JFQ

Battlespace Management in Integrated Operations

Joint Interagency Cooperation: The First Step

U.S. European Command and Transformation

Force Protection Lessons from Iraq

Industrial College of the Armed Forces 80th Anniversary

37
Issue
2d Quarter
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Transformation During War

plus
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Defense Attaché System,
Network Warfare,**

and more in issue thirty-eight of JFQ

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JOINT FORCE QUARTERLY

> Nothing is more important in war than unity in command.
> —Napoleon

> Unity of command is not alone sufficient. Unity of planning, unity of common item procurement, and unity of doctrine are equally necessary.
> —General Henry H. ("Hap") Arnold

> You will usually find that the enemy has three courses open to him and of these he will adopt the fourth.
> —Moltke, The Elder

> There are no "battlespace management" magic bullets that will substitute for the ability of on-scene Commanders, Soldiers, and Airmen to make appropriate decisions based on the ebb and flow of events.
> —Richard P. Hallion, Jr.

A Word from the

Gen Richard B. Myers, USAF, meeting peacekeeping commanders in Haiti

Chairman

1st Combat Camera Squadron (Andy Dunaway)

As we struggle against international terrorists, we have learned that the very freedoms that define America also create vulnerabilities. Terrorists attempt to exploit these vulnerabilities to force us to abandon the hard-won freedoms we enjoy and destroy our way of life. Benjamin Franklin once said, "They that give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety." The challenge of maintaining America's security and freedom falls to our brave servicemen and women.

Today, violent extremists, with their potential to create catastrophic effects with weapons of mass destruction, make success imperative. Weapons of mass destruction, a global economy, accessible technology, unregulated cyberspace, and widely available satellite navigation and communications provide our enemies with cheap resources that were previously available only to first world powers.

Many call the terrorists' strategy *asymmetric warfare,* that is, attacking us at our weak points—our citizens and commerce—while avoiding our strengths by generally steering clear of direct military confrontation. We spend considerable energy studying terrorists and their methods and motivations. While we must not underestimate the threat, we must also recognize that America possesses asymmetric advantages.

JFQ

PHOTO CREDITS

The cover shows F–14 readying for launch from *USS Harry S. Truman* (U.S. Navy/Kristopher Wilson). The front inside cover features [top to bottom] Navy Seabees securing school in Fallujah for reconstruction (U.S. Navy/Jeremy L. Wood); Soldiers securing traffic control point near Ad Duluyiah, Iraq (U.S. Air Force/Shane A. Cuomo); Marines conducting security check on convoy to Harwan, Iraq (U.S. Marine Corps/Kevin W. Williams); and Air Force pararescue squadron members setting up communications in Green Zone of Baghdad (U.S. Air Force/Shane A. Cuomo). The table of contents depicts [left] mobile sensor platform providing surveillance at Kuwait naval base (U.S. Navy/Wes Eplen); [right] M1 battle tank at checkpoint in Ah Salama, Iraq (U.S. Army/Jason Heisch). The back inside cover shows regimental combat team returning from border crossing inspection (U.S. Air Force/Shane A. Cuomo). The back cover reveals [top] Marines conducting security operation in Iraq (3ᵈ Marine Division Combat Camera/James L. Yarboro); [left to right] testing Raven UAV in Iraq (55th Signal Company Combat Camera/Jeremiah Johnson); the first F/A–22 assigned to Langley Air Force Base (U.S. Air Force/Samuel Roger); and Littoral Surface Craft–Experimental under construction (U.S. Navy/Jesse Praino).

Joint Force Quarterly

Joint Force Quarterly 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, cyberspace, and special operations forces. *JFQ* is the Chairman's flagship joint military journal designed to assist national security professionals in conducting informed debates on joint and integrated operations; supporting joint professional military education; assisting in policy development and security planning, execution, and the transition to peace; informing decisionmakers and the interagency community on important defense strategy matters, including winning the war on terror and transforming America's military to meet tomorrow's challenges.

April 2005

One of our key advantages is our battlespace management capability. Overall, I think of *battlespace management* as the aggregate of our command, control, communications, and computers (C⁴) and intelligence, surveillance, and reconnaissance (ISR) systems, or what we often call C⁴ISR. It is a *system of systems*.

In the past, we have used many of these systems in custom architectures that are elaborate and functional but expensive. Now we are learning how to integrate and standardize these systems, cutting across service and command stovepipes, to facilitate control of not just one battlefield but of multiple operations across a larger battlespace.

Taking a holistic view, the goal of the battlespace management system is to give commanders the best situation awareness possible. Accurate battlespace awareness provides the capability to turn knowledge into effects tailored to achieve our Nation's military and political objectives.

> **all battlespace management components must work together to facilitate information collection, fusion, and sharing**

The information age has made it possible to achieve desired effects with such speed, precision, and power that new concepts of battlespace management are absolutely required. We also need to move past stovepipes that may have outlived their helpfulness. *ISR* was a Cold War term that many organizations continue to use. The acronym evolved as people recognized the connection between the elements. But today the distinction between these specific intelligence-gathering terms is blurred.

In the past, I have used *battlespace awareness* to replace ISR, and it is really a subset of the greater battlespace management system. Now all battlespace management components must work together to facilitate information collection, fusion, and sharing with the goal of enabling rapid, accurate decisions both in the field and at the national level. This data fusion must help build an accurate, real-time, common operating picture so all commanders can seamlessly share information and execute operations or missions.

In our present conflict with violent extremists, the battlespace includes the entire world. The conflict spans nation-states and cultures, continents and oceans, and international boundaries and combatant command regions of responsibility. Individuals fighting terrorists are operating

**P–3 on battlespace
surveillance training**

U.S. Navy (Aiesha A. Stanaitis)

on nonmilitary and cross-border fronts, and their efforts involve law enforcement, diplomacy, and finance. We thus need new battlespace management capabilities to transform our military competencies from joint operations to integrated operations that reflect the new partners we must coordinate with to defeat terrorists, such as other U.S. agencies, allied militaries and governments, nongovernmental organizations, and private industry. And to maximize our effectiveness, we must integrate from planning, to execution, to the transition to peace. Employing a coherent strategy that uses all instruments of power in concert will ensure success over the long term.

While we traditionally have done fairly well at moving intelligence and other information up and down chains of command, we sometimes have trouble exchanging information horizontally. We need better horizontal integration, foxhole-to-foxhole and among agencies and allies, as well as across organizational stovepipes.

We also need a more coherent approach to building battlespace management and integrating all the moving parts. We built an effective but expensive custom command and control system for Operation *Iraqi Freedom* and another for operations in Haiti. But we cannot continue to fight that way because it takes too long to build a team and train it, and it costs too much.

To maximize effectiveness and better use limited assets, we need to standardize battlespace management capabilities across the joint force. Each regional combatant command is creating a standing joint force headquarters (SJFHQ). In peacetime, these organizations will train and stand ready to respond on day one of a crisis. In wartime, they become the core and cadre for the commander's headquarters. SJFHQs will be able to deploy using reachback to reduce the forward footprint or to fully deploy, as the situation requires.

Integral to the SJFHQ is a powerful, deployable joint command and control (DJC2) suite. Because we will have a standardized, comprehensive suite of tools and experts trained to use it, DJC2 will improve our battlespace management advantage in standing joint force headquarters. Some of the DJC2 systems are operational, and more tools will be coming on line over the next few years. This joint capability will soon be far more standardized among the combatant commands, cutting across traditional regional stovepipes. Standardized plug-and-play equipment and similarly trained personnel will enable commanders to more flexibly tailor their headquarters for each joint task force in their areas of responsibility.

Elements of the SJFHQ deployed to Haiti in the spring of 2004, but the headquarters ele-

Marine officer and Director General of Haitian National Police reviewing map of Port-au-Prince, Haiti, March 6, 2004

1st Combat Camera Squadron (Andy Dunaway)

ment and all its planning tools were not yet fully operational. With DJC2, we will have a scalable headquarters capability, with the latest standardized battlespace management tools, available and ready in each regional combatant command.

An important part of each SJFHQ is the Joint Interagency Coordination Group (JIACG), a team of interagency representatives working together to integrate from planning through execution and resident in each combatant commander's SJFHQ. JIACGs help integrate operations by sharing information and planning with other U.S. Government agencies. Ultimately, JIACGs make it easier for commanders to build more coherent strategies that are better integrated with other nonmilitary instruments of national power.

> **JIACGs make it easier for commanders to build strategies that are better integrated with nonmilitary instruments of national power**

The SJFHQ concept is a departure from the ad hoc staffing of our operations centers in the past. We are moving into the information age and realizing the vision of network centric operations. The SJFHQ is the kind of innovative organization we must pursue if we want to maintain our asymmetric advantage in battlespace management. We are linking computers, databases, sensors, and platforms while encourag-

ing a new information-sharing culture to grow across stovepipes.

More remains to be done to meet the high demand for joint task forces (JTFs) for the war on terrorism, humanitarian assistance missions, and emerging threats. The number of operational JTFs has increased nearly 150 percent since 2000, with 24 operational in 2004, creating enormous personnel challenges for the services and combatant commanders. U.S. Joint Forces Command is leading the effort to determine the best way to meet this demand.

America's command and control advantage is a combination of incredible tools, such as DJC2, and the people who expertly employ them. The services and combatant commands must ensure that enough personnel are available with the skill sets needed to maintain our superiority in battlespace management. Likewise, JTF commanders must balance the benefits and challenges associated with trading reachback for forward presence in their joint force headquarters, such as footprint, bandwidth, logistic impact, mobility, and personnel.

Our battlespace management capability is one of America's greatest military advantages. We are transforming the Armed Forces while we fight to secure our legacy of liberty. It is a tough task, but the stakes could not be higher. The enemy is agile and determined. Fortunately, we have the resolve, dedication, and ingenuity of millions of dedicated servicemen and women and civilians ensuring that freedom triumphs over fear.

GENERAL RICHARD B. MYERS, USAF
Chairman
of the Joint Chiefs of Staff

Communiqué

This issue of *Joint Force Quarterly* brings to the forefront two important new terms: *battlespace management* and *integrated operations*. General Richard B. Myers, Chairman of the Joint Chiefs of Staff, discusses these terms and other new ideas in his introduction to this issue. The two terms recognize a dynamic international environment, new partners, and a need for flexible strategies to defeat the enemies we face today, while preparing for the threats of tomorrow.

