach of making feasible technological improvement on the margins of existing technology. It would entail bounding the problem, examining the

protection mission, and framing the answers. And it would require focused thinking, not impromptu judgments formed in the heat of a wargame or during a crisis. NRO and the intelligence community must concentrate on common interests and create partnerships with U.S. Space Command in the area of planning, with U.S. Atlantic Command in doctrine and exercises, with the services in developing doctrine, and with the Joint Staff in coordinating systems development for anticipated space operations.

Institutionalizing ISR

Though desirable in the abstract, the integration of *JV 2010*, emerging service capabilities, and new ISR capabilities will require a number of pragmatic steps before becoming reality.

- Consideration should be given to establishing an institution to anticipate intelligence uses. It might operate along the lines of U.S. Army Training and Doctrine Command (perhaps as part of the National Defense University) and create strategies on the operational uses of intelligence, chart doctrinal requirements for ISR and translate them into system requirements, assess offensive strike versus force defensive needs, improve understanding of the role of ISR in campaign analysis, and engage in dialogue on linking space warfare and national sensor systems.

- General and flag officers should receive an expanded module on the operational dimensions of ISR in military planning and operations in the Capstone and Joint Flag Officer Warfare courses.

- Wargaming and models should be used extensively on various levels not only to explore the importance of space-derived intelligence data but means of ensuring its collection and delivery. Specifically, Forward Focus should continue and its results should be widely disseminated. Future games should examine relationships between intelligence collection systems and the need to defend them, as well as planning by others to develop ISR that both uses space and denies space-derived intelligence to the Nation. NRO should participate in major service wargames.

- NRO should engage the intelligence community, CINCs, and services in a discussion on passing direct operational control of national reconnaissance assets to commanders. Clear lines of responsibility would be required that may lead to creating

a position to manage and operate satellite reconnaissance systems and other platforms to support crises or military operations.

- NRO should encourage and engage in a national dialogue about the implications of space as a future battlefield.

- Models should be developed, perhaps under NRO, to evaluate those operational concepts emphasizing simulations which more accurately depict future operations dependent on information superiority rather than constructing detailed models based on old ways of doing business (such as JSIMS). Measures of effectiveness for evaluating information and time must be incorporated into assessment models. Indeed, measures such as the number of things destroyed will be irrelevant if the objective of using force is a lockout (precluding reasonable options to an enemy except preemptive surrender or backing away before a crisis becomes overt conflict).

Traditional means of collecting and using intelligence may survive. But the day when multiple intelligence agencies, operating autonomously behind a veil of secrecy and classified budgets, could deploy the latest and greatest technology without any fiscal constraints has waned. A new era in national security planning, centered around information superiority, has arrived.

JFQ

Organizing National Level Imagery and Mapping

By JOHN STREBECK



National Imagery and Mapping Agency

If there was one lesson learned from the Persian Gulf that still rings clear, it was that today's modern battlefield has moved into the information age, where good intelligence and battlefield awareness are often more critical than the quantity and quality of tanks or technical aircraft.

—Congressman Floyd Spence
Chairman of the House
National Security Committee

John Strebeck is a physical scientist assigned to the National Imagery and Mapping Agency.

One category of battlespace information particularly relevant to operational commanders is the physical environment. Imagery, imagery intelligence, and geospatial information (mapping, charting, and geodesy) portray that environment and are thus important bands along the battlespace information spectrum. They enable commanders to place myriad battlespace data into a framework based on time and location. Fusing all data sources in this manner allows for the development of an awareness of the battlespace in order for decisions to be made faster than an enemy can act—the core concept of knowledge-based warfare. Accordingly, intelligence and information are the basis of dominant battlespace awareness.

The National Imagery and Mapping Agency (NIMA) was established by Congress in 1996 to furnish imagery, imagery intelligence, and

geospatial information in support of national security objectives. It is the combat support/intelligence community agency charged with merging imagery and mapping from separate intelligence and defense organizations. NIMA has broad authority over the U.S. imagery and geospatial information system (USIGS) and the production/dissemination of imagery, intelligence, and geospatial information which permit commanders on all levels to acquire access to common references and information.

One challenge facing NIMA is to construct imagery and geospatial databases with a global framework on which to build a common view of the battlespace. Within the information

geolocational information plays a role in each of the emerging JV 2010 operational concepts

domain, NIMA is one step toward achieving the information superiority envisioned in *Joint Vision 2010*.

This article examines the impact of NIMA on military operations with emphasis on the synergy of merging imagery and geospatial databases: richer information that is timely, relevant, and accurate. Moreover, commanders must appreciate the new information infrastructure in order to achieve dominant battlespace awareness. Also, geolocational information plays a role in each of the emerging JV 2010 operational concepts: dominant maneuver, precision engagement, focused logistics, and full dimensional protection.

Geospatial Information

Image intelligence remains as vital today as it was during the Cold War. For example, the Armed Forces used it to accurately deliver precision munitions during the Persian Gulf War. The intelligence and defense communities, along with policymakers, need it to understand an increasing range of activities. In addition, satellite imagery is a significant source of NIMA mapping products which thus makes it essential to the mapping community.

The Cold War set terms for image intelligence development that focused more on collecting information than exploitation and dissemination. Cost was secondary because the products were unique in providing critical information for national and military users. Technology available at the time supported largely separate system solutions. Distinct non-integrated programs also continued because of the procurement process, where acquisition oversight was not prescribed. However, security constraints prevented users from being brought into the decision process to balance needs, technological opportunities, and cost.

World events and technological change have shaped image intelligence. First, the demand for information has replaced the push of collection technology: users select the needed information. Technology has arrived at a point where collection is no longer a constraint. Multiple platforms, including commercial imaging systems, let users determine their collection requirements. Second, the information revolution shifted the emphasis from satellite collection to information distribution. One can configure systems to collect, process, transmit, and disseminate. Moreover, differences between image collection and exploitation have been overcome by giving comparable attention to both functions. Third, cost is a concern. Innovations allow the private sector to provide a greater share of image intelligence hardware and software. The task is deciding which system to pursue.

NIMA absorbed the activities of the Defense Mapping Agency, the Central Imagery Office, Defense Dissemination Program Office, and the National Photographic Interpretation Center within the Central Intelligence Agency. The agency also subsumed imagery exploitation, dissemination, and

processing functions of the Defense Intelligence Agency, the National Reconnaissance Office, and the Defense Airborne Reconnaissance Office as well as components of the Central Intelligence Agency. While NIMA is a combat support agency, its unique responsibilities and global mission make it part of the intelligence community.

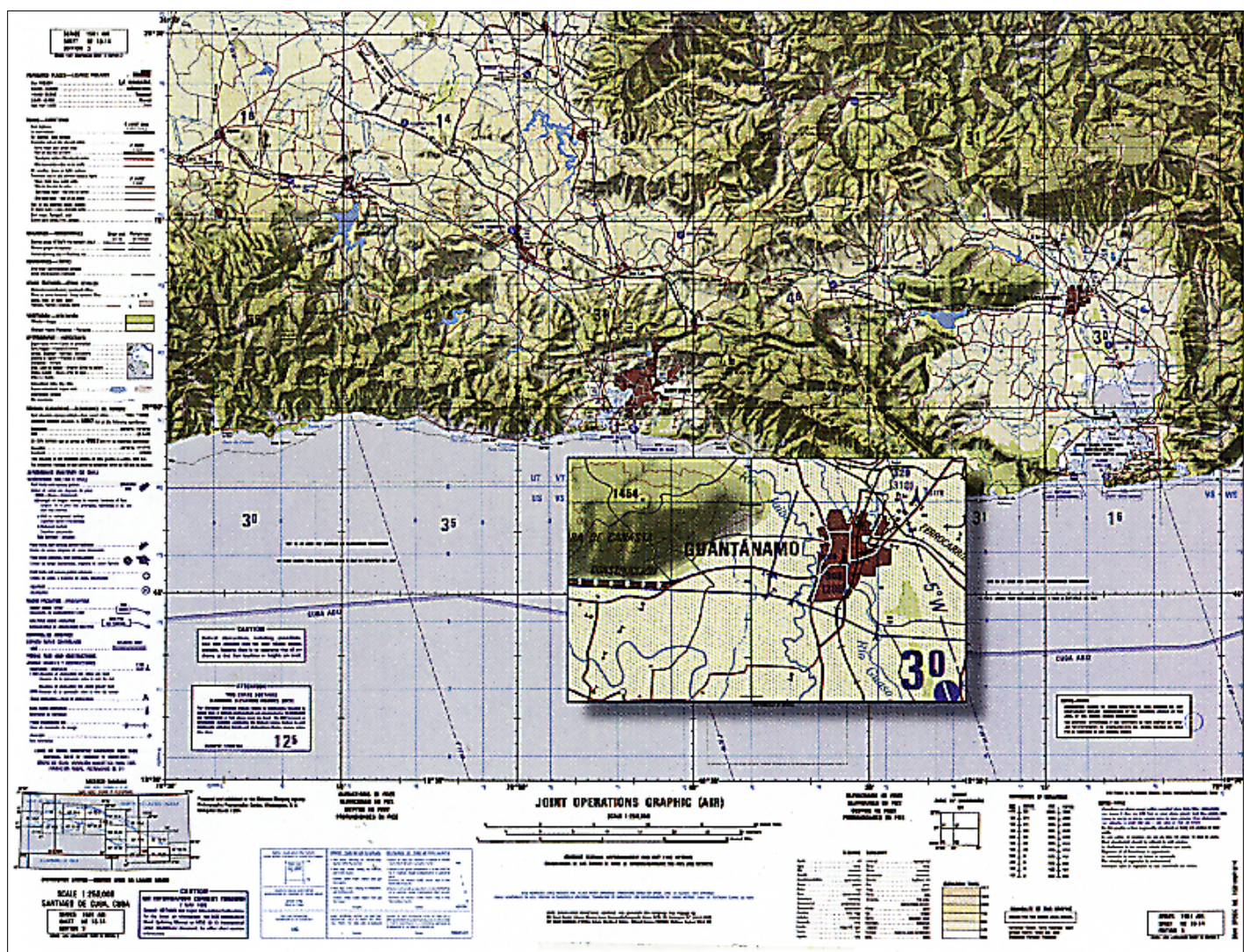
Information Databases

One measure of effectiveness in consolidating imagery, imagery intelligence, and geospatial information databases is the evaluation of its impact on products, using the attributes of intelligence quality as a guide. Joint Pub 2-0, *Joint Doctrine for Intelligence Support to Operations*, describes these attributes, which provide standards for assessing activities and products. Operations may fail because of shortcomings in any attribute.



National Imagery and Mapping Agency

Timeliness. Commanders will benefit from the improved response to information requests that will result from converting vertically-integrated imagery and mapping production systems to a "client-server" system. In this architecture, imagery and geospatial data will move from collection through exploitation and distribution (such as magnetic media) in a totally softcopy, digital format. This architecture supports interoperability with the defense information systems network (DISN), which means that geospatial



Joint operations graphic.

information will eventually be disseminated electronically.

The improvements in imagery collection, data extraction, and information dissemination also will provide more timely responses to commanders. Congress made NIMA responsible for imagery requirements management, tasking collection, coordinating processing and exploitation, and ensuring dissemination and archiving. To enable the image flow, NIMA was also empowered to prescribe the technical architecture and standards for imagery processing and dissemination and to ensure compliance with such a framework.

NIMA is not charged with developing, procuring, or operating imagery collection systems. Those tasks fall to the National Reconnaissance Office, Defense Airborne Reconnaissance Office, and service intelligence elements. NIMA is not replacing current organizations for tactical military exploitation and use of imagery products but will be an intermediary between them and the high end of the imagery spectrum.

In August 1996 the director of NIMA remarked that a major task was to determine which imagery exploitation systems should be retained. The goal is to move from a series of imagery exploitation systems and programs to a single integrated base. From the unification of imagery management and

processes, and with the move to a prescribed technical architecture and standards for image processing and dissemination, NIMA anticipates that within a few years users will have access to images and maps not older than 30 days as opposed to a year or more.

Improved responses also will come from greater use of commercially generated imagery. The Defense Mapping Agency bought more than a million square miles of commercial satellite positioning and tracking imagery after the Gulf War and before NIMA was established. NIMA is the DOD purchasing agent for commercial multispectral imagery, which is composed of images collected in wavelength bands that exhibit false-color scenes when

combined, such as with the land remote sensing satellite or LANDSAT system. Acquisition and archiving of multi-spectral imagery data eliminates redundant and uncoordinated imagery purchases at higher cost.

While funding for intelligence and defense is declining, the rationale for establishing NIMA focuses on providing greater capabilities to commanders, not only cost savings. Testimony by the Deputy Secretary of Defense and services reveals the object of establishing the agency: to increase the effectiveness of commanders in terms of timeliness and completeness of information. Savings may be realized in time but are not the central factor.

Objectivity. As conceived NIMA eliminates the organizational barriers among members of the imagery com-

commanders must know the quality of geospatial information

munity. As a result, it has the potential to develop creative synergistic solutions to demands for imagery and imagery-derived information: generating combinations of information with richer content. By using this approach, and by consolidating current databases wherever they exist, the agency will offer information of higher value, in shorter times, and with greater relevance for every commander. Its framework for fusing battlespace data will be more comprehensive, with greater fidelity to the real physical environment.

Accuracy. An improved response to information requests will be manifested by accurate geospatial information. The early vector-formatted products originated from existing cartographic sources. (Vector products use points, lines, and areas to portray features while raster products use arrays of image pixels to portray maps.) For higher vector position accuracy production is shifting from cartographic to photogrammetric sources whereby positions are derived from triangulation rather than cartographically-displaced symbols. This accuracy will provide the precision required for the future battlespace where forces aided by precision-guided munitions

and global positioning system (GPS) will be the norm.

Commanders must know the quality of geospatial information. Toward that end, most data sets carry auxiliary information on relative and absolute accuracies. But many digital data sets were intended for specific systems and now are applied to uses that require their own "measures of trust" (namely, metadata). To address this requirement, the data sets will be produced with spatial metadata standards, in essence providing data on the data such as source, currency, and lineage.

To ensure that imagery and geospatial data fuse, all data must be referenced to a common datum. While most products are now referenced to the World Geodetic System (WGS) 84, having everyone on a standard in the imagery and mapping community will ensure co-referenced data sets. Geocoded raster and vector data will align for visualization and support evaluation, particu-

larly if the metadata of the data sets is comprehensive. The requirement for data referenced to WGS 84 is operationally and tactically critical because the global positioning system is similarly referenced.

Completeness. Given a single focal point for imagery, imagery intelligence, and geospatial information, commanders will benefit from full support through customer support teams (CSTs) in the field. These teams first determine customer needs and then work within NIMA to meet them. They can also identify emerging requirements and cultivate a "smarter consumer/smarter provider" environment. The customer support office provides guidance in prioritizing customer requirements and serves as a link to production offices to satisfy demands in a timely and efficient manner.

Users in intelligence, defense, and civilian agencies can submit their concerns to the NIMA Customer Advisory Board on proposed actions. The board is co-chaired by the Vice Chairman of the National Intelligence Council and Deputy Director for Operations (J-38),

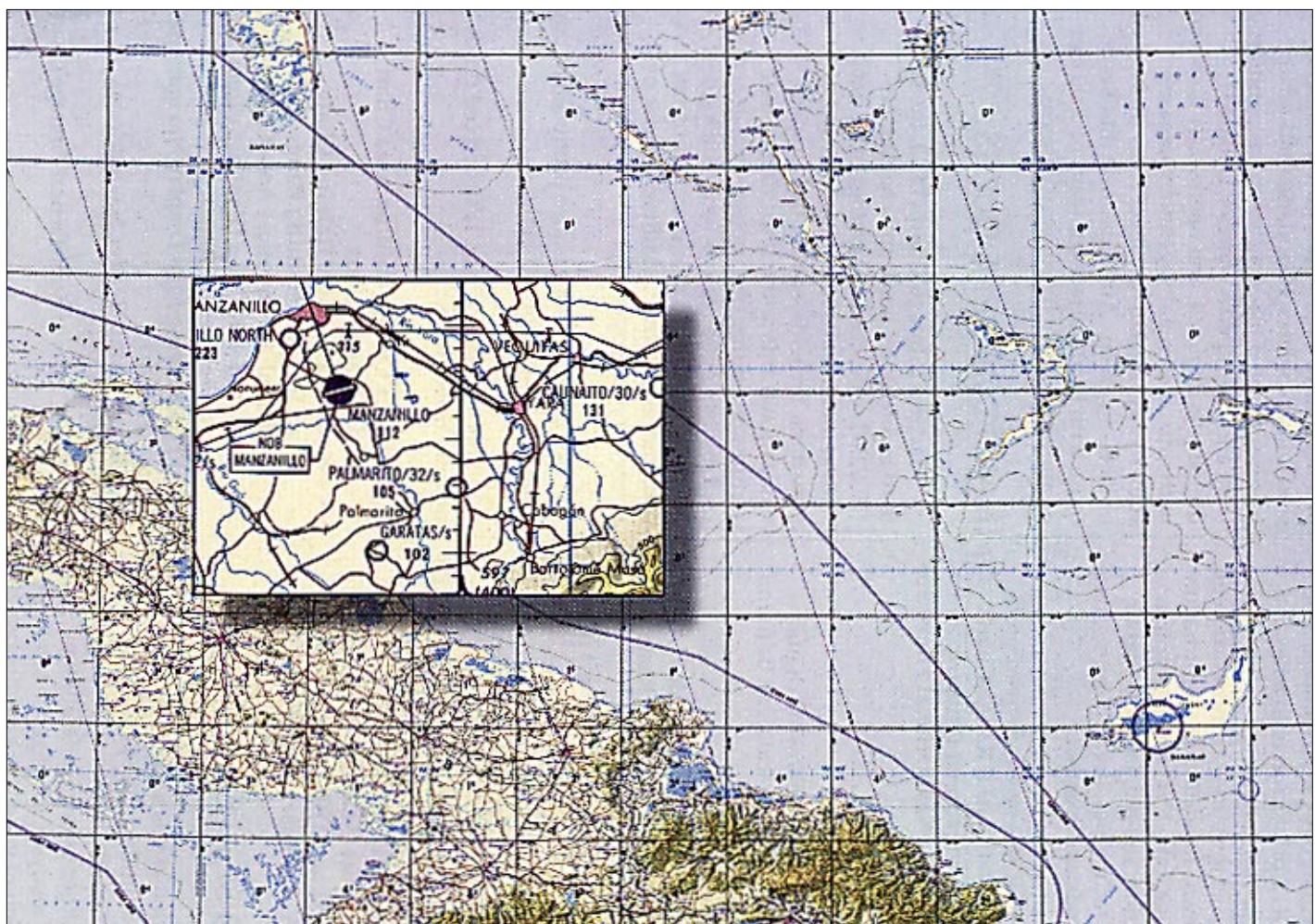
Joint Staff. During its implementation, the NIMA support strategy was periodically reviewed by the senior steering group under co-chairmanship of the Under Secretary of Defense (Acquisition and Technology), the Vice Chairman of the Joint Chiefs of Staff, and the Deputy Director of Central Intelligence.

Commanders will benefit from having a single source of imagery, imagery intelligence, and geospatial information. NIMA prioritizes uniform requirements across the community, eliminates duplication, and uses resources efficiently. Congress also charged NIMA to identify and advocate the needs of a growing pool of diverse customers. Commanders, for example, require training in the use of image and geospatial databases, identifying the type, quantity, and scale of information needed, accuracy requirements, metadata needs, and program management.

A response improvement will also be enabled by emphasis on providing information rather than products. This strategy is part of the core NIMA mission and is made feasible through "data warehousing" or federated databasing architecture whereby user access data is stored in thematic layers. Such a client-server architecture is being adopted.

Relevance. Commanders will benefit from imagery, imagery intelligence, and geospatial information resources that are relevant, current, and properly prioritized for production to satisfy current and foreseeable demands.

As a combat support agency, NIMA is under the control of the Secretary of Defense. But it also gives the Director of Central Intelligence a clear and prominent role in tasking imagery systems and exploiting imagery products. Congress and the Commission on the Roles and Capabilities of the U.S. Intelligence Community have concluded that such an arrangement improves support to defense operations and planning as well as other national users. The President has called for closer coordination of defense and intelligence space work for national security, and this moves in that direction. Furthermore, to assure that relevant geospatial information is produced and maintained, customer support



National Imagery and Mapping Agency

Tactical pilotage chart.

teams are in place with users to make sure the right products are produced.

Usability. Commanders will benefit from the general adoption of data specifications across the imagery and mapping production community. Data standards and conventions facilitate sharing information—the ability to electronically exchange mapping and imagery information with anyone, regardless of the system. The advantages are support of global operations, interoperability among DOD systems, and integrated information exchange developments.

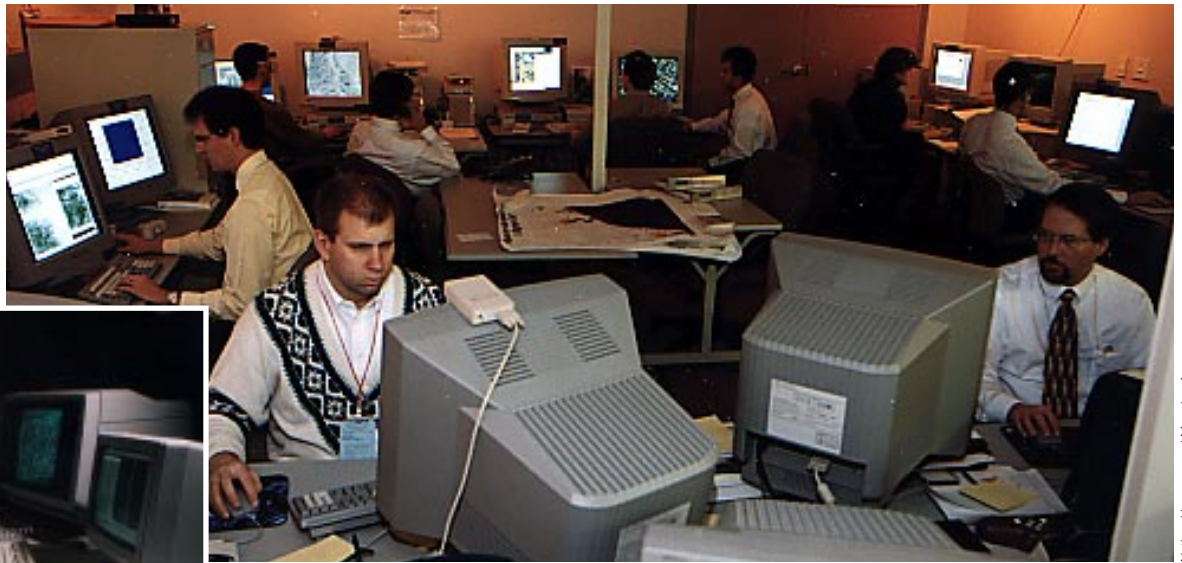
Secondary image dissemination must comply with the national imagery transmission format standard. For mapping information, NIMA has

created a standardization program, the goal being a suite of standards for the exchange, manipulation, and display of digital mapping, charting, and geodetic data. The standards will assist in compatibility and interoperability of mapping, charting, and geodetic databases supporting simulators, command and control, and weapon systems. NIMA has membership on the Defense Standardization Council and manages the mapping, charting, and geodetic data technology program.

Since subsuming the Defense Mapping Agency, NIMA has operated internationally under co-production agreements, and standard product specifications have been established or are being developed (like the Digital Geographic Information Working Group, which is releasing the Digital Geographic Exchange Standard). NIMA

is leading standardization efforts while cooperating in the development of a national spatial data infrastructure (like the Federal Geographic Data Committee). These standards operate on the following levels:

- **environment**—hardware, operating systems, query languages, graphic interfaces
- **exploitation**—user-nominated modules for projection, grid, and datum transformations
- **data directory**—indexing and cataloging schemes, legend, and marginalia
- **product**—design, accuracy, symbolization, etc. defined by military specifications
- **data dictionary**—spatial data structure, raster and vector, and feature coding scheme
- **format**—the exchange format and export mechanism (International Standards Organization)



National Imagery and Mapping Agency



National Imagery and Mapping Agency

■ *media*—comply with industry standards for 9-track and 8 mm tape or CD-ROM.

Standards will continue to be developed by NIMA as new technology and information emerge.

Readiness. Commanders will benefit from the quality of imagery, imagery intelligence, and geospatial information with one agency managing and maintaining the production

the Joint Staff, commands, services, and defense agencies annually submit prioritized geospatial requirements

processes and inserting technological developments to sustain their modernization. With representation from a single entity, the U.S. Government will be able to team with industry in developing technologies that match common internal NIMA production requirements, thereby sharing the risks and rewards with minimal impact on all involved. It will allow NIMA to influence industry to develop products and services to better match its needs

by exchanging information. Technology breakthroughs will be more quickly realized throughout the imagery and mapping community by a single procurement office. Moreover, NIMA has formed a commercial advocate office for industry coordination.

Global Information Infrastructure

Requests for imagery and geospatial information are sent through NIMA liaison personnel at unified commands or directly to NIMA headquarters. In addition, the Joint Staff, commands, services, and defense agencies annually submit prioritized geospatial requirements to NIMA for the upcoming year as well as new product needs to NIMA headquarters.

NIMA product metadata is available in both standard (hardcopy) and softcopy (CD-ROM) catalogs as well as in limited amounts via Internet (unclassified) or DISN (classified). Its webpage <www.nima.mil> shows the product line and summary product. The *NIMA Softcopy Catalog of Topographic, Aeronautical, Hydrographic, Digital, and Other Products* provides the capability to use a personal computer to browse, select products, develop orders, and access online servers to update catalog data. Maps are available on paper and imagery is produced on film and in hard-

copy prints. Though bulky, these products are in high demand. During the Gulf War, 90 million maps were printed and delivered to the theater. Geospatial data is increasingly being produced digitally in raster or vector format and distributed in both CD-ROM or 8-mm magnetic tape versions.

Planned paths to imagery, imagery intelligence, and geospatial information. Imagery and geospatial products in hardcopy will survive for years. Printing and hardcopy product distribution are being consolidated in a facility with new printing systems and technologies which will improve customer responsiveness. The remote replication system has already proven its value in Bosnia. It can manipulate existing products by overlaying information such as land mines and then print full-size maps on-site. In late 1996 NIMA announced a transfer of responsibility for hardcopy product distribution to the Defense Logistics Agency for improved customer support.

In addition to hardcopy products, commanders will soon have electronic access to imagery, imagery intelligence, and geospatial information in data warehouses. Maps, charts, and images will be downloaded, displayed on monitors, and printed. USGS is an information framework and infrastructure that will provide commanders with access to imagery and geospatial

information on a global scale through the defense information infrastructure.

USIGS will implement an open-system processing environment via distributed architecture based on government owned and commercially available hardware and software. The environment will be a gateway service for both national and military customers. It will be the single electronic interface between NIMA libraries and users. The services will provide perusal of NIMA holdings, on-line ordering for authorized customers, and on-line transmission of digital data. NIMA libraries will have a logical design to support imagery, imagery products and intelligence, and geospatial information. Customers will be able to tailor data to meet their specific needs.

NIMA holdings in USIGS are accessed through DISN and divided into aeronautical data, geodesy and geophysical data, geographic names, hydrographic data, map catalogs, navigation data, imagery archives, raster graphics, and digital products. Electronic networks access databases on the required security level and include the joint worldwide intelligence communications system, secret Internet protocol router network, and Internet. The processing environments supporting data access are the joint deployable intelligence support system, global command and control system, Intelink (with commercial web browsers), and World Wide Web (see accompanying figure).

Force Multipliers, including more accurate munitions and new doctrines for using military force, are means of improving effectiveness or productivity without increasing force size or costs. By definition the consolidation of imagery, imagery intelligence, and

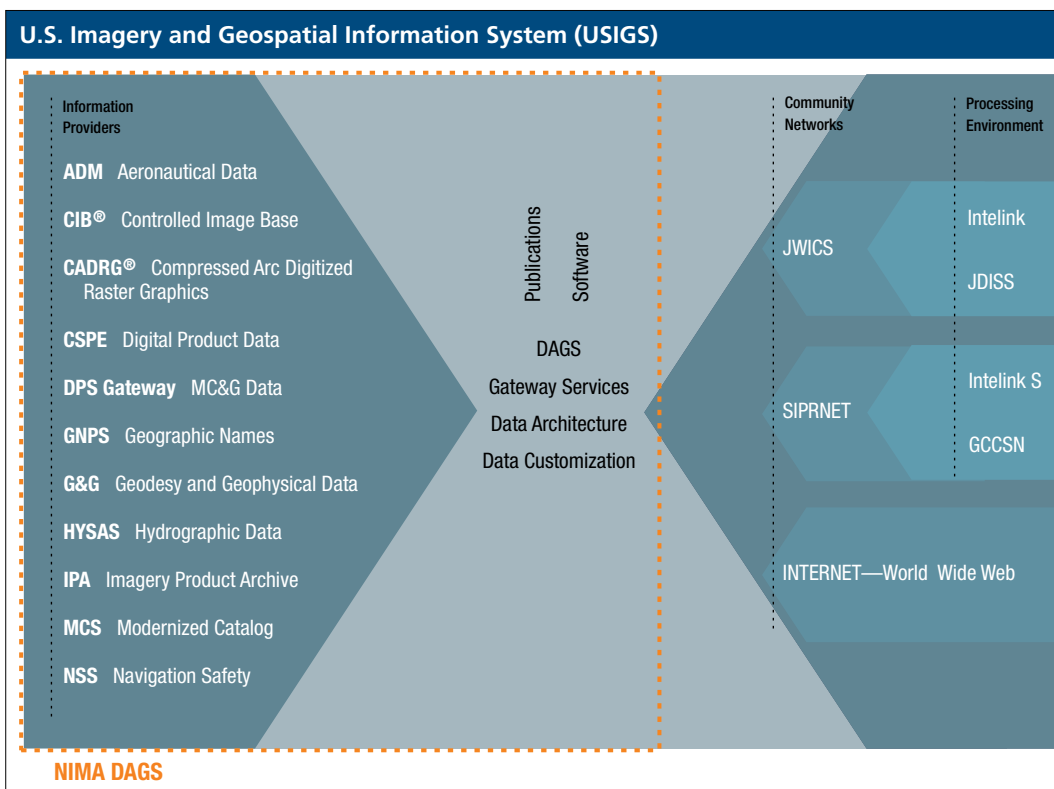
geospatial databases is a force multiplier. It allows quick access to information that is richer in content, more relevant, and more precise and that provides commanders with the same geospatial data in a common framework. Such improvements bear on the operational concepts in *JV 2010*:

- precision weapons need accurate target coordinates
- mobile forces need detailed knowledge of the terrain to achieve dominant maneuver
- understanding lines of communication is necessary for focused logistics
- attaining full dimensional protection requires maintaining battlespace awareness on a common spatial background.

The end of the Cold War world and technological developments fostered the foundation of NIMA. Database consolidation strengthens the agency's mission to provide timely, relevant, and accurate information and intelligence. When products and services derived from the consolidated database structure are analyzed with

attributes of intelligence quality, there are many benefits. Most notable is the potential to develop creative synergistic solutions to demands by operational commanders for imagery and imagery-derived information—mating databases to yield information of richer content. Moreover, commanders on all levels will have improved access to the same information in a global framework through USIGS. The cumulative result is a force multiplier: a stronger, more capable, and adaptable basis for fusing battlespace data. This will enable each commander to better develop battlespace awareness and thereby to do more with no increase in force size or cost.

JFQ



Source: Adapted from *NIMA Data Architecture and Gateway Services Requirements Document* (NIMA 100-97-R-5001), attachment 1 (November 7, 1996).

Taking temperature
and wind speed read-
ings, Southern Watch.

Meteorological and Oceanographic

Conditions

By BRUCE R. KITCHEN

Knowledge-based warfare helps operational commanders to prepare a theater by achieving dominant battlespace awareness, which enables them to make decisions faster than enemy leaders. It allows commanders to leverage battlespace knowledge to accomplish a mission by the precision employment of combat power. One key to knowledge-based warfare is a grasp of

meteorological and oceanographic (METOC) conditions that may be encountered and their impact on the conduct of military operations. These include wind, temperature, cloud cover, wave height, salinity, and other phenomena. By recognizing METOC effects, commanders can set battle terms, maximize their own advantages, and exploit enemy limitations.

On the operational level determining effects involves much more than formulating weather and oceanographic forecasts—though forecasting plays an important role. A systematic approach which considers the impact

Lieutenant Commander Bruce R. Kitchen, USN, is officer-in-charge, Naval Training Meteorology and Oceanography Detachment, at Newport, Rhode Island.

1st Combat Camera Squadron (Richard M. Hellman)

of such conditions on each aspect of operational planning and execution is essential. Only then can commanders identify and exploit critical factors: conditions that directly affect friendly or enemy capabilities or otherwise influence the ability of commanders to

METOC considerations were key to Allied planning during World War II

achieve operational objectives. Using such an approach, commanders can understand and plan for the impact of these conditions on friendly and enemy forces, sensors, platforms, and weapons. This will help formulate a concept of operations. By contrast failing to determine critical METOC factors may result in disjointed or poor operational decisions.

Historical Perspective

The impact of METOC conditions on warfare is well documented through history. Some commanders have used them to advantage while others have not. It is axiomatic that these conditions affect military operations, yet a determining factor between success and failure has often been how well they were accounted for in operational planning.

When Genghis Khan was planning his last campaign against the Persians he knew that the enemy would outnumber his Mongols but that they were widely separated and did not know how to conduct winter operations. To prevent the Persians from gathering their forces, Genghis timed his campaign to begin in the winter and defeated the enemy in piecemeal fashion.

Bonaparte's *Grande Armée*, which conquered most of Europe, was nearly annihilated in its attempt to invade Russia. Napoleon knew of the severity of the Russian winter but discounted its effects. Failing to prepare for the snow, rain, mud, and cold during the retreat from Moscow contributed to his defeat. Hitler met a similar fate. Operation Barbarossa was calculated to take five months; however, German planners did not adequately anticipate the Russian winter. Inclement weather

blunted *Blitzkrieg* tactics, winter clothes and shelter were scarce, and equipment malfunctioned in the cold. The Germans planned insufficiently and were driven from Russia.

METOC considerations were key to Allied planning during World War II. They were most crucial in launching Operation Overlord. General Eisenhower, Supreme Allied Commander, had to review all factors before making a decision. The conditions were vital. After developing a list of METOC requirements, meteorologists studied the climatology of the region and determined that May and June were the best months to invade, a key factor in deciding to launch Overlord in June. Climatology, the study of conditions characteristic to a given region, is based on a detailed study of historical data and can provide the statistical range and the average conditions likely.

North Korea timed its invasion of the South to coincide with the summer monsoon in order to neutralize U.S. airpower with poor flying weather. But they overestimated the monsoon and quickly abandoned daytime operations because of American close air support and air interdiction.

Operation Linebacker II during the Vietnam War was designed to force Hanoi back to the negotiating table by stressing maximum effort in minimum time. Planners anticipated the need to conduct air operations during the winter monsoon, which would make the use of precision guided munitions (PGMs) difficult. In late summer they reviewed target lists for bombing by all-weather aircraft; when President Nixon needed a bombing plan in December for Linebacker II, the military was ready with one that could achieve the objective. The North Vietnamese, on the other hand, thought the winter monsoon would keep them safe by preventing American bombing north of the 20th parallel. Linebacker II caught the North's leadership by surprise and shocked them with the magnitude and destruction of the bombing, which continued night after night despite the weather.

This highlights the importance of operational planners adequately assessing the effects of critical METOC factors. Determining them is complex and requires an orderly, thorough process. The first step is to ascertain the conditions of the theater or area of operations.

Using Climatology

Climatology is most useful in planning for operations to be executed beyond the accuracy range of METOC numerical forecasting predictions, typically five to seven days. It is critical that commanders avoid planning just for average conditions. Operational planning requires knowledge of the whole spectrum of conditions and the probability of their occurrence to assess their impact. Commanders must also know the amount of data used in developing the climatology. An insufficient number of observations can skew the statistics or, more importantly, miss rare but significant conditions. Operating in remote areas of the world means limited data, requiring that assumptions be made about local METOC characteristics. Knowing the limitations and uncertainty of climatology allows commanders to weigh the risks and make timely, informed decisions.

If only the average conditions are considered or data is sparse, unexpected conditions can adversely affect the operation. An example is the Iranian hostage rescue, Operation Eagle Claw. To avoid Iranian radar, the mission was to be flown at low level, requiring visual meteorological conditions (VMC) en route. While flying from the aircraft carrier to a remote landing site (Desert One), the helicopters (one of which had already aborted because of mechanical failure) encountered suspended dust in the air which precluded VMC flight. Flight integrity was thus lost, then another helicopter was aborted, and the remaining craft reached Desert One some 85 minutes late. Insufficient helicopters and their tardiness caused mission abandonment.

During planning, the Air Weather Service team assigned to the joint task force researched Iran's climatology to identify non-VMC weather conditions aircrews could encounter. According to the final report issued by the Special

Aiming dish for meteorological satellite imagery, Deny Flight.



U.S. Air Force (Angela Stafford)

Operations Review Group for the Iranian Rescue Mission, suspended dust was identified and included in the weather annex. However, the climatology also showed a high probability of clear weather. Thus alternatives for executing Eagle Claw under conditions other than VMC were not developed, pilots were not briefed on suspended dust, and the plan did not establish weather criteria for mission abort. The forecast for the day of execution called for VMC conditions. When pilots encountered suspended dust, they were unready to assess the impact of non-VMC conditions. Had they been, they

ROE restraints may restrict the use of certain weapon systems in low visibility conditions

could have made an informed decision en route, including aborting the mission and preserving the option to launch it later.

It is unrealistic to plan for every condition; commanders must decide which are important. For example, depending on the mission, they may not consider a 30 percent chance of gale force winds critical, but a 10 percent

chance of fog may be. Using climatology to understand METOC characteristics of a theater or area of operations is the first step. This knowledge must then be used to determine the effects of the various conditions on friendly and enemy capabilities.

Effects of Conditions

To determine how METOC conditions affect capabilities, commanders must understand the range of conditions that people, sensors, platforms, and weapons can operate in and establish both threshold and critical values. The former is the value at which a METOC parameter begins to adversely affect performance and the latter is the value at which a parameter prevents effective performance. Applying values to climatology will allow commanders to quantify how much and how often METOC conditions will affect a possible course of action. When the operation moves into the execution phase, METOC forecast predictions will provide commanders with upcoming conditions. Having already determined the effects of forecast conditions using climatology, they can quickly assess the options available under them.

Critical and threshold values should take into account the capability

of the sensors, platforms, and weapons as well as operational considerations such as the threat and rules of engagement (ROE). For instance, if anticipated heavy anti-aircraft artillery will prevent low level air strikes, high cloud ceilings may be required to employ PGMs. Similarly, ROE restraints such as a requirement to limit collateral damage may restrict the use of certain weapon systems in low visibility conditions. Therefore, commanders will have to ensure that technical data concerning the operational parameters of sensors, platforms, and weapons is accurate and available to planners. Using the wrong threshold or critical values when planning can lead to poor operational decisions, as occurred in Operation Delaware.

A helicopter assault on the A Shau Valley during the Vietnam War, Operation Delaware had the objective of preventing the enemy from massing for further attacks in the vicinity of Hue. On April 10, 1968, the 1st Cavalry Division (Airmobile) was ordered to begin planning for withdrawal from Khe Sanh and conducting Operation Delaware. The urgency of the operation was predicated on a long-range forecast, based on climatology from French records, that April would offer the last favorable weather for an air assault before the summer monsoon.

The climatology was accurate in determining the onset of the rains; however, the timing of the operation was predicated on the wrong METOC critical and threshold values. The weather during April was characterized by low cloud ceilings, fog, and thunderstorms that wreaked havoc on air operations. The Army lost 33 helicopters in Operation Delaware, primarily because cloud ceilings forced them to fly low and increased their vulnerability to anti-aircraft fire. Weather was critical to timing of the operation from the outset. Unfortunately, the decision to start in April was based on a single criterion: inches of rain expected during the summer monsoon. Forgotten in the analysis were cloud ceilings and visibility requirements for an air assault. In 1973 Major General Tolson, commander of 1st Cavalry Division during Operation Delaware, stated:



Mountain Warfare
Training Center,
California.

2nd Marine Division (E.J. Young)

An air cavalry division can operate in and around the scattered monsoon storms and cope with the occasional heavy cloud-bursts far better than it can operate in extremely low ceilings and fog. . . . The lesson learned then was that one must be careful to pick the proper weather indices in selecting an appropriate time for an air-mobile operation.¹

Thus the goal is to analyze the climatology and the operational limits of sensors, platforms, and weapons. This will enable commanders to ask the right questions to identify threshold and critical values. Only after this process can they begin to determine the critical METOC factors.

Determining Critical Factors

Joint Pub 3-0, *Doctrine for Joint Operations*, recognizes the importance of METOC considerations in operational planning.

Seasonal effects on terrain, weather, and sea conditions can significantly affect operations of the joint force and should be carefully assessed before and during operations.

After analyzing how METOC conditions in theater will affect systems, sensors, weapons, and personnel, there will be many combinations of conditions and effects to weigh. These combinations by themselves will not give commanders a comprehensive view of the overall effects of METOC conditions on a given course of action. To get it, they must sort through the various permutations of condition and effect to determine the critical METOC factors. In that process it is important to look beyond the raw numbers to determine which conditions affect an operation. A condition may favorably influence several aspects but inhibit a

single critical facet. That was the problem Allied meteorologists faced in planning Operation Overlord.

Conflicting or overlapping METOC requirements can be particularly prevalent in joint and multinational operations where varying systems, capabilities, and doctrines must be accounted for. Therefore, a framework must be established to enable commanders to adequately assess the many combinations and determine the critical METOC factors for an operation.

Operation Shingle, the landing at Anzio during World War II, showed the consequences of applying an inadequate framework to determine critical METOC factors. While designed to break the stalemate on the Italian mainland, the plan has been criticized for many reasons. Perhaps the most significant flaw was the planning for METOC effects. Planners knew bad weather and poor beaches would make

Pall over Sarajevo.



U.S. Air Force (Louis Briscose)

an amphibious landing difficult and that high seas would complicate logistics. An innovative plan was devised to overcome METOC conditions and off-load logistics in two days. But it failed to fully account for the effects of these conditions on the flow of forces ashore.

Planners assumed the Germans would defend vigorously then counter-attack. Fortunately they did not because the majority of Shingle's armor failed to reach shore the first day because of rough seas. Moreover, planners did not adequately consider the effects of METOC conditions on the ability of forces to achieve their objectives once ashore. The terrain, mud, and floods made the plain before the Alban hills in Italy the wrong time and place to fight in winter.

Operational art translates a strategy into an operational design that helps ensure the effective use of assets and time to achieve goals. The design provides a framework to enable commanders to understand the conditions for victory and order their thoughts. It



C-5 flying through clouds, Rodeo '98.

1st Combat Camera Squadron (Billy Johnston)

can also be used to identify the critical METOC factors for the operation.

The following operational design elements suggest when METOC effects conditions should be considered.²

■ *Method of defeat.* Commanders will select a direct approach to defeat an enemy when friendly combat power is overwhelming and an indirect approach when it is not. Determining relative combat power is not simply a comparison of expected orders of battle. It also includes intangible combat multipliers or reducers. Conditions can be either. Commanders must discover their effect on friendly and enemy forces before determining the method to defeat an enemy.

■ *Forces and assets.* Commanders will designate the main and secondary sectors. When applying forces and assets in the main effort, they must ensure synchronized employment and have adequate forces to quickly accomplish the mission. They must consider conditions that inhibit or degrade systems, sensors, or weapons, causing synchronization problems or requiring additional forces. Conditions that optimize systems, sensors, or weapons must also be accounted for.

■ *Operational maneuver.* This consists of moving forces from their bases and along lines of operation to strike an objective. It requires timely and reliable reconnaissance and intelligence. Commanders must plan for conditions that affect moving to the objective and reconnaissance.

■ *Operational fires.* Effective and timely operational fires facilitate maneuver by friendly forces. They can also isolate the area of operations and attack key enemy functions and facilities. Reconnaissance and intelligence are crucial to selecting targets. Commanders must consider conditions that might inhibit attacking with one system and plan for alternatives. Again, they must contemplate conditions that affect reconnaissance.