General Myers explains in this issue that joint operations are the common baseline for America's forces in the post–Cold War world. We must there-

Navy engineer and Army Soldiers assessing battle damage photo of Fallujah

U.S. Navy (Suzanne M. Speight)

fore consider how better to integrate new partners, including partners from other agencies, allies, nongovernmental organizations, industry, and the private sector. Commanders must plan with these parties across the spectrum of warfare, conduct exercises with them, experiment with them, employ them, and keep the peace with them. Integrated operations certainly require innovative thinking because post–Cold War threats, international terrorists, weapons proliferators, and rogue states have expanded the modern battlefield into a truly worldwide battlespace.

In this challenging environment, *JFQ* is evolving too. Though we will retain diversity in each issue, we are becoming more thematic in our approach. Beginning with issue 36, the Forum section became the journal's central focus. Also, in this issue, the table of contents is color-coded. The color of the section in the contents matches the runner at the top of the page for easy identification. Another addition is a style guide for *JFQ* and other NDU Press submissions on our Web site. Although *JFQ* has always been known for visual appeal, we have added more action photos of our greatest asset: the men and women of the Total Force. You also will see the terms *Soldiers, Sailors, Airmen, Marines,* and *Coast Guardsmen*—the men and women of America's Armed Forces—capitalized, even though it bucks some academic style guides. *JFQ* is a professional military journal, and the staff wants to emphasize the crucial role our people play in executing our national security strategy.

In addition to presenting a forum on important issues, commentary, letters to the editor, and book reviews, *JFQ* will continue to offer historical and international viewpoints as well as research on the full spectrum of warfare—from conflict to war to the transition to peace. We will also occasionally offer unique features, sections that showcase important research and the words of senior military and civilian leaders. The special Industrial College of the Armed Forces anniversary section in this issue is the first of these features.

Our NDU Press Web site at www.ndu.edu is a useful resource, offering readers access to many other *JFQ* and NDU Press publications. We are interested in publishing provocative articles from the defense community, military of all ranks, civilians, interagency employees, and international partners. Please see our Web site or the last page of the journal for more information on submissions. We have rigorous standards and can select only the best pieces for publication. We are interested in your feedback to help us stay on target, on time. And I assure you, your *JFQ* staff will continue to do its best to provide a stimulating forum for today's most crucial security debates.

Thank you for your continuing support of *Joint Force Quarterly*.

COLONEL (S) MERRICK E. KRAUSE, USAF
Director of NDU Press and
Editor, *Joint Force Quarterly*

Battlespace Management

We are led, by events and common sense, to one conclusion: The survival of liberty in our land increasingly dep   on the success of liberty in other lands. The best hope for peace in our world is the expansion of freedom in all the world.

Indeed, although there are friends of freedom across the world, America still has a security dilemma: a dauntingly large battlefield. The repressive and borderless alliance of terrorists and rogue states, the nontraditional nature of modern asymmetric warfare, and the potential for a few to use technology to create devastating, worldwide effects mean the President and other decisionmakers in the free world are faced with an increasingly global battlespace and a military toolchest primarily developed in the Cold War. Fortunately, America and its allies are also exploiting modern technology, developing new partnerships, and creating innovative ways of managing this complex battlespace, one that covers all mediums, including cyberspace and what used to be called "outer space."

The Chairman of the Joint Chiefs of Staff further defined the

in Integrated Operations

threat, explained the new strategic battlespace, and called for increasingly integrated operations. In late 2004, General Richard B. Myers remarked at the Economic Club of Indianapolis:

It is a very different war than we've fought in the past, against a very different kind of adversary or enemy, an enemy that really knows no limits. You see this all the time—they know no limits, whether they're territorial or whether they're moral limits. The torture chamber we found in Fallujah, the weapons caches and fighting positions in 66 of the 70-some mosques in that town, the videotaped beheadings of hostages. These are the gruesome reminders of who it is we're

up against, and what they think is important, and how their vision of the world departs so dramatically from ours . . . this is going to be a long struggle, and while the military will play an important role, the military can't do it alone. Diplomacy, all instruments of our government—education, economic development—all need to play if we're going to keep from creating more folks who want to join the extremist side as opposed to trying to have a meaningful life in society, normal society as we know it.

This *Joint Force Quarterly* forum answers the Chairman's call by examining several perspectives of battlespace management. The articles go beyond discussing the challenges of managing informa-

tion, however. As the threat has increased, so has the need for joint warfighting to evolve to meet new post–Cold War challenges. Therefore, what the Chairman of the Joint Chiefs now calls *integrated operations* are a vision of transformation in which new partners and a diverse mix of military and nonmilitary instruments of national power will provide security for peace-loving nations in an uncertain world.   **JFQ**

Joint Interagency Cooperation: The First Step

By MATTHEW F. BOGDANOS

Baghdad International Airport

Shadowy networks of individuals can bring great chaos and suffering to our shores. . . . To defeat this threat we must use every tool in our arsenal.

—*The National Security Strategy of the United States of America* (September 2002)

On September 11, 2001, the United States possessed superb military forces, unparalleled information-collection assets, and dedicated intelligence analysts. But it failed to use them effectively, suffering from an almost systemic and often self-imposed lack of coordination and information-sharing among governmental agencies. When 19 terrorists hijacked 4 planes, murdering at least 2,973 men, women, and children from 70 countries, it was clear

the status quo could no longer be tolerated.[1] This new threat required the breadth of vision, speed of action, and management of resources that could be accomplished only through synchronizing all the elements of national power to achieve what General Richard Myers, Chairman of the Joint Chiefs of Staff, calls *integrated operations,* which must permeate all phases of conflict, from planning and war to stability and reconstruction. U.S. Central Command (CENTCOM) responded to this threat by creating a Joint Interagency Coordination Group (JIACG). It was only the first step, but it was an order of magnitude greater than any prior attempt. This article traces the development of

Colonel Matthew F. Bogdanos, USMC, was recalled to active duty after September 11 from his position as a New York City prosecutor. He is currently detailed to the National Strategic Gaming Center, Institute for National Strategic Studies at the National Defense University.

the CENTCOM JIACG through two wars, using it as a case study to highlight the need for better and institutionalized interagency coordination at the operational level, and concludes with practical recommendations for using "every tool in our arsenal" to reduce the likelihood of future terrorist attacks.

Task forces and working groups designed to facilitate interagency coordination have existed for years, but they were usually ad hoc, limited in authority, narrow in scope, and viewed with suspicion by most governmental entities, including the Department of

joint doctrine—the authoritative guidance that should have provided assistance in navigating interagency waters—lagged badly

Defense (DOD). As a result, such organizations have had difficulty breaking down barriers and penetrating information stovepipes. For example, on September 11, the United States had at least five different lists of its most wanted terrorists.[2] President George W. Bush had previously issued National Security Presidential Directive 1, replacing 102 interagency working groups with a three-tiered National Security Council (NSC) system for interagency coordination. But joint doctrine—the authoritative guidance that should have provided assistance in navigating interagency waters—lagged badly.[3] According to *Joint Vision 2020*, "The primary challenge of interagency operations is to achieve unity of effort despite the diverse cultures, competing interests, and differing priorities of participating organizations."[4]

Crisis and Creation

There is advantage in the wisdom won from pain.

—Aeschylus, *The Eumenides*

Recognizing that combating terrorism requires capabilities beyond those of any single agency, General Tommy Franks, USA, Commander, CENTCOM,

requested permission in October 2001 from Secretary of Defense Donald Rumsfeld to establish an "interagency coordination cell" and assistance in soliciting participation from national-level agencies. Secretary Rumsfeld authorized a JIACG and granted it the rare authority to coordinate directly with the necessary agencies.

General Franks immediately tasked then-Brigadier General Gary Harrell, renowned for his team-oriented mission-first focus, with creating this interagency coordination cell and, in November 2001, approved a Joint Interagency Task Force–Counterterrorism (JIATF–CT) with 30 military billets and as many non-DOD personnel as could be recruited. General Harrell put together a team, drawing some members from CENTCOM (including this author) but most from the special forces community, and sent an advance team to Afghanistan the day after Thanksgiving 2001. The remainder deployed throughout December and, by the end of the year, JIATF–CT was fully functional.

A true interagency team emerged in the mountains of Afghanistan that first winter, with members from the Federal Bureau of Investigation (FBI), Central Intelligence Agency (CIA), Diplomatic Security Service, Customs Serv National Security Agency, Defense Intelligence Agency, Defense Human Intelligence Service, New York's Joint Terrorism Task Force, and the Justice, Treasury, and State Departments, a others. Through a small detachment at CENTCOM headquarters in Tampa, Florida, JIATF–CT established and maintained real-time communications between the field and Washington. Functioning primarily as an intelligence-gathering fusion center, while at the same time jointly operating Afghanistan's main interrogation facility in Bagram, JIATF–CT comprised 36 U.S. military, 57 non-DOD, and several British and Australian special forces personnel. Working side by side and sharing information, expertise, and resources, JIATF–CT achieved results out of all proportion to its size: the detention and interrogation of several senior al Qaeda members, the photographic identification of 11 of the

"Top 25" Taliban and al Qaeda participants sought by the United States, and the establishment of the first border-security program in Afghanistan using multiagency collection assets and biometric identification systems. Visiting in February 2002, General Myers observed "this is exactly what the Secretary and I had in mind."

Despite these successes, JIATF–CT lacked the resources to develop a theater-level or to shape a national-level interagency strategy. On returning stateside in April 2002 after Operation *Anaconda*, therefore, JIATF–CT began to transform from an operation-specific task force to a comprehensive JIACG better able to wage the long-term war on terrorism. In June 2002, General Harrell took command of Special Operations Command Central, and this author was appointed JIACG's deputy director, reporting to Brigadier General James Schwitters, a no-nonsense leader with superb interagency instincts.

In contrast to the speed with which CENTCOM had formed its JIATF–CT, the interagency process inside Washington crept. Secretary Rumsfeld requested assistance from the Deputies Committee in October 2001, JIATF–CT deployed to Afghanistan in November 2001, and Deputy National Security Adviser Stephen Hadley twice solicited each agency's "views on DOD's proposal to augment selected [combatant commander] staffs with agency representatives"[5] in December 2001. Yet it was not until January 29, 2002, that the Deputies Committee issued even a nonbinding memorandum on JIACGs. In a classic case of initiative preceding approval, the CIA, FBI, and Departments of Justice, Treasury, and State—each of which had already detailed personnel to JIATF–CT—supported the proposal and agreed to send people. U.S. Customs, which would prove one of the most valued members of JIACG for its superior databases and illicit-trafficking and terrorist-funding expertise, was not among the original agencies solicited. Worst of all, the Deputies Committee produced no memorandum of agreement on JIACGs, perhaps because agencies were reluctant

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to formalize the assignment of personnel to DOD for an untested concept.

The Joint Staff then issued its first specific guidance, confirming each JIACG's counterterrorism mission but prohibiting it from making policy, tasking non-DOD personnel, or altering lines of authority and coordination channels already in place. In short, JIACGs were created to execute and influence policy, but not to make it, and to establish new interagency links, but not to replace habitual relationships or traditional chains of command. The Joint Staff left to the commander the decision as to which of the three interagency communities JIACGs would coordinate: intelligence, political-military, or law-enforcement.

The Intelligence Community includes the CIA, Defense Intelligence Agency, National Security Agency, and others. At CENTCOM, the information-collection and analytical capabilities of these agencies were historically managed in the Joint Intelligence Center, while robust coordination with

the law enforcement community enjoyed no formal relationship with CENTCOM prior to JIACG

the CIA was conducted through the command's special adviser, an assigned representative from the Director of Central Intelligence. The Chairman's instruction was to continue using the joint intelligence center and CIA office, but to supplement those capabilities with additional intelligence and CIA personnel assigned to JIACG.

The political-military community, overseeing traditional civil-military operations such as humanitarian assistance and refugee control, as well as security assistance and foreign military sales, was the responsibility of the CENTCOM Plans Directorate in coordination with the commander's political adviser, a State Department representative of ambassadorial rank. JIACG was instructed to broaden and improve these relationships, but not to supplant them.

The law-enforcement community, however, enjoyed no formal relation-

ship with CENTCOM prior to JIACG. In large part, this was because of the command's misplaced concerns about violating either the Posse Comitatus Act[6] or intelligence oversight restrictions.[7] The task, therefore, within multiple interagency environments and while still maintaining the tactical synergy achieved in Afghanistan, was to transform the combat-tested JIATF–CT into a JIACG capable of developing the operational depth to conduct theater-level planning and the strategic reach to shape national-level planning. To achieve concurrence after months of debate within the CENTCOM staff, JIACG agreed to support other staffs in four functional areas—political-military (or ambassadorial) activities, civil-military operations, intelligence fusion, and CIA-specific operational advice—while taking the lead on counterterrorism-related initiatives within the law-enforcement community. In September 2002, JIACG's proposed mission and force structure of 26 military positions were approved.[8] Thereafter reporting directly to then-Major General Victor E. Renuart, Jr., a leader of extraordinary interagency vision and acumen, JIACG began developing a concept of operations based on five core principles designed to provide multiple-agency perspective, depth, and resources to the commander.

Determining that the most effective way to participate in command planning efforts was not to establish yet another working group, JIACG chose as its first principle to provide a representative to every major planning cell in the command. Because there were not enough agency representatives to attend every meeting, JIACG trained its military personnel in the missions, capabilities, and limitations of a dozen agencies and assigned them to specific cells. While this was labor-intensive—each JIACG officer was assigned to several cells—such omnipresent and proactive participation gave rise to true grass-roots interagency coordination. Prior to JIACG, a plan was usually in final draft before it was approved to be seen by other agencies. Through JIACG, however, all relevant agencies participated in the plan's actual development. While non-DOD

representatives could not officially speak for their parent agencies, which would have stepped into the prohibited realm of policymaking, they could and did offer unofficial input by virtue of their expertise as members of their agencies. It was a subtle distinction, but it worked. Representatives also conducted informal coordination w   their parent agencies in advance of the plan's release, enabling them to advise CENTCOM of what that particular agency's official position would ultimately be. This frequently allowed planners to resolve issues before they "officially" existed.

The second principle—that mission accomplishment, not pride of ownership, had to be the benchmark for any initiative—was designed to ensure that civilian-developed ideas received the same consideration as those generated by the military. Every product from JIACG was released without indicating whether DOD or another agency had proposed it. Each JIACG member then served as a zealous advocate for that plan. This honest-broker principle proved especially effective: both civilian and military members were often able to convince their respective commands to accept such proposals over initial objections.

Because any plan is only as good as the information it is based on, the third principle was to establish robust information-sharing procedures to m   the flow of information within JIACG. The imperative was to avoid the operational failures inevitably associated with functioning in insular information stovepipes. Because everyone in JIACG operated on the same network and had the same top-secret security clearance, two significant impediments to information sharing were removed. To complete the transformation, however, JIACG enforced an "everybody or nobody" approach that was not just a catchy phrase but a core value. Every member of JIACG—both military and civilian—was required to send all messages, reports, and cables to every other member. Moreover, by making available the results produced

Weapons cache discovered in Baghdad

U.S. Marine Corps (Matthew Bogdanos)

from each agency's information-collection assets and establishing direct access to each agency's database, JIACG established an unprecedented flow of DOD- and non-DOD-generated infor-

integrating the elements of national power by leveraging each agency's core competencies requires knowing which agency does what best

mation among agencies. Because most law-enforcement agencies operate proprietary software on incompatible networks, an unexpected advantage was that JIACG also provided agencies a forum for receiving information generated by other agencies. Thus, such agencies as Customs, the Secret Service, and the FBI often learned more about each others' activities through their JIACG members than through traditional channels.

Because CENTCOM forces are spread over the globe, as a fourth principle, JIACG provided both interagency-trained liaison officers and

task-organized teams to those forces. V   in size, a team could have inter r   interpreters, computer-forensic experts, financial analysts, or document examiners from the CIA, FBI, Drug Enforcement Agency (DEA), and Treasury. This export of liaison officers and mini-JIACGs brought the same force-multiplying benefits to subordinate commands that JIACG brought to CENTCOM. Operating at the tactical level with robust communications assets, those teams often developed actionable intelligence beyond the ability of the unit's organic intelligence assets.

Finally, because of geographic dispersion, each member of JIACG, military and civilian, was required to prepare a situation report listing the day's events and future initiatives. Used by t   author to ensure that each agency's actions were consistent with the overall campaign plan, its real value lay in its dissemination by each member to each member. Such JIACG-wide situational awareness avoided duplication of effort and generated collaborative, multiagency solutions to every initiative.

After the mission and concept of operations were approved within the command, there followed months of briefings at a dozen agencies to enlist their support for Operation *Iraqi Freedom.* Any agency's support had to be voluntary because there was still no formal agreement. The challenge was to convince them to "volunteer." Joint Publication 5–0, *Doctrine for Planning Joint Operations,* suggests using "committees, steering groups, or interagency working groups organized by functional needs" to achieve desired goals.[9] Perhaps that is one component, but interagency coordination at the operational level really depends on the persuasiveness, commitment, and credibility of the leaders involved. The more engaged and flexible the leader, the more effective the coordination.

Inspired leadership, however, was not enough. Integrating the elements of national power by leveraging each agency's core competencies most effectively requires knowing which agency does what best. Requesting the right number, seniority, and skill sets of representatives from that agency requires knowing its culture and method of operation. The common denominator here is knowledge. For Iraq, it also required advance scouting to determine who in that agency's hierarchy might accept the novel JIACG concept as well as who (usually a different person) had the authority to approve it. Multiple briefs to the same agency were standard. Based on the information acquired, JIACG tailored each request to that agency's objectives and capabilities. That enabled each agency to provide properly organized and resourced teams to CENTCOM.

The issue of command was more difficult. Under the Chairman's guidance, other agencies could not be t   by DOD, a reasonable constraint in a headquarters setting but not in combat. We agreed that each agency's headquarters would retain tasking authority (in DOD terms, operational control) of all of its deployed members, but that the senior JIACG military member in the field would have

Forum

d   and control of all movements n   to accomplish whatever tasks were assigned (in DOD terms, tactical control) of those members. Although u   it worked. Concerned that all JIACG members comply with the Geneva Convention, we also agreed that all deploying civilians would wear desert camouflage uniforms (without rank insignia) and carry DOD-issued identification. Moreover, because those who operate in a combat zone should carry the firearms on which they have trained, each civilian deployed with standard-issue weapons, despite the logistical challenges created.

By the time CENTCOM completed preparations and moved its forward headquarters to Qatar in February 2003, JIACG had grown to 28 military and 54 civilian members, adding the Department of Energy, the Treasury Department's Office of Foreign

each combatant commander had always been encouraged to design a JIACG to meet the command's specific needs

Assets Control, the Defense Threat Reduction Agency, the Internal Revenue Service, and the State Department's International Information Programs. While the coalition advanced north in late March, our JIACG team entered Umm Qasr with unprecedented tasks in a combat zone: to search for evidence identifying terrorist-financing networks and terrorist activity in the United States, to investigate UN Security Council Resolution violations, and to initiate criminal investigations of U.S. and foreign individuals who aided I   weapons of mass destruction programs. Operating in Basra, Baghdad, Kirkuk, and Mosul, JIACG repeated the successes of Afghanistan, drafting the DOD rewards program for information about prohibited materials or high-value individuals, investigating stolen Iraqi antiquities (resulting in the recovery of over 5,000 artifacts in 6 countries), conducting crime-scene examinations of all bombings with U.S. civilian casualties, and uncovering Saddam Hussein's schemes for financing illicit operations, to include the oil-for-

f   program. The situations for which JIACG teams were more suited than traditional military forces to address were legion: the detention by coalition forces of a combatant claiming to be a U.S. citizen, a foreign fighter found to be carrying an American telephone number, the discovery of UN-banned weapons with shipping documents, the recovery of prohibited equipment of foreign origin, the seizure of large amounts of U.S. currency, and the receipt of information on potential attacks in the United States.