■ **Sequencing.** Arranging events within an operation in the order most likely to eliminate an enemy center of gravity is sequencing. Commanders must consider conditions that affect the sequence chosen. For example, a plan may require a major amphibious landing to secure a lodgment area once sea control has been established. If acoustic conditions degrade undersea warfare to the point that sea control cannot be

if acoustic conditions degrade undersea warfare to the point that sea control cannot be established, another sequence must be determined

established, another sequence must be determined, possibly using airborne forces.

■ **Synchronization.** According to the Army glossary of terms, synchronization is “the ability to focus resources and activities in time and space to produce maximum relative combat power at the decisive point.” The combined elements must generate effects that exceed the sum of their individual efforts. Commanders must account for conditions that affect particular capabilities such as deep strike, special forces, or airlift. Depending on the conditions, additional forces may be required. Synchronization should be event driven. Commanders need to plan for such conditions that would delay or inhibit a crucial event, particularly for air apportionment.

■ **Phasing.** Phases may occur sequentially or simultaneously. When deciding on phasing, commanders must consider force requirements, force deployment, and supporting actions. They must plan for conditions that prevent forces from arriving on time or degrade their capability so additional forces or time are required to complete the phase.

■ **Timing and tempo.** An operation should be conducted at a point in time and tempo that exploit friendly capabilities and obstruct an enemy. If circumstances permit, commanders should consider the time of year when conditions optimize the operation for friendly forces and inhibit an enemy. When considering tempo they must know how conditions will affect personnel, matériel, and completing given events, especially in extreme circumstances. Poor conditions may require an operational pause to be built into the plan while favorable ones may allow an increased tempo.

■ **Operational momentum.** Commanders need to consider the type of force to employ to strike effectively and speedily to

maintain momentum. They can take advantage of conditions to tailor their forces and must also consider the effects on an enemy's ability to react.

■ **Branches and sequels.** Branches are options built into plans and sequels are subsequent operations based on possible outcomes of ongoing events. Both increase flexibility and accelerate the operational decisionmaking cycle, allowing commanders to act faster than opponents. They can develop a basic plan based on the most probable conditions and build branches and sequels using these conditions as implementation criteria. That enables commanders to quickly shift to another option and

continue an operation as changes occur in forecast conditions.

■ **Operational sustainment.** When planning an operation, sufficient time must be given for logistical build-up. Inadequate sustainment may restrict timing and sequencing and limit options for operational maneuver. Identifying logistical constraints is critical. Commanders must determine what conditions can limit logistics operations and develop plans to overcome them. They must consider conditions at the points of embarkation and debarkation and along the lines of communication. High winds and seas, fog, rain, and tropical storms affect logistic flow.

METOC conditions and their effects, synthesized by operational art, enable commanders to determine the critical factors that set the stage for mission success. They can then base plans and courses of action on the critical factors.

Boldness usually triumphs over timidity. But it must be supported with facts so that time and assets are not wasted. Determining critical METOC factors will embolden commanders. By knowing the risks before making a decision, they can resolutely take advantage of opportunities or minimize adverse effects. Operational planning helps manage risks by identifying problems and devising solutions. Determining METOC factors must be part of planning. *JV 2010* stresses the role of an emerging system of systems in acquiring dominant battlespace awareness. Recognizing conditions and their effects is critical to dominant battlespace awareness.

As Clausewitz observed: “Everything in war is simple, but the simplest thing is difficult.” Determining critical METOC factors is a simple concept that is difficult to implement. Accessing and interpreting climate is cumbersome and time-consuming. The weapon, sensor, and platform data required to ascertain critical and threshold values must be retrieved from multiple sources and can be conflicting. The results are often incomplete or late. Determining critical METOC factors is only one decision commanders must make early in the planning process. Emerging technologies may allow that task to be delegated to an expert system to provide information in a timely manner. That would free commanders to think creatively about a situation and develop options.

Nothing can be done to change METOC conditions, but timely and accurate knowledge of the types of conditions to expect and their effects can be a force multiplier, enabling commanders to anticipate problems and opportunities and to be ready to act, not react.

In war, the effects of METOC conditions are never neutral, and as Sun Tzu observed over 2,000 years ago the advantage goes to the side that knows the weather. **JFQ**

NOTES

¹ John F. Fuller, *Air Weather Service Support to the United States Army: Tet and the Decade After*, Air Weather Service historical study no. 8 (Scott Air Force Base, Ill.: Military Airlift Command, 1979), p. 26.

² For more details, see Milan N. Vego, *Fundamentals of Operational Design* (Newport: Naval War College, 1995).



Practicing tactical recovery aboard USS Wasp.

Joint Combat Search and Rescue—

Operational Necessity or Afterthought?

By JAMES E. MOENTMANN,
EDWARD E. HOLLAND, and
GARY A. WOLVER

Lieutenant Colonel James E. Moentmann, USA, is assigned to IFOR headquarters in Sarajevo; Major Edward E. Holland, USAF, serves with the BALTAP staff; and Major Gary A. Wolver, USAF, is a member of Air Force Element NATO, AIRSOUTH NS (EUR). They collaborated on this article while attending the Armed Forces Staff College.

Military and civilian leaders recognize the need to assign a greater priority to combat search and rescue (CSAR). Today a combat rescue has political and military implications that range from the tactical to strategic level. Public concern over casualties can intensify a situation that involves even one American life into a major crisis. Current joint doctrine stresses individual service CSAR that allows a joint effort when service capabilities are exceeded. Although service capabilities are being maintained, the Armed Forces emphasize joint planning, coordination, and execution of such missions as the norm, not the exception. Current doctrine should be revised to furnish reliable and flexible joint CSAR support to both CINCs and other joint force commanders (JFCs).

The military has conducted a range of operations—occasionally combat—in recent decades. Public support for committing forces has been difficult to achieve and maintain. Airpower is often perceived as a low cost way of demonstrating national will with lower risk than deploying forces on the ground. While the real danger to airmen—who most commonly precipitate CSAR—may appear low, man-portable and larger surface-to-air missiles have proliferated.

Combat search and rescue operations are dangerous and complicated. They normally take place in enemy territory or contested areas. Time is limited and knowledge of the situation is hard to obtain. The decision to conduct a search and rescue operation in unfriendly territory and under uncertain conditions is difficult. There are many ways to minimize risks to CSAR forces, but key among them are tailored assets, detailed coordination, and timely execution. Moreover, it is critical that such forces be immediately available, highly trained in search and rescue, and equipped with specialized and capable land, sea, and air systems.

CSAR efforts frequently failed early in the Vietnam War. Leaders did not apply the lessons of previous conflicts or prepare for the mission. Later attempts were more successful because

26th Marine Expeditionary Unit (Justin T. Watkins)

June 1996—rescuing
Scott O'Grady during
Deny Flight.



U.S. Marine Corps (Dave A. Garten)

of extensive on-the-job training and commitment of assets by commanders who, unlike their leaders, recognized the importance of CSAR.¹

There are barriers to developing effective CSAR capabilities. Historically, U.S. forces have put little emphasis on it in peacetime and then expended tremendous resources on it in time of war. The Goldwater-Nichols Act called on each military service to incorporate joint capabilities in all warfighting mission areas. However, joint doctrine continues to stress service CSAR programs and operations at

miles inside Iraq by local children.³ Like combat pilots, such assets are routinely deployed beyond friendly unit areas of operation. They are also deployed prior to or early in a conflict. When a team is compromised the operation transitions to a combat search and rescue known as a quick reaction force (QRF) mission.

The A-Team came under fire and evaded its pursuers until forced to choose a place to fight. Air Force F-16s



U.S. Marine Corps (Dave A. Garten)

joint doctrine continues to stress service CSAR programs and operations at the expense of interoperability

the expense of interoperability and standard procedures which waste resources.² Recent efforts demonstrate the challenges of conducting joint CSAR missions under joint doctrine.

Recent Efforts

The A-Team Compromise. On February 24, 1991, the first day of the ground war during Desert Storm, a Special Forces team was discovered 140

and helicopters from the 160th Special Operations Aviation Regiment (SOAR) responded immediately to a call for emergency close air support and extraction. The F-16s arrived in just over two hours, suppressed the advancing Iraqis, and saved the team from being overrun. The UH-60s arrived shortly thereafter. Despite pursuit by bedouins,

villagers, and Iraqi forces the entire team was rescued without casualties.

There are several lessons from this extraction. First is the value of habitual relationships between the forces being rescued and those who execute operations. Second, helicopter crews that exfiltrated the A-Team also took it in. Third, the 160th SOAR worked closely with Special Forces so that pilots and soldiers were well acquainted. Fourth, the aviation unit was an integral part of the mission and knew the threat. Finally, unit members had studied the situation and terrain before the need

for rescue arose. Any other force would have required more time, and the chance of success would have been reduced. It is critical to have a dedicated rescue force intimately familiar with the specifics of an operational area, threat locations, system capabilities, and mission. Speed can make the difference between life and death. Had rescuers been even minutes slower the A-Team could have perished. Often the only opportunity for a rescue is immediately after the need becomes known. Otherwise an enemy has time to mount its own search.

Downed pilot. The highly publicized shootdown of Captain Scott O'Grady, USAF, during Operation Deny Flight in Bosnia-Herzegovina is an example of how a downed aviator and a CSAR effort can take on a significance beyond the tactical problem of recovering the pilot. One can only speculate on the public reaction had O'Grady



Assisting accident victims aboard USS Stennis in North Atlantic.

U.S. Navy (James E. Williams)

been captured and mistreated by the Serbs. There may have been greater condemnation of the Serb role in the civil war and more aggressive calls for active U.S. military involvement. Both courses would have had important diplomatic and political repercussions. In the event, the response was more measured than it might have been in the wake of an emotionally charged situation such as the capture of a Special Forces pilot in Somalia.

O'Grady evaded capture by Serbian pursuers in rough, unpopulated terrain after being shot down by a surface-to-air missile during a peacekeeping mission and landing in Serb-held territory far from friendly forces. Deny Flight was a combined air operation with several allies providing aircraft, including Air Force and carrier-based Navy assets. The Combined Air Operations Center in Vicenza, Italy, controlled the CSAR operation that began immediately after O'Grady ejected.

Once the captain made radio contact with search aircraft, the commander of Allied Forces Southern Europe was faced with a series of decisions. Knowing that O'Grady had evaded capture for six days, there was little doubt that action had to be taken without delay. The force that would go deep into Bosnia to extract the pilot had two options. First was the special operations aviation element in Italy that included both Army and Air Force helicopters and personnel. They were best suited and trained for night operations. A second option was the Marine Corps in the Adriatic Sea just off Croatia who were trained for tactical recovery of aircraft and personnel. Their aircraft and crews, along with security forces, got the mission. That decision was reached because the Marines were close and

were the force of choice for daylight operations. Waiting for dark was ruled out because of the urgency of the situation. SOF units were repositioned to assume a backup extraction role or to perform a subsequent rescue mission.

The Marines succeeded in locating O'Grady, securing the landing zone, and completing the extraction. The airspace above them and along the routes was host to various Navy and Air Force aircraft in support of the operation. In particular, there were aircraft for close air support (CAS), suppression of enemy air defense (SEAD), and airborne command, control, and communications (ABCCC). The joint nature of this operation was demonstrated when the rescued officer stepped from a Marine helicopter onto the deck of a Navy ship as Army and Air Force helicopters serving as backup received word to return to their bases.



Simulated TRAP mission at Camp Lejeune.

Search and rescue demonstration, Apra Harbor, Guam.

U.S. Navy (Mark Kane)

2nd Marine Division (Cheresa D. Clark)

The Limits of Doctrine

Although joint doctrine makes theater CINCs responsible for the rescue of downed airmen and other personnel, it does not sufficiently describe requisite joint capabilities. CINCs must rely on the services for support. Current doctrine does not force—or provide the incentives for—the services to upgrade and maintain an effective joint capability.⁴ CSAR, as a service responsibility, potentially limits the ability of CINCs to employ rapid overwhelming force.

Overarching guidance on joint CSAR doctrine is summarized in Joint Pub 3-50.2, *Doctrine for Joint Combat Search and Rescue*:

*Joint SAR and CSAR operations are those that have exceeded the capabilities of the component commanders in their own operations and require the efforts of two or more components of the joint force to accomplish the operation.*⁵

This limits and inhibits operations by stating that components should consider joint CSAR only if their own capabilities are exceeded.

Doctrine should acknowledge that even if service capabilities are not exceeded, pre-planned joint CSAR efforts

other cases service components may enter operations knowing that they cannot field the needed assets for CSAR. In both cases supporters may argue that joint doctrine now resolves such issues. They might conclude that if service components exceed their ca-

even if service capabilities are not exceeded, pre-planned joint CSAR efforts are practical and appropriate

are practical and appropriate and also merit initial consideration. For example, service components may not send CSAR assets to support operations when it is impractical. If the Air Force were to provide strategic airlift to an area of responsibility (AOR) or joint operations area (JOA) for use by another component, deploying assets to conduct a rescue would be impractical. In

capabilities to conduct CSAR before operations begin, a pre-planned joint effort is needed to support a mission. But this approach still considers joint CSAR as a final option only after service component capabilities are exceeded.

In most instances service components plan to conduct their own missions. Problems arise when operational demands usurp assets needed for CSAR. Shortfalls or requests for assistance may not be identified until an operation is initiated. This implies that

joint CSAR is a backup to service efforts and that joint attempts are not pre-planned but are coordinated ad hoc when the need arises. This will mean joint missions must be quickly coordinated and executed during the initial phase of CSAR operations when timing, decision, and response are critical. Such planning usually leads to problems and possible failure.

Joint doctrine and military planning in general have come to emphasize joint operations in most areas, but CSAR lags behind. JFCs must consider search and rescue as joint at the onset of planning rather than rely on component CSAR. Components must plan for cross-service support even if their own capabilities have not been exceeded as specified in joint doctrine.

The A-Team rescue was joint. U.S. Special Operations Command during the Gulf War was able to receive requests for CAS and coordinate execution. CSAR operations involve aerial search and extraction almost exclusively. Navy, Marine Corps, and Air Force aircraft are suited for combat air patrols, air superiority, electronic warfare, SEAD, CAS, and search and rescue.

Combined with helicopters for search and extraction and ground forces to provide security, the planning, coordination, and control requirements for such operations are complex. All but the simplest CSAR operations are joint. Although service components may contribute capabilities and forces, JFCs must prioritize assets, planning, and execution. Ad hoc arrangements and redundant structures just add confusion and risk to an already challenging mission.

Nebulous Command and Control

Coordination of joint CSAR during operations is complicated by the command and control guidance contained in joint doctrine. Too many steps and unnecessary intermediaries act as serious hindrances. One reason the O'Grady rescue went well is that Deny Flight had earlier established command and control mechanisms and readily available air assets. It was a mature operation with two years of experience. There were prescribed procedures and dedicated assets for CSAR,

F-8 pilot ejecting over South China Sea, 1965.



Light Photographic Squadron 63 (Roy A. Zink)

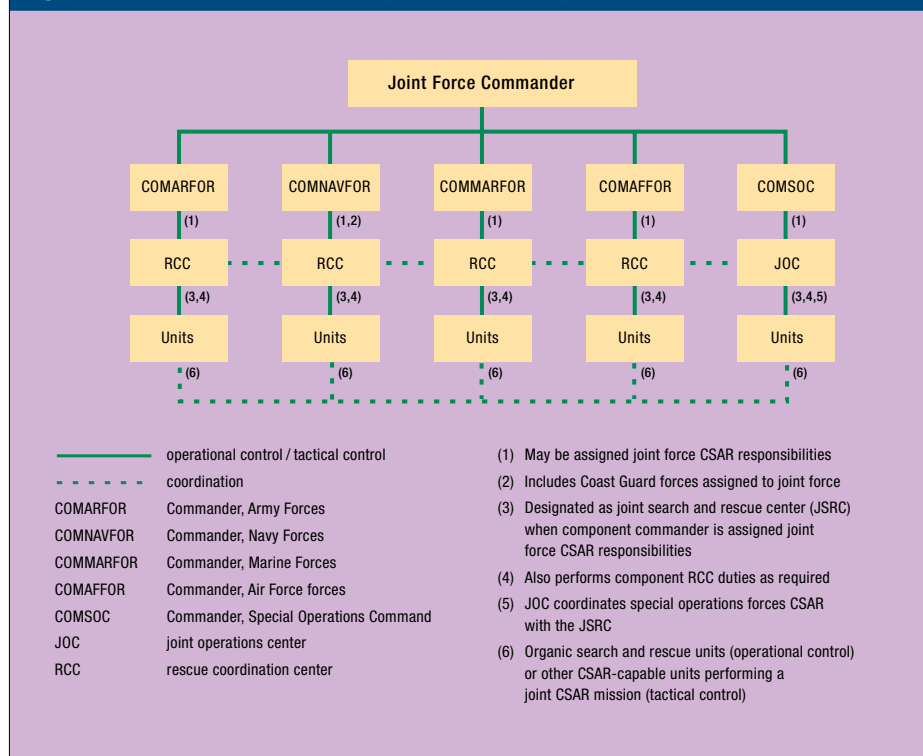
with robust staffs and seasoned planners and operators. In addition, rescue elements had six days—as the downed pilot evaded—to plan ingress and egress routes and become familiar with the situation.

Joint Pub 3-50.2 states, “The JFC should establish a [joint search and rescue center] to monitor recovery efforts; to plan, coordinate, and execute joint search and rescue (SAR) and CSAR operations.”⁶ Also, “Component commanders should establish a rescue coordination center (RCC) to coordinate all component CSAR activities, including coordination with the JSRC

and other component RCCs as appropriate.” JFCs may either elect to place JSRC on their staffs or assign component RCCs. If JSRC is on a JFC staff, that commander designates a JSRC director who is the direct representative on all SAR matters. The individual units of the service components report to their respective RCCs.

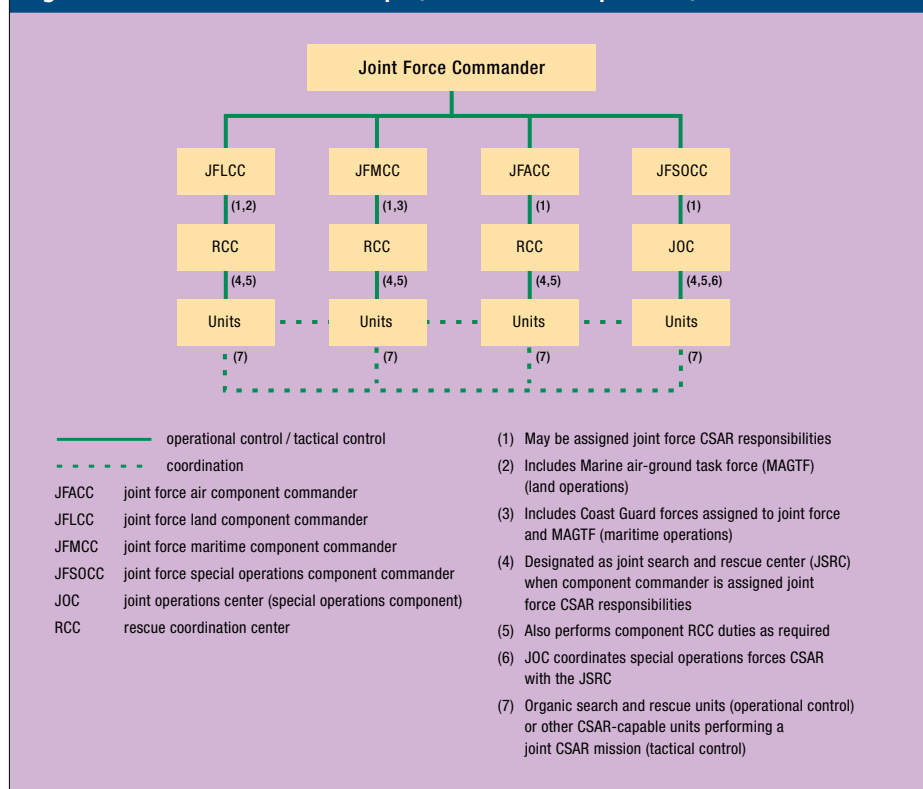
During an operation, missions are initiated when a member of the CSAR hierarchy receives a distress indicator: a mayday call, nonreturn from a mission, overdue contact, emergency beacon contact, or sighting an aircraft or

Figure 1. Joint CSRC Relationships (Service Components)



Source: Joint Pub 3-50.2, *Doctrine for Joint Combat Search and Rescue*.

Figure 2. Joint CSRC Relationships (Functional Components)



Source: Joint Pub 3-50.2, *Doctrine for Joint Combat Search and Rescue*.

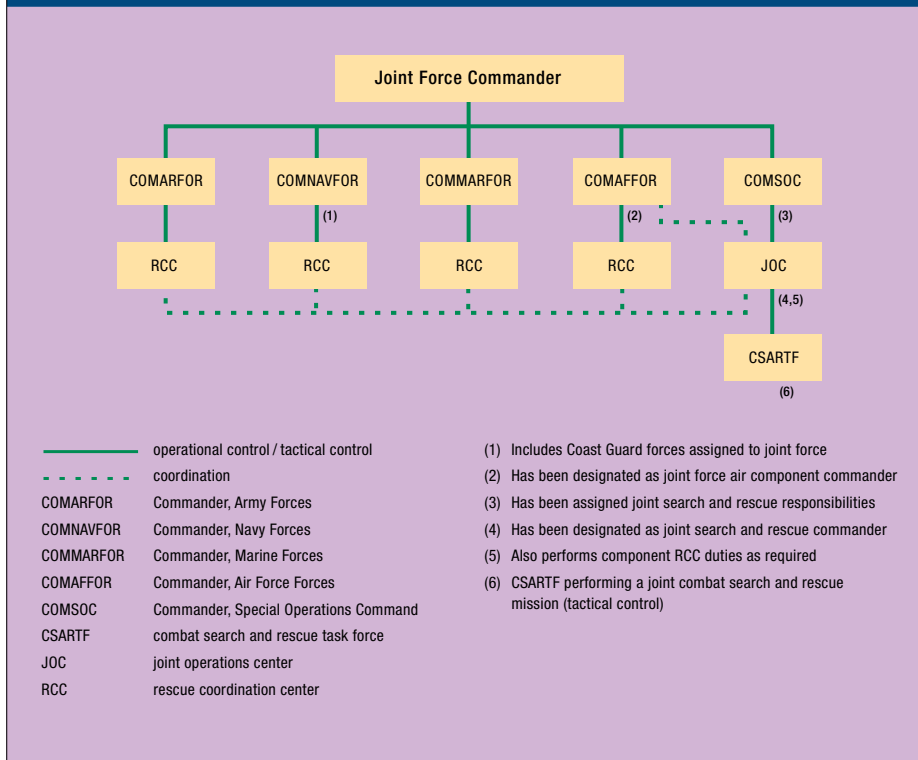
vessel going down. Experience indicates that action during the first 15 minutes contributes significantly to a successful recovery. If units have organic capabilities to conduct CSAR the process merely requires keeping RCCs advised on mission conduct. If the units call for additional assistance, coordination becomes more complex.

Units requesting support should notify the component RCCs, which should notify JSRCs. RCCs then assume duties as coordinators and task subordinate units. If component resources are inadequate, RCCs will request assistance through JSRCs whose directors may elect to designate new mission coordinators who could be the initial component coordinators, other component RCC coordinators, or the JSRC directors.

Coordinators could change frequently over a short period. This amounts to a possible switch in tactical control during a critical phase of a demanding mission. Even given the best communications possible, this would still be confusing to the executing units. One moment they would answer to the unit CSAR coordinator, the next to the RCC coordinator, and the next to the JSRC-designated coordinator. Different units could be working under different mission coordinators if a change in control were not adequately transmitted and received amongst the various participants.

In addition, the organizational charts in figures III-1 through III-3 in Joint Pub 3-50.2 show no clear chain of command from the units through the components to JFC. Nor do they clearly indicate how JSRC fits into the organization or whether RCC is responsible to the JSRC director or the service component commander. They merely imply that RCC is responsible to the component commander. However, the pub states that the JSRC director is the JFC representative for CSAR and can thus "task component commands to support CSAR missions." The RCC coordinator could well receive conflicting guidance from the commander and director. Which should he answer to?

Figure 3. Typical JSRC Relationships (Service Components)



Source: Joint Pub 3-50.2, *Doctrine for Joint Combat Search and Rescue*.

The chart in figure III-3 shows the commander of the special operations component having been “assigned joint force CSAR responsibilities” but does not explain the implications of this structure. It implies that services are not responsible for their own CSAR, contradicting the rest of the document. Furthermore, both the chart and document fail to explain the relationship between RCC, JSRC, and the CSAR task force.

A joint force commander must establish a single point of contact for

The JSRC director, as JFC’s direct voice, should have tactical control of all CSAR resources during missions. Should JSRC and component commander guidance conflict regarding the use of assets, JSRC need only resolve it with JFC or his representative for the overall operation.

Duplication of Effort

Coordination between JSRC and component RCCs is the most critical flaw in the current arrangement. It can cause delays and confusion that

a joint force commander must establish a single point of contact for command and control—a sort of CSAR 911

command and control—a sort of CSAR 911. JSRC should be the primary focal point for planning, controlling, and coordinating all such missions for the joint force. The components could still be tasked to conduct their own CSAR, but JSRC would determine the best mix of assets and coordinate all joint SAR.

lead to mission failure, personnel captured or killed, and loss of CSAR assets. Lesser problems must also be solved. The present duplication of effort among services wastes assets, training, and manpower.

In many cases JFC will call for establishment of a JSRC in a crisis. The individuals needed to operate it (described above) will likely be the same trained personnel the service components would have used in their RCCs. Many responsibilities assigned to JSRC must be accomplished on the component level by RCC. For example, both centers are tasked with maintaining “a database and file on each isolated person until recovery is complete.”

Not only is manpower wasted when several organizations produce similar products, but multiple efforts mean multiple products. Units in the field must then commit time to learning different procedures. The problem caused by the duplication of effort comes across loud and clear in the joint pub itself:

Unit commanders should ensure that assigned and attached personnel are familiar with this publication, joint force CSAR SOPs [standard operating procedures], and any specific component CSAR TTP [tactics, techniques, and procedures] that have been developed.

Just how many procedures do we want our aircrews to learn? In most cases CSAR is not a mission of the individual unit.

The same section of the joint pub tells unit commanders that “CSAR requirements exceeding available capabilities should be forwarded to the component RCC.” The majority of units—certainly Air Force fighter or bomber squadrons—lack the indigenous assets to conduct CSAR. The Air Force RCC would be flooded with requirements if unit commanders followed this guidance. Each unit will produce a very similar list that could be prepared at RCC or a properly manned JSRC, reducing the duplication of effort among units.

The joint pub establishes a loose framework to implement joint CSAR. Unfortunately, to execute it under this framework all players must coordinate throughout the process and make CSAR a top priority at the expense of other missions. History shows that this is unlikely without strong direction.



Downed CH-46 crew arriving on board USS Constellation.

U.S. Navy (Roger W. Dellinger)

Joint Pub 3-50.2 properly establishes that "JFCs have primary authority and responsibility for CSAR in support of U.S. forces within their AORs or JOAs." But the next paragraph returns to business as usual: "JFCs normally delegate responsibility to recover personnel to the joint force component commanders." Similarly, the publication calls for the establishment of a JSRC and then (as discussed above) turns it into an additional coordination node in what should be a streamlined process. The joint pub is an excellent starting point, but without clear direction (teeth) it cannot fix the continuing problems in the CSAR mission.

DOD Initiatives

The lack of CSAR coordination has been acknowledged at the highest levels within DOD. There are initiatives underway to improve doctrine and capabilities. A former Director of

the Office for Missing Personnel, James Wold, stated that "personnel recovery [is] a very important issue to the Secretary of Defense." The Secretary initiated the tasking to establish a CSAR executive agent. Though the Vice Chief of Staff of the Air Force initially delayed the executive agent's standup, the Secretary appointed commander of Air Combat Command (COMACC) to that post. The command then directed formation of an integrated product team to address the task. A team lead was named and built an organization. The team worked with ACC and Air Force staffs to resolve issues raised by the Vice Chief. During mid-1996 the executive agent still required manpower, operations and maintenance funds, and a responsible staff organization at ACC headquarters.⁷

The Air Force, specifically ACC, has been tasked to develop standards for equipment, training, and procedures to be coordinated with all the services. ACC Director of Operations has updated the combat air forces concept of operations for CSAR, signed by the ACC director for Plans and Programs in April 1995. Establishment of an executive agent and lead organization is clearly a positive step towards effective joint capabilities. It should be followed by publication of an updated Joint Pub 3-50.2 that will not only detail CINC CSAR responsibilities but give them capable assets and the authority and command structure to effectively execute this critical mission.

An ad hoc organization or hastily prepared force would not have been up to the challenges posed by the CSAR examples described above. Key decisions guiding high-stakes missions were necessarily raised to the attention of theater commanders. Tailored assets drawn from three or four services were united in joint operations whose success was largely determined by the command's ability to synchronize actions across traditional service boundaries.

As previously stated, JSRC should be established as a focal point for all CSAR. Dedicated rescue forces with expertise and training in joint operations should be available to CINCs and other JFCs. The Armed Forces should

rely more on joint efforts to optimize the use of available assets. And JFCs must consider CSAR a joint undertaking at the onset of planning while each component must plan for cross-service support.

While current joint doctrine and DOD initiatives stress the necessary joint nature of CSAR operations, they do not forcefully ensure that organizations and procedures are indeed joint. They do not guarantee that the lessons learned from recent successes are incorporated on the combatant command and joint task force level. Joint Pub 3-50.2 should be updated to provide CINCs with capable assets, command structures, and the authority to execute critical missions. The difference between forcefully stating joint doctrine, as proposed here, and the tacit acceptance of less stringent standards embodied in current doctrine may appear insignificant. But the reality is that the nature of CSAR makes it essential to have unambiguous doctrine, highly trained and specialized forces in all services, an uncompromising dedication to organizing joint staffs, and joint command authority for planning and execution. **JFQ**

NOTES

¹ John R. Bone, in "Combat Search and Rescue—Military Stepchild," research report for Air War College (April 1988), reviews CSAR efforts from Vietnam through the late 1980s.

² Russell M. Ziegler, "Combat Search and Rescue (CSAR): Time to Find a Real Fix," paper for Naval War College, February 1993. Ziegler asserts that, despite DOD reorganization, the services still fall short of an effective joint capability.

³ George C. Wilson, "Death Trap in Iraq," *Army Times*, February 5, 1996, pp. 11–14.

⁴ Russell D. Carmody, "Theater Combat Search and Rescue," thesis, Command and General Staff College, May 1993.

⁵ Joint Pub 3-50.2, *Doctrine for Joint Combat Search and Rescue*, p. I-1. Joint Pub 1-02, *DOD Dictionary*, defines joint CSAR in essentially the same terms.

⁶ *Ibid.*, p. viii.

⁷ ACC Director of Operations staff memorandum, COMACC update, July 16, 1996.

American Primacy and the Defense Spending Crisis

By GARY J. SCHMITT

There is an emerging consensus both inside the Pentagon and on Capitol Hill that we face a defense budget crisis.

It is caused by too few dollars to support both current military operations and the planned modernization of U.S. Armed Forces. But this crisis is only likely to be eased, not solved, if it is thought to be caused by a lack of resources alone. The more basic problem, and the root cause of the current crisis, is that the Nation appears to have no compelling strategic vision that justifies a large—let alone larger—defense budget. After being preoccupied by a single serious threat for more than forty years, America's leaders have been at a loss to explain why significant resources for defense are required absent such a threat. The result has been a shrinking defense budget and a shrinking military capability.

the Base Force may have been more realistic in terms of the military required to maintain worldwide commitments

The emerging danger we face is an erosion of our ability to capitalize on the unprecedented strategic opportunities afforded by the current global preeminence of the United States. Hence fixing the defense budget crisis requires not only additional resources but a strategy that both focuses on current threats and seeks to maintain Ameri-



DOD (Helene C. Stikkel)

can primacy and use it to shape the international security environment to the long-term benefit of the United States. Absent such a strategy, it is unlikely that the current defense budget crisis will ever be solved.

Squeezing the Pentagon

First, we should be clear about where defense spending and the Armed

one must look back to the isolationist period prior to World War II in order to find a smaller percentage of national wealth being allocated to defense.

That decline is reflected in a smaller force structure. If current trends remain unchanged for the decade 1991 to 2001, the Army will likely go from 18 to 9 divisions, the Navy from 546 to roughly 300 ships, and the Air Force from 36 to 18 fighter wings. Although these levels are dramatic, it is striking how far they fall below initial DOD estimates of the minimum force structure required after the Cold War. The Base Force concept projected a need for 12 Army divisions, 456 ships, and 28 wings. At the time most defense analysts and politicians derided these levels as too large and the cuts as too modest. To a certain extent the criticisms were valid. In hindsight, however, compared with levels today, the Base Force may have been more realistic in terms of the size of the military required to maintain the current operational tempo and worldwide commitments.

Gary J. Schmitt is executive director of the Project for the New American Century and adjunct professor at the School of Advanced International Studies in The Johns Hopkins University.

The simple but critical point is that size counts. It matters especially when the U.S. military is expected to deter aggression around the globe, maintain a presence to provide stability in various regions, handle smaller contingencies such as Bosnia, and fight a major conventional war if and when called upon.

But cuts in force levels have left the Armed Forces stretched thin. As many observers have noted, today's Army could not field a force like the one that won the Persian Gulf War. At the start of this decade there were 11 heavy divisions. Now there are six, with one committed to Korea and another involved in training and, by some accounts, only two fully combat ready. No doubt the remaining troops—combined with airpower—would be sufficient to meet a contingency arising from another conflict with Iraq. But, as some charge, such forces could not easily cope with unexpected reverses on the battlefield or a

Size also matters when the military is "blowin' and goin'" at the tempo at which the Armed Forces have operated in recent years. Since the early 1990s the military has been involved in scores of missions beyond those related to homeland defense or treaty commitments. With force structure down, both active and Reserve components are being deployed more often and for longer periods than anytime in recent memory. In the wake of the Gulf War, esprit de corps was high. Today, morale is clearly down as our soldiers, sailors, marines, and airmen become frustrated with the constant exhortation to "do more with less."

If human capital is being used up, so too are weapons and equipment. Maintenance and support budgets have not kept pace with the tempo of operations. It is no surprise that Pentagon studies reveal that spare parts are a problem, logistic support is uneven, and equipment is suffering from a higher than expected rate of attrition.

contingencies, do not have that kind of time. They may be combat ready by some standards—such as time spent in the cockpit—but they are not ready in actuality.

What is especially striking about this deterioration is that it persists in spite of the fact that the Pentagon has clearly sacrificed acquisition to free funds for operational readiness. As a result, spending for new systems has dropped as a portion of the DOD budget, from traditional levels of around 25 percent to less than 15 percent. Living off an earlier build-up, the military is falling further and further behind in efforts to recapitalize. As General Shalikashvili estimated three years ago, the money for weapons procurement had fallen to a level 40 percent below what was required to equip the U.S. military in the years ahead. But even the former Chairman's figure is arguably too low because it probably underestimates the cost of the new systems and does not include items such as effective missile defenses, an adequate fleet of JSTARS aircraft, or new long-range bombers.

The shortage of dollars is also squeezing long-term modernization efforts under the rubric of a revolution in military affairs. Stealth, advanced sensors, and information systems all promise to profoundly transform conventional operations and capabilities. But because such a revolution may change the face of war, it is not clear at this point what will work in battle and what will not. At a minimum, this uncertainty should lead the defense establishment to create an environment in which the Armed Forces can experiment with new technologies and organizations. In practice, this means a willingness to promote increased competition among the services to develop new systems and sift promising innovations from dead ends. It also means DOD and Congress must learn to tolerate greater redundancy in service R&D and the development of numerous prototypes that will never make it to the field.

But this is an expensive way to do research and development. It is hardly encouraging then that defense spending on R&D has been in decline: down



U.S. Air Force (Carl Friesa)

major crisis in another region like Northeast Asia. Downsizing leaves two unacceptable options in a crisis, according to Fred Kagan of the U.S. Military Academy: "facing an enemy without overwhelming force or abandoning our national interests around the world."

The sort of training necessary to maintain the skills associated with the U.S. military and its success in the Persian Gulf War is also suffering. It is not enough to have superior equipment. The military also needs time to hone its capabilities to use that equipment under various scenarios and in unison. Forces that are constantly on the go, stretched thin by non-combat

Marine M1A1s during Urban Warrior LOE-2.



2nd Marine Division (D.R. Storms)

by 57 percent since 1985 and projected to drop another 14 percent over the next five years. And funding for basic science and technology—which is focused on cutting-edge developments—is no better. Over the years it has shrunk by nearly a fifth and, if current trends hold, will shrink further.

Signs of a diminished military are universal. Each new budget cycle is accompanied by an announcement of

their global responsibilities with confidence. At some point, even given advanced systems, less is still less.

Rolling the Dice

There is no solution to the gap between what DOD would like to do and what its planned budget will allow. Logically, experts suggest cutting back on what the Pentagon would like to do. One approach is downplaying or

the NDP report advocated taking advantage of both emerging technologies and the changing nature of warfare

cuts in one program or another, be it fighters or ships. There are no new tanks or strategic bombers and none under development. Decisions driven less by strategic logic and more by available funds have also kept the Pentagon from buying much needed airlift and sealift capabilities or acquiring precision-guided, deep-strike weapons for a major conventional conflict. For each of these decisions an argument can be advanced (“more bang for the buck”) on why the military can get by with less. But their cumulative effect leaves the Armed Forces too thin to carry out

jettisoning tasks—smaller-scale contingency operations (such as peacekeeping), forward presence, conventional deterrence, alliance commitments—and appreciably downsizing the services most associated with them. In some versions of this strategy, the Navy takes a major hit while the Army and Air Force retain current force levels. Under other scenarios, the Navy is maintained as a potent force while large parts of the Army and Air Force stand down. Finally, some armchair strategists argue for greatly enhancing airpower while decreasing both land and sea forces.

Given expected defense revenues, these alternative strategies for dealing

with the near-term security environment are not simply unreasonable; but they are gambles. Each rests upon assumptions about what will be important in the next decade which may or may not be the case. Will Beijing’s pursuit of “a greater China,” for example, result in military confrontation? Will instability in oil-rich Central Asia matter? What of Iraq and North Korea? Is European and Asian stability, either at the core or on the periphery, dependent upon a significant U.S. military presence? What would happen if our forces were no longer deployed in certain regions of the world? Predicting the future is not a science. In the past, experts have frequently over- or underestimated what will influence our strategic interests. There is no reason to believe we are any more prescient today. Moreover, conjecture about what will matter—inevitable on some levels—may actually invite problems in areas deemed less important.

But the largest and most dramatic strategic gamble being proposed to close the gap between strategy and resources pits current responsibilities against future requirements. It was captured in distinct, core messages reported by both the Quadrennial Defense Review (QDR) and the National Defense Panel (NDP). The QDR report reviewed strategy and requirements through the year 2005, while the NDP focus extended to 2010 and beyond. With both a different horizon and a process guided by the defense establishment, the QDR report largely, and without surprise, validated the current force structure. The NDP report, on the other hand, looked at requirements a generation out. Not unexpectedly it challenged current defense plans, particularly the need for a military sized to handle two nearly simultaneous major regional conflicts. Instead, it advocated taking advantage of both emerging technologies and the changing nature of warfare in revolutionizing the military.

In general, the QDR report emphasized current missions over future needs while the NDP report stressed tomorrow’s requirements. Of course, both reports avoid stating the case so starkly. The QDR report, for instance, readily admits the potential benefits of

a revolution in military affairs and the NDP report notes current threats and the value of a strong military in promoting regional stability and global security. However, as critics of these approaches note, the QDR report speaks of the need to transform the military but falls short on how it might be done, while the NDP report dealt with how that transformation might be accomplished, leading it to give short shrift to whether the Armed Forces can effectively handle global commitments in the near term, including possible conflicts in the Middle East and on the Korean peninsula.

Taken together, the QDR and NDP reports leave the impression that the Nation confronts an either/or proposition. Assuming that defense spending will not increase, both reports conclude that either we meet today's requirements at the expense of tomorrow's or prepare for the future by downplaying current responsibilities and concerns.

This is certainly a dubious choice to face since the core points of both reports are sound in their own fashion. For its part, the QDR report makes a compelling argument that the Nation faces a historic opportunity. As the dominant power in the world, it need not sit passively on its hands, trusting that other countries will remain friendly to its interests. An improvement over previous defense studies, the QDR report addresses not only potential threats but how the United States—by forward deployment, military operations other than war, and alliances—can mold the international environment. The NDP report, on the other hand, argues that we are entering a period in which technology will inevitably change the nature of war. If the Armed Forces fail to retain a lead in this revolution, the Nation runs a risk of defeat by an ostensibly less powerful but more adroit enemy. History is replete with instances when powers were brought low by ignoring or misapplying advances in military affairs. That these reports are right from a limited perspective suggests that unless things change, we will encounter instances of strategic fratricide over the next few years in which supporters of a



Live fire exercise,
Northern Edge '98.

55th Signal Company, Combat Camera (Cory Montgomery)

commentary

high level of readiness are pitted against advocates of modernization.

Of course some in Congress and the executive branch hope that current budget necessities will be the mother of military invention, generating innovative ways to deal with present and future requirements under constraints of expected outlays. Coupled with base closures and a so-called revolution in business affairs, the thought is that there will be enough savings to make ends meet. Aside from the prudence of such an approach for a superpower with global requirements, the practical result will fall short of expectations given bureaucratic and political incentives. Faced with limited resources but an increase in its responsibilities for operations and modernization, DOD will likely muddle along by adopting one program compromise after another. In the end, the competing visions in the QDR and NDP reports will produce no winner but instead will probably leave the Armed Forces neither adequately prepared for near-term missions nor fully capable of being transformed to meet future challenges.

Strategic Pause

The only way of avoiding strategic gambles and closing the gap between ends and means is to increase defense spending appreciably. Yet the prevailing wisdom is that we cannot afford to do so. But afford is a relative term. For the last half-century, the Nation's defense burden has been much higher than today. Even during the Carter administration—a low point in Pentagon budgets in the Cold War—the defense burden (as a percentage of GDP) was 40 percent greater than what it will be in 2002 if present plans hold. For almost five decades, the United States spent between 6 and 10 percent of GDP on defense; that figure hovers at 3 percent today.

Nor is it obvious that the goal of achieving a balanced budget should prevent an increase in defense outlays. During the 1950s the budget was balanced and large sums went to the military. What changed, of course, is spending on domestic programs. Although the drop in defense spending is linked to the end of the Cold War, it is not the sole nor principal reason why the decline started in the mid-1980s and continues unabated. Rather, the

DOD budget has been squeezed by persistent increases in entitlements and other domestic programs. Over the past decade, and despite concerns raised by Congress and the President about the deficit, non-defense discretionary spending has grown by some 24 percent above the inflation rate. Moreover, for various Federal programs, spending will continue to rise under the balanced-budget agreement worked out last summer.

The notion that the United States cannot afford to spend more on defense is, as suggested above, largely a political and not economic judgment. Sometimes nations are forced to make hard choices about the military. For example, Britain could not afford to field an imperial force between the wars while modernizing its army and navy. Today, however, the American economy is strong and we can afford to spend more if we choose. But are there solid strategic reasons for doing so?

reference to the interwar years appears somewhat dubious considering the outcome of that period

For some defense sophisticates the answer is no. They maintain that the Nation is enjoying a strategic pause (or, in the words of the NDP report, a "secure interlude"). The United States no longer faces nor is likely to face a major adversary—a peer competitor like the Soviet Union during most of the Cold War—while it outspends all other major powers on defense by a wide margin. Accordingly, the argument goes, we can afford to cut the military substantially, save resources that otherwise would go to readiness, and allocate them to ensure that the Armed Forces are prepared when some new significant rival appears on the horizon.

Advocates of strategic pause often cite the 1920s and 1930s as a period of profound change in technology when the military experimented with weaponry despite constrained budgets. Freed from dealing with an immediate threat, the Armed Forces were able to

think through what would be required of them to meet the demands of the next war. Of course reference to the interwar years appears somewhat dubious considering the outcome of that period. The larger lesson is that liberal democracies can be quick to savor peace but slow to address looming threats. Passive sometimes to a fault, they invite rather than discourage rising powers from challenging the international order. The United States is the leading power in the world and, as a result, its actions—either deliberate or otherwise—will be pivotal in determining the present and future character of that order. It is not possible for the Nation to enjoy a strategic respite and escape its consequences.