The signal event for JIACG in Iraq, however, was the transfer of Iraqi sovereignty and the concomitant establishment of the U.S. Embassy on June 28, 2004. Because the State Department is the lead Federal agency for carrying out foreign policy, the Ambassador—the President's personal representative and senior U.S. official in country—directs all U.S. Government activities and personnel in that country other than military members operating under a combatant commander. The Ambassador is also responsible for approving U.S. Government strategy for that country, set forth in the mission performance plan prepared annually by the Embassy's country team, a standing interagency committee comprising the senior members of virtually every U.S. agency in that country.

As the combatant commander's equivalent of a country team, one of JIACG's usual functions is to ensure unity of effort between the combatant commander's theater-wide strategy and the Ambassador's country-specific mission performance plan. In Afghanistan and Iraq, however, because JIACG deployed prior to the establishment of a U.S. Embassy, it functioned as the de facto country team, assuming responsibility for all non-DOD law-enforcement agents in country. The real challenge in both countries was to effect a seamless transition to U.S. Embassy control of interagency operations. Only time will tell if we were successful.

Current Challenges

Remember that there is nothing stable in human affairs. Avoid, therefore, undue elation in prosperity or undue despair in adversity.

—Socrates

While JIACG was being tested in Afghanistan and Iraq, the Joint Staff's assessment in April 2003 found that JIACGs "integrated . . . U.S. Government objectives in each region, and created a forum for . . . interagency operational planning and coordination,"[10] and U.S. Joint Forces Command (JFCOM) found that "JIACG has g   universal acceptance." Secretary of Defense Paul Wolfowitz then notified Deputy National Security Adviser Hadley in August 2003 that "all participating Federal agencies and host combatant commands voiced strong support for the [JIACG] initiative."[12] As a result, in October 2003, the Chairman tasked the National Defense University (NDU) to develop an operational-level, interagency education program.[13] Returning from Iraq in summer 2004, this author was detailed to NDU to assist in developing this program.

In December 2003, DOD requested, and for the first time agreed to pay for, individuals experienced in staff work from the State Department, the FBI's Counter-Terrorism Division, and the Treasury Department's Office of Foreign Assets Control to augment the JIACGs of all nine combatant commands. Unfortunately, this decision overlooked the possible effect on the nonreimbursed agencies, each of which predictably became less inclined to continue providing representatives for JIACGs after they learned they did not make the final cut. Of similar concern was the decision to fund the same agencies for every JIACG. Until this funding decision, and within broad guidelines, e   combatant commander had always been encouraged to design a JIACG to meet the command's specific needs. The FBI and the State and Treasury Departments are undeniably valuable, but so are others. Each command should be permitted to choose its funded agencies. Despite such concerns, DOD funding of these JIACG positions is a step in the right direction.

American troops securing bank in downtown Baghdad

U.S. Marine Corps (Matthew Bogdanos)

by the high-speed, results-based staffs of combatant commanders engaged in the war on terrorism. And it is unlikely to produce anything except good concept papers. If purely military planning cells are obsolete (and they are), purely civilian cells are no less so. Nor should JIACG be transformed into a think tank. It is undeniably important that JIACG members understand the labyrinthine world inside the Beltway, but it is more important for them to know who has the most comprehensive database (Customs), who can pay for what kind of information (DOD, CIA, State, Justice, and Customs each have different reward programs), the difference between the DEA and the State Department's International Narcotics Law-Enforcement section, and the strategic border-security advantages and limitations of available biometric systems. Smart is good; but smart action by those senior enough to make decisions—but not so senior as to have forgotten how to execute—is better.

Among the three major challenges facing JIACGs today, the foremost is the lack of a single, national-level organization issuing guidance, managing competing agency policies, and directing agency participation in JIACGs. In short, NSC expects unity of effort without unity of command. While differing agency viewpoints add depth to any plan, there is a fine line between principled adherence to core values and unproductive intransigence—with every agency often guilty of the latter. Moreover, there is no single standard directing when individual agencies must begin interagency participation in their crisis- or deliberate-planning processes. It may be obvious that coordination should be conducted as early as possible—after all, conducting interagency coordination only after the plan has been approved for interagency coordination is like asking what you should wear only after you are dressed: time-consuming at best, doomed at worst. But senior decisionmakers within each agency, particularly within DOD, are more comfortable with traditional vertical planning. It enables them to develop their plan fully before allowing other agencies to critique it, but they are also hesitant to offer other agen-

Other steps remain. Because there is still no published doctrine on JIACG, conflicting visions abound. Some, albeit the dwindling minority, think JIACG should be nothing more than a facilitator for the interagency activities of other staff sections, particularly the Intelligence and Plans Directorates that have long been conducting interagency coordination in their narrowly focused worlds. Concerned about losing traditional roles and missions, they believe the prior world of information stovepipes only needs improved technology and additional personnel to become fully functional. And some poker players believe they can draw to an inside straight.

The special forces community points to the successes in Afghanistan and argues that JIACGs should operate as task forces in the covert world at the tactical level. For example, they cogently argue the benefits of an interagency-coordinated interrogation, postulating the synergistic effect on a

terrorist who, within hours of capture, is told that the State Department has his visa application from Yemen, the Immigration and Naturalization Service has his entry stamp in Los Angeles a month later, the Federal Aviation Administration has the ticket for his subsequent flight to New York without luggage, and Treasury has seized his bank account—as the FBI plays a recording from his last telephone conversation. Such proponents, however, gloss over the lack of operational planning capability and the inability to shape national-level strategy.

Conversely, JFCOM—responsible for developing future concepts for joint warfighting—proposed (in draft) that JIACG become "a small interagency coordination staff element comprised [sic] mostly of civilian[s] . . . as a staff directorate of 12."[14] Perhaps such a specialized directorate should exist, but it will likely be quickly marginalized

United Arab Emirates C–130 unloading at Bagram Airfield, Afghanistan

U.S. Marine Corps (Matthew Bogdanos)

cies multiple points of entry into their internal decisionmaking process, preferring to address interagency disagreements only once—and that being at the policymaker level. The overriding concern, though, seems to be that interagency coordination, at whatever level, necessarily implicates policy.

The solution is not centralization of interagency coordination at the highest levels of government, but

the goal must be horizontal interagency planning performed virtually simultaneously at the tactical, operational, and strategic levels

clearer inter- and intra-agency guidance. The goal must be truly horizontal interagency planning performed virtually simultaneously at the tactical (task force), operational (combatant

command), and strategic (Joint Staff) levels, tied together by each agency's clear policy directives derived from the National Security Strategy. In the absence of unity of command, an often proposed solution is to adopt the "lead Federal agency" concept, under which, for each specific task, a particular agency or department has the lead. But under this concept, supporting agencies can still refuse to participate in specific operations, as often happens within the law-enforcement community during joint investigations. Despite its surface appeal, therefore, such noncompulsory c are less suited to the hostile environments in which DOD operates than are more formal command and control relation-

ships. Consensus, so difficult at the strategic level inside the Beltway and so necessary at the operational level of the combatant command, has no place on a battlefield where the time required to achieve it is a luxury seldom afforded the tactical-level commander. Enlightened leadership at every level remains the key to unity of effort.

A second challenge is the lack of government-wide standards for information sharing among agencies, exacerbated by the lack of a communications architecture linking those agencies. While collaborative technology that can link agencies along a trusted information network already exists, no agencies have been directed (and few have the resources) to install s systems. But true horizontal inter agency coordination requires equally true horizontal interagency information exchange at all levels. A practical interim solution would be to establish a secure domain, like the secret Inter-

net protocol router network (SIPRNET), dedicated to interagency coordination at each agency. That would require DOD funding of computers, wiring, and related equipment, but its benefits would be immediate. It would also allow time to develop and install efficient and user-friendly networks that satisfy still-yet-to-be-established standardized security protections.

Sufficient staffing is the final pressing issue. Although Secretary Rumsfeld authorized JIACGs, DOD created no additional positions. Each commander, therefore, had to staff

each combatant command should establish an interagency executive steering group as an operational-level policy coordination committee

JIACG by reassigning personnel from within an already understaffed command. The CENTCOM solution was to create temporary wartime JIACG positions using mobilized Reservists, usually found by JIACG members combing the Ready Reserve lists for familiar names. Because many Reservists work in law-enforcement in their civilian jobs, JIACG Reservists provided an unanticipated source of success through the two-for-one leveraging of their military and law-enforcement experience and contacts. After 3 years, JIACG's members are still primarily Reservists, but that pool is almost dry, and the joint manning document still does not include JIACG positions. Non-DOD agencies face a similar problem. With few exceptions, overseas deployments of civilians must be voluntary, and many agencies have already run out of volunteers.

Recommendations

Fortune is never on the side of the fainthearted.

—Sophocles, *Phædra Fragment 842*

Each of the major players—combatant commanders, DOD, and NSC—must act to address the above challenges to ensure JIACG's continued existence as a force multiplier in the war on terrorism.

At the combatant commands, the JIACG should report directly to the chief of staff or deputy commander.[15] Such senior leadership is essential to ensure unity of effort among the individual staff directorates that might otherwise view interagency issues from t   necessarily narrow and sometimes competing perspectives. It would also enhance direct coordination with the senior-level non-DOD representatives necessary for JIACG operations.

Second, to achieve consensus and overall direction on its interagency activities, each combatant command should establish an interagency executive steering group to function as an operational-level policy coordination committee. Chaired by the deputy commander, co-chaired by the command's political adviser, and staffed by the command's directors and senior DOD and other agency representatives, this group should guide the command's interagency policy, review and initiate major interagency proposals, and manage competing priorities.

Third, combatant commands must provide JIACGs sufficient military staffing to enable them to continue performing their necessarily varied functions. JIACG's military members serve as planners in all major planning cells within the command; as detachment commanders when task-organized JIACG teams deploy throughout the world; as liaison officers providing interagency connectivity with subordinate command staffs and U.S. Embassies; and as mentors, training JIACG civilians on military missions, capabilities, and limitations. JIACG must be staffed to continue these duties at the operational tempo necessary to defeat today's asymmetric threats.

DOD must also act. First, it must promulgate doctrine to institutionalize JIACG and establish a minimum set of mission-essential tasks. Second, it must revise the joint manning document to staff JIACGs commensurate with their assigned mission. Using the model proposed here, which is based on CENTCOM's experience of coordinating activities in 27 countries spanning 10 time zones, and twice having grown to over 100 members deployed in 6 countries, this should include a minimum of 30 active-duty and 8 Reserve positions. The latter number would enable JIACG to maintain surge capability and to continue leveraging civilian experience.

Nor can NSC remain idle. The United States faces the same challenges with interagency coordination today that the military faced with joint doctrine in 1986, when Congress, weary of competing service cultures and institutionally driven intransigence, passed the Goldwater-Nichols Act. While significantly enhancing the joint warfighting capabilities of the Armed Forces, the legislation itself was far from perfect and required amendment. Now as then, it is surely preferable for the executive branch to develop its own internal procedures and requirements rather than having Congress dictate them. NSC should formalize the JIACG concept by establishing minimum standards of participation by each agency and a standardized interagency planning process at the operational level.

Second, NSC should replace the current ad-hoc, personality-dependent form of information sharing among agencies by establishing and enforcing minimum standards of information sharing at the appropriate classification level. The goal is to protect the sources and methods from which the information derives while still mandating robust information exchange. Moreover, because JIACG operates at the unclassified, confidential, secret, and top-secret levels, its members must have the necessary clearances and its networks the necessary protections. The current practice of different agencies having individual security-clearance procedures should be replaced by one in which a single agency is responsible for establishing, providing, and maintaining all clearances within the Federal Government.

Finally, NSC should create a joint interagency designation similar to the DOD joint-specialty officer designation, requiring attendance by military a   civilian members at an interagency

education program designed by the National Defense University.

Conclusion

September 11 demonstrated the need for a new approach to the application of the elements of national power. In a world increasingly dominated by the need for the swift identification, integration, and use of the capabilities of multiple agencies, effective interagency coordination has emerged as the best way to defeat today's threats. By harmonizing otherwise isolated governmental actions through the facilitation of synchronized planning at multiple levels from multiple perspectives, combatant-command JIACGs address operational planning deficiencies that have historically undermined mission success in complex contingencies. Properly used, JIACGs enhance decisionmaking speed, increase plan breadth, and create rapid, integrated solutions. In the war on terrorism, JIACG is not the finest tool in the box; it is the box itself. **JFQ**

NOTES

[1] *Final Report of the National Commission on Terrorist Attacks Upon the United States* (New York: W.W. Norton & Company, 2004).

[2] The State Department's TIPOFF program, the Federal Aviation Administration's "No-Fly" list, and the CIA's, FBI's, and U.S. Customs Service's individual watch lists.

[3] Consider the following: Although civilian agencies usually have a lead role in military operations other than war, *Joint Doctrine for Military Operations Other Than War,* Joint Publication 3-07 (1995), has only one substantive reference to interagency coordination: that it "will often involve other . . . agencies." While *Foreign Internal Defense* (FID), Joint Publication 3-07.1, addresses using military forces in support of civilian agencies, its focus is only on U.S. operations "in support of host-nation efforts," and Special Operations Command is the lead agency for drafting the FID revision, that is, interagency coordination is for special operations. Joint Staff (J7), *Program Directive for JP 3-07.1 for Foreign Internal Defense,* GEN-ADMIN 282232Z Jun 02. The "Interagency Coordination," chapter of *Joint Forces Capabilities,* Joint Publication 3-33 (1999), merely observes that "nonmilitary organizations provide valuable knowledge, expertise, and unique capabilities." *Joint Doctrine for Campaign Planning,* Joint Publication 5-00.1

(2002) notes that "during . . . interagency planning, heavy . . . commander involvement . . . and coordination will be a key to success," but does not explain how to effect such coordination. Even *Interagency Coordination during Joint Operations,* Joint Publication 3-08 (October 1996) envisions its recommended interagency coordination cells as temporary and post-hoc, requiring close coordination "with the Office of the Secretary of Defense and the Joint Staff."

[4] *Joint Vision 2020* (2000), 26.

[5] Assistant to the President and Deputy National Security Adviser Steve Hadley, "DoD Proposal to Augment CINC Staffs," memorandum for NSC Deputies Committee, January 29, 2001, 2.

[6] The Posse Comitatus Act, an 1878 law prohibiting using the Army to "execute the laws," except where authorized by the U.S. Constitution or Congress, 18 U.S. Code 1385, applies to the Air Force by amendment (1956) and Navy by DOD regulation, 32 C.F.R. Section 213.2 (1992). Federal military personnel operating pursuant to Presidential power to quell domestic violence and National Guard forces operating under Title 32 state authority are exempt from the act. Moreover, under 1981 amendments, 10 U.S. Code 371-78, supportive and technical assistance, for example, the use of facilities, vessels, aircraft, intelligence, technological aids, and surveillance, are permitted, while only direct participation of DOD personnel in such activities as searches, seizures, and arrests are prohibited. The act itself contains no prohibition against military receiving law-enforcement–generated information.

[7] Intelligence oversight is regulated by E.O.12333, with implementing policy in DOD 5240 1-R. Military intelligence components *may* collect information on U.S. persons when that component has the mission to do so, the information falls within a specified category (notably foreign intelligence and counterintelligence), *and* the

U.S. persons are reasonably believed to be engaged in terrorist activities. If that collection occurs within the United States, there must also be a connection with a foreign power or organization.

[8] "JIACG facilitates planning by Commander, U.S. Central Command, and staff; coordinates information sharing between U.S. military and U.S. governmental agencies; and advises the Commander, U.S. Central Command, and staff on interagency issues in the execution of U.S. Central Command's mission." Matthew F. Bogdanos, *Joint Interagency Coordination Group (JIACG) Mission,* CCJIACG Position Paper (MacDill Air Force Base: U.S. Central Command, September 17, 2002), 1.

[9] *Doctrine for Planning Joint Operations,* Joint Publication 5-0, Second Draft (2002), II-14.

[10] Joint Staff (DJS), *Joint Interagency Coordination Group (JIACG) Assessment,* GENADMIN 010947ZApr02, 3.

[11] Joint Forces Command, *Joint Interagency Coordination Group (JIACG) Initial Concept of Operations,* Draft Prototype Version 1.0, February 27, 2004, 6.

[12] Deputy Secretary of Defense Paul K. Wolfowitz, "Joint Interagency Coordination Groups (JIACG) Assessment," memorandum for the Assistant to the President and Deputy National Security Adviser, August 19, 2003, 1.

[13] Chairman of the Joint Chiefs of Staff, Richard B. Myers, "Development of Joint Interagency Coordination Group Education Program," memorandum for the President, National Defense University, October 29, 2003, 1.

[14] Joint Forces Command, 9.

[15] In July 2004, Central Command's JIACG began reporting directly to the Deputy Commander, who ordered the establishment of an interagency executive steering committee to meet monthly. Its first meeting was in August 2004.

> On February 14–17, 2005, the National Defense University held the first operational-level, executive-branch-wide course on Joint Interagency Coordination Groups for over 100 participants from 18 different agencies and departments.

EUCOM's Exercise *Combined Endeavor 2004* including members of NATO and Partnership for Peace

U.S. Air Force (Joe Springfield)

U.S. European Command and Transformation

By C H A R L E S F. W A L D

General Charles F. Wald, USAF, is Deputy Commander, U.S. European Command.

The United States is at war, but not the type of war we have trained, equipped, and planned for. Since it is not war in the traditional sense, it requires changes in the way we fight and think. It requires transformation. In the words of Secretary of Defense Donald Rumsfeld, this "is about more than building new high-tech weapons. . . . It is also about new ways of thinking . . .

and new ways of fighting." Transformation is all-encompassing, it is here, and U.S. European Command (EUCOM) is not just talking about it—it is doing it.

The command has been directed to transform to better exploit the Nation's advantages while defending its asymmetric vulnerabilities, thus maintaining its strategic position. According to the April 2003 *Transformation Planning Guidance,* we do that by developing and implementing innovative "combinations of concepts, capabilities, people, and organizations"

across three broad areas: how we fight, how we do business inside the Department of Defense (DOD), and how we work with interagency and international partners.

As to how we fight, the DOD plan is to look hard at all areas of military culture and capabilities: training and doctrine, organization and leadership, matériel and facilities, personnel, and education. To transform how we do business, we will focus on adopting business models that streamline analysis and decisionmaking in order to produce more timely results in every field from acquiring new systems, to quality of life issues, to war planning. While we look inside DOD, we must also look outside, at how the department works with the other Federal agencies to

the United States cannot afford to be wrong; otherwise, it will be defeated by a more agile and adaptive enemy

bring all national elements of power to bear, and at how to better partner with friends and allies, coordinating with and supporting their transformational efforts while mitigating capability gaps.

In the words of *Defense Transformation Guidance*, "Transformation is necessary to ensure U.S. forces continue to operate from a position of overwhelming military advantage in support of strategic objectives." Therefore, the goals of the transformation strategy identified in the 2001 Quadrennial Defense Review are to:

■ protect critical bases of operations (homeland, bases overseas, allies, and friends)

■ project and sustain power worldwide (well-armed and logistically supported forces)

■ deny sanctuary to an enemy, locating and striking protected or remote forces while limiting collateral damage to improve deterrent power, reducing the number of attacks against the United States and its allies

■ protect information networks while retaining the ability to attack enemy information systems

■ maintain access to space and protect U.S. space interests

■ leverage information technology to build an interoperable joint command, control, communications, computers, intelligence, surveillance, and reconnaissance capability that gives U.S. commanders a decisive advantage in situational awareness and decisionmaking.