The Price of Leadership

The heart of the matter is that America combines preeminent military power, the world's largest economy, alliances with the most powerful and developed nations, and a set of political and economic principles admired around the globe. Rarely, if ever, has any state in modern times held such a commanding position and enjoyed a world order as conducive to its own principles. Grand strategy should preserve and, when possible, extend a secure situation as far as possible into the future. The fact that the United States does not confront a superpower rival at the moment and that it outspends other powers on defense does not, in short, mean that there is little to be done or that current spending is adequate to maintain a favorable strategic position. There is only a strategic pause if we want to punt this opportunity away.

Carrying out this strategy requires, at a minimum, that we maintain our leadership role in alliances among democratic states, prevent any hostile power from gaining hegemony over a critical region of the world, deter any rising power from believing it can compete with us globally, and encourage the spread of economic freedom and liberal democratic ideals. As this review suggests, however, global preeminence requires a relatively constant exercise of U.S. leadership, a

sound economy, and a military dominant around the world and across the conflict spectrum. And such a military does not come cheaply. To achieve this strategy, the Armed Forces must not only be formidable, they must be seen as decisively so. As Speaker of the House of Representatives Newt Gingrich recently stated, we do not simply want "to be strong enough to win narrowly . . . [We] want to be so strong that no one can compete with us."

The good news is that this strategy can be implemented without bankrupting the Nation. If spending was boosted to 3.3–3.5 percent of GDP—a modest level by modern standards—and held there for the next decade, there would be ample funds to keep the Armed Forces preeminent today, tomorrow, and well into the future. In the near term, a defense burden of this order would provide \$40–60 billion (in constant, non-inflation adjusted dollars) more a year on average in the next four years and allow DOD to institute the core strategic insights outlined in the QDR and NDP reports.

Justifying such a budget increase requires moving beyond the idea that defense spending is tied simply to meeting specific threats. It means, instead, defending a large defense budget as a necessary but affordable means for taking advantage of the strategic opportunity the country has at hand. Finally, it means adoption by the United States of a grand strategy that is animated not by fear of some looming danger but, rather, pride in the remarkable confluence on the world stage of American power and principles at the close of the 20th century.

JFQ

The Joint Force Commander and Global Mobility

By WALTER KROSS

Napoleon's campaign in Russia, the British army's failure to secure oil fields and pipelines in Mesopotamia in 1915, Field Marshall Rommel's defeat in North Africa in 1942, the demise of German forces at Stalingrad in 1943, the American failure in Korea in 1950, and the capitulation of the French at Dien Bien Phu in 1954 have something in common. Each was a failure resulting in part from an inability to deploy forces and keep them in the fight. On the other hand, Alexander the Great's conquest of the Persian Empire, the Normandy invasion and Burma campaign during World War II, the battle for Khe Sanh, and the Yom Kippur War were victories brought about by the ability to effectively deploy and sustain combat forces.

Future joint force commanders (JFCs) need to learn from these lessons in order to fight and win tomorrow's battles. Understanding the unique and dynamic nature of global mobility and the mobility issues faced by U.S. Transportation Command (TRANSCOM) is a vital first step toward best using scarce mobility assets in war.

In the wake of the Cold War, national military strategy has steadily shifted from a reliance on forward-based forces capable of fighting in place to significantly downsized CONUS-based forces with emphasis on power projection and joint force deployments. Consequently, demands

placed on the defense transportation system require JFCs and their planners to become intimately familiar with the composition and character of national global mobility forces and with impending issues which might hinder the future warrior's ability to get to the fight.

The Nature of Global Mobility

One characteristic constrains national military strategy above all others: TRANSCOM force structure is sized to support one major theater war (MTW). It can support two only by rolling from the first to the second in succession. That ability depends on the agility inherent in mobility forces, leveraging the close TRANSCOM partnership with the transportation industry, and tightly coordinated planning among the Joint Staff, the geographic unified commands, and TRANSCOM. This third element—smart planning and execution—is the most important.

As the name implies, mobility forces are inherently able to move rapidly among theaters and can tailor force composition to meet a wide range of contingencies. Air mobility forces—both airlift and air refueling—are perhaps the epitome of force agility, offering the capability to establish an air bridge on short notice and provide a significant ton-mile capacity. They can also be quickly tailored to meet flexible deterrent options or changing needs of a deployment. For example, when inclement weather ruined the surface deployment timeline for Bosnia, Air Mobility Command—the TRANSCOM air component—rapidly shifted key elements of the effort from rail to air.

General Walter Kross, USAF, is commander in chief, U.S. Transportation Command, and previously served as Director of the Joint Staff.

Boarding commercial aircraft for Southern Watch.



1st Combat Camera Squadron (David W. Richards)

Sealift—the force of choice to move heavy equipment and the vast tonnage of materials necessary to sustain a modern combat force for protracted periods—achieves its flexibility through tailored response ability and surge capacity. The surge sealift forces of Military Sealift Command (MSC), the Navy component command of TRANSCOM,

can respond to a contingency with a variety of ships to include roll on/roll off (RO/RO), large medium speed RO/RO (LMSR), and fast sealift (FSS). MSC can tailor these forces as the contingency unfolds. However, timing is critical to roll sealift forces to the second MTW. It is also incumbent

on the supported forces to ensure the right forces are at the right port at the right time to facilitate rapid upload and embarkation.

Military Traffic Management Command can also quickly move surface transportation assets to support the second MTW. Its fleet of railcars can rapidly shift the focus from the first MTW. Its mobility forces are positioned with lead Army units to ensure swift deployment. Its presence at the ports of embarkation is critical to an effective and timely up-load and down-load. Coordination between the joint task force and TRANSCOM is essential for movement to the ports.

Partnership with Industry

Inherent agility is critical, but in terms of supporting JFCs, the total TRANSCOM capacity depends on rapid access to the surface, sea, and air assets of America's cutting-edge transportation corporations. This is possible through close teamwork with industry. The Civil Reserve Air Fleet (CRAF), Voluntary Intermodal Sealift Agreement (VISA), and Maritime Security Program (MSP) all help ensure that the warfighter has strategic lift when and where needed.

CRAF, instituted in 1952, is a voluntary contractual program wherein U.S. carriers receive government airlift business in exchange for commitments of aircraft to assist in emergencies when airlift needs exceed military capability. The program constitutes 93 percent of all planned strategic passenger and 41 percent of cargo airlift capacity.

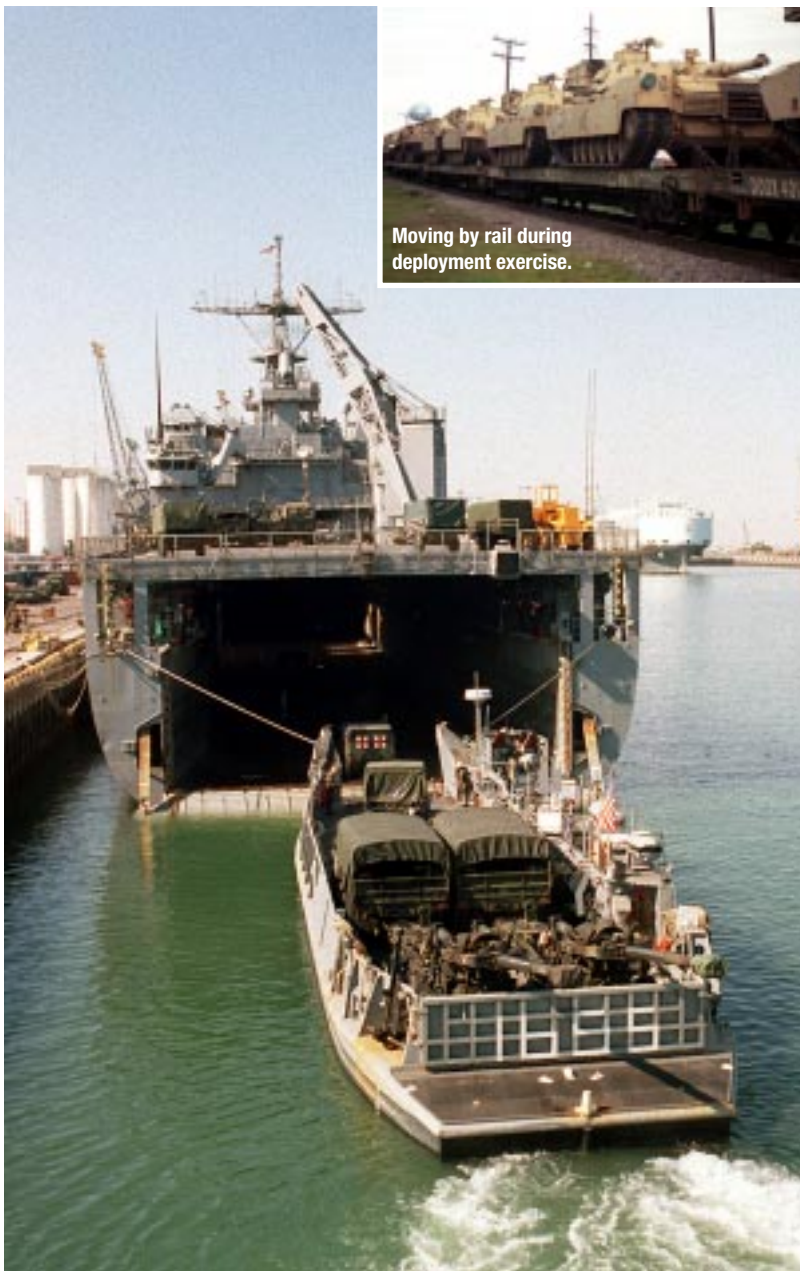
VISA is a program developed by TRANSCOM, Maritime Administration (MARAD), and industry that leverages government business for door-to-door sealift capacity during contingencies. The commander in chief, U.S. Transportation Command, is responsible for activating it. In order to improve military responsiveness, industry leaders play a key role in developing their portion of operation plans (OPLANs). The objective is to leverage commercial sealift capacity, vessel, crew, port facilities, and other corporate assets in a contingency, as opposed to leveraging only ships as in the past. VISA works in conjunction with the Maritime Security Program.

The 1996 Maritime Security Act required the Secretary of Transportation to establish the Maritime Security Program which retains a fleet of U.S.-flagged, militarily useful vessels to meet national security requirements and maintain a U.S. presence in international commercial shipping. In addition the act requires the vessels to enroll in VISA and the emergency preparedness program. Maintaining a U.S. presence in international commercial shipping also ensures a U.S. merchant marine force large enough to crew the Ready Reserve Fleet (RRF).

Detailed Coordinated Planning

In the end, however, capabilities offered through TRANSCOM component forces and their close working relationship with industry provide a force structure sized to meet only one MTW. Detailed planning is the enabler which will permit this structure to satisfy the daunting two-MTW requirement. This planning is a massive team effort that starts with detailed practical steps among supported and supporting CINC staffs. It begins

the Civil Reserve Air Fleet constitutes 93 percent of all planned strategic passenger and 41 percent of cargo airlift capacity



Moving by rail during deployment exercise.

DOD (Don Tett)

DOD (Alexander C. Hicks, Jr.)

USS Ashland,
Kuwait City.

with national security strategy and the joint planning document but relies heavily on a fully developed joint strategic capabilities plan (JSCP). The plan apportions strategic lift forces to support both major theater wars, laying the foundation on which geographic CINCs build OPLANs. The plans are then linked to time-phased force and deployment data (TPFDD) to provide unit-level details needed for global mobility forces to support two nearly simultaneous MTWs. Detailed planning by geographic CINCs and the commander in chief, U.S. Transportation Command, is critical for the most effective use of scarce mobility assets.

OPLANs and related TPFDDs have only a limited potential for predicting the future. Each contingency and regional conflict unfolds differently and necessitates a distinct level of response. However, existing plans provide a frame of reference which enables a better allocation of assets. When a deployment is directed to a smaller scale contingency or humanitarian mission, the lack of an OPLAN and TPFDD presents a formidable problem. A response requires close coordination between the JFC deployment team and TRANSCOM to build the required OPLAN and TPFDD. No one would disagree, however, that the joint operation planning and execution system (JOPES) is difficult and time-consuming. To address this problem TRANSCOM is examining technologies and processes for a system to complete TPFDD-level detail deployment planning in one hour.

Undoubtedly, global mobility depends on its inherent agility, industry partnerships, and effective planning, areas in which TRANSCOM undoubtedly faces significant issues.

Joint Deployment Training

While planning is imperative for both JFCs and TRANSCOM, the ultimate success of any deployment lies in the ability to transition smoothly from planning to execution. Both require close coordination and teamwork. In introducing Joint Pub 1, the Chairman described joint warfare as "team warfare." JFCs want a diverse group of "pick-up players" to quickly form a cohesive team to facilitate successful deployment. Common experience and training form a cohesive team. The Joint Deployment Training Center (JDTC) will provide the common deployment experiences and training to facilitate team formation.

The JDTC mission is to improve the deployment process through doctrinal developments, education, and training to offer effective and efficient support to JFCs. The center will ensure that joint deployment and transportation core curricula are available for military and civilian personnel directly associated with planning and executing joint force deployments. Joint deployment and transportation education and training will be based on doctrine which will at the same time maintain service-unique capabilities. The intent is to create common mission-based requirements that each service understands and teaches as core proficiencies.

JDTC has several goals which will contribute to a successful joint force deployment. Most importantly, it will work to standardize instruction and develop doctrine related to joint deployment

and transportation. It will also increase the knowledge level of participants in the joint deployment process. Moreover, it will provide a core of joint deployment and transportation for all services, joint professional military education,

the United States is the only nation able to conduct large scale, joint operations far beyond its borders

and professional continuing education institutions. Finally, it will develop and offer an installation transportation office/transportation management office joint course. Common deployment doctrine and training are the overarching JDTC objectives. Through these tools, JFCs will be able to establish a truly effective joint force deployment team.



1st Combat Camera Squadron (Paul R. Caron)

Disembarking in Tuzla.

Intransit Visibility

Once execution is underway, TRANSCOM and supported commanders rely on movement information to provide the in-transit visibility (ITV) and command and control required to deploy more effectively. Recent history offers an example of how poor ITV impacts deployment effectiveness. During Desert Shield/Desert Storm the dozens of DOD transportation systems lacked interfaces and data standardization. The result was an almost total lack of ITV manifested in two ways. First, weakened customer confidence resulted in the same item being ordered several times and in various fashions. Second, multiple ports of entry suffered backlogs because of unknown time and location of cargo arrival.

Conversely, identifying and tracking cargo and passengers en route offers major benefits to the warfighter. Real-time verification of cargo location instills confidence in the system, reducing unnecessary reordering. Intransit visibility also allows JFCs to decrease, redirect, accelerate, or even stop the flow. This capability directly supports the concept of focused logistics. In the words of *JV 2010* it is: "the fusion of information, logistics, and transportation technologies to provide rapid crisis response, to track and shift assets even while en route, and to deliver tailored logistics packages and sustainment directly at the strategic, operational, and tactical level of operations."

Make no mistake, it is accurately and promptly entered movement information that gives TRANSCOM and the supported commanders the ITV and command and control required to deploy more effectively. A JFC and his subordinate units must enter the movement data into the system. TRANSCOM and the supported unified commands must team up on developing processes and procedures to ensure that movement data gets into the system. Once ITV and command and control are reliable, JFCs can move more swiftly and decisively due in part to confidence in the transportation system.

Global Air Traffic Management

The United States has unparalleled military capabilities. It is the only nation able to conduct effective large scale, joint operations far beyond its borders. This may not be true in the future. Increasingly restrictive rules for operating in domestic and international airspace—the global air traffic management (GATM)—will bring about substantial and costly changes to equipment requirements. Advances in communications, navigation, surveillance, and air traffic management technologies are allowing domestic and global air traffic agencies to reduce lateral and vertical separation between aircraft thereby increasing throughput on the optimal air traffic routes. This has a bottom-line impact on JFCs because non-compliant aircraft will not be allowed to fly in the optimal airspace, which affects closure. For example, non-compliant aircraft deploying to Europe or the Middle East will be excluded from minimum navigation performance specification (MNPS) airspace on the North Atlantic, increasing en route time and corresponding growth in force closure. Circumnavigating this airspace would have added another 10 days to Desert Shield deployment. These requirements must be identified and budgeted.

Logistics over-the-Shore

Although high priority units may send equipment by air, the vast majority will deploy only troops and then join them with equipment either arriving by sea or prepositioned on land or sea. Before it becomes combat power forward in the assembly area, all equipment afloat must pass

Uphold Democracy, JLOTS capabilities were included in the operations plans in case the Haitian military closed Port-au-Prince. As it turned out, selected capabilities—such as tugs, cranes, and landing craft—were used to increase port capacity.

To ensure adequate JLOTS capability, TRANSCOM is focusing on two major initiatives: equipment and training. First and foremost, acquisition efforts must continue to ensure necessary JLOTS equipment to meet CINC throughput demands. This equipment includes RO/RO discharge and causeway platforms that greatly facilitate in-stream vehicle offloading. The lack of platforms forces a lift-off/lift-on operation, extending the time to offload a ship by up to 600 percent.

There is also concern about the ability to conduct JLOTS operations in rough seas. Current equipment inventory limits these operations to wave heights of three feet, a condition existing at only certain times. Increasing that capability to five feet would raise the ability to perform missions during a much broader range of operational conditions and environments worldwide.

TRANSCOM has program oversight responsibility for JLOTS and continues to press for adequate levels of training to ensure peak proficiency. In the past, JLOTS exercises have revealed low operational proficiency because of a lack of training opportunities. In response, TRANSCOM coordinated and finalized DOD training for both warfighting CINCs and the Joint Staff to exercise service JLOTS forces. The program, which runs through fiscal year 2003, will ensure readiness to conduct JLOTS operations whenever and wherever needed. In addition, the Joint Staff allocates \$15 million each year for one dry and one liquid cargo exercise which are rotated among CINCs. TRANSCOM is proud of its efforts to develop a JLOTS capability to meet the needs of CINCs and will continue to advocate increases in this critical area.

When national interests require projecting power beyond our borders, TRANSCOM will be ready to respond. However, it can only accomplish its mission through close cooperation with the supported unified commands and services. Understanding the composition of mobility forces and the ingredients to ensure their effectiveness is vital for joint force commanders. TRANSCOM and the Joint Staff, other unified commands, and the services also must team up on those issues which might adversely affect our ability to deploy in the future. Together, we will continue to possess the finest power projection force in the world.

JFQ



DOD (Robert Shanks)

Loading *USNS 1st Lieutenant Jack Lummus, Tandam Thrust '97*.

through a seaport of debarkation. A deploying joint force may expect one or more of three port conditions: a good port with plenty of berthing for deep draft ships, a restricted port that has been damaged or lacks the capacity to throughput large amounts of matériel, or no port at all. DOD has experienced all three almost everywhere it has deployed major forces in recent years.

When facing a restricted port or no port at all, regional CINCs have identified joint logistics over-the-shore (JLOTS) as a required capability to support their operations and contingency plans, especially since 95 percent of dry cargo and 99 percent of liquid cargo will likely move by sea. In



55th Signal Company (Alejandro Francisco)

Camp Alicia, Bosnia.

WANTED:

A NATO Logistics Headquarters

By WILLIAM N. FARMEN

When the Berlin Wall fell, the North Atlantic Treaty Organization (NATO) suddenly lacked a threat against which to defend. It needed new roles. With some states redrawing their borders and mounting ethnic friction—cracks in the new world order—NATO has come under pressure to respond. Alliance initiatives have yielded MC 319, a mutually supporting logistics agree-

ment, and the combined joint task force (CJTF), a command and control element.

As new roles surface for NATO, so too do shortfalls in its ability to execute them. Initial efforts have proven inadequate in terms of logistics, reflecting a lack of doctrine to enable the Alliance to react flexibly and sustain deployments outside its operational area. This flaw is exacerbated by the absence of an organization to integrate logistics from planning through execution.

While NATO was seeking to stabilize European security, the United Nations became fully engaged in peace operations on the margins. As political changes in Europe became more volatile

Major General William N. Farmen, USA (Ret.), served as Director, Logistics and Security Assistance (J-4/J-7), at Headquarters, U.S. European Command.

the United Nations could not cope with the situation and increasingly looked to NATO. There was rising anticipation in autumn 1992 that the world organization would either engineer a peace plan in the former Yugoslavia or require a tactical withdrawal of its troops. Both needed NATO help.

After the initial Balkan tragedy, the Alliance sent mixed signals on possible involvement in a peacekeeping mission under U.N. stewardship. In February 1993, U.S. European Command (EUCOM) established a CJTF at Kelly Barracks, Germany, for this purpose. Its headquarters was later collocated with the commander in chief of Allied Forces Southern Command (AFSOUTH) in Naples. An ad hoc organization, it mainly represented U.S. component commands in Europe.

Extracting the U.N. Force

The personnel drain on component commands for CJTF support was extreme, particularly in the case of key leadership positions in the areas of logistics and command and control. This led EUCOM to request relief from the Joint Staff. In

response the Army provided a senior AFSOUTH logistician to develop a plan for NATO operations in the former Yugoslavia. Then peace initiatives in the Balkans dissipated and NATO involvement waned. The CJTF

staff was reduced and a wait-and-see attitude arose over atrocities in the former Yugoslavia, possible U.N. success, and future NATO involvement.

Possible NATO involvement in the Balkans warmed up again in early 1995. Concern over a first out-of-sector deployment became prevalent as troubling reports emanating from the former Yugoslavia reached AFSOUTH headquarters. As anxiety mounted, conferences and exercises were conducted at headquarters to address the deteriorating situation.

The growing anxiety led AFSOUTH to reconvene an ad hoc logistics planning staff. The notion of a CJTF had dissipated and a new organizational arrangement, the commander for support (C-SPT), was established to direct logistical planning. The mission was to develop a viable plan to extract some 50,000 U.N. troops from the former Yugoslavia using NATO military assets.

The magnitude and complexity of the effort became clear during an AFSOUTH simulation exercise held in February 1995 at the U.S. Army Europe (USAREUR) Warrior Preparation Center (WPC) at Ramstein. The tactical implications of inserting 40,000 NATO troops in order to secure

and stabilize the theater prior to removing the combined 90,000 NATO-U.N. force were apparent, but the sleeper was the enormity of the logistical effort. The simulations indicated only one NATO nation was capable of ensuring a successful outcome. By consensus the United States would take the lead in developing a NATO logistics plan.

Coalescing a multinational team was critical since there was no written mission statement, doctrine, or resources (people, funding, and equipment). The fact that the timeline was ill-defined exacerbated the situation, and it was unclear who would be ultimately involved. NATO militaries showed respect for the challenge of the operation and confidence that American logisticians could master it. From a practical standpoint they sensed the need to be part of the planning process.

The Chief of Staff, U.S. Army, was briefed on the WPC exercise. Key points regarding the magnitude of the logistics effort led the Army to authorize a hand picked initial staff of 15 to 20 to support C-SPT logistics planning. The decision by the Chief of Staff to accept responsibility for the initial staffing was opportune and started the planning ball rolling.

Extraordinary People

It took several days to select the logistics planning team. It was apparent early on that junior officers and senior noncommissioned officers with solid functional skills were needed. There was no demand for multifunctional experts below the grade of O-6, and only four U.S. colonels were required: a chief of staff and officers to head the movements control, medical control, and logistics operation centers.

An urgent call for the most capable personnel to support NATO appealed to many officers and noncommissioned officers. As a result, most of the captains, majors, and lieutenant colonels requested by name were obtained. Their commanders deserve credit since they were left to carry on despite major voids in their organizations.

The team assembled in Naples in March 1995, essentially with continental U.S. (CONUS) and EUCOM personnel. Local constraints meant space was limited in the AFSOUTH compound, but it was enough to get started. Briefings from AFSOUTH staff agencies and discussing general AFSOUTH and NATO expectations consumed the first few days. As planning unfolded, C-SPT needed more working space as well as better travel options and accommodations. Since Supreme Headquarters Allied Powers Europe (SHAPE) together with most of its subordinate headquarters, Alliance national capitals, and many transportation hubs and arteries are located north of the Alps, it was economical to ask NATO to sponsor C-SPT headquarters at Allied Forces

growing anxiety led Allied Forces Southern Command to reconvene an ad hoc logistics planning staff



U.S. Air Force (Jeffrey Allen)

C-130s on flight line,
Joint Endeavor.

Central Europe (AFCENT) in Brunssum, Netherlands. NATO concurred and AFCENT accommodated C-SPT, going an extra step by providing space, equipment, and people to assist with functional areas, in particular office administration and automation repair and maintenance.

As a game plan was pieced together, nurtured by consultations with NATO commands and nations, it became apparent to members of the Alliance that this was an opportunity to learn from American experience and become knowledgeable in the complex world of multinational logistics. An urgent call to SHAPE for more assets to augment the meager C-SPT staff brought another 20 people. The staff was small yet outstanding and multinational, totalling 40 individuals with equal numbers from the United States and from other NATO countries. The commander for support had a skilled and ready core.

Putting together a NATO support extraction plan surfaced additional issues that required constant attention. Given potential logistical contributions, member nations examined their ability to support NATO fiscal and troop requirements. Interpretation of national responsibilities pursuant to existing Alliance policy (such as MC 319) was disparate. Many members realized they lacked an expeditionary logistics capability which imposed greater reliance on the United States, United Kingdom, France, and contractors. Recognizing that logistical shortfalls would directly influence tactical intentions, it was important that the collective logistics efforts coalesce.

Each minister of defense, chief of defense staff, and major NATO commander was briefed. Frequently members of the C-SPT staff from the nation being visited gave the actual presentation. This increased interest in the plan and enhanced the visibility of the briefer. Giving each nation or its players their due proved valuable. Discussing plans early with the governments and militaries of member nations influenced their decisions to assign quality people to the team. The commander for support also worked closely with the Allied Ready Reaction Corps (ARRC), both a principal customer and tactical headquarters directly responsible for the operation, to insure that everything was being done to facilitate the difficult corps mission.

One Team, One Mission

Synergy and output were helped by a decision to billet everyone together. Moreover, since all personnel received per diem, quality-of-life issues were a minor factor. Everyone, regardless of nationality, command, or service, lived in the same hotel. A family spirit was fostered. The effort was focused on logistical success in an out-of-sector mission. The commander for support was dedicated to the endeavor and realized the EUCOM motto of one team, one mission.

Output increased as the group matured and plans for the extraction took shape. The C-SPT staff was well versed in computer skills, and automation needs increased exponentially as planning advanced. Using AFCENT funding, CINCAFCEM satisfied the immediate C-SPT needs, often to the chagrin of his staff. The response to requests was extremely positive as evidenced by an unselfish view of the challenges confronting NATO, especially in logistics. For the commander for support, CINCAFCEM was the right person in the right place at the right time.

NATO logistical obligations and responsibilities became clear as the extraction plan evolved and even more time was spent with ARRC. A mutual confidence developed between headquarters, and the respective commanders were in total agreement on how to support the corps.

It was a proud day in May 1995 as the first out-of-sector logistics plan to deploy, sustain, extract, and redeploy a combined U.N./NATO force was completed. It gave the C-SPT full command and control over theater logistics forces. He traveled throughout the NATO community to gain approval of the plan from its ministers of defense, chiefs of defense staff, and major NATO military commanders. Then, as the plan received AF-SOUTH concurrence, diplomatic posturing indicated that it would be prudent to temporarily shelve it, dismiss the team (but on a short string

USNS Leroy R. Grumman
(foreground) in Adriatic Sea.



U.S. Navy (Chris Vickers)

Unloading British
vehicles from Russian
ship in Split, Croatia.



55th Signal Company (Brian Gavin)

for recall), and await the order for possible execution. While the plan was approved by SHAPE, Alliance members unfortunately were unwilling to provide resources to execute it. Nevertheless, the planning process was useful for the C-SPT staff.

Multinational Logistics

Creating an ad hoc logistical planning headquarters is complex. On the multinational level culture, language, service parochialism, and political reality must be addressed before any planning is initiated. Avoiding potential rifts among staff members starts with a degree of control over the national processes

on the multinational level culture, language, service parochialism, and political reality must be addressed before planning

that supply personnel to a headquarters. In this case the Alliance recognized that the United States had state-of-the-art expertise in logistics and members wanted to profit from it. Getting other nations to assign quality people was thus not an issue. C-SPT headquarters received the best and brightest and, in turn, produced highly skilled multinational logisticians.

NATO members, particularly Britain, France, and Germany, seemed more interested in the logistical plan than the United States and more eager to provide personnel and resources to develop the Alliance logistical solution to NATO involvement in the former Yugoslavia. Their intent was to allow as many individuals as possible to gain experience in multinational logistics. Their senior military leadership was directly and intimately interested in every aspect of plan development and the rationale behind it. Except for the response by the Chief of Staff, U.S. Army, to EUCOM for personnel relief, senior U.S. leaders showed little interest in the strategy or concept of the NATO logistical plan. That indifference was not lost on members of the Alliance, and its impact on our ability to influence NATO logistical planning in the future remains to be seen.

Marketing the organization and mission on the highest national military level from the start is essential to obtaining quality personnel. Those assigned to the organization must have functional expertise to ensure credibility, an imperative for any multinational success. Logistical functionality saves time, money, and anguish and expedites plan completion and approval. It is important to ensure that assigned personnel also have computer talents. As a result of this effort and the creation of the commander for support, NATO/SHAPE has a real architecture for multinational logistics.

Assigned staff members should be housed under one roof to build an organization that gets synergy from the sum of its parts. This will help ensure that the team focuses entirely on the mission and is not encumbered by petty squabbles. Billeting everyone together will also facilitate security, transportation, dining, and productivity while reducing cost.

Counting on improvisation to succeed next time is a risk. Ad hoc multinational logistics begins from a standing start—without doctrine, staff, or resources—and it is all uphill from there. A standing multinational logistical headquarters, with people, funding, and equipment to develop doctrine and to prepare and execute logistical plans, will reduce the deleterious effect of ad hocery. Today there is a nucleus of trained multinational logisticians to staff such a headquarters. It would be a shame to squander it.

The quick implementation of the Dayton Peace Accords is arguably attributed to the fact that NATO had the nucleus of a logistics headquarters available. The importance of that capability was demonstrated by recalling the staff of the commander for support to plan and execute logistics for Joint Endeavor. The range of responsibilities undertaken by the C-SPT headquarters on recall has proven the value of having a standing NATO logistics headquarters. **JFQ**

Kaiser Wilhelm II.



Courtesy Special Collections, NDU Library

Over the past two or three decades, scholars on both sides of the Atlantic have lionized both the Prussian military system and its premier theoretician, Carl von Clausewitz. American military academies have made Clausewitz's *On War* required reading. Much research has been done to validate Prussian operational and tactical precepts, and Prussian-German commanders from Erich Ludendorff to Erich von Manstein continue to enjoy their places in the pantheon of great captains.

The reason for this enthusiasm can be readily identified: victories over Napoleon at Leipzig and Waterloo; the *Kriegsschule* and general staff; the writings of Clausewitz; quick and decisive mid-19th century triumphs over Denmark, Austria, and France (fought with total effort for limited goals); the demand for German advisors amid the almost global emulation of the Prussian military education system prior to 1914; a "near victory" against overwhelming odds¹ in World War I; the professionalism and surreptitiousness of the *Reichswehr* in the 1920s; *Blitzkrieg* in 1939–41; and the tragic "lost victories" of 1942–45 (attributed to interference by Adolf Hitler in purely military matters).² From Thomas Carlyle to Martin van Creveld, Prussian-German prowess has attracted more than its share of homage from soldiers and military historians alike.

Army and State

Is it possible to extract lessons for our policy-makers from the Prussian diplomatic-military system of Otto von Bismarck and William II? Are there similarities in contemporary politics? One ingredient remains constant: the German problem. In 1871 Benjamin Disraeli warned the House of Commons that the Iron Chancellor's wars had "totally destroyed" the European balance of power. "You have a new world . . . and unknown

THE PRUSSIAN MODEL and Military Planning Today

By HOLGER H. HERWIG

Holger H. Herwig is professor of history at the University of Calgary and the author of *The First World War: Germany and Austria-Hungary, 1914–1918*.

objects and dangers with which to cope." Could those words not apply to the "accession" by the Federal Republic to the German Democratic Republic in 1989? Although there have not been any wars on the Continent recently, neither the Warsaw Pact nor the North Atlantic Treaty Organization is operative in a traditional Cold War military-political sense. Indeed, new influences, unknown objects, and dangers abound.



To begin with, what is meant by “Prussia?” Honoré Gabriel Riqueti, a perceptive observer of Frederick the Great, is credited with two *bons mots*: that Prussia was not a state with an army, but rather an army with a state; and that the military was the national industry of Prussia.

President Woodrow Wilson took America into World War I in 1917 ostensibly to rid the world of Prussian “militarism.”

the king alone exercised power to command, and his decisions were final

Thirty years later, President Harry Truman and the Allied Control Council excised the word “Prussia” from popular usage. Nonetheless, a professional mystique, an aura of excellence, and the suggestion of a

universally applicable model continue to surround the average person’s view of the Prussian military.

The period after 1870 was marked by reaction to victory, demobilization, and future threat assessment for Germany. To sort fact from fiction, it is useful to start with the obvious: what lessons from the Prussian experience are *not* applicable to present-day military planning? In other words, what are the dissimilarities between the Prussian and American ways of war?

First, the Prussian army was forged to preserve domestic order; power projection across its borders was secondary. In order to achieve its main purpose, the army from March 1890 onward rejected the notion of a “peoples’ army,” as put forth by war minister Julius von Verdy du Vernois, the scion of a Huguenot family that had fled France in the 18th century. As late as 1911 the army took 94 percent of its recruits from the conservative, loyal

countryside and only 6 percent from urban industrial centers. Neither social democrats nor Jews were welcome in the officer corps.³

At the same time, the Prussian army saw itself as a true corps royal. It swore its loyalty to a semi-absolutist king, in whose hands matters such as promotions, appointments, strategy, and even the critical issue of war and peace rested exclusively. At no time did Germany ever develop the equivalent of a Committee for Imperial Defence, *Conseil supérieur de la guerre*, Joint Chiefs of Staff, or National Security Council.⁴ Moreover, officers—especially those in command and high staff positions—continued to come from the landed, aristocratic military caste (*Junkers*). Thus the goal of the war minister Verdy du Vernois to create a “people in arms” (*Volk in Waffen*) was once again rejected. Whenever push came to shove, Prussia’s rulers preferred a small, well-disciplined, and reliable corps royal to a larger citizen’s army (*Volksheer*). As William II cruelly expressed it in 1905: “First gun down the socialists, then behead them and render them harmless—if need be by a bloodbath—and then war outside our borders. But not the other way around and not too soon.”

Legislative control over the military was anathema in Prussia. Although the *Reichstag* had power over appropriations every five or seven years, it could go no further. It did not challenge military policy or national security matters. The king alone exercised *Kommandogewalt*, power to command, and his decisions were final.

The army produced most of its weapons and ammunition in royal arsenals, hence there were no procurement, research and development, or operations research lessons to learn. Even by the end of World War I half of all military hardware came from royal armories.

Operator’s Mind

In the realm of military education, Prussian officers from cadet to corps commander must have felt harassed by the army system. There were numerous hurdles: entrance and term exams, written and oral exams, and field exams. And the emphasis was placed on hard military sciences. In Berlin at the *Kriegsakademie* obligatory subjects included tactics, military history, weaponry, fortifications, staff work, military geography, communications, logistics, military law, and military medicine. In fact, tactics occupied the most hours and had the greatest academic weight; next came staff work and history. Officers could apply to the war academy after five years of field service. Rigorous screening admitted only

German troops in
Vienna, 1938.



Naval Historical Center



Courtesy Special Collections, NDU Library

160 of the best and brightest. Once selected the students found their studies demanding and dismissals frequent. Annual fitness reports were harshly direct.

Noncommissioned officers were also subjected to regular education and routine evaluation. They served for twelve years after which they were guaranteed jobs in the civilian sector by means of a special certificate known as the *Zivilversorgungsschein*. Special schools trained and retrained 300,000 noncommissioned officers in fortifications, artillery, supply, communications, and related skills. Distinct medals further built esprit de corps. The effort was highly successful: Germany probably had the best noncommissioned officers on the eve of World War I.

In the realm of intelligence officers were expected to be proficient in languages, regularly appointed to missions abroad, and urged to translate or at least review foreign military literature. From Alfred Thayer Mahan to William (Billy) Mitchell, American authors were routinely analyzed by the general staff in Berlin. Foreign newspapers, military journals, and parliamentary debates were evaluated. Synopses of such material

were circulated to division and district commanders for their information and comment.⁵ In short, officers, especially those on the general staff, were at the cutting edge of international developments at all times.

Tactics reigned supreme in Prussia. The system concentrated on the nuts and bolts of the military profession. Its members were drilled in the theory and practice of the latest weapons, their implications for operations, and their advantages and limitations. Every new invention or modest refinement was thoroughly studied, tested, and adopted if deemed effective. Several general staff departments as well as testing sites were established to scrutinize foreign advances and rule on their applicability. Field Marshal Paul von Hindenburg remembered the motto "Keep it simple" from his early days in the army. Thus the Prussian military, though not big on technological innovation (witness the lack of tanks, trucks, and anti-tank guns in World War I), was nevertheless expert at assessing technological advances and determining their applicability.⁶

Maneuvers and games were rigorous. To the degree permitted in the pre-computer era, the

Prussian army did everything within its power to simulate military conditions. Since the days of the soldier-king, Frederick William I (1713–40), the Prussians annually (and later biannually) went through formal maneuvers. In either spring or autumn, these exercises began with staff work and concluded with a formal review usually by the chief of the general staff. Often involving divisions and armies, the maneuvers were intended to simulate battlefield conditions, test the applicability of existing doctrine and weapons, and assess the suitability of officers and noncommissioned officers for leadership. And tough fitness reports followed each maneuver.

Theoretical exercises served to test the mind of future commanders within the general staff. Under General Alfred von Schlieffen, they were customarily handed out on New Year's Eve to try

two-front war against France and Russia late in 1870—at a time when he was about to defeat the former and was on friendly terms with the latter—demonstrates the intellectual dexterity of the general staff.⁸ So did the fact that the moment the Franco-Prussian War concluded the military history section of the staff began a critical study of the campaign.

Choosing the Most Opportune

Next in importance came flexibility of planning. The Elder Moltke, not Schlieffen, should be studied in detail by American military planners. Moltke always maintained that war was at best a shot in the dark and at worst a cynical roll of the dice over the nation's future. The brightest staff planner could only seek to mobilize as many troops as possible, equip them as well as possible, and marshal them expeditiously at the decisive point. If extremely competent (and lucky), he could deploy his forces against those of an enemy as opportunely as possible by using communications and geography to his advantage.

But once the first shot was fired, Moltke never tired of warning general staff officers, the strategist had to think ad hoc—on his feet. “No plan of operations can look with any certainty beyond the first meeting of the major forces of the enemy.” The intangibles such as interaction, friction, moral factors, and the infamous fog of war then took over: orders were not understood, commanders went separate ways, information was lost or garbled, and the enemy, endowed with an “independent will,” improvised and reacted. After all, warfare was a clash between two highly unpredictable bodies; neither would have entered the conflict without some assurance of victory.⁹

Even later, basking in well-deserved glory, the Elder Moltke remained open to change. He understood the geopolitical chessboard of the 1890s and appreciated that the location of the Reich between France and Russia defied simple operational-tactical resolution. Limited victories were all that could be hoped for. “It must be left to diplomacy,” Moltke concluded, “to see if it can achieve a peace settlement” in a future war among the great powers. Thus his prophetic farewell speech in the *Reichstag* in 1890: “Woe to him that sets Europe on fire.” Under Schlieffen a timetable for the rigid mobilization of the army would rob it of that very flexibility.

Perhaps the most important lesson of the Prussian way of war is the relationship between political and military planners, namely, Bismarck and Moltke. Whatever the discord over storming the Düppel in 1864 or bombarding Paris in 1870—both men understood that in peacetime civilians needed to provide soldiers with clear, unambiguous instructions. Bismarck regretted

perhaps the most important lesson is the relationship between political and military planners

the dedication of a candidate and were immediately evaluated on the highest level.⁷ The best papers were published in service journals.

Spring staff rides enhanced military geography and formed the basis for final class standing—and thus a rung on the critical seniority (*Ancienntät*) ladder.

Combined arms operations were in vogue well before 1914. The Prussian army stressed the interdependence of various combat arms in its regulations. In 1870, for example, the support accorded infantry by the new Krupp breech-loading steel cannons was crucial in storming French positions in Alsace and Lorraine. Moreover the army fully appreciated reconnaissance—be it from horseback, dirigibles, or aircraft. Within personnel constraints, Prussian forces attached staff from one service branch to another to facilitate the exchange of information.

Finally, there was the intangible impact of work ethic and dedication. The vast majority of officers saw their careers as spanning a lifetime. While most knew they would probably not pass the “major's corner,” they worked as though they would. Early transfer to civilian (and especially military-industrial) corporations was not encouraged or rewarded. Sacrifice was expected and hard work taken for granted. Frederick William I, the father of Frederick the Great, stated it best when he said that the watchword for his (or any other) period was simple: “Nothing more than effort and work.” Certainly the fact that the Elder Moltke began planning for the contingency of a



Courtesy Special Collections, NDUI Library

that *On War* was “the one great book” he never read; but nonetheless he grasped the political nature of war.

Bismarck, like Clausewitz, recognized that the “stream of time” constituted nothing more or less than an unceasing clash of contradictory forces. No such outcome as “complete certainty and definitive results” existed. Politics was not intrinsically an “exact and logical science” but rather “the ability to choose in each transitory situation that which is least harmful or most opportune.” Patience, careful timing, accurate evaluation of potential adversaries, and intuitive recognition of the correct path were critical to success. So was the need at all times to preserve freedom of choice between opposed interests, minimize risk, and reserve options, not as bluffs but rather as practical threats one was prepared to carry out. After the wars of unification, Bismarck offered eloquent testimony to Clausewitz’s principle of interaction:

In chess, one should never base a move on the positive assumption that the other player will in turn make a certain move. For it may be that this will not happen, and then the game is easily lost. One must always reckon with the possibility that the opponent will at the last moment make a move other than the one expected. . . . In other words, one must always have two irons in the fire.¹⁰

The famous “retreat” to Bad Kissingen in June 1877, where an isolated Bismarck sought to adjust to a changed world, provides a convenient case study of *realpolitik*, the “art of the possible.” It is a model in clarity and reason.

The Iron Chancellor first assessed the potential threat: a “nightmare of coalitions” as faced Frederick the Great in 1756. Thereafter he defined the national policy: no expansion, no push for hegemony in Europe. Instead Bismarck accepted what the historian Ludwig Dehio termed “semi-hegemony.” Germany was to be the strongest power in Europe but without being a hegemon. Realistically, Bismarck sought to maintain one percent of the population under arms to buttress that posture. Next he identified a potential enemy: France. From that followed his course of action: to create “a political situation in which all the powers except France need us.” His basic axioms were first, no conflict among major powers in Central Europe and, second, German security without German hegemony. Finally, there was implementation of those conclusions reached: alliances with Austria (1879), Italy (1882), and Russia (1887). There was even a fall-back position: “If Austria-Hungary makes unreasonable demands on us, we can come to an understanding with Russia.” It was devious; and it was diplomacy at its best.

What commander, one may well ask, would not envy Moltke for receiving clear political instructions? The goal of national policy was established, the probable enemy was identified, and the potential of allies was achieved. Little wonder that Moltke was untroubled by the nightmares that plagued his successor, Schlieffen.

Conversely, the Schlieffen plan and the decision for war in 1914 again attest to the validity of these lessons—albeit when they are forgotten. Chancellor Theobald von Bethmann Hollweg proudly recalled after World War I that it had never been his “business to comment upon grand strategy.” He cheerily noted that “there never took place during my entire period in office a sort of war council at which politics were brought into the military for and against.” It would be difficult to find a greater abrogation of political responsibility.

Indeed, Imperial Germany undertook neither joint nor allied planning. The army and navy developed separate strategies without reference to each other. Army and navy appropriations bills were submitted to the Chancellor for approval—without reference to each other. Throughout much of this period the chief of the general staff was not consulted by the war minister in the compilation of the military budget.¹¹

Yet the chief of the general staff, without either legal or constitutional authority and solely as

the “first advisor of the Imperial Supreme Commander,” tied the nation to a desperate strategy in 1905–06 simply by the prestige of his office. The Schlieffen plan was not revealed to the German government, its Austro-Hungarian allies, or even the navy. Thus the war minister could forecast

**Prussia worshipped “efficiency”
as the natural culmination of
19th century rationalism
and positivism**

reductions in forces in this period, while the general staff knew that it lacked fully eight army corps for a right “wheel” through Belgium alone.¹²

Most revealingly, on August 1, 1914, the Ger-

man military attaché at Vienna, Colonel Karl Count von Kagenneck, would call for the coordination of effort (“with absolute frankness”) between Berlin and Vienna—three days after Austria-Hungary had gone to war with Serbia and on the very day Germany declared war on Russia.¹³

In sum, the business of war is a two-edged sword. As Clausewitz stated, “it is absurd to bring the military into the process of war planning so that they can decide purely militarily what the cabinets must do”; but he warned, “it is even more absurd for theoreticians to demand that available war resources can be turned over to the military commander so that he can make a military war plan accordingly.”¹⁴ Obviously, each segment of the national polity must coordinate its own strategy.

The Goddess Efficiency

One also must consider the Achilles heel of the Prussian system—areas in which it did not serve the nation well. Having gotten much of what the late German historian Gerhard Ritter called *Kriegshandwerk* (the mechanics of war) right, the Prussian system failed on the strategic—and especially grand strategic—levels.

Victory breeds arrogance; defeat drives reform. Mid-19th century Prussian victories turned many regular officers—and especially young general staff officers—into what Bismarck derided as “demigods.” Theirs became the only solution, the only way to success. Why change a victorious system? Preserve it and denounce its critics. This was certainly the case with critics as gentle as Hans Delbrück, whose wise counsel concerning the nature of warfare in the industrial age was blithely ignored.¹⁵ Confidence is one thing, arrogance another.

Moreover there is no substitute for intellectual rigor and honesty. Wargames, especially under William II, turned into grand theater. The garbage in, garbage out phenomenon existed long before the computer age. Maneuvers or games can prove anything their organizers wish—even the superiority of cavalry over machine

guns, howitzers, and trench mortars. The Kaiser “won” many a fall maneuver on the last day with a dashing charge—at times by having well entrenched enemy machine gunners change the color of their armbands so charging friendly cavalry could pass by to victory unharmed. Accordingly, even the model Prussian army maintained the lance as a mobile assault weapon until 1927.

What of the much-revered Alfred von Schlieffen? One of the sternest taskmasters produced by the general staff system, he nevertheless jettisoned intellectual honesty to prove his theory about the centrality of battles of encirclement and annihilation (*Kesselschlacht*). It was after all Schlieffen who read Delbrück’s analysis of the battle of Cannae prior to devising the great plan that bears his name—apparently without being troubled by the obvious lesson that although winning the battle, Hannibal lost the war; and that Carthage, primarily a landpower, succumbed to Roman seapower.

Planners also must avoid the blinkered professionalism (*Fachidiotie*) of the technocrat. In the final analysis, win or lose, men fight wars. There is more to war than understanding the range or rate of fire of certain weapons. Strategy is more than ordnance delivered on target. Limiting the planning horizon to one’s service—or a specialized arm within a service—usually invites disaster. One would do well to remember General Erich Ludendorff’s revealing reprimand to a general staff colonel who dared inquire about the objective of Operation Michael in France during spring 1918 when the nation’s fate hung in the balance: “I object to the word ‘strategy.’ We will punch a hole in their line. For the rest, we shall see.”

In post-1871 Prussia, both soldiers and politicians worshipped the goddess “efficiency” as the natural culmination of 19th century rationalism and positivism. The precision of technological marvels sufficed to guarantee victory. Hence, they asked, why bother with the great philosophical issues that the Elder Moltke had pondered? Was it really necessary to coordinate the diplomatic, economic, political, and psychological elements of national polity? Most thought not. Schlieffen’s successor, Helmuth von Moltke (the Younger) encouraged his son to read the operational history of Cannae by Schlieffen in preparation for the war academy, not Clausewitz’s treatise on the nature of war. Wilhelm Groener, who succeeded Ludendorff in 1918 as the first quartermaster-general, proudly recalled that as a subaltern he had read “books of the practical service” rather than “on high strategy.” Kaiser William II as well as Field Marshals Paul von Hindenburg

and Colmar Baron von der Goltz mined from Clausewitz the nugget that “politics must not interfere with the conduct of war.” In fact, as Werner Hahlweg has indicated, in 1853 the Germans even tampered with the second edition (and subsequent editions) of *On War* by attributing to Clausewitz the statement that a general should attend cabinet meetings so the cabinet could have a voice in military issues. The revision stated that a general needed to attend to participate directly in national decisionmaking.¹⁶

In addition, it is imperative that planners understand the domestic fabric of the society that they are about to lead into war. After 1871 Prussian planners were bedeviled by the dual function of the army as guarantor of domestic stability and executor of national policy. The former calls for a small, reliable conscript force of mainly rural recruits, the latter for a mass formation of industrial workers as well. One reflects an agrarian, semi-absolutist state, the other an industrialized, semi-de-

eventually ended with Ludendorff’s theoretical notion of “total war” as implemented by Adolf Hitler after 1941.

Hand in glove with the last point is the need for economic preparation in warfare. Prussia would never form an economic general staff—despite repeated calls by General August Keim and Field Marshal von der Goltz as well as by the historian Dietrich Schäfer. Army planners simply were confident that the “sinews of war” would somehow fall into place. What Martin van Creveld has termed Schlieffen’s “ostrich-like refusal” to address this issue was probably the single greatest cause for the German collapse on the Marne in September 1914.¹⁷ No George C. Marshall ever emerged from the Prussian military system.

In addition, it is essential to understand economic capabilities and priorities. Despite his managerial skills and talent for propaganda, Admiral Alfred von Tirpitz performed no service by constructing a mammoth fleet that eventually



Courtesy Special Collections, NDU Library

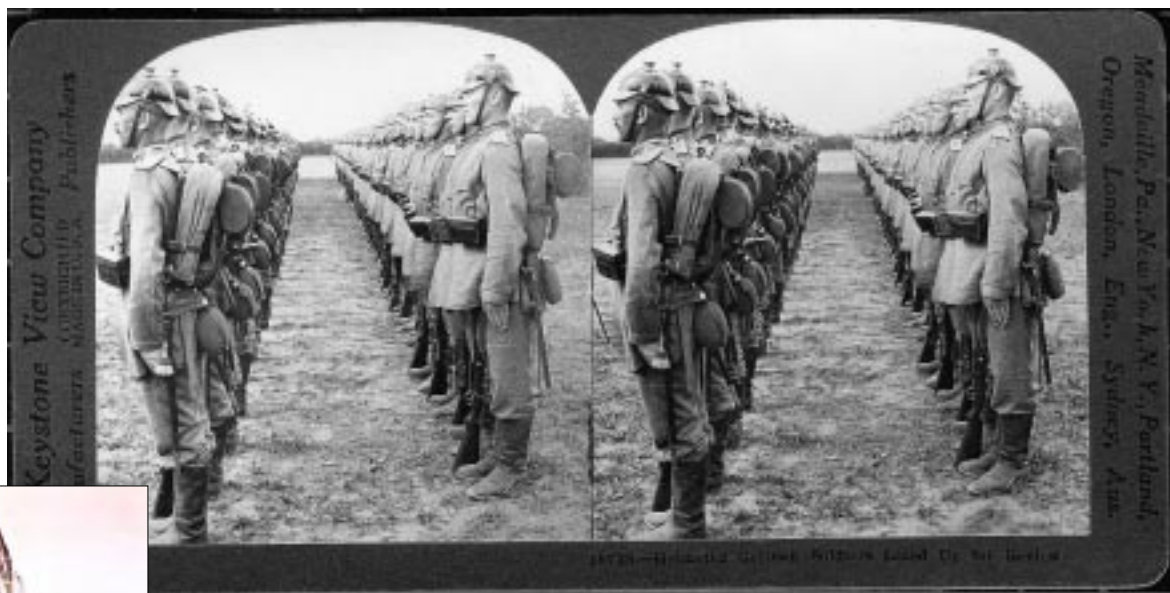
mocratic nation-state. Prussia’s inability to reconcile these functions and to structure and educate its army accordingly was revealed in budget debates prior to and during World War I.

In 1913, when the Younger Moltke and then Colonel Ludendorff discovered that Germany was eight army corps short for Schlieffen’s right “wheel” through Belgium and northern France, they at once demanded a 33 percent increase in strength. General Josias von Heeringen brusquely dismissed the request for 300,000 men, arguing that such an expansion would lead to a detrimental “democratization” of the officer corps. The Prussian war minister reminded the general staff that creating a modern mass army in the industrial era would jeopardize the army’s primary function as guarantor of domestic stability. One of Heeringen’s bureau chiefs, General Franz Wandel, bluntly apprised Ludendorff: “If you continue with these demands, then you will drive the German people to revolution.” The debate

bankrupted the state, drained the army of desperately needed funds, and brought about Germany’s self-imposed diplomatic “encirclement” in Europe.¹⁸

The Big Picture

Another critical point is that there is no substitute for planning on the grand strategic level. No matter how well one may fire a howitzer, plant a mine, maneuver a tank, pilot an aircraft, shape a ship’s course, or even plan a complex field operation, if the equation is wrong at the top it will eventually fail to produce the desired results. When the Prussian army analyzed the campaigns of 1864, 1866, and 1871, it dug into operations and tactics with a vengeance. Unfortunately, it also conveniently overlooked the fact that Bismarck prepared the path to victory



Courtesy Special Collections, NDU Library



Courtesy Special Collections, NDU Library

through alliances and calling in diplomatic markers. Moreover, psycho-babble about Austro-German *Nibelungen* loyalty and Teutonic racial brotherhood which abounded on the eve of World War I obscured the desperate plight of the Central Powers. A hollow alliance with Italy was maintained (no one in either Berlin or Vienna expected Rome to honor its commitment) and no new allies were recruited. As Winston Churchill put it, the only thing worse than fighting with allies is fighting without them.

The German historian Andreas Hillgruber offered a cogent if complex formula for strategic effectiveness. National leaders on all levels must coordinate and integrate domestic and foreign policy, strategic and psychological war planning, and economic and armaments production in order to arrive at a coherent concept of national strategy. As stated earlier, Prussia-Germany's failure to do so was the Achilles' heel of its national strategy and military policy.

Finally, planners must appreciate the implications of war as a political act and the fact that they are political players by definition. The long-standing Prussian myth of the "apolitical" officer valiantly struggling to protect the nation against devious diplomats or scheming politicians remains just that—a myth. Whether one wins or loses a war should no longer be a puzzle: the purpose of war is not to inflict military defeat on an enemy but rather, in the words of Clausewitz, "to compel your enemy to do your [political] will."

Hence, the title of General Erich von Manstein's book, *Lost Victories*, is absurd according to Clausewitz's definition of the purpose of war.¹⁹ Likewise, popular notions of "surgical strikes" and "short cleansing thunderstorms" should be excised from the American military (and political) lexicon.

Conversely, the military planner should not turn Clausewitz on his head by suggesting that the political branch must remain silent in time of war. This reductionism of Clausewitz's famous phrase that war is but politics conducted by other means reached its zenith with Ludendorff's book *Total War* in 1935, wherein he proclaimed that "warfare is the highest expression of the national 'will to live,'" and that "politics must therefore be subservient to the conduct of war." However fervently some planners may wish that to be the case, it certainly is not with regard to what Russell Weigley has aptly termed "the American way of war." As Winston Churchill said:

Let us learn our lessons. Never, never, never believe that any war will be smooth and easy, or that anyone who embarks on that strange voyage can measure the tides and hurricanes he will encounter. The statesman who yields to war fever must realise that once the signal is given, he is no longer the master of policy but the slave of unforeseeable and uncontrollable events. Antiquated war offices, weak, incompetent or arrogant commanders, untrustworthy allies, hostile neutrals, malignant fortune, ugly surprises, awful miscalculations—all take their seats at the council board on

*the morrow of a declaration of war. Always remember, however sure you are that you can easily win, that there would not be a war if the other man did not think he also had a chance.*²⁰

In the last analysis, the “art of the possible” will always rest not on bluff but rather on the ability to defend one’s position, if need be with an appeal to force. Bismarck’s dictum should serve as a reminder to all civilian and military planners: “The influence of a power in peace depends upon the strength that it can develop in war and on the alliances with which it can enter into the conflict.”

JFQ

NOTES

¹ On World War I, see Timothy T. Lupfer, *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War* (Fort Leavenworth, Kans.: Combat Studies Institute, U.S. Army Command and General Staff College, 1981), and Bruce I. Gudmundsson, *Stormtroop Tactics: Innovation in the German Army, 1914–1918* (Westport, Conn.: Greenwood, 1989); for the 1920s see David N. Spires, *Image and Reality: The Making of the German Officer, 1921–1923* (Westport, Conn.: Greenwood, 1984), and James S. Corum, *The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform* (Lawrence, Kans.: University Press of Kansas, 1992); on World War II, see especially Martin van Creveld, *Fighting Power: German and U.S. Army Performances, 1939–1945* (Westport, Conn.: Greenwood, 1982).

² For an overview see “The Problem of German Military Effectiveness, 1900–45,” in Williamson Murray, *German Military Effectiveness* (Baltimore: Nautical and Aviation Publishing, 1992), pp. 1–38.

³ Holger H. Herwig, “Strategic Uncertainties of a Nation State: Prussia-Germany, 1871–1918,” in Williamson Murray, Macgregor Knox, and Alvin Bernstein, *The Making of Strategy* (New York: Cambridge University Press, 1994), pp. 242–77.

⁴ See the analysis by Wilhelm Deist, “Kaiser Wilhelm II in the context of his military and naval entourage,” in John C.G. Röhl and Nicolaus Sombart, eds., *Kaiser Wilhelm II: New Interpretations: The Corfu Papers* (New York: Cambridge University Press, 1982), pp. 169–92.

⁵ Holger H. Herwig, “Imperial Germany,” in Ernest R. May, ed., *Knowing One’s Enemies: Intelligence Assessment Before the Two World Wars* (Princeton: Princeton University Press, 1984), pp. 62–97.

⁶ Holger H. Herwig, “The Dynamics of Necessity: German Military Policy During the First World War,” in Allan R. Millett and Williamson Murray, eds., *Military Effectiveness*, vol. 1, *The First World War* (Boston: Allen and Unwin, 1988), pp. 80–115. Also Lupfer, *The Dynamics of Doctrine*; and Gudmundsson, *Stormtroop Tactics*.

⁷ Still valid is the incisive analysis by Gordon A. Craig, *The Politics of the Prussian Army, 1640–1945* (New York: Oxford University Press, 1955), pp. 277 ff.

⁸ See, for example, Dennis E. Showalter, “The Eastern Front and German Military Planning, 1871–1914—Some Observations,” *East European Quarterly*, vol. 15, no. 1 (March 1981), pp. 167 ff; and Holger H. Herwig, “Disjointed Allies: Coalition Warfare in Berlin and Vienna, 1914,” *The Journal of Military History*, vol. 54, no. 3 (July 1990), pp. 265–80.

⁹ See Gunther E. Rothenberg, “Moltke, Schlieffen, and the Doctrine of Strategic Envelopment,” in Peter Paret, ed., *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Princeton: Princeton University Press, 1986), pp. 296–311.

¹⁰ Cited in Otto Pflanze, *Bismarck and the Development of Germany*, vol. 1, *The Period of Unification, 1815–1871* (Princeton: Princeton University Press, 1990), p. 83.

¹¹ See Holger H. Herwig, “From Tirpitz Plan to Schlieffen Plan: Some Observations on German Military Planning,” *The Journal of Strategic Studies*, vol. 9, no. 1 (March 1986), pp. 53–63.

¹² The standard work remains Gerhard Ritter, *The Schlieffen Plan: Critique of a Myth* (New York: Praeger, 1958).

¹³ Found in Gordon A. Craig, “The World War I Alliance of the Central Powers in Retrospect: The Military Cohesion of the Alliance,” *Journal of Modern History*, vol. 37, no. 3 (September 1965), p. 338. See also Holger H. Herwig, *The First World War: Germany and Austria-Hungary 1914–1918* (New York, St. Martin’s, 1997), chapters 1 and 2.

¹⁴ A slightly different translation is rendered by Michael Howard and Peter Paret, eds., in Carl von Clausewitz, *On War* (Princeton: Princeton University Press, 1976), p. 607.

¹⁵ See especially chapters 2 and 3 in Arden Bucholz, *Hans Delbrück and The German Military Establishment: War Images in Conflict* (Iowa City: University of Iowa Press, 1984).

¹⁶ See Jehuda L. Wallach, *The Dogma of the Battle of Annihilation: The Theories of Clausewitz and Schlieffen and Their Impact on the German Conduct of Two World Wars* (Westport, Conn.: Greenwood, 1986), pp. 14, 196–98.

¹⁷ Martin van Creveld, *Supplying War: Logistics from Wallenstein to Patton* (New York: Cambridge University Press, 1977), pp. 113 ff.

¹⁸ For naval developments see Holger H. Herwig, “Luxury” Fleet: The Imperial German Navy 1888–1918 (Atlantic Highlands, N.J.: Ashfield Press, 1987), pp. 33 ff.

¹⁹ Erich von Manstein, *Lost Victories* (Chicago: Henry Regnery, 1958).

²⁰ Winston S. Churchill, *My Early Life: A Roving Commission* (London: Thornton Butterworth, 1930), p. 246.

An Officer Corps for the Next Century

By RICHARD H. KOHN

The United States needs the highest quality people it can recruit to the colors. While that is a truism, accomplishing it will be increasingly difficult. As the military establishment shrinks, as technology grows in significance, as compensation comes under increasing pressure, as the conditions of

fighting capacity of the Armed Forces, and most importantly as military affairs sink in significance to the American people, a shrinking proportion of our brightest and most capable youth will be attracted to military careers. At the same time, our best officers may increasingly choose greater opportunities presented by the civilian economy.

Those officers who stay will need to be ever more diverse in this multiracial, multiethnic, and multicultural nation—embracing not only gender and ethnic divisions but all religions, classes, and perspectives. If the Armed Forces are to serve worldwide, we need people at ease with other societies and languages, a familiarity that comes more from life experience than school. And most of all, we must attract representative numbers from all segments of society, including members of the elite. If a third of Americans live on the crabgrass frontier, a third of our officer corps should originate there also. The strength of the U.S. military has always been its diversity and correlation with the heterogeneity of America; yet there is growing evidence that such diversity in the services, at least in terms of background, opinion, orientation, and perspective, has diminished.¹

To compete for the best and most varied cohort of youth, the services may have to change the character of recruiting and the conditions of service, experimenting with innovative approaches: shortening enlistments and moving Reserve Officer Training Corps (ROTC) back into elite universities with comprehensive four-year scholarships for cadets and midshipmen, thus appealing to populations that have heretofore been underrepresented. For example, when the Air Force raised the obligation for pilots to nine years a decade ago, a significant segment of American youth probably ceased to be attracted to that service, unwilling to mortgage their twenties just to



55th Signal Company (Joseph A. Francis)

service continue to stress individuals and families, as divisions over gender and other policies divide the military and civilian leadership and lead some groups to disparage the quality and

Richard H. Kohn teaches history at the University of North Carolina. This article is based on remarks presented at a conference on "Military Education for the 21st Century Warrior" at the Naval Postgraduate School.

the services will need to broaden officer education starting with ROTC and service academies

fly. A service that draws its leadership disproportionately from less than 20 percent of the officer corps must assure the finest human capital at the beginning of the career cycle.

The reason for such polices is cost—to train pilots who might leave for airline jobs or keep cadets in college. Yet given the cost of organizing, equipping, and training the Armed Forces, and granting the indispensability of leadership to winning wars, we cannot allow accountants to control the quality of our future leaders. Succumbing to the pressures—length of initial term, obligations for specialist training, location of ROTC, or limits on scholarships—is simply penny wise and pound foolish. We spare no effort or expense to provide our soldiers with the finest weapons in history; we ought similarly to spare no expense in furnishing the best officers to lead them.

Officers will need to be broad and deep as well as tough and competent—men and women of judgment, wisdom, and balance—to conduct more disparate missions in the future. They must adjust to accelerating change not just in technology but in concept and strategy. Knowing when to fight as well as what to destroy and how to destroy it will become more significant. We will also require a larger proportion of thinkers over doers. If Peter Drucker is correct and the developed world is entering a post-capitalist age in which “knowledge is the only meaningful resource,” then decisions by officers, particularly senior leaders, will be the determining factor in war and military operations more than in the past.² The United States, once a most ardent and effective practitioner of capital-intensive war, must learn how to rely as much on strategy as on resources and as much on cleverness as on overwhelming force. We will be increasingly involved in situations short of total war, and connecting ends and means will be critical for victory and minimizing casualties.

Change to assure such officers will conflict with cherished practice. First, the services will need to broaden officer education starting with ROTC and service academies, although any radical reform is probably impractical at present.³ However, one modest proposal is worth considering. The academies could initiate a mandatory junior year abroad with cadets and midshipmen spending their third year at either another academy or a

civilian school in this country or overseas. The only possible impediment to such a proposal may be the integrity of academy football, a small price to pay for enhancing the breadth—and jointness—of the military establishment. Similar changes will be necessary elsewhere in professional military education, including foreign language proficiency, multicultural curricula, rigorous historical study, specialty training in understanding technological change, and increased emphasis on research and writing so that officers learn to think critically and to distinguish explicitly between intellectual rigor and hogwash.

A master's degree earned in residence at a civilian university should become as important for higher responsibility as attending a staff college. Officers need to return to the American people in mid-career and avail themselves of the best



U.S. Navy (McNeely)

education available in our society. Granting master's degrees at war colleges is a dubious practice since it may lessen the frequency with which officers are educated outside government institutions. Nothing is more dangerous to the officer corps than isolation and parochialism.

Fair Warning

We will need many more officers expert in history, international relations, strategic studies, and similar subjects. An education on the economy will also encourage such programs in civilian universities, thus broadening public awareness of national security issues which is on the

decline. Currently there is a controversy over the proportion of officers educated in technology rather than the social sciences. Although both are needed, if the importance in an uncertain future is knowing whether to act as well as how to act, the tilt should be toward softer subjects.



Combat Camera Group, Pacific

James Michener told the story of “four of us” in the Navy being “taken into a small room” at the beginning of World War II.

A grim-faced selection committee asked . . . ‘What can you do?’ and the [first] man replied, ‘I’m a buyer for Macy’s, and I can judge very quickly between markets and prices and trends.’ The selection board replied, ‘But you can’t do anything practical?’ The man said no, and he was shunted off to one side. The next man was a lawyer and . . . he had to confess, ‘I can weigh evidence and organize information,’ and he was rejected. . . . But when the fourth man said boldly, ‘I can overhaul diesel engines,’ the committee jumped up, practically embraced him, and made him an officer on the spot. At the end of the war . . . the buyer from Macy’s was assistant to the Secretary of the Navy, in charge of many complex responsibilities requiring instant good judgment. He gave himself courses in naval management and government procedures until he became one of the Nation’s real experts. The lawyer wound up as assistant to Admiral Halsey, and in a

crucial battle deduced where the Japanese fleet had to be. . . . I was given the job of naval secretary to several congressional committees who were determining the future of America in the South Pacific. And what was the engineer doing at the end of the war? He was still overhauling diesel engines.⁴

The lesson that expertise, while necessary, could be hired and that insight, judgment, and wisdom were indispensable even for a technological service, is fair warning. Some may argue that fifty years ago science and technology were less relevant than they are today or will be tomorrow, but that would be a misreading of the history of military technology.

The services will have to rethink their traditional bias toward operations in the assignment and promotion of officers. Operations will always be primary, but in times of change, especially when organizations and lower budgets are cut, the careers of people with more varied assignments or who have taken time for graduate education or faculty duty or career broadening experiences, get killed. Systems that require proscribed careers with zero defects, without opportunities to take risks and learn from mistakes, will not grow the best leadership, nor will promotion criteria that constantly privilege operations and command. The Navy has been and is the most guilty, but one suspects other services are hardly better.⁵ Only the Marine Corps, perhaps because of fewer cuts, seems to have improved. For a brief period in the 1990s, an assignment on the faculty at Quantico ranked second only to command as a criterion for promotion. Perhaps it comes as no surprise that earlier this year there were a total of five—an unprecedented number—Marine four-stars.

The Army in its officer personnel management system, the Air Force in revising the officer evaluation report among other changes, and the



Combat Camera Group, Pacific (Stephen Batz)

we need men and women who identify themselves as members of the profession of arms

Navy if it implements recent recommendations, are beginning to address this problem. However, the solution lies only partly with the Armed Forces. Congress must allow the services to “over-populate” the officer corps to assure billets for schooling and as a basis for expansion of the

services in a future mobilization. It is not fashionable to speak of mobilization and citizen-soldiers. People write that the age of mass warfare is over and that the United States

need not think of an “expansible army” even though that has been our national policy for our entire history. But the one thing history teaches is that the future is unknowable and that regardless of one’s analysis, someday, sometime, at some critical point, we will be surprised.

Finally, we need men and women who identify themselves as members of the profession of arms; that is as people who consider themselves professional warfighters, officers who are not only outstanding in managing violence, but who have a broader understanding of, and perspective on, their role and place in American society.⁶ For many in the services, particularly the Air Force and probably the Navy, this may involve a very deep cultural transformation.

Appreciating the Client

Two aspects of the profession of arms appear to be particularly weak among officers today. Both require remedy, not only for the benefit of the Armed Forces but for the long term health of American government.

First, officers must understand and appreciate their client, the United States and its people. Like the rest of the population, officers are often ignorant of national history and more than most are isolated from society, focused as they are on the technical requirements of their jobs and living apart on bases or abroad. The former deputy head of the History Department at West Point worried that less than a third of cadets take a semester of American history, mostly those identified as deficient in the subject. A recent book published by Pentagon correspondent Tom Ricks paints a grim picture of how marines view society, which ranges from pessimism to contempt.⁷

Second, officers should possess a deep and abiding appreciation of civil-military relations, particularly civilian control of the military. In discussions with students at service academies, staff and war colleges, and senior officer executive programs—in most cases the top portion of officers in their year groups—one finds not only views similar to those reported by Ricks, but widespread misunderstanding of the proper role of a professional military in a democratic republic. Likewise, continuing prejudice against the media is troubling, particularly the propensity to blame reporters for America’s failure in Vietnam and afterwards. Repugnance with this channel of communication with the public, especially during recent peace operations, should disturb everyone in government, the military, and the civilian sector.⁸ No profession can adapt to change, remain healthy, or fulfill its responsibilities by neglecting its relationship with the client. Nor can the Nation undertake to teach democracy, especially to military establishments elsewhere in the



1st Combat Camera Squadron (Efrain Gonzalez)

world—where democracy is little understood and frequently leads to autocratic regimes suspicious of Western values and the United States in particular—if its own officers don’t “get it.”⁹

Presently there is abroad in the land a concern that the gap between the military and society is growing and may endanger national security or civilian authority over the Armed Forces. On the one hand the officer corps appears to be both more alienated from society and more vocal about it; on the other, elites know ever less about the military profession, do not care, and exert pressure on the government for changes and policies that may harm our warfighting capabilities. Some survey data indicates that the officer corps

has become politicized and partisan. Other information reveals that Americans trust most those institutions that are the least democratic—the military, police, and Supreme Court—and distrust those that are the most democratic—the Presidency and Congress. The officer corps may be



65th Signal Company (Christina Ann Shumaker)

more divorced from national values and attitudes than at any other time in history, becoming less diverse in these respects as elites have become more heterogeneous in their thinking. If so we may be heading for considerable civil-military conflict, with consequences for the government and national defense.¹⁰

Whatever the reality the United States has been blessed with a loyal and successful military. The key has been the officer corps. Everything else comes and goes, but it remains. Officers lead the Armed Forces in war, recommend policies to deter or best our enemies, and operate our forces in peacetime. They provide the continuity; they have the expertise; theirs alone is the professional responsibility for national security. Their recruitment, training, education, and career development must be a national priority.

JFQ

NOTES

¹ Thomas E. Ricks, *Making the Corps* (New York: Scribner, 1997).

² Peter F. Drucker, "The Rise of the Knowledge Society," *The Wilson Quarterly*, vol. 17, no. 2 (Spring 1993), p. 65.

³ If a college degree and initial education in the profession of arms are, in the information age, too important, costly, and complex to be crammed into four years at a government institution, and remembering that higher education is among the most successful American industries, service academies should become postgraduate two-year courses for careerists. Each could graduate 2,000 officers a year and ROTC could be abandoned. Every officer would possess a common education, indoctrination, and preparation. To attract the best, each service should provide at least a thousand competitive four-year scholarships, allowing "walk ons" to fill the remaining officer spaces.

⁴ James A. Michener, *A Michener Miscellany, 1950–1970* (New York: Random House, 1973), pp. 52, 54.

⁵ On the Navy's attitude toward education, see Thomas B. Buell in "The Education of a Warrior," *U.S. Naval Institute Proceedings*, vol. 107, no. 1 (January 1981), pp. 41–45.

⁶ Morris Janowitz, *The Professional Soldier: A Social and Political Portrait* (Glencoe, Ill.: The Free Press, 1960).

⁷ Ricks, *Making the Corps*, particularly pp. 276–95.

⁸ See Warren P. Strobel, *Late Breaking Foreign Policy: The News Media's Influence on Peace Operations* (Washington: United States Institute of Peace, 1997).

⁹ On the fragility of democracy outside the developed world, see Robert D. Kaplan, "Was Democracy Just a Moment?" *The Atlantic Monthly*, vol. 280, no. 6 (December 1997), pp. 55–80; Fareed Zakaria, "The Rise of Illiberal Democracy," *Foreign Affairs*, vol. 76, no. 6 (November/December 1997), pp. 22–43; Richard H. Kohn, "How Democracies Control the Military," *Journal of Democracy*, vol. 8, no. 4 (October 1997), pp. 140–53.

¹⁰ See Ole R. Holsti, *A Widening Gap Between the Military and Civilian Society? Some Evidence, 1976–1996* (Cambridge: John M. Olin Institute for Strategic Studies, October 1997); Andrew J. Bacevich and Richard H. Kohn, "Grand Army of the Republicans," *The New Republic*, vol. 217, no. 22 (December 8, 1997), pp. 22–25.

Prospects for Military Education

By LEONARD D. HOLDER, JR., and WILLIAMSON MURRAY

Michael Howard has suggested that the profession of arms is the most challenging not only in physical terms but in the intellectual demands it places on military leaders. Because officers can only authentically pursue their profession at distinct intervals, frequently measured in decades, they confront a difficulty unique among the professions. In periods of peace they must think about and prepare for something that for the most part cannot be replicated outside war. Thus professional military education (PME) will be pivotal in determining the effectiveness of the U.S. Armed Forces in the next century.

PME is in disarray. There is no clear understanding of how to prepare combat leaders or

the Prussian model was copied in all major European armies and several in the new world

forces. This bodes ill for our ability to deal with an uncertain future in which war is sure to occur. Current and foreseeable conditions demand Joint Staff officers who are stronger, more innovative, and more competitive and joint force commanders who are better prepared. The progress made by PME institutions over the last decade is only a start. Each service and the Joint Staff must improve academic standards and the way senior leaders are selected, developed, and assigned. Accordingly education must become a regular activity for career officers. Though one cannot expect officers to study continuously while serving in line assignments, they should be required to meet established learning objectives at each stage of their careers.

The Historical Framework

Education has historically played a major role in preparing military institutions for war and in providing states and alliances with potent instruments of strategic power. At best it has engaged and stimulated students, taught them standard practices, and encouraged innovation and realism in decisionmaking during the stress and confusion of battle. At worst it has been considered a break in the midst of busy careers, a chance to relax and make acquaintances among peers.

Serious PME began after Prussia's catastrophic defeat at Jena-Auerstadt in 1806. Having seen their army and state overwhelmed by Napoleon in a single day, Prussian military reformers created a program to educate a small group of officers who could provide a systematic and coherent approach to war. Those officers were crucial to Prussia's recovery and to France's defeat in 1815. Nevertheless in the ensuing years the new educational system came under attack from conservative officers, who ignored the lessons of the past and argued that what had been good for Frederick the Great was good for the Prussian army of the 19th century.

However, in the fifty years after Napoleon's defeat enormous technological changes took place in weapons, communications, and transport which revolutionized warfare. Prussia, with its unique system of military education, had the only European army that grasped the full significance of the changes. In 1866 and 1870, under Helmuth von Moltke, chief of the general staff, Prussia fielded much larger armies than Napoleon and defeated Austria and France, which led to German unification. In 1864 a Prussian commander, on receiving orders from Moltke, was reputed to have responded, "Who is this General von Moltke?" After 1866 and 1870 no one had to ask.

Moltke's victories offered such compelling evidence of superiority that the Prussian model was copied in all major European armies and several in the new world. Staff colleges proliferated across the continent. Their purported aim was to

Lieutenant General Leonard D. Holder, Jr., USA (Ret.), has served as commandant of the U.S. Army Command and General Staff College and Williamson Murray is Lindbergh Professor at the Air and Space Museum in the Smithsonian Institution.

U.S. Army War College.



U.S. Army

prepare students for the complexities of war in an age of technological change. For some, PME laid at the heart of institutional values. Membership in the great general staff was the surest path to success and depended on being graduated from the *Kriegsakademie* with its notoriously high standards. In other armies the substance of PME varied; only an extraordinarily embarrassing performance in the strategic debates of 1911 forced the Royal Navy to get into the business of professional military education.

A number of influences led to increased interest in the subject in the United States at the end of the 19th century. The impressive, effortless Prussian victories of 1866 and 1870 supported the arguments of reformers such as William Tecumseh Sherman and Emory Upton that it was essential to military effectiveness. But the benign security environment of the day removed all urgency from the issue of educational reform. At the turn of the century, however, two new factors sped it up. The first was the increasing identification of professions such as law, medicine, and engineering with educational preparation. Officers realized that to be considered professional they would have to institute a substantial program of education. Second, the Spanish-American War revealed major deficiencies in military organization

and introduced imperial commitments which demanded study. Americans, least of all their military, could no longer hide behind notions of isolationism.

By the outbreak of World War I, every major power had adopted education as a component of military professionalism. The quality of education varied widely; none accurately assessed the warfighting potential of industrial nations. World War I underlined how much had to be learned. In the shadow of a disastrous conflict marked by a low degree of effectiveness, military institutions returned to peace in 1919. They then confronted a host of tactical and operational questions posed by the war, as well as the fact that technology increasingly affected how well militaries performed in combat. The innovations and adaptations of the interwar period were crucial in determining how they performed in World War II. In America a significant determinant in the innovation process lay in the quality of officer education. For France the study of 1914–18 degenerated into a self-vindicating review of battles that showed the army in the best light. Education, experimentation, and training justified the thinking of the army leadership. Even then, General Maurice Gamelin, who headed the French army in the late 1930s, felt threatened enough to demand that colleges and journals reflect the beliefs of the high command: debate was simply not allowed.

Germany followed a different path in the post war period. The victors demanded that the army chief, General Hans von Seeckt, drastically reduce the officer corps and forces. He complied by placing the general staff and its educational system (admittance to the staff could only be gained by examination and attendance at the *Kriegsakademie*) in control of senior army positions. Access to command depended almost as much on intellectual as command performance. Thus the Germans thoroughly examined the tactical and operational lessons of the last conflict and translated them into coherent, flexible doctrine. The *Kriegsakademie* ensured that future general staff officers (and the rest of the army) understood that doctrine.

But it was not only Germany that used education to innovate effectively and intelligently in the face of complex technological and tactical change. In the United States, the Naval War College played a crucial role in developing carrier aviation. Under the leadership of Admiral William Sims, it was blazing a trail for carrier innovation before the Navy had a single carrier. Similarly Army schools, including the Infantry School at Fort Benning, U.S. Army Command and Staff College, and U.S. Army War College, all helped create an adaptive and innovative officer corps.

Underlining the importance Americans placed on education was the fact that a number of exceptional officers who played leading roles during World War II served on the faculties of PME institutions. Raymond Spruance served two tours at the Naval War College; Richard Kelly Turner and Joseph Reeves also taught at Newport. At the U.S. Army War College in Washington, out of seven instructors for academic year 1939–40, two were to hold major commands in World War II, W.H. Simpson as commander of Ninth Army and J. Lawton Collins as corps commander. During the next year, Alexander Patch, a future Army commander, was on the faculty. Both the German and American interwar experiences suggest that investments in intellectual excellence can pay dividends in the next war.

Despite the tributes U.S. military leaders lavished on the role of PME in preparing them for World War II, education fell into decline after the war. The Cold War with its monolithic dependence on nuclear weapons, which required little adaptation, was one reason. With a constant threat, there was less cause to study the complexities of strategy and war, particularly given the fact that America emphasized deterrence rather than combat. Moreover, a generational shift in the 1950s brought the junior officers of World War II to command positions. They had joined the military in the 1930s and gone to war as lieutenants and captains without receiving PME and returned home as colonels

and generals. As a result, many discounted the role of PME in military professionalism.

By the late 1950s the services had allowed professional military education to drift. Branch and basic schools remained generally effective, but staff and war colleges varied in quality. Most had no academic focus. Since the services gave them no clear directions, their faculties and leaders justified almost any subject for the curricula. The colleges were also plagued by personnel systems that refused to make hard choices. Thus student bodies were too large for in-depth teaching while the focus of many programs had nothing to do with war. As one senior Marine officer summed up his experience at the U.S. Army War College in the early 1980s: "Since you studied law when you went to law school, and medicine when you went to medical school, I believed that I would get to study war at the Army War College. Boy, was I wrong!"

The war colleges reflected one of the worst aspects of American education in the 1960s that destroyed the Nation's universities and colleges. Students neither took exams nor received grades. The only exception was the Naval War College. In the early 1970s the Chief of Naval Operations assigned a tough-minded young admiral and former Rhodes scholar to Newport to "fix the place." Stansfield Turner understood that a year was not long in educational terms and suggested:

War colleges are places to educate the senior officer corps in the large military and strategic issues that confront America in the late twentieth century. They should educate these officers by a demanding intellectual curriculum to think in wider terms than their busy operational careers have thus far demanded. Above all the war colleges should broaden the intellectual and military horizons of the officers who attend, so that they have a conception of the larger strategic and operational issues that confront our military and our Nation.¹

The outcome of the Turner reforms was that Newport acquired a first-rate curriculum and instructors, and a reputation for intellectual excellence in teaching strategy and defense policies that major universities might envy. Yet there remains one substantial problem: the Navy still refuses to send its best officers to either the staff or war colleges at Newport.

The Current State of PME

The Panel on Joint Professional Military Education of the U.S. House of Representatives, chaired by Congressman Ike Skelton, issued a devastating report in 1988 on the lack of intellectual

rigor and quality at PME institutions. Given this criticism, one might think that the services would have made substantial improvement over the past decade. There has been some progress, but most reform has been hit or miss. While almost everyone pays lip service to it and college commanders confer regularly, PME in general is under-resourced, uncoordinated, and unproductive.

The most encouraging improvement has been the establishment of second year programs

U.S. Army Training and Doctrine Command (TRADOC) launched SAMS as an optional course for volunteers who completed the standard staff college program. The aim was to attract the brightest from the core combat specialties to examine the present and future of their profession in an intense, graduate level course, equipped with an understanding of the process based on the first year of study at Fort Leavenworth. In effect, the creation of SAMS was a tacit admission that the regular intermediate level program was not serving the needs of commanders in the field.

By limiting enrollment to fifty, SAMS accepted only officers with a conceptual aptitude for the study of operations. Admission was by application, competitive exam, and interview—which insured only the best attended. A substantial reading load, scrutiny by a permanent seminar leader, and written and oral examinations also guaranteed the quality of the program. Within five years, well before the publicity gained by graduates in planning the Persian Gulf War, SAMS established a reputation for intellectual rigor. By the early 1990s the Marine Corps and Air Force had instituted similar programs: the School of Advanced Warfighting at Quantico Marine Corps Base and School of Advanced Airpower Studies at Maxwell Air Force Base. Both followed the SAMS example by emphasizing the study of war, operations, and the profession of arms.

Advancements in staff college education have been most noticeable at Marine Corps and Air Force institutions. The Marines have recruited civilian faculty members and also organized a small war college to feed lieutenant colonels into teaching assignments at the staff college. The Air Force has also improved its staff college, particularly the curriculum. The experience of both institutions suggests that it is possible to significantly improve PME without unlimited resources, but it does emphasize the important role of command interest.

Nevertheless, there are substantive issues that are not being addressed. The most obvious is the composition of student bodies at the intermediate level. Currently about half of the eligible Army and Air Force field grade officers attend staff college—a high percentage compared to similar colleges in other nations. Additionally, in the past decade both services have considered putting every major through a resident program, the Army by augmenting its ten-month program with two shorter but equivalent courses and the Air Force by reducing its program to six months. Neither of these approaches has merit if one believes that the purpose of the staff college is to educate

the most encouraging improvement has been the second year programs at the intermediate level

at the intermediate level of PME by the Army, Marine Corps, and Air Force. The Army led the way by creating the School of Advanced Military Studies (SAMS) in 1984, which marked the maturation of the internally driven reconstruction of the Army in the wake of Vietnam. Coming after doctrinal debates during the late 1970s, SAMS represented a new seriousness about doctrine and education, but its form also constituted an admission of serious flaws in standard Army schooling.

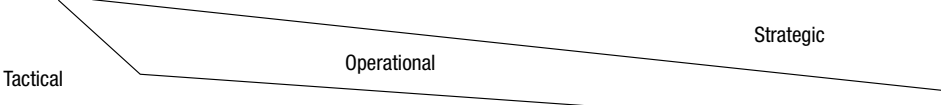
Caught between the desire to teach military art on a sophisticated level and to provide broad brush exposure to staff college education for half of its officers corps, Army leaders opted to avoid



Courtesy of Special Collections, NDU Library

Marshall Hall, National Defense University.

any basic change. The standard staff college program was continued, mass-producing graduates thoroughly versed in staff processes and broadly acquainted with tactical doctrine. With doctors, lawyers, and finance officers spread throughout the class, course work aimed at the median group. In essence the college taught tactics for chaplains and administration for infantrymen.

The Professional Military Education (PME) Framework and the Program for Joint Education (PJE)					
Grade	Cadet/ Midshipman	0-1/0-2/0-3	0-4	0-5/0-6	0-7/0-8/0-9/0-10
Level of military education	Pre-commissioning	Primary	Intermediate	Senior	General/Flag
Educational institutions and courses	Service academies	Basic and advanced branch or warfare specialty schools Primary level PME courses	Continuing professional military education		
	Reserve Officer Training Corps		Army Command and General Staff College College of Naval Command and Staff Marine Corps Command and Staff College Air Command and Staff College	U.S. Army War College College of Naval Warfare Marine Corps War College Air War College	• Capstone Course • Seminars/courses
	Officer Candidate School/Officer Training School				Industrial College of the Armed Forces National War College
			Armed Forces Staff College		 PJE Phase II
Level of war emphasized	Conceptual awareness				
Focus of military education	Introduction to service missions	Warfare specialty/ branch operations Service values Leadership Staff skills	Theater level operational art Combined arms/composite warfare Introduction to national military strategy and national security strategy	<i>Primary emphasis:</i> Service schools: national military strategy Joint schools: national security strategy	Theater level joint and combined operations Synthesis of national military strategy with national security strategy Synthesis of national security strategy with national policymaking requirements
Joint emphasis (PJE Phase I at senior and intermediate levels)	Joint introduction • history • purpose • overview	Joint awareness • organizations • missions • interservice relationships	Joint forces and operation level of war Organization and command relationships Joint command, control, communications, and intelligence Defense planning systems	National military capabilities and command structure Joint doctrine Joint planning Introduction to joint/combined operations Campaign planning Joint/combined warfare (theater context)	
Focus of PJE Phase II (National Defense University only)	Not specified for these levels		Application of knowledge gained at Phase I Joint doctrine Joint planning (deliberate/time sensitive) Defense resource management Joint staff operations Integrated employment/deployment of multiservice forces Joint war game/crisis action and joint planning exercises		

future leaders—the strongest members of the officer corps—in complex and difficult concepts.²

The staff colleges aim at little more than inculcating established techniques and some degree of literacy in service and joint doctrinal issues. Save for the Naval War College, senior colleges perform the same task on the strategic level. Accountability for learning objectives does exist,

and electives offer the means for studying narrower tactical, operational, and strategic issues; but those objectives are modest and the learning standards are unambitious.

Not surprisingly the exception to this generally bleak situation is joint education. Curricula

Marine Corps
War College.