This is more than new technology. In the words of Secretary Rumsfeld, "more important...than simply having new hardware," transformation is "a culture of change, flexibility, and adaptability" that encourages innovation. The key is not just changing the way we fight in terms of hardware but how we think about fighting—a cultural shift in cognitive processes that will enable the Armed Forces decades from now to recognize impending technological or sociological changes that may create opportunities or vulnerabilities and adapt, incorporate, and leverage them. As it enters the 21st century and faces nontraditional and asymmetric challenges, the United States cannot afford to be wrong, slow, out-thought, or outmaneuvered; otherwise, like many great powers, it will be defeated by a more agile and adaptive enemy.

Fighting the Cold War Legacy

Since the collapse of the Soviet Union and the bipolar security scenario, EUCOM, along with the rest of the military, has been changing, evolving, and even transforming to prepare for the post–Cold War world. For example, the wars in the Persian Gulf and the Balkans caused the command to focus on the challenges of deploying significant forces out of the central European region, sustaining them in a new location, then returning them to their European bases. Although they proved slow to deploy, the Cold War legacy forces and structures still provided the knockout punch that crushed Saddam Hussein's vaunted Republican Guard with ease. However, while proving adequate to the task, the Cold War structures started to show their inflexible, slow-moving shortcomings in the 1990s peacekeeping missions in Bosnia-Herzegovina and in the short Kosovo campaign against the Former Republic of Yugoslavia. In the latter, the lack of

flexibility and adaptability of the North Atlantic Treaty Organization (NATO) command structure was widely blamed for the length of the campaign and combat ineffectiveness. Inability to better prosecute the relatively straightforward Kosovo campaign cast doubt on Alliance capability. In facing the Cold War legacy issues—European basing, force structure, and both EUCOM and NATO command and control (C^2) structures—the nations and their militaries have resisted change that is costly, resource intensive, and often perceived as unnecessary.

Improvements occurred during the decade between the fall of the Berlin Wall and the end of the century, but they were gradual and lacked sufficient impetus. Transformation was needed, but it would take a more severe wake-up call—September 11, 2001. The 9/11 attacks confirmed that the challenges of the 21st century were immediately upon DOD and EUCOM. Transformation had a new urgency. EUCOM immediately began transforming while simultaneously supporting NATO operations in the Balkans, planning and conducting supporting operations to *Iraqi Freedom* and *Enduring Freedom*, executing Joint Task Force Liberia, and prosecuting the war on terrorism. As seen in these operations, this new asymmetric threat—terrorism—cannot be defeated solely through traditional military means. Overwhelming military capability is not only insufficient; often it may be the wrong tool. We must seek new approaches and new partners to win this war.

Asymmetric Challenges and Asymmetric Answers

Necessity is the mother of invention. In EUCOM, resources—especially kinetic—are extremely limited due to support for *Iraqi Freedom* and *Enduring Freedom* in the U.S. Central Command (CENTCOM) area of responsibility (AOR). Furthermore, EUCOM currently has no military areas of operations, no Afghanistans or Iraqs, where kinetic military actions are appropriate. Thus it must seek more innovative ways of using its assets to fight the terrorist threat.
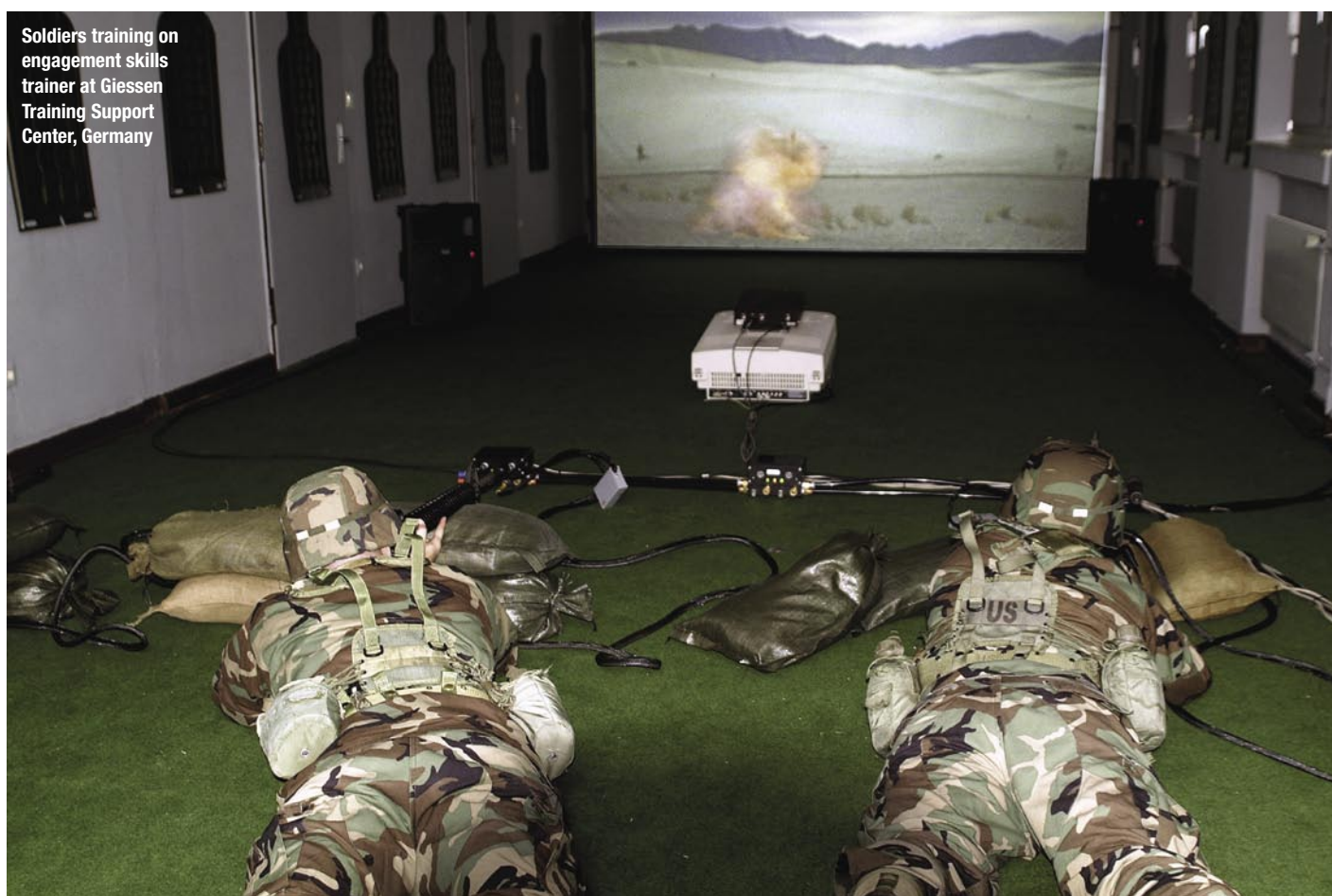
Soldiers training on engagement skills trainer at Giessen Training Support Center, Germany

7th Army Training Center (Martin Greeson)

If necessity is the mother of invention, reality is the father. The realities of the EUCOM AOR are mindboggling: 93 countries on 4 continents, including the most highly developed European nations and the most underdeveloped African states; a religious and cultural spectrum stretching from Western to Orthodox Christianity, from the home of Judaism to some of the most sacred sites of Islam, to Animism in the African center to Christianity again in the African south; and most of Samuel Huntington's clashing civilizational fault lines. Proliferation of weapons of mass destruction and AIDS compete with terrorism as the greatest threats to peace and stability. This command is home to both the most politically stable and unstable regions. Thus it is not a one-size-fits-all AOR. Unique national approaches are impractical. Likewise, terrorists use the seams created by borders to find sanctuary. A regional approach is both the most practical and the most effective, enabling EUCOM to develop unique counterterrorism strategies to deal with the terrorism issues of each region.

A Holistic Approach to Defeating Terrorism

Using regional approaches to reduce the AOR to manageable portions allows the command to move beyond tactical operations to the long-term strategic picture. As spelled out in *National Strategy for Combating Terrorism,* "There will be no quick or easy end to this conflict." We need to think long-term—decades—and develop the right plans for accomplishing the President's strategic intent to:

■ defeat terrorist organizations of global reach
■ deny further sponsorship, support, and sanctuary to terrorists
■ diminish the underlying conditions terrorists seek to exploit
■ defend the United States, its citizens, and its interests at home and abroad.

EUCOM works toward an end-state where the nations of every region are willing and able to defeat terrorist organizations within their borders, deny them sanctuary, and diminish internal conditions that give rise to terrorism, all without direct U.S. assistance other than intelligence and information sharing.

Defeating and *defending* are established missions readily grasped and acted on by planners and to which traditional military tools such as air-strikes and cordon and search missions are generally applicable. Missions to *deny* and *diminish* are not so easily tackled; they require nonstandard counterterrorism tools. Perhaps the most powerful long-term, nonstandard counterterrorism tool the combatant

Forum

Security squadron from Sembach air base, Germany, securing C–130 near Monrovia, Liberia

52^d Communications Squadron (Karen Z. Silcott)

commander has for *denying sanctuary* and *diminishing underlying support* to terrorists is theater security cooperation (TSC). Its activities include large-scale combined exercises with NATO and Partnership for Peace countries, joint combined exchange training (JCET), international military educa-

senior officer visits convey how much we value a partner and open doors to training, assistance, and information sharing

tion and training (IMET), senior officer visits and ship port calls, humanitarian assistance, and medical outreach. The impact of these programs on an under-developed country with a struggling military or law enforcement component can be immense. Senior officer visits convey how much we value a partner and open doors to training, assistance, and information sharing.

The visit of a carrier strike group is esti-mated to mean over $1 million per day in revenues for a host city. The value of IMET can be measured in decades. During Joint Task Force (JTF) Liberia, the commander credited the ability of the diverse Economic Community of West African States forces to quickly form and operate as a coalition as well as the common training and education many officers received through IMET—Ma-lian, Nigerian, and Senegalese officers had attended U.S. Army airborne, ranger, officer basic, and advanced courses as well as command and general staff college. JCET exercises conducted by theater Special Operations Forces and linked to skills needed for the war on terrorism are designed for U.S. forces but are highly valued by other nations. The impact of medical outreach activi-ties such as the medical civil assistance

program lasts for years and combats negative views of America espoused by terrorists and extremists. EUCOM has shifted its priorities for many of these activities—in concert with TSC guid-ance from the Office of the Secretary of Defense (OSD)—to regions where the potential for terrorist sanctuary is highest and the need to diminish the underlying causes is greatest.