U.S. Marine Corps

have been examined and standardized thanks to the Goldwater-Nichols DOD Reorganization Act of 1986. Moreover, accreditation inspections by teams chartered by the Joint Staff assure that the colleges meet standards for teaching, learning, and staffing. But a larger problem remains. The entrenched assumption—often encouraged by senior officers—that learning is secondary to recreation, family time, and networking, is an obstacle to academic rigor. And for the most part, service personnel systems do not make tours on the faculties of PME institutions a priority.

In most cases course organization and content satisfactorily prepare students for their next assignments. Colleges teach deliberate planning well, but at the expense of crisis-action planning. Conventional combined arms operations which follow an unopposed deployment—or assume that one has already occurred—remain the model. The curricula introduce ideas on asymmetric threats, homeland defense, and unconventional operations, but only in passing. The overall content and educational approach conform to the view that PME is mainly a chance for hard-working officers to rest and concentrate on their next assignment. Yet the testimony of World War II leaders speaks convincingly to the criticality of education in the interwar years. Now as then, the services should make the most of the opportunity to prepare officers to meet the challenges of a dangerous future.

The war college scene today is much the same as when the Skelton report surfaced. These institutions can vacillate between energy and lassitude depending on their leadership. For example, the Air University brought in first-rate academics and initiated curricular reforms in the early

1990s. But because of the short tenure of its leaders—a problem common to all PME institutions—much of that initiative has gone astray. Similarly, the aims and policies of the U.S. Army War College drift between commandants. In general it suffers from an ingrained student belief that attendance is a reward for past performance and an opportunity to relax with families and build new friendships. One commandant was dissuaded from implementing tougher standards by his deputy, who argued that academics should claim no more than a third of student time.

Naval colleges still suffer from the conviction of their leaders that their best and brightest have no time to attend. Although the Navy has improved academic staffs and facilities at Newport, it sends few of its top officers to its own war college. Finally, the National War College has made some changes recommended in the Skelton report and benefits from its proximity to the Pentagon. But it suffers a malaise similar to that of the U.S. Army War College; and it has difficulty obtaining needed resources because its funding is buried within the Army budget.

The contrast between the American and the British and German PME systems could not be more striking. To begin, these two allied nations admit far fewer officers. They allow only those at the top end to compete for places at staff college and demand that they gain entrance by completing rigorous courses or exams. Then they subject students to a two-year program. Course content varies with national aims and strategic conditions, but all stress theory and history and also use standard approaches to problem-solving, staff procedures, and command techniques. A recent trend in foreign staff colleges has been to experiment with joint education. Germany has collocated its three staff colleges in Hamburg, where students from all services occasionally share courses or co-operate in exercises. The British are making the most ambitious effort by eliminating service staff colleges and forming a single joint school.

Given extensive and exclusive staff college programs, Britain and Germany have no need for war colleges. The only significant exception is the British Higher Command and Staff College. More war than staff college, it enrolls 25 officers (O-5s/O-6s) from each service in a short, intense, and stimulating 90-day program. It stands in stark contrast to the Capstone Course offered at the National Defense University for general and flag rank officers. Taught at Camberley, the British course features serious academic work, frank personal assessments, and exposure to policymakers and civilian experts in areas of strategy and operational art. Most significantly student performance matters. Class standing and individual records affect subsequent assignments.

Graduation day,
National Defense
University.



Courtesy of Special Collections, NDU Library

Turning to the Future

After national defense, the most critical task for service colleges is to produce imaginative, adaptive commanders and staff officers. Their for-

the most critical task is to produce imaginative, adaptive commanders and staff officers

mation must knit line assignments, supporting assignments, and professional education into a system to prepare them for greater responsibilities. If officers spend no more time in residence than at present, then the colleges must become more productive and career officers will have to augment classroom attendance with learning on the job. Consequently, officers must study their profession throughout their careers, and education must become a concern of operational commanders as well as the colleges. Services must pay considerably more attention to PME, reward those involved, demand more of students, and encourage intellectual growth in the profession of arms.

Improving PME to the required level means concentrating on the proper subjects, the right students, first-class faculties, and effective teaching. Then joint and service leaders must rearrange curricula and develop objectives at every stage of an officer's career. Because some education will have to be accomplished during line assignments,

the services will have to develop well-conceived nonresident programs that apply the best teaching technology to realistic learning goals. Finally, a uniform accreditation system similar to that used to monitor joint PME would materially assist the services in sustaining high quality education and managing change.

Resident programs at both staff and war colleges must remain the most important means of educating leaders. Instruction should begin on a higher plane, though every student would have to arrive better prepared. Curricula and faculties could then use classroom time to stretch the horizons of students by forcing them to solve problems several levels above their rank and to think about the full spectrum of operations. As a start, colleges must overcome their tendency to remain close to the familiar, wherein they teach predictable situations that exist only in residence. Courses at staff colleges that ingrain standard processes absorb time required for advanced tactics and operations. The rudiments of campaign planning and joint procedures are parallel subjects at the war colleges. Quite simply, staff and war colleges must condense their treatment of basics and spend more time on the art of war.

Those officers who aspire to attend PME institutions should learn the fundamentals during

Naval War College.



U.S. Air Force

U.S. Navy

their primary duty assignments and by self-development and demonstrate mastery of those subjects before admission. This would clear the way for more varied and substantial study of service and joint operations. In order to adopt such an approach the college programs would have to become more coherent and comprehensive. Resident programs would retain their basic responsibilities but narrow their curricula to operational and strategic essentials while improving their academic status. To teach on the proper level, service and joint institutions would need to administer developmental programs for their leadership between PME assignments. Thus nonresident staff and war college programs should seriously prepare officers for future assignments (including education) rather than being a pale imitation of resident programs.

Curricular design and administration would keep faculties at about their present size while more junior officers performed routine chores as senior faculty members teach. That would result in a diminished resident enrollment and an enhanced level of education. Smaller faculties would mean better teachers while smaller student bodies would mean greater attention for each student.

The services must also abandon methods for student selection which depend solely on officer files (or detailee convenience). Instead, prospective students should demonstrate professional growth in their careers since last attending a PME institution. In particular, they should display an improved knowledge of service competencies as well as a deeper understanding of joint matters. Requiring officers to qualify for attendance at the staff and war colleges would shock the officer corps at first, then stimulate great improvement.

Under this approach two important events would precede board selection for education. First, those officers who met the prerequisites—both experiential and nonresident—would take the initiative by applying. Second, they would qualify by passing entrance examinations that, if failed, could be retaken after one year. That would simplify the work of boards by considering only those who met established criteria. This fundamental change would induce a substantial improvement in officer performance and PME quality. Instead of relying solely on assignment patterns, reputation, and fitness reports, the system would compel officers to study their profession to insure admission to college and eventual promotion.

The traditional objection to entrance exams for resident programs has been that emphasizing test scores detracts from the value of demonstrated field abilities. In fact, these two considerations should be mutually reinforcing. Certainly study stimulated by the need to qualify for admission to resident programs would improve the intellectual capacity of the officer corps. Moreover, it would broaden the horizons of line officers by exposing them to issues beyond the scope of their current duties. Questions about admission criteria or the weight that selection boards should attach to test results remain open. But testing on each level of development would allow those officers who fail to be selected for staff college to remedy their educational deficiencies and compete for war college. This second opportunity would encourage further study. It would also end the automatic limiting of the field to those who were chosen for the previous course.

Recruiting expert faculties is no less important than selecting students. Civilian universities devote considerable resources to building strong faculties. Today only the Naval War College has sought to attract the best academics in areas such as strategy and national security decisionmaking. This raises two issues. On one hand, PME institutions should hire some of the best from academe to teach strategy, historical case studies, and national security affairs (areas which most universities entirely ignore). But serving officers—after graduate preparation—can bring military expertise to teaching specialized subjects. Ironically, the Army and Air Force send some of their most qualified officers to leading graduate schools for two years in order to build the faculties of their respective military academies—to prepare cadets who will not become general officers for over two decades. Yet at the staff and war college level, military faculty members have all too often not been afforded any preparation for teaching.

With the exception of the Marine Corps the services have been unwilling to reward officers who serve on the faculty of their staff and war colleges. Operational billets at training centers, on joint and service staffs, and in directed assignments (Reserve components, recruiting, and ROTC) take precedence over faculty assignments. The low priority attached to teaching and the tendency of promotion and command selection boards to ignore or even penalize teaching experience mean that few officers seek such assignments. This indifference does not preclude some talented people from serving on faculties, but it does not reward them. Teaching at a PME institution thus receives little emphasis from assignment detailers and tends to attract officers who either prefer teaching to field work or have missed selection for more prestigious positions.

Just as Goldwater-Nichols required sending a specified number of officers with joint experience to PME institutions to teach joint issues, the services would benefit by assigning outstanding officers to staff and war college faculties. Other possibilities include establishing policies that link faculty duty to first-line operations jobs. The services might earmark a certain percentage of majors and lieutenant commanders in primary staff positions with line units for teaching at their staff colleges. The first assignment for a number of line officers in those ranks might be to educational positions (perhaps even after completing graduate school). Putting future flag officers in classrooms where their ideas would be challenged might suggest to them that rank does not always confer wisdom.

More ambitiously faculty could be picked by selection board or name, which is the practice at leading foreign institutions. Both the *Führungsakademie* in Germany and the Higher Command and Staff Course in Britain select their faculty members from among the most outstanding officers available. Assignment as a syndicate leader at a German staff college is considered a high-prestige post that usually presages promotion to flag rank.

Two other foreign practices which warrant examination would counteract the loss of talent that comes with American military personnel policy, namely the twenty-year retirement and thirty-year service cap. The German army permits longer service in the first place, but it also recognizes its most talented colonels who are not going on to flag rank by giving them added pay and status. Although the *Bundeswehr* does not assign such officers to teach, our Armed Forces could employ distinguished colonels with operational expertise and academic credentials to provide stability and depth to staff and war colleges. Similarly, a few senior flag officers might be extended on active duty to lead PME institutions and serve as distinguished faculty members. Obviously the number of these colonels and flag officers should be limited and selections carefully made. Superannuation and loss of relevance come inevitably to all. Yet, assuming that such assignments were normative and that all selected officers were acknowledged experts, the change could only improve faculties. The Armed Forces should follow the Marine model and allow greater flexibility in assignments and career paths open to officers. In fact, any substantive PME reform demands wholesale revamping of personnel systems which were designed in the aftermath of World War II.

Both class size and composition are important parts of the PME equation. Selection rates as high as 50 percent to intermediate level colleges

officer course significant weight in determining future joint assignments.

selection rates as high as 50 percent to intermediate level colleges reduce student and faculty quality

reduce student and faculty quality. Here again the Marines set the example by limiting the number of officers who attend staff or war colleges. In addition, improving teaching methods and academic standards comes with meaningful reform.

The technical and material dimensions of PME are less controversial. Simply put, staff and war colleges are falling behind in a period of high-tech instructional aids and automated operations. As a result PME institutions are not as effective in teaching and also are becoming ever less capable of demonstrating the full operational picture used in operational command centers to their students. Introducing better tools (such as interactive self-development programs, low overhead simulations, digitized references, computer-assisted instruction, and collaborative distributed workstations) will enhance curricula. It can improve faculty awareness of student progress and the pace of learning. The Total Army School System illustrates what can be accomplished through distance learning. It is focused on the Reserve components but clearly promises improved access to basic courses.

Improved simulation would not only relate the true range and complexity of operations but also represent combat effects more accurately. One must understand current simulation capabilities to recognize the flawed picture they paint. Simulations can teach false relationships and capabilities (weapons such as attack helicopters and field artillery rockets) and leave human factors (fatigue, training status, and confidence) largely out of the equation.

Testing simply offers a means of reinforcing academic standards. Adopting end-of-course tests could vastly improve concentration and education. Making graduation contingent on passing tough oral and written exams and entering the results in officer records will ensure better learning. Moreover, the top 10 to 15 percent in each class should be selected for choice assignments through service personnel systems. Performance should play a significant part in promotion to flag rank.

Finally, the Armed Forces would benefit by replacing the Capstone Course with a program resembling the British Higher Command and Staff Course as recommended by the Skelton report. Serious competition could be initiated by giving the individual performance of students in the flag

General William DePuy, the first TRADOC commander, frequently pointed out that "war is the great auditor of military institutions." A reckoning for professional military education is sure to follow the next great national challenge. Getting the system right is imperative. A better approach would combine resident programs for fewer students with accountable self-development objectives for officers of all specialties. Interservice faculties would offer separate courses for professionals in law, medicine, or administration which might lead to greater commonality in the Armed Forces. Short courses for special duties would augment the standard courses.

The history of military innovation and effectiveness in the last century suggests a correlation between battlefield performance and how seriously military institutions regarded officer education. It is essential that the services devote substantially more resources to that end. Moreover, staff and war colleges have similar aims: the study of past, present, and future war, the study of strategy and the conduct of military operations, and the thoughtful preparation of forces within the joint arena. To meet the challenges of the 21st century, the Nation must have officers who are not only in peak physical condition but are intellectually the finest in the world at the profession of arms. That only can be achieved by a far-reaching reform of professional military education. **JFQ**

NOTES

¹ Quoted in Williamson Murray, "Grading the War Colleges," *The National Interest*, no. 6 (Winter 1986-87), pp. 12-19.

² A related issue is the inclusion of non-tactical officers. Although a few doctors, lawyers, chaplains, and finance officers should attend in anticipation of future service with tactical units, the number now enrolled exceeds requirements and dilutes the focus on the senior level. This is not to say that these officers should not receive equivalent mid-level education, but rather that they should study their specialties more directly in their branch schools or in civilian professional schools.

Fleet level action,
Luce Hall, Newport.



Courtesy U.S. Naval War College Museum

Professionalizing

Command, Education, and Doctrine

By THOMAS C. HONE

Since the passage of the Goldwater-Nichols Act in 1986, Congress has encouraged—some would say pressured—the Armed Forces to develop joint doctrine. Moreover, influential members of Congress have called for changes in professional military education (PME). At times these two objectives have merged; that is, PME advocates have assumed that better programs would be more joint and that the officers who graduate from them would inevitably enhance joint doctrine.

That assumption is cast into doubt when one examines the record of the Naval War College since 1911 as its leadership and faculty developed

four primary PME models. The first three were largely complementary with the later two tending to rest on concepts that underpinned the first. The fourth, initiated after 1972, was very different and has become the ideal against which reforms at the senior colleges administered by the Army and Air Force have been measured. But is that last model adequate to promote the development of joint doctrine? Can it achieve what some critics in Congress want? The answer seems to be no.

Neither Art nor Science

The first model is the professional naval commander. This does not mean the professional naval officer or sailor, but one who is expert in commanding naval forces. This model was seen as revolutionary when it was adopted by the

Thomas C. Hone is a member of the Center for Naval Analyses.

Naval War College in 1911. Command was regarded as an art peculiar to the temper and intellect of the commander himself. Many successful commanders (such as Horatio Nelson) were studied at institutions such as the U.S. Naval Academy. But to suggest that commanding either a squadron or a fleet was a profession like command of a ship, and thus that naval officers needed to be schooled in commanding fleets, was considered novel.

How was this model taught? First by instructing officers in a standard means of analyzing combat at sea. With such a common thread officers would use the same ideas and terms. The

goal was to provide a basis for rapid, clear communication in war. Once achieved, coordination would be easier and faster, reducing the risk of

misunderstanding among officers and between superiors and subordinates. Another element of instruction was a standard order form. Again, the goal was to facilitate clear communication and reduce errors. Finally, wargames enabled officers to practice giving and interpreting orders and to test doctrine which was the foundation of fleet actions. These three elements constituted the applicatory system of professional naval command.

Note the use of the term *system*. Not *art* or *science*. A system can be taught because it is an ordered process governed by rules. But it is not a bureaucratic routine or rulebook. Indeed, the system was intended to preclude commanders from providing detailed instructions to subordinates. As one observer noted, adopting this system “meant acceptance of the principle that subordinates should be granted wide discretion . . . and make decisions at their level of responsibility with only very general guidance from their superiors.”¹ It was designed to replace orders with doctrine as the link between seniors and subordinates, and the doctrine would first be tested in wargames.

This model had major implications. It assumed that direct, immediate control of large naval forces was impractical. Senior commanders could direct forces under their command, but control over them would be more a matter of implementing doctrine than following instructions. Instead of force commanders ordering individual ships to steam at specific speeds on specific courses, they would state: “Reach such-and-such position by such-and-such time” or “Support the flagship in the engagement without obstructing fire by friendly ships.” Moreover, fleet or task force commanders would not send such orders to a ship in engagements. Instead they would exercise responsibility beforehand by explaining their objectives, plans to achieve them, and views of

applicable doctrine. Subordinates would issue their own orders in a coordinated effort to turn guidance into action.

As one historian reminds us, military doctrine is “the bridge between thought and action.”² The goal of the Naval War College in 1911 was to turn the concept of naval command away from detailed instructions and toward developing doctrine. It focused on the bridge and was successful despite the advent of radio, which held out the promise of tighter control by a fleet commander and even direct control of forces at sea from ashore. But this was a two-edged sword; it could be used too often. Thus doctrine was needed for communications before and during battle.

The Heart of the Navy

But what was doctrine—as a bridge between thought and action—meant to support? What was the proper way for commanders to think? Such questions led to development of the second PME model at Newport—the senior officer as a campaign planner. As envisioned by Admiral William S. Sims, President of the Naval War College immediately following World War I, “the war college should be made the principal asset of the Navy.” This was an audacious claim—that the institution was in fact the heart of the Navy in peacetime. But Sims was adamant. In his view the Navy, no matter how strong, would fail unless led by a cadre of naval officers skilled in planning and implementing campaigns. He held that no officer who is “not a war college graduate [should] be assigned to any important position, either ashore or afloat.”³ For Sims, doctrine was rooted in campaign planning. Such plans had to be anchored, in turn, to strategic thinking, or at least thinking on the theater level. And there was no more effective means of preparing officers for theater or strategic level thinking than wargames.

The emphasis Sims put on wargames led to a blossoming of simulations and gaming at Newport in the early 1920s and supported the fledgling Office of the Chief of Naval Operations. But though the latter developed a war plans division, it never contained more than a dozen officers. Hence it relied on results of games played on large, blue-tiled floors. Gaming, however, was only one element of a multiphase process that pioneered doctrinal and tactical innovations in the Navy before World War II. Concepts that appeared worthwhile to war planners were tested in games. The more promising were forwarded to the staff of the commander in chief, United States Fleet, or to his subordinate staffs. These staffs

military doctrine is “the bridge between thought and action”

Finale of RIMPAC
exercise, 1998.



U.S. Navy (Christopher Hollaway)

were the source of proposals for the annual fleet exercises. In effect, ideas, doctrine, and command procedures that were developed first in war college games were then tested in major exercises. Next the results were circulated to faculty and students, war planners in the Office of the Chief of Naval Operations, and bureaus responsible for weapons development and ship design.

The cycle of planning/games/exercises/acquisition was instrumental in allowing the Navy to form an air arm in the 1920s. In 1924 the Navy had an experimental aircraft carrier, the converted collier *USS Langley*. The experiment employed

**during the war creation
of doctrine became a
fleet responsibility**

twelve aircraft at most. Then, in 1925, Captain Joseph Reeves, who had watched the testing of aviation concepts and taught tactics at Newport, took command of the fleet's aviation squadrons. Under his leadership, *USS Langley* was converted from an experimental to an operational carrier, eventually with 42 aircraft. At the same time, the Bureau of Aeronautics pressed ahead with the development and procurement of rugged, powerful aircraft for use on carriers. As ideas from fleet exercises flowed back to the war college, they were married to projections made by the bureau. The result was a systematic examination of the strike capability of aircraft carriers, precisely the sort of interaction Sims wanted.⁴

A Ladder of Education

The third model adopted at Newport prior to World War II was the war planner. Campaign plans focus on a theater. War plans direct the resources of the whole nation. This was the highest level of professional military education. Graduates were judged capable of advising the President in wartime. If campaign games prepared officers to serve on the staffs that would wage a Pacific campaign against Japan, the study of strategy prepared them to lead forces in a modern total war. The best way to study strategy may not have been clear at the time, but the goal of this model was obvious—to prepare senior officers for command on the national versus theater level.⁵

Indeed, by the late 1930s the Navy had developed a ladder of education to produce officers who could respond to challenges at various levels of command. The first rung was the U.S. Naval Academy, which was accredited in 1931. Its object was to graduate officers who understood that formal education was essential to their development as officers. The second rung was the junior course at the Naval War College, established in 1924. Though it later copied the course offered to more senior officers, its initial focus was on both

tactics and doctrine. The third was the senior course at Newport, which combined lessons on commanding naval forces with experience in mock campaign planning. The top rung was the advanced course, created in 1933. It prepared officers for national level command. A common theme at the second, third, and fourth rungs was the need for doctrine as the basis of command and coordination of naval forces.

But what was this doctrine? The founders of the Naval War College in the late 19th century would have understood it: gain control of the sea and then use it for some larger purpose such as blockading an enemy nation or assaulting it from the sea. For decades, "gaining control of the sea" meant "defeating the enemy main battle force"; so the central idea of naval doctrine spawned other, logically subsidiary doctrine like a river spreads its muddy tentacles throughout a delta. Imperial Japan, the Britain of Asia, was particularly vulnerable to such doctrine once it went into effect.

But carrying out doctrine changed the way that doctrine was created. Before World War II, the staff of the commander in chief of the United States Fleet was too small to originate it. During the war, however, fleet staffs grew and gained responsibility. Creation of doctrine became a fleet rather than Naval War College obligation. Moreover, once Japan and Germany were defeated, Newport did not regain its role as the primary source of strategic concepts and doctrinal advances. World War II had produced a revolution in Navy organization. Both the naval staff—that is, the Office of the Chief of Naval Operations—and multiple fleet staffs (including the type commanders) had grown in size and sophistication. Equally critical to the process of developing doctrine was the shift to a forward deployed Navy during the Cold War.

As one historian has indicated in a study of what might be called the first maritime strategy, the Office of the Chief of Naval Operations and multiple fleet staffs (those for the Atlantic, Pacific, and numbered fleets) were the source of new strategies and doctrine.⁶ The role of Newport shifted from innovator to sometime educator of flag officers. Instead of being central to doctrinal, tactical, or strategic innovation, the college slipped to the periphery, and its programs prepared officers for key billets in organizations such as the Office of the Chief of Naval Operations or fleet staffs.

Borrowed from Civilian Life

Things changed when Admiral Elmo Zumwalt appointed Rear Admiral Stansfield Turner as President of the Naval War College in 1972. Zumwalt had been strongly influenced by



Courtesy Naval War College

Colbert Plaza, Naval War College.

the use of techniques such as systems analysis to manage the Pentagon, including the Navy. As the Chief of Naval Operations, he had organized his own systems analysis branch within the Office of the Chief of Naval Operations. But when it came to the war college, he and Turner chose to emphasize the study of strategy at least as much as systems analysis.

Why? The answer is found in a need to give officers the tools to succeed in the Pentagon, where the management of national defense was increasingly accomplished through techniques and processes borrowed from civilian (especially industrial) life or created by a small corps of defense analysts in policy centers and think tanks such as the RAND Corporation. Naval officers had to be familiar with these techniques and their use in national defense. At the same time, officers had to demonstrate that they could contribute to the development of strategy in unique and valuable ways. President Kennedy had complained after the Cuban Missile Crisis in 1962, for example, that senior military advisors had not really demonstrated creative strategic as opposed to

military thinking. Turner set out to prepare naval officers to work with leading defense officials in managing national military resources or advise the President and Secretary of Defense.

A fourth professional military education model for naval officers was devised under Turner by the faculty at Newport. One part emphasized decisionmaking in the Pentagon; another focused on the roots of strategy—not just concepts but their sources. As a result, teachers of strategy were largely historians selected from academe, and the strategy curriculum became an exercise in reading and understanding key episodes in military history.

The new approach did not emphasize doctrine and was thus a break with the earlier models. It correctly assumed that doctrine was something officers learned elsewhere, such as on operational fleet staffs. In the 1930s, doctrine had been the thread linking early professional military education with preparation for flag rank. By

the early 1970s, Zumwalt and Turner were worried less about doctrine than the loss of influence of officers at high levels of national defense. Turner, especially, felt the need to ground senior officers in the intellectual roots of strategy. He wanted them to think and speak as national strategists, not as service representatives or parochial military specialists.

Of course there was a reaction. One was a focus on the lack of training in ethics for senior officers. A later (and continuing) critique was that none of the war colleges paid adequate attention to the doctrinal implications or the conceptual

Step 1 professionalized the practice of fleet command, then step 2 focused on preparing officers for theater-level command, and finally step 3 stressed educating senior officers for the national level. These efforts paid off in World War II. One of the Navy's greatest assets in that war was a cadre of staff officers who could plan and conduct theater-level campaigns.

But that conflict and its aftermath brought about changes in technology (including nuclear weapons), the enemy, the nature of the Navy organization, the defense establishment (in both 1947 and 1949), and the roles of the services. Under such circumstances it is surprising that the Naval War College survived. The Navy did not need it as a source of doctrine, an aid to the Navy staff, or a source of innovative concepts or plans. The vision of Newport as the intellectual center of the Navy which Sims espoused was spent. The idea of doctrine as a means of unifying professional military education also faded—the proof being the success of Turner's curricular reforms in 1972.

The history of the Naval War College before World War II is a story of both professional military education and the process of professionalizing naval command. The two evolved together since Newport was where the latter process was institutionalized. Professional command required doctrine, so the college assumed a major role in its development and propagation. The performance of naval forces in World War II proved that professionalizing naval command had succeeded. Officers produced by that process became leaders of the Navy and members of the Joint Chiefs following the war. They bequeathed a number of effective institutions (including the Naval War College), a firm concept of professional naval command, and a military-industrial complex which pioneered technological innovations.

Yet these graduates also advanced the practice of deploying fleets prepared for war forward in waters distant from the United States. Doctrine is now made in these fleets through operations and work-ups for deployment. The successes of the pre-World War II process created fleets that displaced the Naval War College as the locus of professionalism and doctrinal development. Thus after the war officers were exposed in the schoolhouse to doctrine actually made by someone else.

In the 1920s and 1930s, Newport was a problem-solving institution which concentrated on developing concepts and doctrine. Granted, students took courses to fill gaps in their education. But the faculty and students were also part of an institution engaged in important processes—such as

the idea of doctrine as a means of unifying professional military education also faded

and organizational keys to effective joint operations. Another concern was innovation. Senior leaders feared that more promising junior officers

lacked an opportunity to develop new ideas to be realized when (and if) they were promoted to flag rank. The curriculum and organization of the Naval War College were modified after Turner's tenure to account for these concerns.

What about doctrine? It became those concepts that deployed fleets developed, tested, and implemented. The deployment process itself became a laboratory and school; officers learned and developed doctrine on fleet staffs and at sea. Because the Navy deployed to regions such as the western Pacific and Mediterranean where conflict was likely, this process assumed the function of pre-World War II fleet problems. Preparing for and executing deployments became a mechanism of continuing change, especially tactically. Fleets prepared and tested concepts such as composite warfare: that was doctrine.

Nor did the Naval War College gain influence over what could be called strategic doctrine. Consider maritime strategy during the mid-1980s. It came from leaders infused with the thinking of Chiefs of Naval Operations such as Thomas Hayward and James Watkins and of an ambitious, aggressive Secretary of the Navy, John Lehman. While maritime strategy was not doctrine, it was an operational concept with strong doctrinal implications—similar to the Orange Plan of the 1930s, which set the role of the Navy and Marine Corps in a potential war with Japan as a transpacific, island-hopping campaign. Maritime strategy came along as the services took a renewed interest in doctrine; and it met the standard of being a bridge between thought and action.

Fleets and Doctrine

Where should doctrine come from now? The development of the Naval War College in the 20th century suggests an answer. The PME model matured with the concept of military command.



Finale of fleet problem,
Panama Bay, 1929.

Naval Historical Center

preparing campaign-level planning staffs for a possible war with Japan and linking doctrine on the tactical and operational levels of naval warfare.

All this went away following World War II. Newport became a victim of its own success. Both strategy and doctrine were developed increasingly in the fleets, though the college continued to be comprised of officers whose efforts in areas such as defense economics and logistics were valuable to members of fleet staffs. Thus Turner could not restore the former mission of Newport in 1972; instead he gave it a new one. He assigned functions that suited the times: preparing naval officers to work in the Pentagon and think on the strategic level. In sum he combined a truncated

graduate program in business administration with a compact course in military—not just naval—history. The goal was to produce intellectually sophisticated national defense managers. There were still outstanding officers who did not receive an education at the Naval War College. They were able to learn critical command and planning skills as well as doctrine through fleet experience.

Bridging Thought and Action

A professional military education can be graduate level study, preparation for serious staff work at the Pentagon, or a process of forming doctrine to facilitate effective command. It cannot be all three at once, certainly not in ten months. And it is not just a matter of time. An institution like the current Naval War College is not suited to develop doctrine. Navy leaders have a

difficult time explaining to members of Congress or officers of other services the folly of using Newport as a model for developing new doctrine, especially joint doctrine. Since the pre-World War II period, the professional and doctrinal heart of the Navy has been shifted to deployed fleets. That situation cannot be changed as long as the fleets deploy forward.

The other services have responded to the call for PME reform by instituting basically minor changes in curricula. These changes are not useless; quite the opposite. They amount to applying the Turner model, with some variations, to the Army and the Air Force. But members of Congress want professional military education to assume the function it had at Newport after 1911—creating a new profession of military command, though today it is not naval command but joint command. No PME institution modeled on the Naval War College can perform this function.

Naval officers do not know quite how to explain the above situation to Congress because they do not want to insinuate that the program and curriculum at Newport have been unsuccessful. Yet it is critical to distinguish professional military education, which takes various forms, from the process of transforming the profession of arms—which as annals of the Naval War College reveal was not identical to formal graduate education. A better understanding of this history may clarify and facilitate communication among those searching for improved professional military education and fundamental changes in the Armed Forces.

What remains missing is the bridge between thought and action. Doctrine is that bridge. It is closely intertwined with the nature of military command, so efforts to change the latter and make it truly joint must influence the development of the former. But this is a fundamental undertaking, not the incidental byproduct of improvements to professional military education. In other words, fixing professional military education will not make the services truly joint because that will require fundamental changes in doctrine and organization which can only come about when officers attend tailored graduate programs, especially in the Navy. Changes in doctrine will

occur through joint exercises in which deployed fleets participate. In fact this is what is happening today. It seems inevitable, given the history of the Naval War College in the 20th century. **JFQ**

NOTES

¹ Ronald Spector, *Professors of War* (Newport, R.I.: Naval War College Press, 1977), p. 119.

² John Gooch, "Military Doctrine and Military History," in *The Origins of Contemporary Doctrine*, edited by John Gooch (Camberley, U.K.: Strategic and Combat Studies Institute, 1997), p. 5.

³ Michael Vlahos, *The Blue Sword* (Newport, R.I.: Naval War College Press, 1980), p. 58.

⁴ Charles Melhorn, *Two-Block Fox: The Rise of the Aircraft Carrier, 1911–1929* (Annapolis: Naval Institute Press, 1974); Thomas Hone and Mark Mandeles, "Inter-war Innovation in Three Navies: U.S. Navy, Royal Navy, Imperial Japanese Navy," *Naval War College Review*, vol. 40, no. 2 (Spring 1987), pp. 63–83.

⁵ Gerald Kennedy, "The United States Naval War College, 1919–1941," Ph.D. dissertation, University of Minnesota, 1975.

⁶ Michael A. Palmer, *Origins of the Maritime Strategy: American Naval Strategy in the First Postwar Decade* (Washington: Naval Historical Center, 1988).



DOD (Bob McRoy)

Unintended Consequences of the Goldwater-Nichols Act

By CHRISTOPHER M. BOURNE

The tenth anniversary of the Goldwater-Nichols Department of Defense Reorganization Act of 1986 focused attention largely on that law's most apparent and positive aspects. Much good has derived from it. The Nation has enjoyed a string of successes in war and in military operations other than war. The law increased cooperation and interoperability among the services, improved professional military education, and unified the national military command structure.

Major Christopher M. Bourne, USMC, is assigned to U.S. Marine Forces Pacific as CENTCOM exercise officer (G-3).

Reforms mandated under Goldwater-Nichols fundamentally altered relationships between the services and joint system and between civilian and military sides of the defense establishment. Some insist the law did not go far enough and they therefore advocate additional reforms. In certain respects they may be correct. However, in one area the reforms may have already gone too far. As we advance into the second decade of the Goldwater-Nichols era and consider what further changes in defense organization are needed, we must be careful not to upset the delicate balance implicit in civilian control of the military.

The supremacy of elected officials has always underpinned U.S. civil-military relations and yet

this tradition is eroding fast. Ironically, diminished civilian control stems not from the threat of the man on horseback nor from a defeat on the battlefield. Instead, the reforms enacted in 1986 have undermined relations between the soldier and the state. Goldwater-Nichols legislated sweeping changes intended to rectify the strategic failures of the Vietnam conflict and the lack of service cooperation. The implications of those changes have gone unnoticed in the afterglow of the Gulf War. Their net effect, however, has been

the Constitution fails to specify where the authority of the Commander in Chief ends and that of Congress begins

to reverse our long national tradition of civilian control over the military. In the process it gave inordinate political power to the military by elevating the Chairman of the Joint Chiefs of

Staff almost to the level of his nominal superior, the Secretary of Defense, thereby jeopardizing civilian control.

When the Senate Armed Services Committee held its first hearings to consider reorganizing the Pentagon in July 1983, Senator Barry Goldwater opened the proceedings thus:

The question is, can we, as a country, any longer afford a 207-year-old concept that in military matters the civilian is supreme? Now, I realize the sanctity of the idea of the civilian being supreme. It is a beautiful thing to think about. The question in my mind is, can we any longer afford to allow the expertise of [professional military] men and women . . . to be set aside for the decisions of the civilians whose decisions have not been wrapped in war[?]. We lost in Korea, no question about that, because we did not let the military leadership exercise military judgment. We lost in Vietnam. . . . If that is the way we are going to do it in the future, I think we are in trouble.¹

Goldwater's assertion should give every officer pause; it stood the common perception of civil-military relations on its head and set the tone of the debate. Many did not recognize the nature of the issues at the time, but the law basically altered civil-military relations. While the operational performance of the Armed Forces and the bureaucratic efficiency of DOD have improved, some of the law's provisions have overcompensated for the inadequacies of earlier defense reorganizations. They invest inordinate authority in a single military officer and his staff while reducing the checks and balances within and between the executive and legislative branches.

In practice, Goldwater-Nichols empowered the Chairman to act as the de facto equal of the Secretary of Defense and de facto commander of the Armed Forces; it empowered military officers to formulate and influence policy far outside

their proper sphere; and while expressly stating its intent to the contrary, it took a long step toward creating a joint general staff. Intending to improve effectiveness but not comprehending fully the complex interrelationships that effect civilian control, Congress failed to provide for the common defense with an establishment that reflects the basic values of American government.

What Is Control?

Americans have long invoked the phrase *civilian control of the military* but usually fail to define or grasp it. The Constitution, which was written when the Army consisted of an ill-trained militia that was pressed into service for emergencies, does not address the relationship directly. Civilian control was moot—the military was civilian itself. The Founding Fathers ensured a separation and wide dispersal of powers. In that vein, they designated the President as Commander in Chief of the Army and Navy but gave Congress the authority

to declare war . . . to raise and support armies . . . to provide and maintain a navy; to make rules for the government and regulation of the land and naval forces; to make all laws which shall be necessary and proper for carrying into execution the foregoing powers. . . .

The framers of the Constitution granted the office of Commander in Chief to the President rather than the function of commander, allowing him to order the forces provided by Congress but not to determine their size or composition. They intended that the President should not enjoy the political and military powers of a European ruler and observed George Mason's warning that the purse and sword should not fall into the same hands. However, such provisions ensured a continuing controversy with respect to civilian control. The Constitution precludes the extremes of regimes where no civilian control exists, as in military dictatorships—or where civilian control is total, like Russia under Stalin; but it fails to specify where the authority of the Commander in Chief ends and that of Congress begins. The executive and legislature have struggled since the founding of the Republic over the limits imposed on their respective authority. This controversy has enmeshed the Joint Chiefs of Staff since their inception during World War II.

To understand the dynamics of the interface between civilians and soldiers, one must define civilian control. Samuel Huntington has identified two types, subjective and objective. Under the former, the military becomes an instrument

Bosnia, 1996.



55th Signal Company (Kyle Davis)

of a particular civilian group or branch of government. It assumes participation by the military in institutional, class, and constitutional politics. Soldiers become part of the political system, and civilian groups seek to control them in order to exert influence over national strategy. The constant struggle between the President and Congress over dominion of the military is really a matter of subjective control.

Objective control seeks to maximize the professionalism of the military. It became a possibility in the United States with the advent of a professional army in the early 19th century. According to Huntington:

Civilian control in the objective sense is the maximizing of military professionalism. More precisely, it is that distribution of political power between military and civilian groups which is most conducive to the emergence of professional attitudes and behavior among the members of the officer corps. Objective civilian control is thus directly opposed to subjective civilian control. Subjective civilian control achieves its end by civilianizing the military, making them the mirror of the state. Objective civilian control achieves its end by militarizing the military, making them the

tool of the state. . . . The antithesis of objective civilian control is military participation in politics: civilian control decreases as the military become progressively involved in institutional, class, and constitutional politics.²

Civilian control in America is not particularly concerned with intervention by the military in politics. While not impossible, a coup is unlikely given the tradition of subordination to civilian authority. The issue is more subtle. On the one hand, it involves the separation of powers, which demands dispersed authority among and within the branches of government (although that causes inefficiencies in decisionmaking). On the other hand, civilian control produces tension between the executive branch, with its definition of authority over military policy, and the legislature, with its concept of constitutional duty to raise and support armies and provide and maintain a navy.

Tension also exists between civilian decision-makers and military leaders. Although bound by a long heritage of subordination to civilian authority and a desire to remain neutral in the contest between the executive and legislature, senior officers nonetheless attempt to both define a military sphere of decisionmaking and limit involvement by civilian officials in it. Central to this dynamic is

the fact that the Constitution neither specifically mentions nor explicitly codifies civilian control (although it can be derived from the command relationships under Title 10). The idea began with George Washington's consistent efforts to subordinate his forces to the Continental Congress.

Each DOD reorganization has had civilian control as its subtext. The National Security Act of 1947 shifted power from the President toward Congress while the advent of JCS as a separate locus of power capable of influencing political decisions moved the Armed Forces toward more subjective control. Amendments to the National Security Act in 1949, 1953, and 1958 gradually shifted the balance to the executive by empowering the Secretary of Defense while the military, through the growing influence of JCS, accrued political power and moved farther from objective control. Goldwater-Nichols is the latest reform which sought to shift the balance away from the executive, hence Goldwater's interrogative.

Although imperfect, the National Security Act of 1947 struck a balance between the unified command of the Armed Forces to achieve military success, the unified direction of DOD necessary for budgetary efficiency, and the separation of powers demanded by the Constitution. The result of reforms in 1949, 1953, and 1958 concentrated authority within the Office of the Secretary of Defense to improve bureaucratic efficiency. A rapid succession of short-tenure Secretaries during that period ensured that no one could fully grasp the dynamics of reform. Robert McNamara was the first to wield the enormous authority that had accrued to the Office of the Secretary of Defense, which made him responsible for strategic planning and operational direction of forces.

Whirlwind DOD reorganization, whereby the largest bureaucracy in the world was formed and reformed three times from 1947 to 1958, resulted in a command structure that marginalized the judgment of senior officers. In 1965, for example, prior to the critical decision to send ground forces to Vietnam, JCS met with the President only twice.³ McNamara disregarded military advice and closely directed the war himself. The Joint Chiefs disagreed with operational directions from the National Command Authorities (NCA), but the National Security Act as amended provided few checks against a strong-willed Secretary ignoring or suppressing their advice.

Presidents Truman and Eisenhower thought that their amendments to the National Security Act improved civilian control by empowering the Secretary. But the unintended consequence was grossly distorted civilian control. Thus it is easy to appreciate Goldwater's question, "can we, as a country, any longer afford a 207-year-old concept that in military matters the civilian is supreme?"

Misguided Solution

In the early 1980s, hoping to mitigate the consequences of the amended National Security Act but failing to comprehend the root cause of those consequences, Congress pressed for change. Reform-minded academics and officers who also misunderstood the problem supported the effort, seizing on widely publicized acquisition scandals and high visibility anecdotal "evidence" (much of it ultimately untrue or unrelated to the central issues) from contemporaneous debacles in Iran, Grenada, and Lebanon. Their intent was to alter the authority of the Secretary and the manner in which both JCS and the Joint Staff operated.

However, Goldwater-Nichols failed in its objectives of strengthening civilian authority and improving military advice to the President. First, organizations do not always function in practice like they do on paper. Under Goldwater-Nichols the civilian side of DOD is demonstrably weaker than the military. Second, the criticism that the most significant military advice concerning the use of force given to the President, National Security Council, and Secretary of Defense was of poor quality or late is not entirely supported by the facts. The use of military force from the Bay of Pigs to Beirut shows that the President often does not accept JCS advice when it conflicts with his chosen course. While accepting or rejecting advice is the prerogative of the White House, criticism of its quality was "in many cases a euphemism for 'news [the President] didn't want to hear.'"⁴

Civilian Control

The basic changes which Goldwater-Nichols made in the relationships between key players in the national military command structure have profoundly affected civilian control. The national security responsibilities of the President and Congress assigned by the Constitution and codified in laws are purposely broad and unrestricted. Congress has historically felt that the President should use almost any legal means and organizational scheme he deems necessary to perform his duties as Commander in Chief. Likewise Congress, in executing its duties to raise and support armies and provide and maintain a navy, is restricted only by the legality of its actions. The Constitution has stood for two centuries precisely because it flexibly applies simple concepts such as the separation of powers and pluralism to complex problems.

As Commander in Chief, and responsible to the people for national security, the President should not be bound by laws that intrude on his constitutional role. But Goldwater-Nichols does

just that by prescribing how to organize the military, communicate with subordinates, and consult in developing implementing orders and directives and by dictating who to appoint as subordinate commanders. Any military commander similarly restricted would be a commander in name only.

Other Goldwater-Nichols provisions more directly damage civilian control. By making the Chairman the principal military advisor to the

**by making the Chairman
the principal military advisor
Goldwater-Nichols created
a de facto general staff**

President and giving him control of the Joint Staff, Goldwater-Nichols created a de facto national general staff. The consequences of such a structure on civilian authority are disturbing. The duties of the Commander in

Chief demand that he receive a range of alternatives when confronted with matters of national security. Limiting the diversity of advice offered to responsible civilian authority facilitates decisionmaking but reduces the practical exercise of civilian control.

Provisions concerning the relative authority of the Secretary, Chairman, and Joint Staff are equally damaging. The Secretary's overall charge has remained unchanged since the inception of that position in 1947, but Goldwater-Nichols dramatically reduced the secretariat and transferred several key functions to the Chairman. The Secretary is now largely limited to formulating general defense policy. The *Organization and Functions Guidebook* lists his duties as "the formulation of general defense policy and policy related to all matters of direct and primary concern to the DOD, and . . . execution of approved policy." Goldwater-Nichols made the Chairman responsible for strategic direction; strategic planning; contingency planning; requirements, programs, and budget; doctrine, training, and education; and roles and missions. In other words, he is responsible for the most important decisions relating to national security.

Some assert that in carrying out those functions, the Chairman is "subject to the authority, direction, and control of the President and the Secretary of Defense" (10 U.S.C. 153) and that he only makes recommendations to them. While this is correct, one can easily agree with Secretary of Defense Les Aspin's assertion that in bureaucratic decisionmaking "the side capable of making the best arguments will normally prevail."⁵ Compared to their civilian counterparts within DOD and the various congressional committees which oversee that department, the Joint Staff is

supremely capable of "making the best arguments." It can provide unified proposals in response to particular issues, though those secretariats and congressional committees are more fractured. As in combat, the side capable of coherent effort will almost invariably succeed over a disjointed opponent.

The Commission on Roles and Missions of the Armed Forces, after examining the quality of civilians within DOD, found that "political appointees in [the Office of the Secretary of Defense] and in the military department staffs often lack the experience and expertise in national security and military strategy, operations, budgeting, etc. required by the positions they fill."⁶ The short tenure of appointees and the effects of the ethics reforms intended to prevent officials from profiting from their contacts once they return to the private sector has exacerbated the advantage of the Joint Staff. According to Aspin:

There's been a shift in the quality of people working on the military versus the civilian side. Because of Goldwater-Nichols, the quality on the military side has gone up tremendously, where the reverse has happened on the civilian side. Revolving-door restrictions have made government service so unattractive that the pool from which you can pick political appointees is not as rich as it once was.⁷

As a result, the Chairman is responsible for establishing major national security policies and has sole authority over a military staff that is far more effective than its civilian counterpart.

The law also cut the service chiefs out of decisionmaking. Now only the Chairman serves as the "principal military advisor to the President, the National Security Council, and the Secretary" (10 U.S.C. 153). In the past the Joint Chiefs as a body performed that function. To tolerate other viewpoints, the law permits a member of JCS who disagrees with the Chairman to submit separate advice, and the President, National Security Council, or Secretary may request dissenting views. Once again, however, those familiar with bureaucratic processes and organizational dynamics will understand that a dissenting member could present a divergent position to the National Command Authorities (on his own initiative or by request) perhaps once or twice during his tenure and remain effective. Thus Goldwater-Nichols inhibits dissent and undercuts the system of providing multiple sources of advice to responsible authorities. Moreover, the law reinforces that effect by enabling the Chairman to control JCS meeting agendas and thus the issues considered by the Joint Chiefs.

Goldwater-Nichols has also given the Chairman direct influence in the chain of command. While not literally in the chain, he is the first

military officer below NCA, and the act of receiving political directions, translating them into operational orders, and transmitting them to CINCs imparts a degree of command authority. That authority derives from the President and Secretary and is informal, not statutory; yet it is real. If the Chairman is to have credibility that authority must exist—otherwise commanders could circumvent orders with which they disagree and go directly to the national level as General Douglas MacArthur attempted to do in 1951. The JCS role

National Security Decisionmaking

Ferdinand Eberstadt, Chairman of a task force that studied reorganization in the late 1940s, summed up the motives for unifying the Joint Chiefs (as Goldwater-Nichols did) and its dangers: “Whenever there are strong differences of opinion or difficult problems, there is a human tendency to seek the one-man solution. Our generation has had painful opportunity to observe the dangers of this course.”⁹ The arguments in favor of unifying JCS under a powerful Chairman are myriad but come down to efficiency. Yet calls for a more simplified command structure fail to distinguish between decisions on the operational and tactical levels versus the strategic level. A staff enables the commander to reach decisions and act quickly. Its “principal faculty is the swift suppression, at each level of consideration, of alternative courses of action, so that the man at the top has only to approve or disapprove—but not to weigh alternatives.”¹⁰ This works well on the battlefield but is altogether inappropriate at higher levels.

Commanders can usually correct tactical and operational mistakes before they affect the outcome of a campaign or war. But strategic level errors—fundamental mistakes in force structure and national objectives—are usually irreversible and often fatal. Blunders on that level can affect millions of people for generations as did the Vietnam War. National decisionmakers must consider differing views that are only available from those familiar with the issues. At the interface between national policy and military action that means the Joint Chiefs. Such deliberative decisionmaking frustrates those who favor simple answers to complex questions, but strategic level questions offer no easy answers. Rather, “at the top levels of government . . . a deliberate decision is infinitely preferable to a bad decision.”¹¹

Some decry the fact that JCS deliberations can result in split decisions, but such decisions should signal that a responsible civilian ought to resolve the issue. For Eberstadt, a split decision “would normally imply that the issue is beyond solution by the resources of military technology and experience and is, therefore, within the competence of civilian judgment and authority.”¹² When the recommendations of the Joint Chiefs diverge, particularly when the Nation is threatened, then it is clearly the responsibility of NCA and Congress, as political authorities, to decide.

Proponents of Goldwater-Nichols also argued that it was necessary to eliminate interservice rivalry and force interservice cooperation. They pointed to failures in the Iranian desert and Beirut and to operational difficulties in Grenada as reasons for unification. They appealed to an assertion by Eisenhower that “separate ground, sea,

arguments in favor of unifying JCS under a powerful Chairman are myriad but come down to efficiency

in MacArthur’s relief is one example of that informal command authority, and now the Chairman alone exercises it.

Despite congressional intent that it “not operate or be organized as an overall Armed Forces general staff,” the Joint Staff has come to resemble one. A general staff is characterized by:

*a single national chief of staff with command authority over the military forces of the Nation, as well as personal control over an independent general staff. . . comprised of elite career staff officers possessing intermittent experience with the operational aspects of military endeavor. Their influence and authority supersede the services as well as the field commands, and provide the principal source of recommendations and advice to the national chief of staff as principal advisor to politically responsible authority.*⁸

The transformation was inevitable given that Goldwater-Nichols reduced the staff of the Secretary without abolishing corresponding functions. Wherever a vacuum has emerged the Joint Staff has intervened. It has even come to influence resource decisions—like the German general staff.

Taken together, the effect of the Goldwater-Nichols Act on the Secretary and Chairman has resulted in a decisionmaking structure that mirrors that of the Vietnam War but with one difference. During that conflict, the amended National Security Act empowered the Secretary and his assistants to exclude the expertise of senior military officers. Similarly, Goldwater-Nichols empowered the Chairman to minimize participation in deliberative decisionmaking on the national level. The root of the problem is the same; only the attire of the players has changed. Combining the power of the Chairman with the relative effectiveness of the Joint Staff versus its civilian counterpart sets all the conditions for military usurpation of civilian decisionmaking authority.

Cohen, Gore, Shelton,
and Hamre.



DOD (Helene C. Stikke)

and air warfare is gone forever." But unified action has been a guiding principle and challenge for commanders since the Peloponnesian War. It is also irrelevant to the issue of military decision-making at the seat of government. Joint interoperability and the deliberative direction of national strategy are not necessarily related.

The Test of War

Some saw the Gulf War as a vindication of Goldwater-Nichols reforms. On the contrary, it exposed flaws in the national command structure. First, the law would have precluded civilian authorities from playing a part in military decisionmaking and shielded the theater commander from the inputs of DOD officials and staff officers. But the brilliant operational maneuver to envelop the Republican Guard was originally conceived by an assistant to the Secretary of Defense, a civilian who might once have been derided as a "whiz kid."

Second, throughout the conflict the theater commander failed to grasp the political impact of Scud attacks on Israel as opposed to their military significance. He was loath to allocate scarce assets to defend against them. The Chairman, nominally precluded from anything but transmitting NCA-approved orders, intervened and sent Patriot batteries to Israel.

Finally, the theater commander's staff failed early on to develop a plan to capitalize on the overwhelming American (and later coalition) airpower. The plan that emerged was not developed by the combatant commander's staff as called for by Goldwater-Nichols but by those most expert in employing airpower, the Air Staff—a service staff under the cognizance of the Nation's most experienced military aviator, the Chief of Staff of the Air Force.¹³

The above examples are not intended as criticisms of any individual. Rather, they illustrate that warfighting, particularly as conducted by the United States, is a vast and complex undertaking, and its direction exceeds the abilities of individuals or small groups. Desert Shield/Desert Storm succeeded in part because NCA and DOD ignored the constrained operational command structure instituted by Goldwater-Nichols.

Fortunately, in the Gulf War NCA could disregard the relationships dictated by Goldwater-Nichols. As a brief crisis in which decision cycles were short, it was simple to recognize problems and remedy them. In the strategic matters that same command structure addresses, decision cycles are much longer and conceptual failures will take more time to become apparent. During the Gulf War it was relatively easy for the Secretary

Bush, Cheney, and
Powell.



DOD (R.D. Ward)

and Chairman to know when things went wrong and correct them; in strategic matters NCA and the American people might not realize that a particular policy is misguided until it is too late.

Unintended Consequences

One aim of Goldwater-Nichols was to ensure that those responsible for national security on the strategic and operational levels have commensurate authority to implement their decisions; thus the furor over ensuring that the regional CINCs had sufficient command authority over the forces assigned to them. The service chiefs similarly struggle to balance their Title 10 responsibilities to provide forces to CINCs with the authority to organize, train, and equip those forces. A mismatch between responsibility and authority on either the CINC or service chief level clearly degrades the outcome of their respective efforts.

Some claim that Goldwater-Nichols resolved the apparent conflict of interest caused by the simultaneous responsibilities of individual service chiefs for raising and equipping their services and for providing joint strategic advice. As the argument goes, “dual-hatting” made them incapable of honest judgments in the national interest and of offering unbiased joint advice when the interests of their service were at stake. The idea was

that disassociating chiefs from joint decisionmaking would improve strategic advice. But if strategic advice consists of counsel on organizing, training, and equipping services combined (and ideally matched) with counsel concerning the employment of resultant forces, can disassociating the two really improve the overall advice? To answer that, one must understand the strategic advice development process.

Strategic advice to NCA basically addresses what to do (or plan to do) and what to buy. Ideally, the answers match so the Nation buys no more than it needs and plans no more than it can afford. The surest way to make the answers match is to have the party responsible for execution also be responsible for advice. That is how the services, organized under the Departments of the War and Navy, operated during World War II. Then there were two theaters, one generally naval and one generally continental, and the Chief of Naval Operations and the Chief of Staff, U.S. Army, advised the President on what to do (within a nascent JCS). Through their respective secretaries they also advised him on what to buy.

Under the National Security Act after the war, CINCs employed forces while JCS provided advice. JCS synthesized the operational plans developed by CINCs with the longer term strategic concepts developed by the Joint Chiefs and advised NCA on what to do. They simultaneously consolidated requirements with JCS-developed future programs to make recommendations to

their respective service secretaries. The service secretaries then submitted their budget recommendations to the Secretary of Defense for inclusion in the President's budget.

The Secretary of Defense was responsible for ensuring that military plans matched what the civilian side programmed and vice versa. A strength of that system was that it observed the key principle of American governance, the sepa-

Secretary alternative program recommendations and budget proposals. . . ."

Congress thus came close to unifying the planning and programming processes under the Chairman. Section 153 of Title 10 rationalized and enhanced those processes, but it also damaged civilian control. The military side of DOD now develops the plans and their resultant requirements as before. At the same time, through the Joint Staff and the Joint Requirements Oversight Counsel (JROC), which only began to fully exploit the provision within the last few years, the military also heavily influences programming decisions by civilians. In

fact, the law sets up the questionable practice of the Chairman checking the work of service secretaries, his nominal superiors.

Considering the above in conjunction with Secretary Aspin's remark that the Joint Staff is more capable than its civilian counterparts of presenting bureaucratic arguments makes it clear that Goldwater-Nichols has created conditions whereby the military could set the terms of the national security debate. With CINCs more involved in resource issues and service secretaries and chiefs increasingly out of the loop, Congress too is less able to fulfill its constitutional responsibilities. Its primary control device, the service secretaries and chiefs, no longer governs the machinery. One finds evidence of congressional difficulty in the greater incidence of CINC testimony (taking them away from their primary duties). Congress seems to be grasping for control.

The chiefs, who remain responsible under Title 10 for organizing, training, and equipping the Armed Forces, have responded to their diminished influence by shaping congressional opinion from outside. Hence the proliferation of press articles that are primarily issue papers. The services have consequently become more politicized. Additionally JROC, intently focused on a few issues, can always beat Congress to the punch regarding programs, putting lawmakers in the position of opposing well organized and coordinated campaigns that favor the Chairman's proposals. Finally, while the Secretary can overrule the nominally subordinate Chairman, what political appointee will risk the political fallout of appearing to be consistently at odds with the Nation's senior soldier?

In Goldwater-Nichols, critics of the corporate JCS found a deceptively simple answer to a complex issue. The national security problems the United States faces are vast and intricate. They in no way resemble the security problem historically faced by Germany—essentially continental and amenable to relatively simple solutions like the Schleiffen Plan—or Israel, which like Germany

Goldwater-Nichols supporters downplay the authority of the Chairman to bypass the services in developing strategic advice

ration of powers: it ensured that the hands that wielded the sword were separate from the hands closest to the purse, the civilian leadership. The primary weakness was that the system offered the opportunity for a mismatch between plans and programs, a real or perceived duplication of programs, or development of pet programs irrelevant to national security needs. These were the major criticisms of the system that reformers intended to address, and Congress responded by giving the Chairman more power over the programming process.

Strategic advice consists of plans (what to do) and programs (what to buy). The division of labor in developing that advice has the military—formerly the corporate Joint Chiefs and now primarily the Chairman—responsible for planning and civilians who head the military departments responsible for programming. The Secretary of Defense guides both efforts by issuing *Defense Planning Guidance* for programs and providing guidance that is incorporated into the *Chairman's Guidance* to the service chiefs and CINCs for planning. Now under Goldwater-Nichols, the Joint Staff synthesizes CINC plans and develops recommendations that the Chairman submits to NCA on what to do, while measures strengthening the Chairman at the expense of service secretaries and chiefs give him more influence over what to buy. For reasons of efficiency Goldwater-Nichols empowered the Chairman with inordinate influence on both aspects of strategic advice.

While Goldwater-Nichols supporters downplay the authority of the Chairman to bypass the services in developing strategic advice, 10 U.S.C. 153 tasks him with "advising the Secretary on the extent to which the program recommendations and budget proposals of the military departments and other components . . . conform with the priorities established in strategic plans." The law also charged the Chairman with "submitting to the

knows precisely who its potential enemies are and from where they might attack. The overall U.S. position combines competing requirements of global complexity with the challenge of deploying nearly anywhere on earth. The solution necessitates careful, balanced deliberation—the strength of the corporate JCS system that Goldwater-Nichols eviscerated.

Goldwater-Nichols may have made DOD more efficient but at the cost of civilian control. It has also politicized the Armed Forces. Like the law it replaced, it has created a national military command structure that ignores the separation of powers. The amended National Security Act has consolidated dispersed powers into one office, unintentionally establishing conditions under which an imperious Secretary might abuse them. Goldwater-Nichols has done much the same thing by consolidating formerly dispersed powers in the Chairman. It has set the stage for the military to usurp authority from civilian leaders. By instituting a system in which military advice is presented unanimously, Goldwater-Nichols gives the impression that national security decisions can be made more easily. In practice such advice could sanction decisions by a single officer and turn civilian authorities into figureheads.

Moreover, Goldwater-Nichols allows civilians to abdicate some responsibilities. National security decisionmaking is complex. Long-term strategy is the duty of accountable officials—the President, Secretary, and members of Congress. The military role is to advise decisionmakers and execute decisions. The Armed Forces risk their relationship with the American people—one that is unique in history—in becoming intimately involved in decisions that fall outside their proper role. The United States has experienced the disastrous effects of allowing excessive power to accrue to the civilian head of the defense establishment; and it can ill afford to grant inordinate authority to the Nation's senior military officer.

Civilian control is an ongoing process rather than an accomplished fact, work in progress rather than a finished product. It depends on situations and personages and on procedures under which key players operate. The central issue in civilian control is the "relative weight or influence of the military in the decisions the government makes, not only in military policy and war but in foreign, defense, economic, and social policy (for much military policy can have vast implications for various aspects of national life)."¹⁴ Goldwater-Nichols gives the military excessive influence over governmental decisionmaking and, contrary to its intent, weakens civilian control.

As George Marshall noted in 1942, civilian control of the military requires eternal vigilance on the part of soldiers as well as civilians. At that

time he had begun to look forward to the defeat of Germany and Japan and contemplate the reconstruction of those nations. He established a Civil Affairs Division to train military governors and provided enduring guidance to soldiers on the role of the military in American society and the fragility of civilian control:

*I'm turning over to you a sacred trust and I want you to bear that in mind every day and every hour . . . we have a great asset, and that is our people, our countrymen, do not distrust us and do not fear us. . . . They don't harbor any ideas that we intend to alter the government of the country or the nature of this government in any way. This is a sacred trust . . . and I don't want you to do anything . . . to damage this high regard in which the professional soldiers in the Army are held by our people, and it could happen . . . if you don't understand what you are about. . . .*¹⁵

JFQ

NOTES

¹ Barry M. Goldwater, hearings before the Senate Armed Services Committee, July 28, 1983.

² Samuel P. Huntington, *The Soldier and the State* (Cambridge, Mass.: Belknap Press, 1967), p. 83.

³ David Halberstam, *The Best and the Brightest* (New York: Random House, 1972), pp. 488–89.

⁴ James L. Holloway III, "The Quality of Military Advice," *American Enterprise Institute Foreign Policy and Defense Review*, vol. 2, no. 1 (February 1980), p. 34.

⁵ Les Aspin, quoted by James Kitfield in "Pentagon Power Shift," *Government Executive*, vol. 26, no. 4 (April 1994), p. 72.

⁶ Commission on Roles and Missions of the Armed Forces, *Directions for Defense* (May 1995), pp. 4–25 to 4–26.

⁷ Kitfield, "Pentagon Power Shift."

⁸ Lyman L. Lemnitzer et al., *Report by the Committee on Civilian-Military Relationships* (Indianapolis: Hudson Institute, September 17, 1984), first addendum, p. 1.

⁹ Ferdinand Eberstadt, quoted by J.D. Hittle in "Military Planning at the Seat of Government," *U.S. Naval Institute Proceedings*, vol. 3, no. 7 (July 1957), p. 714.

¹⁰ U.S. Congress, House, Committee on Armed Services, *Department of Defense Reorganization Act of 1958*, 85th Cong., 2^d sess., May 22, 1958, H. Rept. 1765.

¹¹ Ibid.

¹² Eberstadt, "Military Planning," p. 721.

¹³ Michael R. Gordon and Bernard E. Trainor, *The General's War* (Boston: Little, Brown, 1995).

¹⁴ Richard H. Kohn, "Out of Control: The Crisis in Civil-Military Relations," *The National Interest*, no. 35 (Spring 1994), p. 16.

¹⁵ Forrest C. Pogue, *George C. Marshall: Organizer of Victory* (New York: Viking, 1973), pp. 458–59.

Making the Case for Multinational Doctrine

By JAY M. VITTORI

Significant global commitments, a dwindling overseas presence, and shrinking force levels suggest the United States will conduct most future operations in cooperation with its allies, friends, and coalition partners. Thus there is a need for multinational military doctrine. This article weighs two

The strategic goal of collective security and the resultant alliances and coalitions into which the United States has entered require that its Armed Forces be prepared for multinational military operations.

—Joint Pub 0-2,
United Action Armed Forces (UNAAF)

aspects of efforts to develop standard procedures. First, it looks at how existing joint doctrine deals with multinational issues. Second, it examines our experience in producing viable doctrine

in an international context, with a focus on the North Atlantic Treaty Organization (NATO).

After the demise of the Soviet Union and dissolution of the Warsaw Pact, military planners and doctrine developers shifted emphasis from superpower confrontation to regional instabilities. Since 1989 the United States has mounted major operations in Panama, Kuwait, Somalia, Turkey, Haiti, and Bosnia. Although not all can be classified as combined or multinational, each required some interface between our forces and those of other nations.¹ Drawdowns coupled with global commitments have reinforced the demand for doctrine that can address cooperation not only among the Armed Forces but among allies and coalition partners. The joint doctrine development process has yielded more than 75 joint publications since 1991. Less well known, however, is the effort to standardize guidance for multinational military operations (MNOs).

The Boiler Plate

Joint doctrine began to concentrate on multinational activities in 1993. Joint Pub 3-05.3, *Joint Special Operations Operational Procedures* (approved August 1993), was the first document to

Portuguese frigate
NPR *Batista de Andrade*,
Strong Resolve '98.



Fleet Imaging Command (Todd P. Cichonowicz)

Lieutenant Colonel Jay M. Vittori, USAF, is chief of multinational doctrine development at the Air Force Doctrine Center.

contain a multinational preface which stated that it set forth

...doctrine to cover the joint activities and performance of the Armed Forces of the United States in joint operations as well as the doctrinal basis for U.S. military involvement in multinational and interagency operations.

All subsequent publications, except for a few which appeared in late 1993, included that statement. It clearly indicates that joint doctrine should address pertinent multinational issues.

Of 56 volumes approved with this preface, 25 have specific sections dealing with MNOs. Some are exemplary, such as Joint Pubs 2-0, *Joint Doctrine for Intelligence Support to Operations*; 2-01, *Joint Intelligence Support to Military Operations*; 3-0, *Doctrine for Joint Operations*; 3-11, *Joint Doctrine for Nuclear, Biological and Chemical Defense*; 3-13.1, *Joint*

Collective security is a strategic goal of the United States, and joint operation planning will frequently be accomplished within the context of treaty or alliance operation planning for multinational operations.

—Joint Pub 5-0,
Doctrine for Planning Joint Operations

While the total number for 1997 appears alarming, only three volumes were approved by mid-year. The proportion with substantive statements is growing, with 83 percent of the joint pubs approved in 1996 attempting to satisfy the requirements of the preface.

Unfortunately there is a flip side. A quarter of the total—some 15 titles—have no reference to MNO. Included are several key doctrine volumes produced in recent years: Joint Pubs 3-01.4, *JTTP for Joint Suppression of Enemy Air Defense*; 3-01.1, *Aerospace Defense of North America*; 3-17, *JTTP for Theater Airlift Operations*; and 4-04, *Joint Doctrine for Civil Engineering Support*. While it may be argued that these topical areas do not warrant distinct multinational sections, it is difficult to believe

any associated operations or functions will not interface with foreign partners. Also included on this list is the approved publication on interdiction, Joint Pub 3-03. Considering that interdiction efforts in the Gulf War, Turkey, and Bosnia all involved multinational forces, the publication's lack of MNO doctrine is disconcerting. Discussion of it is scant in numerous other volumes. Of 51 studied, 28 had fewer than five substantive statements. Overall, statistics indicate that progress is ongoing, but many publications fall short of the preface requirement.

Development of the most significant publication on MNO, Joint Pub 3-16, *Joint Doctrine for Multinational Operations*, began in 1994. The program directive called for addressing MNO as part of alliances, coalitions, and ad hoc arrangements and for including organizational structures, planning, and execution. The major audience for this tome is joint force commanders, component commanders, and the staffs which plan and execute MNO.

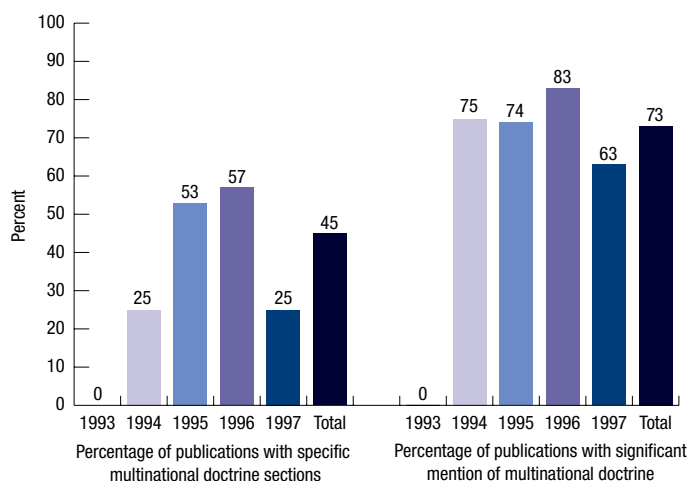
Writing was initiated at a conference hosted by the primary review authority, the National Defense University (NDU). Two drafts followed, the first written by NDU and the second by the Joint Warfighting Center. The subsequent coordination not only included the required reviewers but also service chiefs and combatant commanders. The few contentious issues included command and control of forces—foreign control of U.S. forces and airlift assets. But Joint Pub 3-16 has not fared well during final coordination. It appears the Air Force, Marine Corps, and possibly Navy will not concur. In the case of the Air Force the concern is over a section on space operations that was added

three-quarters of all publications have substantive statements about multinational operations

Doctrine for Command and Control Warfare; and 3-57, *Doctrine for Joint Civil Affairs*. Three-quarters of all publications have substantive statements about multinational operations.

There seems to be an increase in the percentage approved with MNO content (see figure 1).

Figure 1. Publications Trends (December 1997)



since the preliminary draft. The Navy and Marines dispute wording on relations among joint force commanders, airspace control authority, and area air defense commanders. None of the issues relate to multinational matters; rather, they replay age-old turf battles among the services.

When published Joint Pub 3-16 will be an “above-the-line publication.” This refers to the distinction in the joint doctrine hierarchy between key doctrinal publications and subordinate supporting doctrine and tactics, techniques, and procedures publications listed below them.

Joint Pub 3-16 tackles several issues. The most valuable doctrine relates to command and control (chapter II) which addresses the degree of control foreign commanders may exercise over U.S. forces, the role of multinational force commanders, and intricacies of multinational command and control structures. Another useful section is a commander’s checklist for MNO (appendix A). However, it contains little ground-breaking information. For instance, the section entitled “Types of Multina-

tional Operations” features a list that includes war and all military operations other than war. Moreover, the tenets of multinational cooperation are nothing more than common sense

terms such as respect, rapport, knowledge of partners, and patience. Overall, Joint Pub 3-16 fulfills the requirements of the program directive and should be useful for commanders.

Do We Need More?

The multinational preface and program directive for Joint Pub 3-16 appear to be in conflict. If all joint doctrine is to provide a basis for U.S. military involvement in multinational operations, is there need for a separate tome on MNO? One may argue that there is nothing in Joint Pub 3-16 that cannot be parceled to other volumes. On the other hand, not all live up to their prefaces and thus leave gaps to be bridged in such volumes as Joint Pub 3-16. A compromise would allow it to exist until key MNO issues can be fully addressed by applicable publications.

In almost all cases, strategic movement will require integration with the movement, organizations, and capabilities of allies in international military organizations and/or coalition partners.

—Joint Pub 4-01.3,
JTTP for Movement Control

Another problem has surfaced. The project proposal for Joint Pub 4-08, *Joint Doctrine for Logistic Support of Multinational Operations*, won approval after heated debate among the services and commands. The argument centered on the alleged need for developing a separate specialized multinational logistics publication versus addressing the subject through revisions to existing joint logistics publications. The program directive for Joint Pub 4-08 declares that it “will describe the unique logistical aspects associated with multinational operations to include planning, coordination, execution, command and control, and deconfliction of logistics requirements.”² This notion is not a far cry from the multinational preface. Unfortunately, approval of Joint Pub 4-08 could establish a precedent in

the command, control, communications, and computer (C⁴), intelligence, and plans communities, impacting on lower levels of the doctrine hierarchy and spawning multinational titles on topics such as public affairs, meteorology, or intermodal containers. Thus it might behoove the Joint Staff through the Directorate of Operational Plans and Interoperability (J-7)—particularly the joint doctrine working party—to reconsider Joint Pub 4-08.

U.S.-Ratified Procedures

Multinational doctrine also is developed through formal alliances, bilateral arrangements, and multilateral organizations. Some may be surprised to learn that such doctrine may take priority over approved joint doctrine. As stipulated within the multinational preface:

Commanders of forces operating as part of a multinational (coalition or alliance) military command should follow multinational doctrines and guidance ratified by the United States.

For instance, if the United States participates in a NATO operation, it will do so in accordance with U.S.-ratified NATO procedures.

Doctrine development with allies and coalition partners is a complicated process warranting close scrutiny and attention to detail. Responsibility for a particular military doctrine matter flows from the Office of the Secretary of Defense and Chairman to a designated lead service or agency. This is the major difference between the national and international doctrine development systems. The U.S. process is dominated by a joint structure directly involved with development, acceptance, distribution, and implementation of

doctrine development with allies and coalition partners is a complicated process warranting close scrutiny and attention

doctrine. The international system primarily depends upon the services to take the lead. The Directorate for Operational Plans and Interoperability (J-7) is tasked only with monitoring doctrinal standardization and interoperability efforts and serving as the office of primary responsibility (OPR) for non-matériel, multinational operational activities save for those issues related to intelligence, special operations, security assistance, and command, control, communications, and computers.

Included in that instruction is guidance for U.S. involvement with multinational military doctrine development.³ Each service has a structure to manage standardization. For example, the Deputy Under Secretary of the Army for International Affairs oversees the standardization program through its International Plans and Policy Division though most working party expertise for NATO doctrine is tasked through U.S. Army Training and Doctrine Command. The Navy has transferred most of its doctrine-related taskings for the international military standardization program from the Chief of Naval Operations to the Naval Doctrine Command. The Deputy Chief of Staff for Plans, Policies, and Operations at Headquarters, U.S. Marine Corps, supervises standardization while the Commanding

General of the Marine Corps Combat Development Center coordinates participation by that service. The Secretary of the Air Force has assigned responsibility for such matters to the Departmental Standardization Office which, in turn, delegates them to the Air Force International Standardization Office. Among myriad duties this

office assigns senior representatives to working parties and panels and also monitors the doctrine ratification process.

NATO, the largest developer and user of multinational doctrine, has a complex process. Its various standardization bodies include the NATO Standardization Office, Conference of National Armaments

Directors, NATO C³ Board, Senior NATO Logisticians Conference, and Military Agency for Standardization (figure 2).

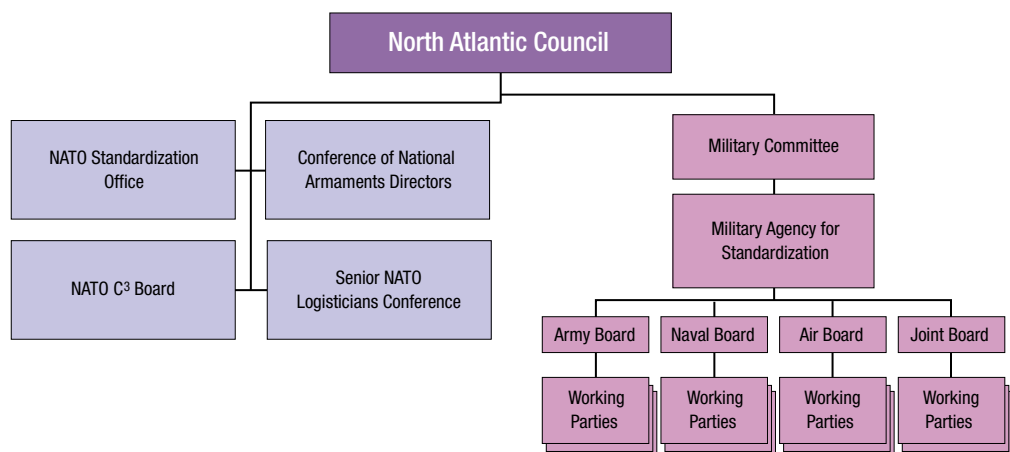
The Military Committee is responsible for military standardization policy and the Military Agency for Standardization executes it. The latter has four boards—three service (army, naval, and air) and one joint to manage standardization in their areas of responsibility. The U.S. Army, Navy, and Air Force have board representatives permanently assigned to NATO headquarters.

Working parties serve as focal points for assigned functional areas. The United States has at least one representative on each. More encompassing working parties require more delegates.

In most scenarios, the combatant commander will be working with multinational forces in the prosecution of a conflict or military operations other than war. As such, it is imperative that full consideration be given to multinational concerns.

—Joint Pub 3-11,
Joint Doctrine for Nuclear,
Biological, and Chemical Defense

Figure 2. Selected NATO Standardization Activities



German and Italian
vehicles in Pale.



1st Combat Camera Squadron (Lance Cheung)

For instance, the Interservice Air Operations Working Party has six to ten American members, to include representatives from the Navy, Marine Corps, Air Force, and various contractors. For the most part the services, not joint agencies, control U.S. involvement with NATO working parties.

It is through working parties that most standardization agreements (STANAGs) and allied publications (APs) are developed and approved. NATO currently has nearly 1,300 STANAGs and more than 350 APs. Few would qualify as doctrine because they are procedural-level directives. STANAGs and APs are developed from study drafts, prepared by a custodial nation, and reviewed by member nations and commands. Members have the option to ratify the doctrine and may do so with reservations—stated qualifications describing the parts of the STANAG which a government chooses to implement either with or without limitations. When a sufficient number of nations have recommended ratification (usually eight), the STANAG is ratified.

Outside NATO, multinational military doctrine is developed through bilateral agreements and multinational organizations. Bilateral accords

range from basic arrangements to encompassing bodies of doctrine like that developed for the Republic of Korea-U.S. Combined Forces Command. A designated Joint Staff OPR works bilateral military agreements and coordinates with the services and unified commands. Numerous multinational organizations develop doctrine. Normally efforts are functionally organized and involve common national interests. For example, Australia, the United Kingdom, Canada, New Zealand, and the United States constitute the Air Standardization Coordinating Committee (ASCC) and a naval counterpart (AUSCANNZUKUS), while the American, British, Canadian, Australian (ABCA) Armies Organization focuses on issues of interoperability among land forces. These organizations have established working parties which develop agreements and standards through processes similar to those used by NATO.

Through ratification members are able to implement publications or agreements by ensuring national procedures are aligned. For instance, when the United States subscribed to NATO ATP-56, *Air to Air Refuelling*, the Alliance expected our Armed Forces to incorporate the procedures in applicable publications. While it appears that ratified, internationally developed doctrine drives

our doctrine for related subjects, it frequently works the other way. CJCS Instruction 2700.01 asserts, "Once approved, joint doctrine provides the initial national position for multinational doctrine development."

Therefore, U.S. representatives must ensure that "entering arguments" for any new or revised doctrine are in accordance with established joint doctrine.

The Air Force has taken this a step farther in Air Force Policy Directive 60-1, *Operations and Resources Standardization*:

The Air Force will not support the adoption of or ratify any standard that conflicts with national, international, or U.S. military practices, unless a peculiar military operational requirement exists, or a civil standard is unacceptable for military use. U.S. joint publications will be the basis of U.S. positions for developing, ratifying and implementing [international military standardization] agreements.⁴

While not codified as such by all services, this concept is the standard goal for U.S. working party delegates. Most allies understand this view yet may not agree. Our closest partners tend to study our joint doctrine, accept its strong points, and adeptly provide compromises for contentious areas.

The Backdoor Approach

If working party delegates and multinational doctrine reviewers carry out their prescribed duties, internationally developed doctrine should align with U.S. joint doctrine. Where conflicts arise delegates can propose changes. If differences are not resolved the United States could evoke nonratification or reservations. With regard to recent improvements to NATO, ASCC, and ABCA publications, it appears that dele-

gates and doctrine reviewers are fulfilling their responsibilities. Despite some infighting the services have cooperated in international doctrine forums. Delegations usually base discussions on established joint doctrine. Nonetheless problems exist, most relating to interservice squabbles and the lack of a strong central function to resolve such matters.

National Security Strategy Core Values: To enhance our security with effective diplomacy and with military forces that are ready to fight and win. To bolster America's economic prosperity. To promote democracy abroad.

—National Security Strategy (May 1997)

One problem area stems from the policy allowing a service to apply its doctrine when no applicable joint doctrine exists or when single service issues are involved in multinational doctrine.

While practical, this practice sometimes leads to "backdoor- ing," whereby a service is able to garner international concurrence on doctrinal concepts still under review in the United

States and, in turn, use such agreement as leverage to gain approval for joint use at home. Another problem is that not all working parties have participants from every service. It is thus incumbent on the representing service to update other services on key issues. Poorly coordinated working party activities could result in another service not seeing a project until the ratification phase. With a central U.S. joint agency overseeing doctrine development efforts of major working parties, this backdoor approach could be reduced and all of the services would be better informed.

There is another major aspect of service involvement. A designated lead service or agency (often the former) is responsible for directing U.S. ratification. This is a questionable delegation of authority that can lead to difficulties. For instance, services may propose U.S. reservations in the ratification phase. While these recommendations should reflect established joint doctrine, there may be occasions where a joint precedent does not exist. Services may therefore have to fall back on their own doctrine. The complexity increases when a recommended reservation is disputed by one service. Based on CJCSI 2700.01, the lead service or agency should attempt to reach a resolution. Failing that the issue is forwarded to the Joint Staff for action. Most likely a representative of the Directorate of Operational Plans and Interoperability (J-7) will serve as OPR for doctrinal matters. The process would be more efficient if a designated joint agency was in control of ratification from the outset. Ratification is a national issue and should not be relegated to any one service.

Still another problem is distributing agreements and publications. Internationally developed doctrine tends to trickle down to the lowest levels. Unlike joint doctrine, it is distributed mostly by a pull down system: the user must request the item from a distribution office.⁵ A document cannot be obtained unless customers are aware of it. Thus it is imperative for working party

Multinational operations are now the norm for military operations.

—Joint Pub 2-01,
Joint Intelligence Planning

despite some infighting the services have cooperated in international doctrine forums

delegates to pass on the status of new or revised doctrine to users. Unclassified NATO STANAGs, ASCC air standards, and ABCA agreements are available through a single DOD point—the Defense Printing Office (DPO). Classified products and NATO APs must be ordered through service publication distribution systems.⁶ These distributors rely on timely receipt of new publications. Generally, this is a problem for NATO publications. An awkward system requires the doctrine custodian to pass new Alliance material, in turn, to the appropriate NATO board, the national representatives to that board, and national service/agency publications distribution systems.

Centralizing functions could eradicate some distribution problems. Ideally, the custodian should be able to send the document to a single U.S. distribution point responsible for notifying customers of its availability. Also, a single distribution agency eliminates each service maintaining the same publications. Under the current process, for example, Air Force publication distribution offices hold various land, naval, and amphibious operations publications in much the same way as other service centers maintain air-related documents. If DPO maintained classified documents and NATO APs, it would relieve the services of this responsibility by providing one-stop shopping for all internationally developed military doctrine.

By far the most critical problem area is the implementation process, the agreement made by a nation during ratification to enforce agreements by a given date. This may require a lead service or agency to introduce changes to a designated national doctrine. The ratified publication itself may be the implementing document, which usually occurs when there is no approved national doctrine. There is no established system to ensure that ratified agreements are properly implemented; it is left to a lead service or agency. Furthermore, it is difficult to implement procedures through joint doctrine documents that normally change over a three to four year cycle. This sequence may not coincide with other producers such as NATO, which delays implementation. Fortunately, the multinational preface states that U.S. support of ratified doctrine is an interim measure. A central function, relieving services and agencies of the implementation re-

sponsibility, could improve the process.

The United States has made progress in incorporating MNO concerns into its joint doctrine. Internationally, U.S. doctrine developers have effectively represented

their interests in the course of developing key military doctrine publications and agreements.

Progress notwithstanding, some areas require attention, most relating to overall control. The lead service or agency appears to have too much responsibility. There should be one agency to control ratification, implementation, and distribution

of internationally developed doctrine. As the single organization designated to monitor doctrinal standardization activities, the Directorate for Operational Plans and Interoperability (J-7), Joint Staff—including the Joint Warfighting Center—appears to be a logical choice. However, at present neither organization has the personnel to carry out these duties.

JFQ

NOTES

¹ *Multinational* as applied to military doctrine is a relatively new term originated by a Pentagon staff officer who found it more appropriate than the universally accepted *combined*.

² See final draft of program directive for Joint Pub 4-08, *Doctrine for Logistic Support of Multinational Operations*, Joint Staff Action J-7A 00892-96 (April 10, 1997).

³ CJCS Instruction 2700.01, *International Military Rationalization, Standardization, and Interoperability between the United States and Its Allies and Other Friendly Nations*, p. B-4.

⁴ Air Force Policy Directive 60-1, *Operations and Resources Standardization*, p. 3.

⁵ The Navy has a sophisticated push system which automatically distributes documents to designated users. The Air Force relies on a pull/push system which forces users to first establish their requirements before being placed on automatic distribution.

⁶ Government agencies or contractors may obtain copies of unclassified NATO, ASCC, and ABCA agreements and standards by calling DPO at (215) 687-2179 or DSN 442-2179/2667 or via FAX at (215) 697-2978 or DSN 442-2978.

A Little Bit Joint—

Component Commands: Seams, Not Synergy

By C. P. ANKERSEN

Joint warfare is not just the wave of the future; it is the way warfighting must be conceived, planned, and conducted across the conflict spectrum today. Several seemingly positive steps have been taken to integrate military operations within the U.S. Armed Forces since the passage of the Goldwater-Nichols Act in 1986. At first blush there are encouraging signs: the Joint Staff is developing doctrine publications and the Joint Chiefs are advocating the need for each of their services to be more joint.

What then are the unsettled concerns in the joint world? One is command and control. The

document that is meant to deal with it, Joint Pub 3-56, *Command and Control Doctrine for Joint Operations*, has been languishing since 1991. Why the delay? Certainly if marked improvements have been made in areas such as targeting and intelligence collection, the question of command and control should certainly be solved.

One reason that this pub has not appeared is disagreement over component commands. For instance, airmen argue that component commands should always be included while marines worry that unique capabilities would be subsumed under a component commander who most likely would be a soldier. The issue of component command must be resolved to realize true jointness.

But the notion of component command is a red herring. No matter how it is defined, it will never be more than an intermediate step in the joint equation. Far from expanding jointness, it is

Captain C.P. Ankersen, Canadian Forces, is a post-graduate at the London School of Economics and Political Science, and has served with Princess Patricia's Canadian Light Infantry.

divisive. To fully explore the concept, one must examine the stated goal and underlying principles of joint warfare. Jointness is ailing and the component command is one of the symptoms.

One Plus One Equals Three

Jointness is not a new concept. Some form of interservice cooperation has existed at least since Wellington's day. Two reasons are synergy and streamlining. As stated in *Unified Action Armed Forces*, "The ability to integrate and exploit the various capabilities of a joint force can disorient an enemy who is weak in one or more dimensions of warfare." The crux of the matter is that joint forces can do more than any one service alone. Synergy, as defined in Joint Pub 3-0, *Doctrine for Joint Operations*, is achieved when a force can integrate and synchronize operations in a

today joint theory is predicated on service thinking and not vice versa

manner that applies force from different dimensions to shock, disrupt, and defeat enemies. It is essen-

tial to the operational art in that it "enables JFCs [joint force commanders] to project focused capabilities that present no seams or vulnerabilities to an enemy to exploit."

This powerful idea is economical in an age of budget cutbacks. Rather than having several services competing for scarce resources across the spectrum of defense requirements, jointness can reduce duplication, a major theme underlying the enactment of the Goldwater-Nichols legislation. Synergy and streamlining are based on principles that apply to joint warfare. Joint Pub 3-0 states "the central philosophy necessary for successful operations [is] unity of effort—common action throughout the joint force in pursuit of common objectives."

Half Measures

These goals suggest that joint warfare can be efficient and singular in purpose. This may be true in the abstract, but the nature of joint organization may not enable us to get there from here. Jointness is incomplete because it is not holistically designed.¹ It was, as may at first seem logical, built from the bottom up. That is a fatal flaw. Joint warfare is synergistic—larger than the sum of its parts. Thus the concept must be designed from the top down as a goal. Service capabilities are considered in the design, but the end-state must be envisioned as a concept unto itself.

Today joint theory is predicated on service thinking and not vice versa. Just as Orville and Wilbur Wright could not have imagined commercial aviation in the 1990s, it may be impossible for individual services to envision the eventual goal of jointness from the bottom up. Seen from

that perspective, the most that can be anticipated is an elaborate form of interservice cooperation. But this is not jointness. Nor is it simply shifting gears up one notch. Jointness is a metamorphosis, a synthesis of ideas that radically alters the way everything associated with it is to be viewed.

One indication of the lack of a joint vision is found in current thinking about intermediary commanders who, in representing their services, are seen as a desirable (and in all but exceptional instances a necessary) element of jointness. Joint Pub 1, *Joint Warfare of the U.S. Armed Forces*, goes so far as to say that "in joint matters, reliance is first upon component commanders and staffs as the true experts."

Can a "higher plane" of jointness succeed if hobbled by its constituent parts? One author has asserted that "the most precarious aspect about what now passes for joint doctrine is that it was compiled by diligently polling the usual sources—the services and other affected parties."² How does this occur? The Joint Chiefs are at the pinnacle of the military profession, well educated, and on cutting edge of doctrine and its application. Yet they suffer because individual service needs are not entirely complementary from either a service or an interservice (but not truly joint) perspective. As two service chiefs related in the pages of *JFQ*, "what may be optimum for one component can come at the expense of others—by decreasing combat power or increasing risk."³

This fact that what is good for the goose may not be good for the gander has caused interservice rivalry all over the world ever since multiple services came into being. Little has changed from the inception of modern cooperation. The British foray into what was described as combined operations during World War II was plagued by traditional chauvinist thinking: "Navy, army, and air force had been trained for generations to survey each other with suspicion and be on their guard against any encroachments on their prerogatives."⁴ This is clear in the incomplete way in which joint matters are viewed. Rather than being cumulative, any gains attributed to joint forces are seen as distributive. Thus the leaders of the Army and Air Force agree to disagree, "regardless of how complementary our views on joint operations might be, specific responsibilities produce legitimate differences between component commanders."⁵ Jointness is judged by how far it advances service aims. In this century of air-power, nuclear missile forces, air defense, space operations, and theater missile defense, the services instinctively look out for number one when it comes to budgets.