Not all these programs are con-trolled by EUCOM or even DOD. Many are directed by the Department of State or another Federal agency. For exam-ple, the Georgia Train and Equip Pro-gram is a two-year State Department initiative to help Georgian units pro-vide security and stability to citizens, protect national sovereignty, and en-hance regional stability. This capabil-ity has been achieved and must now be sustained. Similarly, the Pan-Sahel Initiative is spending $6.25 million to provide equipment and training to company-sized elements of the Pan-Sahel countries of Chad, Mali, Maurita-

nia, and Niger. Several regional terrorist groups now operate with relative impunity in the vast uncontrolled northern spaces of these countries; these are sanctuaries that must be denied. Training and equipping will, if sustained, enable these countries to eliminate these sanctuaries without direct U.S. involvement. Both programs were sponsored and funded by the Department of State in partnership with EUCOM, who provided the trainers. Programs designed to aid the partner governments while providing valuable training and interoperability are essential to long-term foreign policy strategy.

Partnering with Other Agencies

The Secretary encourages partnering with other agencies. It is crucial in the war on terrorism and whenever there are restrictions against traditional military assets, especially in long-term campaigns in low-priority areas such as Pan-Sahel in northwest Africa. By combining and coordinating, EUCOM, the

transparency and trust are key because EUCOM is a guest command living in host nations

State Department, and other agencies can have a greater effect. We call that the full Government team effort.

To make the team effort work, trust must be developed between organizations with radically different cultures and approaches. That is best accomplished through early and frequent consultation among agencies, but most importantly between the combatant command, embassy teams, and the Department of State in coordination with the Joint Staff and in accordance with TSC guidance provided by OSD.

An example of teamwork is long-range counterterrorism planning. It began with developing a concept plan for a particular region. The Joint Interagency Coordination Group (JIACG) participated from the first. As tasks and objectives were developed for this long-term concept plan, it was recognized that the majority required to "deny sanctuary" and "diminish underlying conditions" were nonmilitary. Overt military operations could some-

times be counterproductive. Special Operations Command (SOCOM), the lead planners for the war on terrorism, was then tasked to review and critique the plan. Next a brigadier general led a team to Washington to brief the plan to the Joint Staff J–2, J–3, and J–5, OSD, Office for Special Operations and Low Intensity Conflict, International Security Affairs, Central Intelligence Agency, Department of State, and Department of Treasury Office of Financial Asset Control. They were not staffing the plan or seeking concurrence or approval. They were seeking critical feedback and building a rapport with the agencies we had to partner with to make the plan work.

The next step was an interagency planning conference in Stuttgart with planners from the same agencies, as well as representatives from the country teams in the region of concern, SOCOM, CENTCOM, U.S. Strategic Command, the Defense Intelligence Agency, and the Joint Staff, to discuss, refine, and develop an interagency action plan rather than a military plan with other agencies consulted as an afterthought. That was followed with bringing the U.S. ambassadors to Stuttgart to discuss planning and progress and ensure that their concerns were vetted before the plan was finished and submitted for formal staffing, the next step.

Although this is not the traditional doctrinal process for developing, gaining approval, and implementing counterterrorism plans, we have taken the Secretary's transformational direction to try innovative methods to move forward in this war.

Partnering with Friends and Allies

The original concept plan was developed with participation by planners from Germany, Spain, Turkey, and the United Kingdom, along with French and Italian liaison officers. That did not constitute official concurrence with the goals and objectives, but it demonstrated the transparency of the planning effort and opened the door to closer partnership with European

friends and allies in all areas of the global war on terrorism.

Transparency and trust are key to all operations with allies because EUCOM is a guest command living in host nations. All bases are subject to the rules, regulations, and prevailing political winds of the hosts. Forward basing is both an advantage, providing tremendous operational agility, and a curse. Any host nation can prevent effective use of the bases in their countries. These hosts are NATO, our closest allies for over fifty years. They are our staunchest supporters and sharpest critics. These are the nations most capable of diplomatically, informationally, economically, and militarily supporting or undermining U.S. efforts. Accordingly, we must engage them as allies and partners or risk losing them and the power they can bring to this fight.

Outside the Alliance, we must also build and maintain relationships with regional security partners such as Algeria, Azerbaijan, Georgia, Nigeria, and Russia while maintaining ties with our oldest regional friends and partners such as Morocco and Tunisia. Regional partners are vital to a holistic approach to winning the war.

This balanced approach, focusing on regions, using nontraditional counterterrorism tools, partnering early with Federal agencies, and working with friends and allies, is the innovative approach EUCOM is undertaking to defeat terrorism.

To meet the Secretary's transformational goal of projecting and sustaining power in distant environments, the command has been looking closely at where its forces are based with regard to their most likely missions in the next ten years. As during the Cold War standoff with the Warsaw Pact, the EUCOM center of mass is Western Europe. However, with NATO expansion eastward and increasing demands for U.S. force deployments out of Europe to Africa, the Middle East, and Central Asia, this positioning may be detrimental to mission accomplishment. Therefore, EUCOM plans to maintain a significant number of major, enduring

1st Infantry Division commander and Iraqi National Guard commander meeting with the press in Tikrit

U.S. Army (Klaus Basesu)

installations in Western Europe called joint main operating bases, while establishing temporary joint forward operating sites and joint forward operating locations where needed. These will be more austere facilities throughout the AOR close to areas of crisis.

Additionally, EUCOM will begin developing and implementing plans to employ more rotational forces in theater, reducing the large and expensive permanent presence established in Europe in the 1950s. To face new threats better, these forces will be lighter and more rapidly deployable than the heavy forces currently assigned to EUCOM. Many of these

the centerpiece of near-term transformation is the European Plans and Operations Center

rotational forces will have forward access to new areas in Eastern Europe so they can help train the newest NATO members, ensuring their interoperability and ability to complement our capabilities as we transform.

NATO Transformation

The Secretary's Transformation Guidance notes that it is in the interest of EUCOM to ensure that its transformation is complementary with likely partners and that it does not widen the capabilities gap to the point of incompatibility.

Unlike other commands, EUCOM has the added challenge of transforming within the context of NATO. While the Allies recognize the need to transform, they face greater challenges. Their national investment in defense requirements is generally much lower than the U.S. commitment due to the lack of popular support for meeting NATO obligations and for spending on capabilities many consider unnecessary for strictly defensive needs.

However, the Alliance itself is taking bold steps to transform. It has recognized the need for a new command and control structure and a force that is powerful, yet flexible and agile and able to operate across the full conflict spectrum. The result is the NATO Response Force, the first fully integrated combined arms organization with a worldwide deployment capability. It uses a graduated readiness system with a "very high readiness element" capable of deploying a JTF headquarters and a tailored force of several thousand equipped personnel within 5 to 30 days. The initial force, stood up on October 15, 2003, reached initial operational capability in summer 2004 and will be fully capable by summer 2005.

Transforming the Command Structure

To coordinate with NATO and stay abreast of Alliance requirements while fighting the global war on terrorism and supporting *Iraqi Freedom, Enduring Freedom,* Stabilization Force, Kosovo Force, and other requirements, EUCOM needed a command structure nimble enough to operate from the tactical to the strategic while being responsive to the politico-military environment. The new C^2 structure is the key element of command transformation that brings these other aspects together. The centerpiece of near-term transformation is the European Plans and Operations Center (EPOC), stood up on July 29, 2003. The center is designed to answer the transformational need for C^2 headquarters that leverages information technology to automate time-intensive activities and create a fully collaborative planning and execution environment. EUCOM, like the rest of DOD, faces a mandated 15 percent staff reduction, giving impetus to restructuring the C^2 structure to make the reduction without crippling a command just enlarged by half. Finally, all regional combatant commands are directed to stand up operational standing joint force headquarters (SJFHQ) by fiscal year 2005. EPOC is the EUCOM version of the U.S. Joint Forces Command (JFCOM) SJFHQ design. It replaces the Napoleonic J-code system of compartmented, stovepiped information flow that slowed planning and coordination until they were often outpaced by events.

This transformational C^2 concept incorporates all the elements of the JFCOM prototype with a few modifications to meet unique EUCOM demands. EPOC includes a Joint Operations Center (JOC), cross-functional operational planning teams focused on geographic or functional areas and time horizons, and teams that support knowledge management and information superiority. Rather than the team of 58 as in the JFCOM model, EPOC numbers 200; but half are resident in JOC and all come from cur-

rent EUCOM staffs, so there are no new manpower requirements. EUCOM SJFHQ is twice as large as the JFCOM prototype, but the additions are critical to a fully capable and integrated C[2] element. The new members include exercise planners and coordinators, information operations specialists, and interagency planners and liaison personnel.

The EPOC knowledge management function is the core of the organization. It is a fusion of intelligence, planning, operations, and communications intended to make the right information available to the right person at the right time in the right format. More data than is manageable is available to any EPOC member. The window for decisive action has often passed by the time the planner has located the most accurate information. By organizing the data, using the human mind to turn it into knowledge, and then making it readily accessible, decisionmakers can move forward with confidence that they have the most timely, reliable, and relevant information, allowing more rapid translation of decisions into action. In this era of time-sensitive targets and time-critical warnings, knowledge management is essential for staff and decisionmakers on all levels. This

knowledge management core spans the headquarters, so EPOC remains fully integrated into the rest of the command staff and can access its expertise.

The EPOC plans element has members from across the J-codes, providing resident expertise and eliminating the ad hoc nature of previous planning teams, which produced slow and often inconsistent planning. Ideally, individuals will have been assigned to the parent J-code directorate for a year before relocation to EPOC. This provides an understanding of the theater and enables the individual to "reach back" to tap the expertise of other subject matter experts in the parent directorate.