65th Signal Company (Alan Mitchell)

Mortar drill in Bosnia during Joint Guard.

Despite this rivalry the services supposedly collaborate in developing lucid, seamless joint doctrine. Together with the competition for resources, the services are averse to losing their best and brightest. Thinking distributively, they still fear a brain drain, that assigning a good officer to a joint billet will result in “a corresponding decline in the overall quality of service headquarters and operational staffs.”⁶ This mentality suggests that jointness may never be fully realized.

Components: Part of the Problem

Owing to an immature concept of jointness, several limiting factors have been incorporated into the conduct of joint matters. One integral

component commands segregate forces back into single service-oriented groupings

brake on the joint train is the idea of components and, more importantly, component commanders within a joint force.

Far from acting as facilitators they are at best an intermediate phenomenon and at worst an obstacle to synergy. They go against the principles of joint warfare discussed above. Component commanders diminish the synergy of joint forces, causing one plus one to total a disappointing two (or even one and a half) instead of something more. They are not streamlined; on the contrary, they are a drag on the joint fuselage. They are not seamless; they are in fact the seams themselves, the weak links in the joint chain.

The concept of synergy bears deeper investigation. The term itself connotes some degree of energy as well as compound capability. In the realm of military affairs it has been applied to another collective endeavor, combined arms. It is instructive to compare the concept of jointness with combined arms theory because both rely on synergy to realize their potential. Combined arms attain synergy in two ways. The “complementary principle states that by combining the various [military services] into single organizations (that is, functioning under one commander), we can compensate for each other arm’s weakness through another arm’s strength. . . . In such a manner, each arm serves to complement the others.”⁷ Thus the Navy makes up for the shortage of strategic mobility by transporting land forces across the sea, Army dominance of the rear area meets the Air Force need to operate airpower from secure bases, and so forth. The dilemma principle states that “when employed correctly, the various [military services] . . . complement each other with respect to [an] enemy. In other words, in order for [an] enemy to successfully defend himself from one, he must become vulnerable to another.” Joint warfighting, like combined arms warfare, presents a multitude of problems to an enemy, forcing it to make impossible choices involving simultaneous, coordinated operation. While designed to describe combined arms theory, the concept of synergy embraces the goal of “project focused capabilities that present no seams” as previously discussed.

The glue that binds such capabilities is trust—in both doctrine and the other services. Trust begins with understanding the commander’s intent, for if one is not sure of one’s own purpose it is unlikely one will believe anyone else has a purpose firmly in mind. Trust in other services only can arise from sound joint strategy and holistically developed doctrine. It becomes easier with the mastery of core capabilities as a starting point but can be fully achieved solely through experience. Jointness is only maximized when synergy, and thus trust, is present (see figure 1).

Component commands do not foster trust. The concept itself is born of service rivalry and perceived needs to guard service requirements, capabilities, and traditions. Component commands do not increase jointness; rather they segregate forces back into single service-oriented groupings. All the advantages realized by combining various forces under a single commander are tempered by jealously reapportioning forces to component commanders. A truly joint force would likely have only one commander, a joint one. The joint force with the least degree of jointness has several extra layers of command, most of which are uni-service. (Figure 2 shows the correlation between jointness

Figure 1. Elements of Synergy

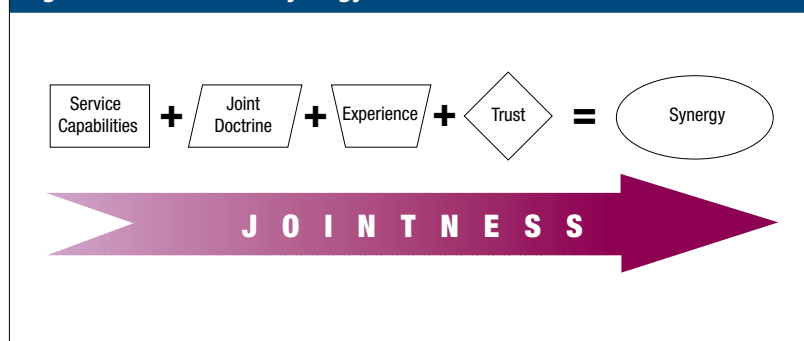
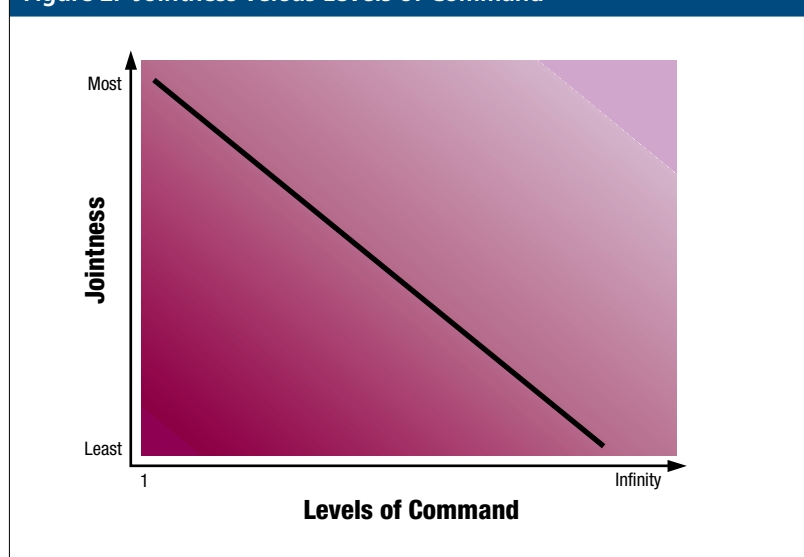


Figure 2. Jointness versus Levels of Command



and levels of command.) Span of control is the continuum that bridges these two poles. Obviously, the former force command would have an unrealistic span. As Joint Pub 1 asserts, “decentralized execution is essential because no one commander can control the detailed actions of a large number of units or individuals.” However, single-service components are introduced under the guise of reducing span of control. In effect, while the span is decreased so is jointness.

Current joint doctrine, while emphasizing component commands, allows for their absence in certain circumstances. Even that it does halfway. Instead of saying that joint forces may operate without component commanders it takes the intermediate step: a “[joint task force] commander may also be a service component commander.”⁸ Some nations employ a more joint

command process. For example, Canada has a direct method of joint command, whereby command is exercised from joint commander to subordinate joint commander, or to a single service force organized in a normal operational format. This system has no components and thus no component commanders. Unity of effort is much more easily achieved.⁹ This begs the question of whether joint forces can always operate without component commanders.

The first rudiment warfare is applying the principles of war. Examining how component command relates to them gives insight into its merit.

Economy of force: Joint warfare without components may reduce unnecessary redundancy, thereby maximizing the return on effort and resources expended.

Unity of command. The absence of component commanders improves unity of command by avoiding the dilution of the joint commander’s intent by service interpretations.

Simplicity. Components add an unnecessary level of command, leading to problems in command and control, such as in communications.

The goals outlined in Joint Pub 1 furnish further proof of the negative effects of component command. With unity of effort, common doctrine, and interoperability they emphasize “centralized direction and decentralized execution.” Introducing component commands to joint organizations militates against those stated goals. It decentralizes direction by putting component commanders in a position to interpret and puts a service spin on the intent of joint force commanders. In addition, it also centralizes execution by inserting a layer of command between the planning and executive levels. In simple terms, JFCs make plans and give orders for joint action. The order is taken by component commanders and translated into service specific direction. Next, perhaps in an altered form, it is executed by operational formations or units of each component. A similar phenomenon of redundancy is found in both German and Soviet deep operations theory. As Richard Simpkin noted, however, “not more than two headquarters . . . are immediately critical to the course of the operation at any one time.”¹⁰ This held true even when the headquarters were separated by one or more levels of command. In German orders “tasking two levels down . . . was in fact necessary to give the operation coherence.” Even in a single service there are times when levels of command obstructs the most efficient execution of a mission. Simpkin adds, “the planning and controlling operational headquarters, say army, sets the tasks for the highest tactical formation (division). The role of corps . . . is to help divisions carry out these tasks, and to direct

them in the sense of the army commander's intention as the operation develops." A closer look at the real role of this corps headquarters reveals that it is actually no longer commanding but acting more in a staff capacity. In joint theory, the component commands are analogous to corps command in this example.

To Command or Not To Command

Joint Pub 3-0 describes the responsibilities of component commanders thus:

- making recommendations to JFCs on proper employment of component forces
- accomplishing assigned operational missions
- selecting and nominating specific units of the parent service component to subordinate forces.

Such responsibilities may not only be carried out by commanders but also, and perhaps even more properly, by staff officers. An advisory role

best fits the component commanders. The joint force land component commander, for example, is seen as "responsible to the establishing commander for making recommendations on the proper employment of land

forces, planning and coordinating land operations, or accomplishing such missions as may be assigned."¹¹ Commanders take action; staff officers recommend, plan, and coordinate. Staff officers inject specialized knowledge into the planning

process. If there are considerations JFCs should be aware of vis-à-vis individual service capabilities, staff officers may voice them as effectively as commanders without adding extra layers of command. Proponents of component command maintain that joint logistics and administration are too difficult to undertake and that services must support their components. (Regardless of how cumbersome logistics becomes, the tail should not wag the dog. Again a staff solution seems appropriate.)

Despite stereotypes, staff officers need not be meek sycophants or bean counters. Properly trained and employed, they help commanders create and execute plans. As Simpkin noted, "One of the staff's roles in executing the commander's will is to interact vigorously with him in shaping that will. This is teamwork at its highest."¹² Service advisors on staffs can help JFCs just as well as component commanders in the chain of command and take the place of component commanders in operations and administration branches (figure 3). By providing service specific considerations to joint commanders, joint staffs permit the exercise of direct command and facilitate the dual aims of centralized direction and decentralized execution.

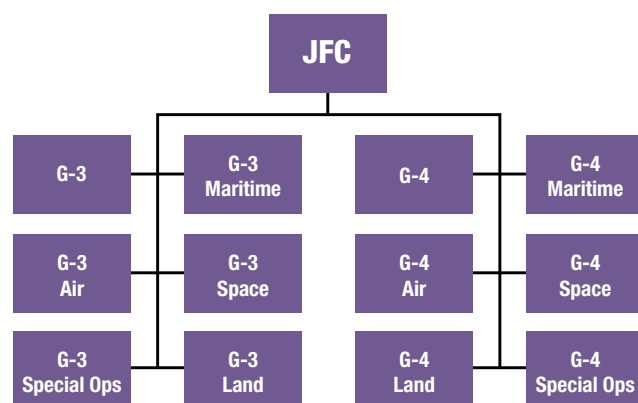
An imperfect compromise between the options open to staffs and component commanders is dual hating an operational commander as a component commander. But this is an intermediate solution that ignores the seamless ideal of joint operations. It places an even greater burden on the chain of command by putting the onus on operational commanders to fight their own force as well as keep a finger in their superior commander's decision-making process, injecting service concerns as appropriate. Like most compromises, it falls short of providing a real solution.

How can joint commanders exercise direct command over operational commanders without the intervening level of component command? The answer is directive control. As Joint Pub 3-0 states, "JFCs issue prioritized mission-type orders to subordinate commanders . . . with receipt of the mission goes the authority and responsibility to conduct operations in accordance with the superior commander's intent and concept of operations." As General Shalikashvili went to great pains to



Carrier air wing,
Southern Watch.

Figure 3. Staff Functions vice Subordinate Commanders



Note: Illustrative only; other branches, staff functions, and subordinates not shown.

explain, "Joint force commanders should scrupulously avoid overly detailed management and direction. Simple orders with the intent of the commander clearly articulated comprise the best basis for clear and effective communications between and among all elements of the joint force."¹³ With directive control, the need for component commanders to pass orders from JFCs obviously becomes redundant. By sticking to concepts of operations rather than intricate details, the need for joint commanders to be experts in every aspect of the forces under them diminishes. This is made even more effective by the sound advice of staff officers before directives are issued.

Commanding joint forces is a daunting task. As two former service chiefs have observed, "One lifetime is barely sufficient to master every skill needed to fight and lead in one medium of war. Learning to fight jointly in three is a tough business. . . ." ¹⁴ Directive control can help but cannot offer all the answers. The key to joint command is perspective. Just as the Wright brothers did not foresee the intricacies of air traffic control, single-service oriented officers cannot envision genuine jointness. The promise lies in training, education, and experience, and it is taking root in today's junior officers. There increasingly exists "a new culture among the leaders of the Armed Forces . . . truly joint . . . evidenced in the experiences of officers who have been educated and served in joint billets."¹⁵ With the advent of a joint officer corps, the vestiges of half-joint thinking will fade. Service rivalry will be eclipsed by a realization that jointness is desirable and achievable. Eventually, service doctrine will evolve from joint doctrine,

not the other way around. Moreover, true jointness will occur when doctrine is developed by jointly educated officers who can advise on service issues, and then executed directly by operational commanders. How rapidly this objective is realized will depend upon our skill in paving the way. A change in perspective today will make all the difference tomorrow.

JFQ

NOTES

¹ Michael C. Vitale, "Joint by Design, Not Accident," *Joint Force Quarterly*, no. 9 (Autumn 1995), p. 28.

² C. Kenneth Allard, "Lessons Unlearned: Somalia and Joint Doctrine," *Joint Force Quarterly*, no. 9 (Autumn 1995), p. 108.

³ Dennis J. Reimer and Ronald R. Fogleman, "Joint Warfare and the Army-Air Force Team," *Joint Force Quarterly*, no. 11 (Spring 1996), p. 11.

⁴ Phillip Ziegler, *Mountbatten* (New York: Harper and Row, 1985), p. 165.

⁵ Reimer and Fogleman, "Joint Warfare," p. 11.

⁶ Howard D. Graves and Don M. Snider, "Emergence of the Joint Officer," *Joint Force Quarterly*, no. 13 (Autumn 1996), p. 54.

⁷ See Robert Leonhard, *The Art of Maneuver* (Novato, Calif.: Presidio, 1991), pp. 92-94. The author makes no reference to joint operations.

⁸ Joint Pub 1, *Joint Warfare of the U.S. Armed Forces*, chapter 2.

⁹ Canada provides for component command in its system of command.

¹⁰ Richard E. Simpkin, *Race to the Swift* (London: Brassey's, 1985), pp. 203, 233, 263. Simpkin studied only land operations when making this discovery. See also Shane B. Schreiber, *Shock Army of the British Empire* (Westport, Conn.: Praeger, 1997), for a World War I example.

¹¹ Joint Pub 3-0. Other listed component commander responsibilities are similar in scope.

¹² Simpkin, *Race*, p. 263.

¹³ John M. Shalikashvili, "A Word from the Chairman," *Joint Force Quarterly*, no. 13 (Autumn 1996), p. 6.

¹⁴ For opposing views on dual hatting, see Reimer and Fogleman, "Joint Warfare," p. 14.

¹⁵ For a thorough look at joint developments in professional military education, see Graves and Snider, "Emergence," p. 54.

Joint Force Quarterly Essay Contest on

Military INNOVATION

To stimulate innovative thinking on how the Armed Forces can remain on the cutting edge of warfare in the 21st century, *Joint Force Quarterly* is pleased to announce the 1998–99 “Essay Contest on Military Innovation” sponsored by the National Defense University Foundation, Inc. The contest solicits contributions on exploiting technological advances in warfighting as well as on the development of new operational concepts and organizational structures. Essays may be based on either historical analyses of military breakthroughs or contemporary trends in the conduct of war.

Contest Prizes

Winners will be awarded prizes of \$2,500 and \$1,500 for the two best essays. In addition, a prize of \$1,000 will be presented for the best essay submitted by an officer in the rank of major/lieutenant commander or below (or equivalent grades), regardless of nationality.

Contest Rules

1. Entrants may be military personnel or civilians (from the public or the private sector) and of any nationality. Essays written by individual authors or groups of authors are eligible.
2. Entries must be original in nature and not previously published (nor under consideration for publication elsewhere). Essays derived from work carried out at intermediate and senior colleges (staff and war colleges), universities, and other educational institutions are eligible.
3. Entries must not exceed 5,000 words in length and must be submitted typewritten, double-spaced, and in triplicate (no electronically transmitted contributions will be accepted). They should include a wordcount at the end. Documentation may follow any standard form of citation, but endnotes rather than footnotes are preferred.

4. Entries must be submitted with (a) a letter indicating the essay is a contest entry together with the author's name, social security account number (or passport number in the case of non-U.S. entrants), mailing address, daytime telephone number, and FAX number (if available); (b) a cover sheet containing the contestant's full name and essay title; (c) a summary of the essay which is no more than 100 words; and (d) a biographical sketch of the author. Neither the names of authors nor any personal references to the identity of the contributors should appear in the body of the essays (including running heads or other distinguishing markings such as office symbols).

5. Entries should be mailed to: Essay Contest, ATTN: NDU–NSS–JFQ, 300 Fifth Avenue (Bldg. 62), Fort Lesley J. McNair, Washington, D.C. 20319–5066.

6. All entries must be postmarked no later than June 30, 1999 to be considered eligible.

7. *Joint Force Quarterly* will hold first right to publish all entries. The prize-winning as well as other essays submitted in the contest may appear in future issues of the journal.

JFQ

Joint Reserve Forces:



An Evolution in Military Affairs

By DONNA L. HOPKINS

A phenomenon is occurring within the Armed Forces that portends a sea change in thinking about the Reserve components. As military leaders respond to widening nontraditional operations, shrinking resources, and congressional pressure to find efficiencies, they rely increasingly on the capabilities afforded by both jointness and the use of Reservists. The coincidence of these trends has given impetus to establishing joint Reserve units (JRUs)—a concept whose time has arrived. Employing such units could introduce major changes in Reserve component personnel assignment policies, professional development, mission areas, and basic force structures. The implications of joint training, command and control, and assignment of Reservists to combatant commands could alter a number of U.S. military paradigms.

Maximum Value

Coherent jointness¹ and seamless integration of the total force² have taken root as the value added of both concepts has become apparent. Myriad military operations during and since Desert Shield/Desert Storm have demonstrated the wisdom of the Goldwater-Nichols Act, which requires commanders to plan and execute operations in a joint environment. Political and military leaders have acknowledged that war as well as military operations other than war must be conducted with joint forces and that neither can

be carried out without the participation of the Reserve components. One implication of this situation is that combatant commanders, who are charged with planning and executing missions directed by the National Command Authorities, must be capable of integrating the Reserve assets of each service on every level of command. New approaches to organization, management, integration, and training of the Reserve components are emerging as these commands recognize and demand the benefits of using this previously neglected resource.

One innovation is the emergence of joint Reserve units. In 1991 the commander in chief, U.S. Transportation Command (TRANSCOM), formed a joint transportation Reserve unit to meet strategic mobility requirements in the face of dwindling assets. Moreover, not long after U.S. Atlantic Command (ACOM) was created in 1993 and assumed the mission of joint force integration and training of most combat forces, it organized a JRU to assist in joint planning, exercises, and crisis action response. Both U.S. Central Command (CENTCOM) and U.S. Special Operations Command (SOCOM) use assigned individual mobilization augmentees (IMAs) and service Reserve units, collectively known as joint IMA programs. Elsewhere, U.S. Pacific Command (PACOM) has appended all Reserve billets to its official manning document and U.S. European Command (EUCOM) has established an entire staff directorate to manage Reserve issues for theater campaign planning. Each unified command has its own approach to Reserve use in the joint environment, but all seek the greatest accessibility to a manpower resource suddenly in demand.

Captain Donna L. Hopkins, USNR, has held a number of joint assignments including tours of active duty during Desert Shield/Desert Storm, Joint Endeavor, and Provide Promise.

the Reserves need policy and organizational reform to function in the joint arena

Regardless of how joint Reserve units are organized, commanders gain better awareness of and access to the time and talents of trained Reservists in their theaters. As commanders rely more on these assets, service components will experience greater pressure to provide more people,

better joint training, and expanded joint professional military education (PME) for Reservists serving in joint assignments. Just as the active components have begun assimilating the spirit and let-

ter of the Goldwater-Nichols Act, so the Reserves need policy and organizational reform to provide the men and women who can function in the joint arena.

Breaking Ground

"The Concept and Implementation Plan to Establish the United States Transportation Command Joint Transportation Reserve Unit (JTRU)" was submitted to the Director of the Joint Staff in 1991. This document presents the rationale for the initiative.

The concept development was predicated upon the performance of the existing Naval Reserve unit's support of the crisis action team operations. The command's ability to rapidly update these previously trained Naval Reservists, and the Reservists' full integration into Desert Shield/Desert Storm deployment management operations, has proven the viability of utilizing Reserve personnel to enhance TRANSCOM operation.

[Deputy CINTRANS] directed establishment of a joint Reserve unit that would mirror mission and structural characteristics of the unified command environment; e.g., joint chain of command, joint operations, and balanced service representation.

[The] chiefs of Army and Air Force Reserve also confirmed their personal support for the JTRU concept . . . they provided enhanced interim funding for individual mobilization augmentee (IMA) drills to begin Reserve unit billet recruiting and joint unit integration. All assigned Reserve elements will be integrated into the JTRU, and there will no longer be assigned IMAs.

Long-range benefits of establishing the JTRU will result from training as a joint unit in a joint environment. . . . Further, the joint unit concept affords the opportunity to provide training in content and quality comparable to that received by active duty counterparts. . . .

The JTRU commander advises the CINC on matters of planning, readiness, training, and use of Reservists within the unified and subordinate transportation component commands as well as on issues related to mobilization-driven

civilian/industrial bases. Within each service element, the senior line officer provides guidance for service-specific Reserve administration and exercises Article 15 authority over enlisted personnel. But the JTRU commander, and not the senior service element officer, is the reporting senior for JTRU personnel. This change acts to promote jointness as much as any other issue.

Under this model, service elements are not uniformly placed under the peacetime command and control of combatant commanders, and personnel administration is provided by components since no joint organic headquarters section exists to service all unit members. It does, however, create a sense of unity among Reservists from different services augmenting the headquarters, offer a vehicle for promoting joint operations precepts within the Reserve community, and provide command visibility on available Reserve assets. It is also leading to related initiatives within other unified commands.

One-Stop Shopping

The ACOM JRU is organized differently. Its stated mission is to "provide trained Reserve component personnel and fully integrate into ACOM staff, leveraging military experience, civilian skills, and availability to meet peacetime, crisis, and wartime requirements on a timely basis." Like TRANSCOM, Reservists from every service are assigned. The primary organizational distinction between units is the addition by ACOM of a JRU chief of staff and a subordinate headquarters staff to provide one-stop shopping for Reservists. Administration (check-in/database records/finance, personnel, and medical processing), training (security/joint training), and requirements (personnel assignment, funding, and liaison with directorates) are organic to JRU and consolidate overhead by three service Reserve component staffs at TRANSCOM into a single staff. Within directorates, active and Reserve points of contact are assigned to manage drills, annual training, directorate-specific training, contingency tasking, performance evaluations, and mobilization requirements for assigned Reservists. More than six hundred Reservists work directly for directorates on mutually agreed drill schedules with little interference or supervision from the headquarters staff, and their performance evaluations are signed by active duty directorate heads. They are afforded the benefit of uniform administrative policies and training and a sense of joint identity that is fundamentally different from that of service slice augmentees.

Marine Reserve fighter over target range.



U.S. Navy Reserve (Bruce Trombeck)



Naval Reserve
"SeaBees" training with
Air Force aircrews.

4th Combat Camera Squadron (Joe Cupido)

In addition, ACOM established a Reserve Component General Officer Steering Committee with representatives from the Office of the Assistant Secretary of Defense for Reserve Affairs, Reserve Forces Policy Board, subordinate component commands, and ACOM headquarters staff. The committee is charged with integrating Reserve forces into the joint team, providing an array of capabilities to support command strategies, promoting effectiveness among the services, creating a seamless (Reserve component) information system, and adding value to ACOM and its service components. As this concept matures, the steering committee will be helpful in sharing the lessons learned from JRU employment with other commands seeking efficiencies in Reserve management.

One innovation at ACOM is the degree to which Reservists are integrated into routine staff work. Assigned Reservists meld with the active duty staff on a daily basis—not just on scheduled weekends—to accomplish the command's mission. This departure from the paradigm of Reserve training-oriented drills and annual training is gaining attention from commands whose workload is increasing despite manpower reductions. Active service components could seek similar integration of Reserve units into normal daily operations. The spread of this practice across the Nation may necessitate changes in Reserve component training and administration policies by the services and possibly in management structures as the mission of Reserve components is expanded to include peacetime support as well as mobilization capability.³

U.S. Southern Command (SOUTHCOM) began standing up a JRU in September 1997 in conjunction with its headquarters move from Panama to Miami. It will be organized much like the ACOM unit, in part because it was determined that the command would be better served if Reserve organizations and individuals reassigned from ACOM to SOUTHCOM for the Caribbean mission were transferred to a similar organization. Full-time support billets have been authorized in the *Joint Manning Document* to support the unit

Naval Reserve Force
guided missile frigate
USS Clark.



U.S. Navy (John Bouvia)

and, like ACOM, a headquarters element will provide one-stop shopping for administration, training, and operations for all Reservists.

Under the original SOUTHCOM organization, Reserve component commanders are dual-hatted as respective service component heads and as members of the command Reserve Affairs Directorate. This Miami-based JRU will be dedicated only to the command headquarters,

its major focus being staff augmentation through improved man-day management across the components. While located in Panama, SOUTHCOM was unable to utilize many authorized man-days because travel and per diem costs for Reserve augmentees had to be absorbed by staff sections. Relocation to Miami enables greater use of Reservists for fiscal reasons.

Tradition by Any Other Name

CENTCOM and SOCOM each manage traditional service IMA and Naval Reserve units, referred to collectively as joint Reserve IMA programs. They do not constitute JRUs as the term is understood in this context. Each service administers Reservists, who report directly to respective

staff directorates for assignment, scheduling, training, and evaluation. Without the administrative overhead normally associated with unit organizations Reservists can devote themselves to training with a command. Administration is supported by a full-time manpower and personnel staff to deal with Reserve issues and coordinates actions among service elements, commands, and individual Reservists. The Reserve Forces Readiness Division within CENTCOM functions similarly to a unit headquarters and offers Reservists one-stop shopping, thereby making further reorganization unnecessary. SOCOM is mulling the relative merits of alternative models as experience is gained at other command headquarters.

PACOM has taken a different approach to integration. All Reserve component billets, full-time support and selected alike, are placed through coordination by the manpower staff across the directorates on the JCS-approved *Joint Training and Mobilization Document* and are authorized and service funded. Personnel administration is handled by service components, and a small Reserve Forces Division manages mobilization and other Reserve-specific issues. The command's position is that Reserve component integration at headquarters is effective and no additional infrastructure is necessary. The Army Reserve has proposed a JRU with a full-time Army Reserve/National Guard leadership element over all Reserve component

the Army Reserve has proposed a JRU with full-time Reserve/ National Guard leadership



55th Signal Company (Eduardo Guajardo)

Army and Marine Corps Reservists in Lithuania, Baltic Challenge '98.

assets, but it has little momentum. This approach is appealing in its simplicity and transparency of Reserve administration to the staff. But it is not clear that it furnishes commanders with an appreciation of what capabilities are available if rapid Reserve augmentation in depth is needed, nor does it provide uniformity in the training, education, management, and administration of Reserve assets across the services.

The Next Iteration

Although EUCOM does not yet have a JRU, the concept is under study. The headquarters manages, through its manpower and personnel directorate, a combination of Army, Air Force, and Marine Corps individuals and Naval Reserve units that augment the headquarters staff. This may not optimize the use of Reservists, given that manpower pools do not necessarily provide the right mix of trained, available, and sustainable augmentation. Since events within Europe are driving an unprecedented reliance on Reserve augmentation from all services, various resourcing approaches are being studied. Also, the location of the headquarters and long traveling distances for assigned Reserves pose different challenges for JRU integration and management.

The Directorate of Mobilization and Reserve Component Affairs (ERCA) at EUCOM is the only stand-alone staff organization devoted to Reserve affairs within a joint command. It manages the command Reserve component campaign plan that supports the EUCOM strategy of engagement and theater objectives. More specifically, the plan is intended to "fully involve the National Guard and

Reserve in the implementation of this strategy and its strategic concepts: engage in peacetime, respond to crisis, and fight to win."⁴ The relationship between the newly established ERCA and the existing Reserve Programs Branch is still evolving and may eventually produce a new and quite different joint Reserve management structure.

Moreover, U.S. Space Command is moving toward greater integration of full-time Reserve support personnel into the staff and increased Reserve contributions to space missions. Emphasis is placed on developing an organization to provide more responsive peacetime access to Reservists under active duty command and control. Toward that end, the command staff participated in a joint working group to produce recommendations for the Chief of Air Force Reserve on the appropriate processes and policies for service augmentation of joint commands.

Senior Staff Perspectives

The Manpower and Personnel Policy Directorate (J-1), Joint Staff, is observing rather than advocating the development of JRUs. Unified commanders are best situated to determine needs in this area, and the Joint Staff is inclined to support their recommendations. Individual commanders should be allowed to develop parameters for the formation of affiliated units—the why, when, and how. Senior staffer members agree that although it might be worthwhile to produce a format for submission of concept and implementation plans, it would not be advisable to determine the particulars of JRU organization and employment. Also, unified command staffs do not have identical internal structures, and thus directed organization of joint Reserve augmentation might be inappropriate. The political and geographical realities of each unified command differ, as do service cultures and the preferences of individual theater commands, and each should be able to exercise the prerogative of organizing and employing its assigned forces.

The Office of the Secretary of Defense, which makes policy for the Reserve components, has expressed particular interest in joint information warfare and command and control as it relates to Reserve units, whereby highly specialized civilians can apply technological skill to military ends via the Reserves. Network technology will enable new paradigms of participation. The Reserve intelligence community is a leader in this regard; its members are connected to national intelligence commands via computer systems and can contribute real-time analysis from disparate locations. Job-sharing between active and Reserve personnel via networks could lead to the creation of a new category of Reservists who work part time in the private sector and part time for gaining military

commands. This concept has great potential for revolutionizing the organization and management structure of every Reserve component, and the implications for expanded employer support of the Guard and Reserve are enormous.

A related issue is appropriate PME for Reserve officers. The desirability of a joint career path and joint subspecialty qualification is under study. Today the services send Reserve officers to war colleges and command and staff colleges to satisfy the first phase of joint PME. It would be appropriate to complete joint education through follow-on assignment to the Armed Forces Staff College and obligatory service at joint or unified commands to

**there is strong interest
in organized joint Reserve
augmentation among
unified commands**

create a nucleus of joint expertise in the Reserves as an operational and training resource. This personnel management issue will grow more critical as JRUs become both more widespread and centrally managed. It would be desirable to develop a means to capture in personnel systems all joint staff and joint task force experience acquired by Reservists in each component.

JRU advocacy is neither unqualified nor unanimous. One might argue, for instance, that such units produce Reservists who are too parochial for individual theater commanders and are not easily transferable to other theaters, or that JRUs represent nothing more than manpower pools for staff assignment. Service components will retain a significant role in the evolution of these units, with responsibility for organizing, equipping, and training Reserve components within funding and legislative constraints. For example, there are statutes restricting the use of training dollars for the Army Reserve and Army National Guard to support operations conducted by active forces. Personnel assigned to joint units must maintain service competency and promotability; therefore, modifications to Reserve career paths and training doctrine, which are expensive, may be required. Each service must continue to exercise responsibility for JRU personnel under Title 10, and a dual chain of command—service administrative and joint operational—will require close management.

The most obvious advantage of JRUs is focused visibility on and rapid access to specially trained individuals with recent theater-specific joint experience on short notice. Once the principal driver for forming headquarters units, accessibility to Reserve assets of any service is no longer the difficult and contentious issue it once was.

Approval of a Presidential selected Reserve callup may now be achievable within 48 hours. A recall is managed via service components, though assigning Reserves directly to joint units will probably further streamline accession. Moreover, Presidential recall authority does not solve the issue of shortfalls in peacetime support requirements.

The Wave of the Future?

There is strong interest in organized joint Reserve augmentation among unified commands which want trained, experienced augmentees with minimum administrative exertion. Reservists, who prefer an active role in the missions of gaining commands to merely conducting mobilization training, are aggressively competing for assignments to these new joint units. Aside from the fact that they bring considerable expertise and perform substantial work, Goldwater-Nichols directed specifically that "The Secretary of Defense *shall establish* personnel policies emphasizing education *and experience* in joint matters for Reserve officers not on the active duty list [emphasis added]." Therefore it is not only desirable but legislatively mandated that Reserve officers (who comprise a majority of joint Reserve billet authorizations) should have joint staff and operational experience. If combatant command staffs are to train together as they intend to fight the need is obvious.

Yet different models may be relevant to the missions and theater realities of geographic and functional unified commands and driven by the personal preferences of their commanders. This is reasonable and manageable; policy guidance and doctrine need not be so inflexible as to preclude distinct approaches to similar (but not identical) requirements. Enough contemporary experience with contingency planning and execution has been gained for commanders to determine where joint staff augmentation is likely to be required in their theaters, particularly in military operations other than war, and to permit them to organize and train accordingly.

There may be commands in which formation of JRUs is neither required nor desirable, but that is becoming less common. Reserve augmentation of joint task forces has been used with great success during the Persian Gulf War, Haiti, Somalia, Bosnia, and other operations. Organizing Reserves into joint headquarters units allows commanders to train, observe, and access them as known quantities. Increasingly, as Reserves become a valuable source of manpower for routine tasks where reductions make staff workloads excessive, effective management by JRU leadership can supplement joint staffs and also improve joint education and training for Reservists.



1st Combat Camera Squadron (Greg L. Davis)

South Dakota and Iowa
Air National Guard
fighter aircraft.

One could argue that JRUs are uncalled for if the Reserve components are providing trained personnel to unified commands. But what the Goldwater-Nichols Act sought to encourage—synergy among those who work and train together in a joint environment—cannot be achieved easily if Reservists are assigned and administered as service contributions to individual directorates rather than members of joint commands. One advantage of JRUs is that they provide an efficient mechanism for accomplishing joint training through and on the joint command level, relieving the pressure on individual services to provide joint training to those assigned to joint commands.

A recent DOD directive specifically outlined training readiness oversight responsibilities of commanders of combatant commands to include specific authority to:

- provide guidance to service component commanders on operational requirements and priorities to be addressed in military department training and readiness programs
- comment on service component program recommendations and budget requests
- coordinate and approve participation by assigned [Reserve component] forces in joint exercises and other joint training
- obtain and review readiness and inspection reports on assigned [Reserve] forces
- coordinate and review mobilization plans (including post-mobilization training and activities and deployability validation procedures) developed for assigned [Reserve] forces.

The expansion of the authority and responsibility for Reserve training and readiness on the part of unified commanders will undoubtedly result in their increased involvement in a number of Reserve component issues. Integrating Reservists into the joint arena is a major step toward actual seamless integration of the total force. The advent of JRUs portends improved mutual training and

interoperability between the active and Reserve components, facilitating joint operations on the unified command level. In this regard, these units represent a valuable vehicle for moving toward a real total force—which constitutes a genuine evolution in military affairs.

JFQ

NOTES

¹ *Specialized* joint denotes multiservice, multidimensional, multifunctional operations driven by a common operational objective. *Synergistic* joint means common, mutually supporting doctrine orchestrated for a common tactical objective. *Coherent* joint describes common tactical and operational objectives within natural service rhythms and cycles. See John J. Sheehan, "Next Steps in Joint Force Integration," *Joint Force Quarterly*, no. 13 (Autumn 1996), p. 42.

² The concept of seamless integration is driving many initiatives on every level of military organization. The RAND Corporation conducted a study in 1996 for the Commission on Roles and Missions entitled "Greater Integration and Cooperation Is Required Between Active and Reserve Components" which recommended changes, both cosmetic and substantive, that will undoubtedly resurface in debates over Reserve policy in the next decade.

³ The Secretary of the Navy issued instruction 1001.37A (April 8, 1997) which explicitly includes peacetime contributory support to the missions of the Naval Reserve in recognition of the shift in Reserve force utilization since the Cold War.

⁴ George A. Joulwan, "Reserve Component Campaign Plan, ROA," *National Security Report* (October 1996), p. 23.



1st Combat Camera Squadron (Stephen Faulstich)

Adversarial Use of Chemical and Biological Weapons

NBC exercise at Camp Casey, Korea.

By JOHN F. REICHAERT

Interactive tabletop planning games and associated efforts are advancing the understanding of counterproliferation issues among military officers and defense officials. The object of one such recent endeavor, designed by the Center for Counterproliferation Research at the National Defense University (NDU), is twofold: to determine if games offer insights into the possible adversarial use options, and to assess the way in

which U.S. and allied forces are taking the threat of chemical and biological weapons (CW/BW) into account when planning and performing operational tasks.

Examining these issues as well as the manner in which CW/BW proliferation affect service doctrine and operating principles began with workshops involving over 400 participants. As part of the workshop series, NDU cosponsored a major conference with the Air Force. A simple game was developed to indicate how personnel in the field—planners, operators, intelligence analysts, logisticians, and others—thought about the effect of

John F. Reichart is deputy director of the Center for Counterproliferation Research at the National Defense University.

CW/BW proliferation on their individual areas of responsibility. More specifically, the project sought to learn how much, if at all, these military officers and defense officials had considered how adversarial possession or use of CW/BW might affect their ability to operate in peacetime and in war.

The Planning Game

While this game has evolved in both scope and content, the basics have remained constant. Participants assume the role of a Red planning cell and are asked to make recommendations on the use (or threatened use) of CW/BW in support of stated political and military objectives by a regime possessing such assets. Ideally, each planning cell consists of ten players with broad operational, planning, and other relevant expertise. To refine the task and make development of a Red war plan manageable, players are usually given a specific objective, either military (for example, to degrade Blue ability to sustain high tempo air operations) or political (to split the Blue coalition). Through an interactive discussion led by a facilitator, the

Red planners look for weaknesses in the Blue coalition that could be exploited by threat of CW/BW

Red team initially explores a range of political and military uses for CW/BW from its own perspective, then narrows them to a few specific courses of action that constitute a rudimentary plan. The process typically will take two hours. If time allows for a second move, players assume the role of a Blue planning cell which is tasked to plan against the Red plan. Given near-perfect intelligence about Red planning intentions (and specifically plans for CW/BW employment), Blue planners develop Blue responses specifically designed to deny the benefits Red planners expect from employing CW/BW against Blue.

More than 800 officers from O-4s to O-8s have played the game, and some 75 plans have been created. Although a full analysis of these has yet to be done, some general observations can be drawn. In addition, in-depth survey data on player attitudes and perceptions has been collected on nearly a hundred participants.

General Observations

First, virtually every Red planning cell addresses common elements of the tasks presented. Most discuss the role and nature of nuclear deterrence. They often consider, for instance, whether Blue has a threshold for CW/BW use against its forces beyond which Red risks nuclear retaliation.

Moreover, Red teams inevitably ponder the ability to use CW/BW capabilities to deter conventional and nuclear Blue forces. Red planners also look for weaknesses in the Blue political and military coalition that could be exploited by possession, threat, or use of chemical or biological weapons. For example, many Red teams seek to capitalize on differences in CW/BW defensive capabilities of Blue coalition members. Red cells typically discuss national interests. Perceived asymmetries of interest are one factor in the Red willingness to use CW/BW. Finally, Red teams nearly always evaluate the Blue ability to operate in a CW/BW environment.

What common themes emerge in Red warplans? First, there is no single solution in terms of potential scale and scope of use. Perhaps because this is a *planning* exercise (Red intends to go to war but a war is never played), all groups incorporate some degree of CW/BW in their planning. However, planned use ranges from the high to low end. Some groups detect merit in widespread employment; others are more circumspect and tailor use in discrete and limited ways.

Biological weapons are almost always weighed, which was somewhat unexpected. Indeed, they seem to be weapons of choice within the game. Also of interest is their relatively early use in many Red plans. They are not usually weapons of last resort. The early use of either chemical or biological weapons is frequently seen as a means of offsetting Blue conventional superiority. In particular, non-lethal biological weapons appeal to Red planners. They are often selected to prepare the battlefield before overt hostilities. A frequent Red planning objective is causing Blue forces to become inoperative and require medical treatment (creating a logistics burden when Blue needs resources for other purposes).

Red teams are imaginative in employing a full range of delivery capabilities from missiles to special operations forces, sometimes in what Blue might consider terrorist acts. Red planners thus often regard Blue forces—and the Blue homeland—as vulnerable to the threat of CW/BW use.

Generalizations about the game's sociology are also interesting. For example, when U.S. and allied officers assume the role of Red planners, they often think about CW/BW employment in nontraditional and sometimes startling ways. Their plans reflect lively debate. Yet often the same players reveal an entirely different persona when acting as Blue planners trying to cope with a Red CW/BW warplan. They downplay CW/BW effects on Blue operations and are likely to depend on nuclear deterrence as a crutch. Another approach by Blue players is to go into denial or to espouse a too-hard-to-do mode in the face of Red CW/BW use.

Simulated chemical attack, Roving Sands '97.



Unloading NBC reconnaissance systems vehicle.

Survey Results

In addition to general observations resulting from facilitating the games, NDU has recently begun to administer detailed questionnaires to participants. In general, the survey has confirmed the outcomes reported above and provided a more complete view of how the players—as both Red and Blue planners—regard CW/BW use.

Red as well as Blue planners agree that CW/BW use increases Red chances of success

Purposes, risks, and advantages of Red CW/BW use. Red as well as Blue planners agree that CW/BW use increases Red chances of success. In contrast, while Red planners tend to agree that military advantages outweigh risks, Blue planners disagree. There is strong agreement among Red

and Blue planners that the primary aim of Red use is offsetting Blue conventional superiority.

Overall effectiveness in contributing to Red's political and military objectives. When asked to what extent team plans (which always include some type of CW/BW threat or use) contribute to political and military objectives, Red team players across the board respond that CW/BW impact can be considerable. The mean judgment approaches the moderate extent category. However, the same participants, when playing the role of Blue planners, assess its effectiveness less generously, the mean judgment being that CW/BW will help the Red plan only to a little extent.



Administering anthrax vaccinations, Southern Watch.

USS John C. Stennis (Mike Larson)

Effectiveness of CW/BW against specific military targets. In terms of targets most affected by CW/BW use, Red and Blue planners conclude that port facilities, airfields, and the Blue capital are the most vulnerable. Again there is a major difference over what the effect will be, with Red planners again approaching the "moderate extent" and Blue planners the "little extent" evaluations.

Nuclear weapons and deterrence. Survey data reveals that the Blue nuclear deterrent bears heavily on Red planners. Over three-quarters of respondents regarded the credible threat of nuclear retaliation by Blue as an important con-

sideration in the way they approached the size, scope, and type of Red CW/BW plan. Red planners most often cite that deterrent, followed by a credible Blue declaratory policy, as the single most important factor inhibiting CW/BW employment. Faced with a CW/BW plan designed by Red, Blue planners think nuclear capabilities provide a more effective deterrent to their actual employment than Blue conventional superiority.

Timing of use. In general, Red planners agree that the earlier BW is used, the more helpful it is for Red forces. Red perceives early use as most effective against targets associated with Blue reinforcement and in suppressing air sorties. Blue planners are only slightly less in agreement that early use will be effective. Both Red and Blue planners surmise that early CW use would be less effective against Blue than early BW use.

Blue requirements in face of nuclear, biological, and chemical (NBC) threat. Blue planners cite a multitude of enhanced capabilities they would want if faced with CW/BW employment by an adversary. Most frequently named are improved CW/BW detection and warning, better protective equipment, superior intelligence, theater missile defense, and more extensive training/doctrine.

Understanding the operating environment. Blue and Red players overwhelmingly concur that U.S. planners and operators did not have a sufficient understanding of the CW/BW operating environment or the effects of these weapons on warfighting.

When drawing conclusions from any game one should remember that gaming is artificial. Yet the question arises over whether persistent patterns of behavior during play result from game artifacts or a more fundamental problem reflecting the state of U.S. CW/BW doctrine, the related training experiences of participants, or the perception of policy. While the answer is open to more rigorous research, the NDU project places its bets on the latter. As Blue planners, players seem to have few traditional tools to rely on and little relevant experience, doctrine, or training to resolve problems posed by Red plans employing CW/BW. These limitations do not appear to apply when the players are asked to stretch their imaginations and consider using the weapons as an adversary.

The Need for Red Teaming

Research thus far indicates that U.S. forces and coalition allies will face serious obstacles to overcoming a CW/BW threat to operations. It shows that planners, depending on whether they view the problem from a Red or Blue perspective, have very different perceptions of the magnitude of the threat, how the weapons might be used against friendly forces, and the U.S. ability to cope with them. At the end of the exercise one frequently hears the comment that "I never thought about the problem this way." What is the truth? Are adversaries likely to see the same possibilities for CW/BW employment as the Red planners? Or are they more likely to be deterred from that use or be unpleasantly surprised by its ineffectiveness, as our Blue planners believe?

Although gaming and research can shed light on adversarial use of CW/BW, it is time for the Armed Forces to invest more in sustained analysis. There is no dedicated military activity on the scene today that is considering CW/BW issues from an adversarial perspective. In the absence of better intelligence on capabilities and intentions, Red teaming remains one of the principal ways to investigate how an adversary might think of using weapons the United States knows some are acquiring, envision the impact on U.S. and coalition forces under current doctrine, and understand and recommend tactics and procedures for countering CW/BW use in various situations. With the participation of professionals, a dedicated Red team can have the additional advantage of acquiring credibility while not encountering the not-invented-here syndrome. That will help substantially in finding solutions to the mounting dangers of chemical and biological weapons proliferation.

JFQ

General Randolph McCall Pate

(1898–1961)

Commandant, U.S. Marine Corps

VITA

Born in Port Royal, South Carolina; enlisted in the Army (1918); graduated from Virginia Military Institute and commissioned in the Marine Corps (1921); expeditionary duty in Santo Domingo (1923–24) and China (1927–29); assistant chief of staff for supply, 1st Marine Division, during planning and combat phases of Guadalcanal campaign (1942); deputy chief of staff to commanding general, Fleet Marine Force, Pacific, during landings on Palau, Iwo Jima, and Okinawa (1944–45); director, Division of Reserve (1946); member, General Board, Navy Department (1947); chief of staff, Marine Corps Schools (1948–49), and director, Marine Corps Educational Center (1949–51), Quantico; deputy director of Joint Staff for logistic plans (1951); director, Marine Corps Reserve (1951–52); commanded 2^d Marine Division, Camp Lejeune (1952–53); commanded 1st Marine Division, Korea (1953–54); Assistant Commandant of the Marine Corps and Chief of Staff (1954–56); served as 21st Commandant of the Marine Corps (1956–59); died in Bethesda, Maryland.



U.S. Marine Corps Museum

It is, of course, mandatory that the Marine Corps maintain its traditional role as a force-in-readiness, and that our air and ground components be constantly prepared to counter the threat of aggression at any point in the world. At the same time, however, we must devote urgent effort to the evolution of our new concept of amphibious operations—the helicopter assault landing force.

—Randolph McCall Pate
Marine Corps Gazette
(February 1956)

Portrait by
Albert K. Murray.

Doctrine

JOINT DOCTRINE WORKING PARTY

The 21st meeting of the Joint Doctrine Working Party was convened on April 29–30, 1998, at Fort Monroe. It was hosted by the Joint Warfighting Center and sponsored by the Director for Operational Plans and Interoperability (J-7), Joint Staff. Participants included representatives from the nine combatant commands, Joint Staff, military services, and doctrine centers.

New joint doctrine proposals were briefed and the following decisions were approved:

- Consolidate Joint Pub 3-17, *JTTP (Joint Tactics, Techniques, and Procedures) for Theater Airlift Operations*, with Joint Pub 4-01.1, *JTTP for Airlift Support to Joint Operations*, and add appropriate portions of Joint Pub 3-18.1, *Joint Doctrine for Airborne and Air Assault Operations*, redesignating the resulting new pub as Joint Pub 3-17, *Joint Air Mobility Operations*, and canceling Joint Pub 4-01.1 on approval of the new pub.
- Consolidate Joint Pub 3-18.1 into Joint Pub 3-18, *Joint Doctrine for Forcible Entry Operations*.
- Expand Joint Pub 4-01.5, *JTTP for Water Terminal Operations*, to include air terminal operations, and retitle it *JTTP for Terminal Operations*.
- Create no separate environmental publication.
- Change lead agent for Joint Pub 4-04, *Joint Doctrine Civil Engineering Support*, from Joint Staff (J-4) to the Navy.
- Revise Annex B, "Charter of the Joint Transportation Board," in Joint Pub 4-01, *Doctrine for the Defense Transportation System*, to describe the joint strategic mobility asset apportionment process (JSMAAP).
- Consolidate Joint Pub 3-05.3, *Joint Special Operations Operational Procedures*, with Joint Pub 3-05.5, *Joint Special Operations Targeting and Mission Planning Procedures*, and redesignate the new publication as Joint Pub 3-05.1, *JTTP for Joint Special Operations Task Force Operations*, then cancel Joint Pubs 3-05.3 and 05.5.
- Cancel Joint Pub 3-06, *Doctrine for Joint Riverine Operations*.

The next meeting is slated to take place on October 14–15, 1998. **JFQ**

JEL UPDATE

A collaborative endeavor by the unified commands, Joint Staff, military services, and other organizations to update and modernize joint doctrine

has yielded a range of innovative capabilities. This effort has significantly enhanced the level of authoritative guidance available to all members of the Armed Forces. The evolution from black-and-white paper documents to full-color volumes has been extended to various electronic media. In addition to joint doctrine publications, electronic assets include documentation on *Joint Vision 2010*, service vision statements, research papers, and reference sources, as well as information on the doctrine development process. A recent initiative will provide the majority of Chairman of the Joint Chiefs of Staff (CJCS) instructions and manuals available in electronic form as well.

The most familiar electronic tool is the Joint Electronic Library (JEL) which first appeared on CD-ROM as part of a joint doctrine deskset. In addition to the material mentioned above, JEL contains briefing items on nine warfighting topics. These items enable users to better understand doctrine on myriad subjects with ready-to-go briefing material. The library is updated on a regular basis and archived on CD-ROM twice a year. This portable reference is helpful when traveling or in situations where Internet connections are unavailable. A disk also can be obtained with a built-in link to the Internet web site if accessible.

There are two Internet sites of particular interest to current and future members of the Joint Staff. One is the unclassified World Wide Web site at <http://www.dtic.mil/doctrine>, which can be accessed from both the Joint Staff unclassified network and home PCs. The site is updated weekly and allows users to download doctrine from military and non-military sites while traveling. Draft publications are also available to facilitate staff actions on developing doctrine. Draft doctrine pubs are posted for developmental purposes only and should not be referenced as authoritative sources. Another recent initiative placed releasable CJCS instructions and manuals in electronic form on the doctrine web site for access by authorized users.

In recognition of emerging technological capabilities and field requirements, a doctrine web site dealing with the global command and control system (GCCS) has been established on the Joint Staff homepage at <http://nmcc20a/users/dj9j7ead/doctrine/index.html>. Expected improvements will extend this access via the secret Internet protocol router network

(SIPRNET) on desktop terminals. Another source of doctrine available to the Joint Staff is a home page that features a JEL CD-ROM updated monthly by the Joint Doctrine Division (J-7), which welcomes comments and suggestions from members of the Joint Staff (telephone 697-3130). **JFQ**

Education

COUNTERING WMD

Military planners, policy analysts, and scientists convened on December 9–11, 1997, at the Lawrence Livermore National Laboratory to examine adversarial use of weapons of mass destruction (WMD). This "Conference on Proliferator Nuclear, Biological, and Chemical Weapons Use" was cosponsored by the Center for Global Security Research at Lawrence Livermore National Laboratory and the Center for Counterproliferation Research at the National Defense University.

Although the report of the Quadrennial Defense Review concluded in May 1997 that use of chemical and biological weapons is a "likely condition of future warfare," little is known about how adversaries may use them. Attendees from the scientific, intelligence, and operational communities shared insights on the topic with emphasis on adversary rationale and motivation for using WMD. Because adversaries will vary, such understanding is critical to deterring the use of these weapons.

The conference examined response options by examining three basic questions: how does the United States deter WMD use; how does it protect U.S. forces; and how does it prevent follow-on use of WMD? In these areas one Lawrence Livermore analyst emphasized the need for "out-of-the-box" thinking.

WMD use and responses were examined through a planning wargame on the second day. Developed by the Center for Counterproliferation Research, the game relies on a Red team concept for counterproliferation planning. In discussions with facilitators, participants considered the range of political and military uses of chemical and biological weapons in a given scenario from a Red team perspective. Participants then assumed the role of a Blue team and were required to "plan against the Red plan." To date, the

wargame has been played by some 800 individuals.

While this planning exercise did not proffer solutions, it did provide insights into the issues at hand. Red teams tended to use WMD as a means of deterring the Blue team's conventional superiority and dividing the Blue team's coalitions. There was also recognition that biological agents might be the weapon of choice, particularly if their delivery was unattributable. Of particular importance was the fact that Red teams were very much concerned about the threshold for Blue use of nuclear weapons. They were regarded as a possible means of deterring Red WMD use.

One planning shortfall addressed was the lack of current information regarding the effects of chemical and biological weapons. Most existing information is from the Cold War. Little is known about their impact on port and air facilities as well as other logistics infrastructures which are likely targets today. Understanding these effects was considered critical to developing doctrine and training for counterproliferation operations. JFQ

MARKING 125 YEARS

Recognized as the professional association of the sea services, the U.S. Naval Institute was founded on October 9, 1873, by fifteen officers at the Naval Academy who shared a concern over the bleak prospects for their service following the Civil War. Their goal was to establish a forum for free exploration of the tremendous technological advances made before and during that conflict in propulsion, weaponry, and submarine design, and for proposing methods and tactics to employ new technologies. Their ideas were presented in papers read before a monthly assembly that were compiled in *The Proceedings of the U.S. Naval Institute* and disseminated to all those who shared their interests. This journal remains one of the most highly respected products of the institute and is one of the world's leading military periodicals.

A private, non-profit organization, the institute is not under the control of the Department of the Navy, does not

employ writers, and does not impose an editorial viewpoint (although it does adhere to security review). Its strength lies in providing an unimpeded forum that gives voice to reasonable thought and opinion, regardless of the rank or station of the authors.

Over the last 125 years the role of the institute has expanded far beyond merely publishing the *Proceedings*. A book publishing arm, the Naval Institute Press, has printed important works for nearly a century. The press issues some 80 naval and defense related titles each year, including texts used at the U.S. Naval Academy, and the sailor's Bible, *The Bluejacket's Manual*, which is in its 22nd edition. In recent years the institute has organized a series of professional symposiums, the largest near fleet concentration centers in Norfolk, Virginia, and San Diego, California.

Founded by and for naval officers, today the U.S. Naval Institute includes nearly 75,000 officers and enlisted men and women, as well as civilians who share its ideals. JFQ

INSTITUTE FOR NATIONAL STRATEGIC STUDIES
NATIONAL DEFENSE UNIVERSITY

Announcing the 1999 Symposia Program

PACIFIC SYMPOSIUM

**“U.S. Engagement Policy in a Changing Asia:
A Time for Reassessment?”**

March 1–2, 1999

EUROPEAN SYMPOSIUM

“NATO at Fifty: A Post-Summit Appraisal”

April 26–27, 1999

For further information and registration material on the above events, please contact: National Defense University, ATTN: NDU–NSS–SY, 300 Fifth Avenue (Bldg. 62), Fort Lesley J. McNair, Washington, D.C. 20319–5066, Telephone: (202) 685–3857/DSN 325–3857, Fax: (202) 685–3866/DSN 325–3866, Internet: grahamj@ndu.edu

Information on symposia is available via the National Defense University World Wide Web server. Access by addressing <http://www.ndu.edu>. Symposia programs and registration material are normally posted 90 days prior to events.

CJCS Essay Competition

The 17th annual “Chairman of the Joint Chiefs of Staff Strategy Essay Competition” was held on May 21–22, 1998, in Washington. This event was established by General David C. Jones, USAF, the 9th Chairman, to challenge students at intermediate and senior colleges to write original essays on significant aspects of national security strategy. General Henry H. Shelton, USA, presented awards to the winners on June 5, 1998, in a ceremony at the National Defense University.

FIRST PLACE ESSAYS

Lieutenant Colonel S.M. Fenstermacher, USMC

(Marine Corps War College)

“Does the 1997 Quadrennial Defense Review (QDR)
Adequately Address Third Wave Logistics?”

and

Major Jay Lee Hatton, USMC

(Naval War College)

“We Deceive Ourselves: The Role of Preconception
in Operational Deception”

SECOND PLACE ESSAY

Lieutenant Colonel Edward J. Felker, USAF

(Air War College)

“Airpower, Chaos, and Infrastructure: Lords of the Rings”

THIRD PLACE ESSAYS

Colonel Bruce D. Grant, USA

(U.S. Army War College)

“U.S. Military Expertise for Sale:
Private Military Consultations as a Tool of Foreign Policy”

and

Commander John Richardson, USN

(National War College)

“Strategic Thinking in an Era of Intervention”

PUTTING GEOGRAPHY BACK INTO THE MILITARY CANON

A Review Essay by

EWAN W. ANDERSON

Military Geography for
Professionals and the Public
by John M. Collins
Washington: National Defense
University Press, 1998.
437 pp. \$39.00
[ISBN 0-16-049405-2]

The relevance of geography to military affairs was recognized as early as the classical age. The *Geography of Strabo* was a wide-ranging discourse on every aspect of the subject and of equal use to travelers and military commanders alike. Battles waged on land and at sea in ancient Greece demonstrate the relation between tactics and the finer points of landscape and nearshore seascape.

However, geography itself was rarely treated as a formal discipline until the 18th and 19th centuries; thus military geography was not regarded as a subset of the specialty before then. In fact the first acknowledged volume on military geography is probably Lavalley's *Géographie Physique, Historique, et Militaire*, published in 1836. As the 19th century waned, the great age of discovery, initiated by Columbus and other intrepid navigators some 400 years earlier, came to a close. With a few exceptions, the extent of the global land masses was known and the world could be viewed as a closed system. Sir Halford Mackinder, whose article "The Geographical Pivot of History" set in train the development of a global geopolitical viewpoint still in evidence today, took spectacular military advantage of this fact. But though there were obvious military implications in the way it developed, particularly as guided by Karl Haushofer in Germany, geopolitics is not confined to the study of conflict. The most widely read work on the subject was *Imperial Military Geography* by

David H. Cole, printed in 11 editions between 1924 and 1953.

The nature of warfare changed dramatically with the advent of the bomb and the Cold War, and many earlier concepts of military geography became obsolete. This point is documented in the four volumes of *A Bibliography of Military Geography*, edited by Eugene J. Palka and Dawn M. Lake, which was published in 1988. But the new military geography yielded few significant titles. One notable exception was *Military Geography* by Louis C. Peltier and George E. Percy, which appeared in 1966. Nevertheless, an explicit link with ideas predating the nuclear era was provided in 1989 by Hugh Faringdon with the publication of *Strategic Geography*, which considered all types of military operations from the strategic to the tactical level.

While there have been few seminal volumes on military geography, every epoch in military history has spawned at least one major work. Since 1989, after the fall of the Berlin Wall and the Soviet Union, concepts of warfare have once again undergone change. Absent a global threat and the strategic constraints of a bipolar world, mid-level, small-scale, and low intensity warfare have grown in importance. Although nuclear weapons are still largely in play, the nature of war is being increasingly dictated by the principles of the pre-nuclear era. The key changes since that time have been the exponential advances in military technology and a range of activities classified as forms of military operations. Accordingly, the role of the military has expanded. This point was considered in *GeoJournal* (October 1993, October 1994, and October 1995) as well as by Martin van Creveld in *The Transformation of War*, published in 1991. But the effects of major geopolitical change on military geography have not been assessed as yet.

Geography is a broad subject that has long defied thorough definition. Suffice it to say that it combines many physical and human elements. Field Marshall Lord Inge, Britain's former Chief of Defence Staff, recently stated that the missions of the military are intensive warfare, operations other than war, peacekeeping (and related activities), and military diplomacy. Obviously, military geography plays a significant role in planning and executing each of these missions.

In a foreword to *Military Geography for Professionals and the Public* by John M. Collins, the President of the National Defense University describes this new volume as follows: "[It] relates virtually

every aspect of the physical world we live in to every imaginable endeavor in the military realm." Collins has marshalled four decades of research in a work that is written in plain, direct language which makes it accessible to both military officers and general readers. The author states his intent in the introduction: to produce a text for academic use, provide a handbook for political-military specialists, and enhance public awareness of the impact of geography on military affairs.

This approach implies extensive coverage, and at some 450 pages it is a substantial tome. In his introductory overview Collins lists both major military considerations and basic geographical factors—physical and cultural—which emphasize specific elements rather than generic categories, although overall the inventories are comprehensive. The following subsection on regional quirks considers homogeneous geographical regions and basic climatic distinctions. Turning to what the author calls avoidable abuses the tone is set for later segments by citing examples from the panoply of military history. Particularly memorable is the assertion that Che Guevara paid with his life for "geographic ignorance." Then Collins discusses a framework for area analysis. The early sections thus establish an approach that is far-reaching in scope and rich in detail.

After treating spatial relations—location, size, and shape—which exercised Mackinder and other advocates of geopolitics, Collins examines the lay of the land, oceans and seashores, earth's atmosphere, regional peculiarities, inner and outer space, and natural resources and raw materials.

Rather than dwelling on geomorphological terminology in the section on the lay of the land, the author categorizes landforms into what may be more appropriate military terms: high ground, relatively level land, and depressions. The implication of each is considered, making particular use of historical precedent. There is a detailed treatment of rivers, drainage, and water, yet no analysis of specific landforms such as sand dunes. The subsection on geology and soils deals mainly with surface characteristics and load-bearing capacities of various soils under different conditions. And finally, under the rubric of vegetation, forests are compared with what the author delightfully calls "scantly clad landscapes." In the context of the latter landscapes he concludes that Desert Storm took place on the "geographic equivalent of a sand-colored pool table."

Ewan W. Anderson teaches geography at the University of Durham and is the author of *An Atlas of World Flashpoints: A Sourcebook of Geopolitical Crises*.

The ensuing section on oceans and seashores affords a closer look at those environments. Major processes and landforms are presented together with related naval problems. While mention could have been made to the effects of the Law of the Sea Treaty on naval activity, that discussion might have been a digression. An examination of the earth's atmosphere identifies key phenomena and contrasts the significance of climatology and meteorology. Thus the three main sections on the major elements in which the military operate are generally covered in sufficient detail to distinguish the geographical components of any military situation. However, the section on the land surface is noticeably thinner and more idiosyncratic than the others. This is balanced by thorough discussion on

regional peculiarities, which describes core environments. Here there is no general pattern, but the main military problems are assessed and excellent detailed examples are provided.

There is a short section on inner and outer space, and obviously a more detailed treatment awaits greater military familiarity. The final section on natural resources and raw materials is rather thin and focuses on strategic minerals and petroleum. An evaluation of water and food as strategic resources might have been useful. Certainly hydropolitics, with its emphasis on the geographical and the military, merits greater attention in many regions of the world.

The part on cultural geography comprises sections on populations, urbanization, lines of communication, military bases, and fortresses and field

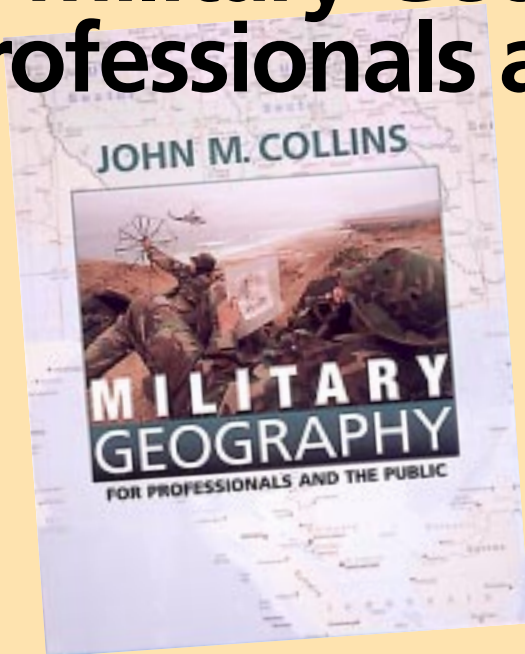
fortifications. From a strictly geographical viewpoint, some thought might have been given to the economic pursuits of man in the landscape: agriculture and industry, primary and secondary. Furthermore, since many conflicts are associated with them, political landscape components such as frontiers and boundaries warrant inclusion.

The section on populations is distinctly idiosyncratic, ranging from a standard treatment of population density to a discussion on national personalities. However, it all makes riveting reading and is pertinent to peace operations. There is also an expansive treatment of urbanization, but this has a clearly military bias and is one of the book's most useful sections. It must be one of the few real world analyses of different scales of military activity in the urban landscape.

New from the

Institute for National Strategic Studies
National Defense University

Military Geography for Professionals and the Public



by John M. Collins

437 pages, illustrated

\$39.00 (\$48.75 foreign)

ISBN 0-16-049405-2

GPO stock number 008-020-01439

To order, call the U.S. Government Printing Office at (202) 512-1800, or write to: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. This and many other books are available in their entirety to Internet users via the National Defense University World Wide Web (<http://www.ndu.edu/inss/books/books.html>).

Communications are examined in a more traditional but very comprehensive analysis. For example, there are discussions of key factors such as gradients and choke points. The remaining sections are largely military in nature and are geographical only in that they describe locations. Nonetheless, both provide useful summaries.

Part three offers an overview of political-military geography and thus differs in scale from the foregoing chapters. The most compelling portion is an examination of geopolitical friction, the geographical factors associated with specific conflict flashpoints. It is divided into five subsections on territorial, strategic, economic, cultural, and environmental factors. Clearly, it is impossible to provide a full inventory of every aspect of global tension, but the selection presented by the author affords ample consideration of military and geographical variables. The other sections in this part concern military viewpoints and military areas of responsibility.

The fourth and final part focuses on area analyses. It initially draws on material introduced earlier in the book to establish a framework for area analyses, which the ensuing sections employ to look at Operation Neptune (the cross-channel assault on D-Day beachheads in June 1944) and Operation Plan El Paso (a stillborn endeavor to sever the Ho Chi Minh trail in 1967–68). Both of these historical examples convey the practical application of military geography and thus constitute an appraisal of the book as a whole.

In sum, *Military Geography for Professionals and the Public* is a valuable addition to the literature on military geography. The sections on urbanization and geopolitical friction are particularly compelling. Moreover, the author offers broad coverage of his subject. Although the discussion becomes obscure in places, every author is entitled to such indulgences. Military issues are mainly treated in the context of detailed examples. Taken collectively, they illustrate the four missions identified by Lord Inge. However, relating the range of military activities to geography in this tome calls for hard work on the part of the reader. Each work of military geography bears the unmistakable imprint of its author and some discussion of peripheral topics. John Collins, a venerable practitioner of the military art, has pointed the way forward for greater research and development in the field of military geography. **JFQ**

... TO THE SHORES OF TURTLE BAY

A Book Review by

MICHAEL A. SHEEHAN

Blue Helmets: The Strategy of U.N. Military Operations

by John F. Hillen

Washington: Brassey's Inc., 1998.

320 pp. \$26.95

[ISBN 1-57488-138-8]

The United Nations had about 18,000 peacekeepers around the world in 1991, conducting operations along relatively quiet cease-fire lines in the Middle East, in Cyprus, and on the India-Pakistan border. Though located in explosive areas, these U.N. operations were comparatively stable and self-managed. Within four years peacekeeping expanded to over 80,000 "blue helmets" in the field, and at one point the United Nations managed three huge operations (Cambodia, Somalia, and the former Yugoslavia), each involving a major civil conflict. Almost as quickly as peacekeepers expanded their presence, they were scaled back to traditional levels of about 20,000.

In his book, *Blue Helmets: The Strategy of U.N. Military Operations*, John Hillen surveys U.N. operations and focuses on the crisis period between 1993 and 1996. The product of research for his doctorate at Oxford University, the volume is extremely well documented and systematic in its analysis. A former Army officer and combat veteran of the Gulf War, Hillen narrows his focus to the military aspects of U.N. operations and specifically to force structure, command and control, and military objectives.

In the introduction the author recognizes that the military aspects of an operation cannot be divorced from the broader context of diplomatic, economic, and humanitarian endeavors. Military operations are one part of a larger puzzle and should not be exclusively credited with the success or failure of U.N. missions. In the final

analysis, success or failure lies principally with the parties to a conflict and their political leaders. Nevertheless the focus of *Blue Helmets* on the military aspects is a corrective to the political or multidisciplinary approach of other recent works on this subject.

The author groups U.N. operations into observer missions (such as the Middle East and India-Pakistan), traditional peacekeeping (Cyprus and Lebanon), second generation peacekeeping (Somalia and Bosnia), and enforcement actions (Korea and Desert Storm). While one might argue with these categorizations, they prove to be effective in the subsequent analysis.

Observer missions were born out of necessity to complement Middle East peace processes between 1948 and 1968. Hillen carefully considers mandates, force structure, and command and control arrangements by sampling missions from the early Middle East operations to El Salvador and Guatemala in the early 1990s. His analysis here is sound but a bit repetitious. He concludes that U.N. military determinations such as force structure and assigned tasks were driven more by political considerations than military planning. This often results in a small number of ill-equipped and poorly trained troops taking on overly ambitious military tasks such as overextended patrolling zones and essentially political tasks such as conflict resolution. Nevertheless the author gives these observers fairly high marks and recognizes their contribution to the broader political processes they were sent to support.

The next section treats what is called traditional peacekeeping, a classic case being the long running operation in Cyprus. Traditional peacekeepers are deployed in organized units, usually infantry battalions, instead of the individual commissioned and non-commissioned officers assigned to observer missions. Political considerations, however, are similar to those of observer missions: military units operate with the consent of the belligerents. In such missions, *Blue Helmets* identifies what will haunt large operations which await the United Nations

Lieutenant Colonel Michael A. Sheehan, USA (Ret.), currently is Deputy Assistant Secretary of State for International Organizations.

U.S. peacekeepers in
Skopje, Macedonia.



U.S. Air Force (Charlie Parshley)

in the future: the tendency of force commanders to call home to their capitals when facing difficulties, particularly the use of force.

The lessons of peacekeeping are already taking shape as the author turns to the crisis period of second generation peacekeeping. These operations, frequently conducted under chapter VII of the U.N. Charter and with the authority to use force to protect or implement mandates, include the well-known and controversial efforts in Somalia and the former Yugoslavia. Although it rehearses events discussed elsewhere, the book's examination of the purely military planning aspects of such operations contributes significantly to the literature. The problems identified in earlier missions are exacerbated by size and because they are being conducted in the midst of civil conflicts as opposed to cease-fire lines. Force structure (participating countries have varied objectives and capabilities), command and control (advanced communications allow them to call home frequently), and "mission creep" into nonmilitary tasks posed difficulties in these operations from start to finish.

Not surprisingly, the author's conclusions are similar to those of the Clinton administration (Presidential Decision Directive 25) and the United

Nations (Boutros-Ghali's *Agenda for Peace II*). They each conclude that although the United Nations can conduct narrowly defined peacekeeping operations with the consent of the parties, more complex enforcement operations are best left to a coalition of willing and capable member states, such as NATO.

It is hard to argue with this judgment, especially for this reviewer who participated in such processes in both Washington and New York. However, these sweeping generalities were made prior to the quiet revolution in peacekeeping of the past few years.

Since 1995 the United Nations and the United States have combined to achieve remarkable success in several low profile operations in the Balkans. In eastern Slavonia, an American chief of mission supervised an operation that included over 7,000 troops, tanks and attack helicopters, and an enforcement mandate. In Macedonia a preventive deployment operation included U.S. combat units in blue helmets and contributed to stability in that volatile spot. On the Prevlaka Peninsula along the Adriatic Sea a handful of peacekeepers helped keep an explosive Serb-Croatian flashpoint quiet. Although some may argue that it is early to assess

the ultimate results of the Haiti operation, the military operation clearly enjoyed enormous success in sustaining the returned democratically elected government, finishing the demobilization of an entire army, monitoring an interim police force, and providing a stable environment for new political and judicial institutions.

The final chapter in *Blue Helmets* deals with two enforcement actions, the Korean War and Desert Storm, and does not really fit. Both operations, although sanctioned by the United Nations, were not under blue helmets and were not peacekeeping operations, as were all others in the book. Perhaps a better example of a non-U.N. operation is the French, Italian, and specifically American experience in Lebanon during 1982 and 1983. In that case, the U.S. military had a unified force structure and coherent chain of command but found itself in a political quagmire. It culminated in the worst American peacekeeping experience when over two hundred marines were killed by a terrorist truck bomb. Despite this setback, the United States and its NATO allies did not conclude that they were incapable of conducting complex peacekeeping operations. Instead it is necessary to act smarter and be more politically astute, as demonstrated over the last few years in Bosnia.

Blue Helmets is a valuable tool for peacekeeping planners, both military and political. The Clinton administration recently stressed that "details matter" on weapons inspection issues in Iraq, even for senior political leaders. This also applies to military aspects of peacekeeping. This book also is a sobering reminder to those who might be tempted "to throw peacekeepers at a crisis" and then expect them to be a panacea for deeper political questions. Blending the political and military requirements of peacekeeping proves in the end to be more art than science. However, successful planners and practitioners must be grounded in sound principles and experience. John Hillen has made a major contribution to the study of the military art of peacekeeping. **JFQ**

LEANER, MEANER (AND DEJECTED?) SOLDIERS

A Book Review by

HARRY G. SUMMERS, JR.

The Downsized Warrior: America's Army in Transition

by David McCormick

New York: New York University

Press, 1998.

259 pp. \$24.95

[ISBN 0-81475-584-4]

Beware of baby-boomers bearing books. The most narcissistic, self-centered generation in history, they believe as a matter of faith that the world began when they were born and perforce all the trials and tribulations they have experienced happened to them alone. Thus they hold that the Vietnam War was the most brutal, inhumane, and horrific in the history of mankind. The reality, as my battalion operations sergeant, a veteran of Bastogne, informed complaining boomer riflemen in the bush near Phuoc Vinh in 1966, is that by comparison to his war it was a walk in the woods.

Now comes David McCormick—management consultant, West Point graduate, and veteran of the Gulf War—to tell us about another “extraordinary” experience suffered by his generation. *Downsized Warrior*, based on a doctoral dissertation presented to Princeton University, is “a tale of two armies. It is a story of the corporate army, which unsuccessfully resisted deep reductions in its budget and endstrength. . . . But it is also the story of the muddy boots army—a corps of officers . . . who have been dramatically and unfavorably affected by downsizing.” Incremental cuts in personnel over a long time have degraded the officer corps, opines McCormick, damaging professionalism, morale, career expectations, and organizational commitment. Careerism as well as competition are pushing out cooperation and initiative. He concludes, “make no mistake: these trends, alarming in and of themselves, are even more so if seen as harbingers of darker days to come.” But like his kindred spirits in Vietnam, the author lacks historical perspective.

Consider McCormick's discovery that “in the decisions leading up to the first two waves of post-Cold War downsizing—the Base Force and the Bottom-Up Review—budgetary and political considerations were the predominant determinants of military policy.” It was ever so. Seventy-five years ago George Marshall pointed out this had been true since the Revolution. Explained the General, the Army was strengthened and then slashed “with somewhat monotonous regularity.” Caught unprepared by the outbreak of war, it was rapidly built up to combat strength. Yet as soon as a conflict ended the public forgot the reason for going to war, became preoccupied with the cost of maintaining large forces, and sought to reduce them. Thus the lessons of unpreparedness were quickly shelved and the Army was decimated yet again.

Downsizing after World War I made today's cuts seem almost inconsequential. Marshall was reduced from lieutenant colonel to major, and the Army's officer corps went from 130,485 in 1918 to 13,784 in 1924. Promotions were practically nonexistent. When I was commissioned in 1957 the general who pinned on my bars said “Son, don't ever be discouraged. I spent 17 years as a first lieutenant.” The policy of the Army, Douglas MacArthur told the Senate in 1935, was to bring everyone along together in peacetime, then to rapidly bring to the fore those who could stand the pressure in war. And that is precisely what the Army did during World War II with majors like Ridgway, lieutenant colonels like Eisenhower, and colonels like Patton.

“Before 1939,” T.R. Fehrenback wrote in *This Kind of War*, “the United States Army was small, but it was professional. Its tiny officer corps was parochial but true. Its members devoted their time to the study of war. . . . They were centuries. . . . When so ordered, they went to war.” All of which begs the question: How could the officer corps, after suffering deprivations beyond the imagination of officers today (including at one time even withholding their pay), rise to the occasion and build the mightiest force the Nation has ever known and then lead it to victory while currently officers, according to McCormick, despair at the least discomfort?

Unfortunately, that question is not addressed. Instead, the book concentrates on post-Cold War downsizing. The opening chapter looks at the politics of downsizing, chapters two and three focus on

the corporate Army, four looks at the effects of downsizing on the “muddy-boots Army,” and the last offers solutions. “While there are no obvious villains . . . there is one obvious victim: a healthy and vital American Army.”

The Army, faced with the monumental task of cutting the officer corps over 30 percent in five years, has carried out the reduction with “great precision, compassion, and success,” according to the author. One reason is the analytic culture which was inculcated by the late General Maxwell Thurman and his “scientific management approach to human relations.”

But that approach had a downside. By its almost total emphasis on quantifiable measures, as I once complained to Thurman, it could conclude that Gore Vidal would make a better soldier than Audie Murphy, a conclusion even Vidal would surely reject. As a result of this “bureaucratic, mechanistic, and impersonal approach to managing people,” McCormick claims, “the post-Cold War Army is not only leaner but also meaner—unhappy, more selfish and competitive, and less committed and cooperative.”

By way of reform, the author states, correctly in my view, we must modify the present policy of “up-or-out” to guarantee longer and more secure military careers and create more flexibility. But he misreads the future by denigrating the mobilization capability of the Reserve Components. His conclusion that tomorrow's conflicts will be come-as-you-are affairs and end before there is time to mobilize either conscripts or Reservists resurrects one of the great fallacies of war. Short wars are always the aim but rarely the reality.

Read *Downsized Warrior* for a most useful history of the post-Cold War downsizing of the Army and for valuable insights into the workings of its personnel system. But put no stock in the notion that the future (in the words of Andrew Krepinovich) will put “a premium on [officers] with cultural sensitivity.” Sensitivity is all well and good, but as Clausewitz warned, “Sooner or later someone will come along with a sharp sword and hack off our arms.”

JFQ

Colonel Harry G. Summers, Jr., USA (Ret.), is a syndicated columnist and noted lecturer.

A TRANS-ATLANTIC MID-LIFE CRISIS

A Book Review by

THOMAS-DURELL YOUNG

NATO on the Brink of the New Millennium:

The Battle for Consensus

by Rob de Wijk

London: Brassey's, 1997.

176 pp. \$39.95

[ISBN 1-85753-258-9]

The bureaucratic equivalent of a shocking kiss-and-tell bestseller, *NATO on the Brink of the New Millennium* is a behind-the-scenes account of the debate within the North Atlantic Alliance over changes in the European balance of power. What gives this work credibility is that the author participated in the events described. Rob de Wijk has headed the Conceptual Planning Division of the Ministry of Defence in the Netherlands since 1989, a pivotal position from which to survey the debate. He documents the discussions, debates, and controversies central to NATO reform. Many readers will be surprised to learn about issues that normally remain cloaked under that often abused and intellectually debilitating marking of "NATO Confidential."

This book exposes the challenge to reform. Specifically, de Wijk analyzes two key reform processes which have never been explained to the public. For this reason it is worth a careful read. One learns of the debate held behind closed doors by the Defence Review Committee that produced the "new strategic concept" in 1991, which replaced the strategy of flexible response (MC 14/3). This issue was not debated without considerable acrimony, though consensus was achieved rather quickly by NATO standards and even included the French. Second, one would be well advised to read the sections on the plodding work of the long-term study group (derided by NATO staffers as a life sentence). That group has two tasks. The first is reform of MC 400, which implemented the new strategic concept and the eventual endorsement of MC 400/1. Less successful is the effort to build a consensus on revamping inte-

Thomas-Durell Young is a member of the Strategic Studies Institute at the U.S. Army War College.



Italian tank
destroyer in Pale.

1st Combat Camera Squadron (Lance Cheung)

grated command structure, a task which is rife with national agendas. De Wijk's account of this contentious and so far unsuccessful effort is long overdue.

The book also details creation of the Partnership for Peace program, the struggle to develop the combined joint task force concept, and the intense debate surrounding membership expansion. Particularly informative is the treatment of the never-ending, frustrating task of managing relations with Paris. Here some of the more interesting problems include efforts to entice France to declare forces to the Alliance and rejoin the NATO integrated command structure, and the destructive and confusing polemics which erupted in 1996 over the French proposal to name a European instead of an American as Commander in Chief Southern Europe. In sum, de Wijk covers all the substantive issues that the Alliance has faced since 1989, shedding light on national positions and explaining how consensus was achieved or what led to failure.

This volume will attract an enthusiastic audience among students of NATO adaptation since it began to unfold in 1989. Moreover, American officers will benefit by reviewing it prior to their initial NATO assignments, which often leave newcomers perplexed over the rationale for otherwise straightforward issues and documentation when they encounter it

in an historical vacuum. And finally, the Alliance would be well served if every commander down to the subprincipal subordinate level recommended this book as professional reading to alleviate confusion about NATO commands.

It is remarkable that the author was able to publish this book. Anyone who has written about events that skirt the fringes of allegedly classified information will appreciate the painstaking effort de Wijk went through. However, in this instance equal praise must go to NATO, particularly its Office of Information and Press. That the Alliance supported publication of this singular work, as opposed to a less dichotomous and consequently less valuable monograph, reveals that the struggle to adapt to the new international security environment is advancing. **JFQ**

JFO
welcomes your letters
and comments

Fax your correspondence to
(202) 685-4219/DSN 325-4219
or via e-mail to JFQ1@ndu.edu

DISTRIBUTION: *JFQ* is distributed to the field and fleet through service channels. Individuals and organizations interested in receiving the journal on a regular basis should make their requirements known through command channels. Any corrections in shipping instructions for service distribution should be directed to the appropriate activity listed below.

■ **ARMY**—Contact the installation publications control officer (citing Misc. Publication 71–1) or write: U.S. Army Publications Distribution Center, ATTN: Customer Service, 1655 Woodson Street, St. Louis, Missouri 63114–6181, or call (314) 263–7305 / DSN 693–7305 (extension 268); or order via Starpubs or the Internet [http://www.usappc.hoffman.army.mil].

■ **NAVY**—Contact the Navy Inventory Control Point, Customer Service List Maintenance (Code 3343.09), 700 Robbins Avenue, Philadelphia, Pennsylvania 19111–5098; requests may be sent by Fax to (215) 697–5914 (include SNDL, UIC, and full address).

■ **MARINE CORPS**—For one-time distribution of an individual issue write to Marine Corps Logistics Base (Code 876), 814 Radford Boulevard, Albany, Georgia 31704–1128; request by Fax at (912) 439–5839 / DSN 567–5839. To be placed on standard distribution contact Headquarters, U.S. Marine Corps (Code ARDE), Federal Building No. 2 (Room 1302), Navy Annex, Washington, D.C. 20380; request by Fax at (703) 614–2951 / DSN 224–2951.

■ **AIR FORCE**—Submit AF Form 764A with short title “JFQN (indicate issue number)” to the base publications distribution office to establish unit requirement through the Air Force Distribution Center, 2800 Eastern Boulevard, Baltimore, Maryland 21220–2896.

■ **COAST GUARD**—Contact Headquarters, U.S. Coast Guard, ATTN: Defense Operations Division, 2100 2nd Street, S.W., Washington, D.C. 20593–0001.

In addition to service channels, bulk distribution is made directly to defense agencies, the Joint Staff, unified commands, service colleges, and other activities. Changes in shipping instructions should be communicated to the Editor (see schedule below).

SUBSCRIPTIONS: *JFQ* is available by subscription from the Government Printing Office. To order for one year, cite: *Joint Force Quarterly (JFQ)* on the order and mail with a check for \$17.00 (\$21.25 foreign) or provide a VISA or MasterCard account number with expiration date to the Superintendent of Documents, P.O. Box 371954, Pittsburgh, Pennsylvania 15250–7954, or Fax the order to: (202) 512–2233.

Individual copies may be purchased through GPO bookstores nationwide for \$8.00 each.

CONTRIBUTIONS: *JFQ* welcomes submissions from members of the Armed Forces as well as from both defense analysts and academic specialists from this country and abroad, including foreign military officers and civilians. There is no required length for contributions, but manuscripts of 3,000 to 5,000 words are appropriate. Other submissions, however, to include letters, commentary, and brief essays are invited. Reproductions of supporting material (such as maps and photos) should be submitted with manuscripts; do *not* send originals. Unsolicited book reviews are generally not accepted for publication.

All submissions to *JFQ* must be accompanied by a covering letter which states that the manuscript has not been previously published and is not being submitted simultaneously to any other publication. In addition, the letter must include the author's full name (including military grade, service/component, and assignment if applicable), a complete postal address (with Zip code), and a work telephone number. Submissions which do not comply with these conditions may not be considered for publication. Neither facsimile nor e-mail manuscripts will be accepted as formal submissions.

All manuscripts are reviewed, a process which takes approximately three months. To facilitate review, provide three copies of the manuscript together with a 150-word summary. Place personal or biographical data on a separate sheet of paper and do not identify the author (or authors) in the body of the text. Follow any accepted style guide in preparing the manuscript, but endnotes rather than footnotes should always be used. The manuscript should be double-spaced with one-inch margins.

JFQ reserves the right to edit contributions to meet space limitations and conform to the journal's style and format. Proofs of articles accepted for publication are not normally returned to authors for review.

Unless evidence of prior clearance is provided, all manuscripts selected for publication which are contributed by members of the U.S. Armed Forces or employees of the Federal Government are forwarded to the Office of the Assistant Secretary of Defense for Public Affairs to undergo security review. No honorarium or other form of payment is authorized for the publication of articles submitted by servicemembers or U.S. Government employees.

If possible submit the manuscript on a disk together with the typescript version. While 3.5- and 5.25-inch disks in various formats can be processed, WordPerfect is preferred (disks will not be returned unless requested). Information on the submission of contributions is available by contacting (202) 685–4220 / DSN 325–4220, Fax: (202) 685–4219 / DSN 325–4219, or writing to the Editor, *Joint Force Quarterly*, ATTN: NDU–NSS–JFQ, 300 Fifth Avenue (Bldg. 62), Fort Lesley J. McNair, Washington, D.C. 20319–5066. **JFQ**

DISTRIBUTION SCHEDULE

A total of 35,000 copies of *Joint Force Quarterly* is distributed worldwide. Of this number, more than 17,500 copies are sent directly to the five services for breakdown and delivery to subordinate commands, units, bases, etc. Bulk shipments also are made to other organizations listed below.

	<i>copies</i>		<i>copies</i>		<i>copies</i>
Office of the Secretary of Defense	400	U.S. Atlantic Command	150	PME Institutions	
Joint Staff and Joint Activities	700	U.S. Southern Command	150	U.S. Army War College	600
Services		U.S. Central Command	275	U.S. Army Command and General	
Army	3,000	U.S. Strategic Command	275	Staff College (including the School	
Navy	6,500	U.S. Space Command	150	of Advanced Military Studies)	1,525
Marine Corps	1,500	U.S. Special Operations Command	150	Naval War College (both resident and	
Air Force	6,500	U.S. Transportation Command	100	nonresident programs)	1,750
Coast Guard	125	Defense Agencies		Naval Postgraduate School	300
Unified Commands		Defense Information Systems Agency	125	Marine Corps War College and Marine	
U.S. European Command	275	Defense Intelligence Agency	150	Corps Command and Staff College	400
U.S. Pacific Command	275	Defense Logistics Agency	150	Air War College	450
U.S. Forces Korea	75	Defense Nuclear Agency	25	Air Command and Staff College	
U.S. Forces Japan	50	National Imagery and Mapping Agency	25	(including the School of Advanced	
Alaska Command	25	National Security Agency	25	Airpower Studies)	900

In addition to the above, copies of *JFQ* are distributed to general/flag rank officers and members of Congress; service doctrine centers; both U.S. and foreign military attachés; and selected educational institutions, journals, and libraries in this country and abroad.





JFQ

J O I N T F O R C E Q U A R T E R L Y

Published for the
Chairman of the Joint Chiefs of Staff
by the Institute for National Strategic Studies
National Defense University
Washington, D.C.