The planning teams are organized along time horizons, with a short-range division looking out 120 days and a long-range division looking out 2 years. Short-range planners focus more on crises and contingencies, such as noncombatant evacuation operations, while the others look at potential hot spots and initiate planning accordingly. An example of long-range planning was a team formed to consider the support Greece needed as it

hosted the 2004 Summer Olympics. This team developed an interagency exercise to look at requirements and issues. As summer got closer, team members went with the plan as it was handed off to the short-range planners, and then to the operations team, supporting it through to execution. This concept helps ensure consistency and reduces the impact of seams in EPOC. Such teams can obtain support from the EPOC state-of-the-art facility in Stuttgart or deploy in support of a subordinate command. EPOC enables EUCOM to be proactive rather than reactive, identifying potential trouble spots and conducting accelerated contingency planning or adaptive war planning to deter and dissuade or put boots on the ground early enough to prevent a crisis from becoming a war.

The long-term goal is to implement the enabling capabilities of SJFHQ throughout EPOC, the main headquarters, and components. The first will be to link in a collaborative environment, which will allow simultaneous rather than sequential planning, as envisioned in the DOD *Transformation Planning Guidance*. Experts can be connected from any location or organization, achieving a more integrated and coordinated planning

U.S. and Bulgarian soldiers training at Military Operations on Urban Terrain in Novo Selo, Bulgaria

process. All levels of command can be engaged, resulting in a better understanding of commander's intent. That will provide a more consistent and higher quality product in a shorter time. The ability to collaborate rapidly within and between headquarters will shrink the requirement for forward footprint and augmentation, reducing the high operations tempo burden all services face, thereby easing quality of life concerns.

The effects-based approach to plans and operations, especially in combating asymmetrical threats, may be the way of the future. Commanders must understand the potential enemy to appreciate its strengths and vulnerabilities. Advantages and weaknesses may be intangible elements that cannot be attacked by bullets and bombs, such as an extremist ideology. The EPOC structure will better focus effects-based planning.

A promising and transformational capability is the system-of-systems analyst. Each analyst studies an element of the potential enemy—political, military, economic, social, information, or infrastructure—to determine key nodes and linkages. He develops an operational net assessment (ONA) for effects-based planning. The information he needs is available from multiple sources and centers of excellence. Likewise, the database he creates is available to other analysts. An ONA team then wargames the strategies, strengths, and vulnerabilities of both red and blue. Nodes are analyzed to seek the best means to influence the target's behavior. This kind of engagement often uses nonmilitary instruments—diplomatic, law enforcement, information, economic—or other means to achieve the desired effect.

Another transformational aspect of EPOC is including the nonmilitary instruments of power in all planning and operations. One of the three areas in the Secretary's transformation guidance is transforming the way DOD integrates military power with other instruments of national power. JIACG is the key to integrating all elements to gain their greatest effectiveness. The EUCOM JIACG is part of the EPOC organization and supports both the long- and short-range planning divisions

with liaison team members and planners from the Departments of State, Justice, and Treasury (Office of Financial Asset Control), and other agencies as required. While JIACG planning and targeting processes are still developmental in terms of how military and nonmilitary instruments are best mixed and employed, the structure

the tools of business are often better suited to diminishing the causes of terrorism and influencing the democratization of key regions

for cooperation is established and will increasingly benefit the global war on terrorism and other theater efforts.

EPOC, with JOC long- and short-range planning divisions supported by JIACG and an information superiority division, and underpinned by a knowledge management core, is a highly focused, cross-functional, anticipatory transformational staff that is the key weapon in the EUCOM arsenal to combat the asymmetric threats of the 21st century.

Partnering with the Private Sector

The next step in partnering may be to look to the private sector. The tools of business are often better suited to diminishing the causes of terrorism and influencing the democratization of key regions by providing investment and employment that lead to long-term improvement in quality of life. Obviously this is outside the military's lane and more properly belongs to the Departments of State or Commerce or other agencies. The military works with the private sector most frequently as a customer, not an interlocutor trying to bring business to a specific locale. Most commonly, it is contracting for support to military activities, like buying locally fabricated items, labor, or foodstuffs, which gives local collateral rewards. Although laws and regulations limit activity between the military and business that could benefit the populace,

such partnering may provide a new means of winning the war.

An example of such military, nonmilitary, and private sector collaboration to reach common strategic goals is Caspian Guard, a regional multinational effort partnering U.S. and host nation military and nonmilitary agencies with private firms to help Caspian Sea littoral states establish an integrated airspace and maritime border control regime. Sponsored by OSD, Caspian Guard addresses counterproliferation, counterterrorism, and illicit trafficking as well as defense of key economic zones such as Caspian Basin petroleum. The concept is to focus EUCOM regional security cooperation activities in partnership with the Defense Threat Reduction Agency to assist the littoral states in integrating their airspace and maritime surveillance and control systems; their national command, control, communications, computers, and intelligence systems; and their reaction and response forces.

Fighting the global war on terrorism requires transformation, and EUCOM is changing both its tools and strategies to meet emerging challenges. Tools such as the European Plans and Operations Center help the command manage its limited personnel resources while improving its decisionmaking capabilities. Transforming from a heavy Cold War legacy military to a lighter, more deployable, and forward-positioned force will help the command more rapidly and effectively respond to challenges across the AOR. Transformational ideas such as theater security cooperation and other nontraditional military assets, and partnering with other agencies and nations, to include NATO Allies, will enable EUCOM to tackle problems in a more holistic regional way. Partnering with the private sector offers promise as well. These tools and strategies are the keys to defeating terrorism and other asymmetric threats. **JFQ**

Transformation
and the United Kingdom

British troops operating against Sad'r militia

By ANDREW DORMAN

The last decade has witnessed an academic and professional debate about the revolution in military affairs with a corresponding burst of doctrinal activity. A central theme is how an organization like the armed forces should undertake and manage change.

Prior to World War II, Heinz Guderian wrote of the problems of promoting change even as vested interests within the German army sought to maintain the status quo: "It is a love of comfort, not to say sluggishness, that characterizes those who protest against revolutionary innovations that happen to demand fresh efforts in the way of intellect, physical striving, and revolution."[1] In contrast, Douglas Bader was highly critical of the various "fighter attacks" developed by the British Fighter Command between the world wars because they ignored many lessons of World War I.[2] Both examples highlight the problems of applying new technology. More recently, Tony Mason warned against the military's tendency to favor all things technological: "Concentration on high technology should not lead to the disparagement of the simpler or even obsolescent weapons. The ultimate measure of a weapon's effectiveness is its value as a political instrument,

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which may not equate to its operational impact."[3] These observations highlight some of the dilemmas surrounding defense transformation and recognize that managing transformation is challenging and risky.

This article examines how London is approaching transformation. The United Kingdom probably ranks second to the United States in projecting military power. As a result, it has retained a broad range of capabilities. Secondly, like the Pentagon, Whitehall has retained a technological focus within its armed forces. Thirdly, its defense budget has been in steady decline since the Cold War, an ongoing financial pressure confronting the majority of forces in the process of transition. Moreover, the United Kingdom leads the way in innovative acquisition. Fourthly, it is ahead of other countries transforming their armed forces, with the exception of the United States. Additionally, it has had ongoing experience with terrorism because of the paramilitary groups operating in Northern Ireland. Finally,

Royal Marines demonstrating maritime interdiction aboard *HMS Somerset* in the Arabian Gulf

Fleet Combat Camera, Atlantic (Michael Sandberg)

Whitehall has retained a technological focus within its armed forces

as the recent war with Iraq has shown, London remains one of Washington's closest allies.

This article is divided into four parts. The first considers how the defense context has changed for the U.K.—in essence why there is a requirement for change and what the government is trying to achieve. The second examines how the Ministry of Defence (MOD) and the armed forces have changed their approach to the new requirements and technologies. The third examines changes to the acquisition process, such as the extent to which new and existing capabilities are changing. Finally, there are conclusions about the nature of change.

Defense Context

During the latter Cold War, defense policy centered on the perceived Soviet threat and domestic terrorism. That led successive governments to focus on four elements: membership in

the North Atlantic Treaty Organization (NATO), close relations with the United States, an independent nuclear deterrent, and supporting civil authority in Northern Ireland. The end of the Cold War, the collapse of the Soviet Union, and a diminishing military commitment to Ulster as a result of the Good Friday Accord have allowed the policy to be redefined, culminating in the 1998 *Strategic Defence Review* (SDR), which was officially based on the requirement:

. . . to move from stability based on fear to stability based on the active management of these risks, seeking to prevent conflicts rather than suppress them. This requires an integrated external policy through which we can pursue our interests using all the instruments at our disposal, including diplomatic, developmental, and military. We must make sure that the Armed Forces can play as full and effective a part in dealing with these new risks as the old.

The key aspect of this review was the government aim to "maintain and reinforce the present favourable external security situation." This reflected a much broader vision of security- and defense-related issues within MOD

than previously and reflected a victory for the Foreign and Commonwealth Office (FCO) view. It also highlighted a fundamental shift from a threat-based to a capabilities-based defense policy.

What is this broader agenda? At the first Labour Party conference after the 1997 general election, George Robertson, the new Secretary of State for Defence, declared that "what distinguishes us from the Tories is that we believe that Britain can, and should, be a force for good in the world. We are not isolationists. We are internationalists and proud of it."

This idealism embraced defense as just one means of dealing with the world's problems, and the notion of "forces for good" emerged. This change in policy was reinforced by the removal of the Overseas Development Administration from FCO and the creation of the Department for International Development in its place as a separate department of state. This bureaucratic change has led to a rivalry between FCO and the new department, with both having particular views on the role of the armed forces. The idealistic streak was subsequently reinforced in Tony Blair's Chicago speech, made with the Kosovo War in the background, in which the Prime Minister emphasized that Britain's interests were best served by a stable and peaceful world.

This defense policy not only continued to support NATO but also emphasized a European capability. The British and French agreed in December 1998 that the European Union (EU) "must have the capacity for autonomous action, backed up by credible military forces, the means to decide to use them, and a readiness to do so, in order to respond to international crises."

However, the process seemed set for slow progress until the Kosovo experience provided the government with further grounds for a renewed impetus, culminating with the Union's

Britain would act as a supportive military partner in any U.S.-led operation and as a leading EU partner in other operations

Helsinki Summit in December 1999, which set out concrete force goals. The emphasis on developing an EU capability while preserving a NATO capability is indicative of a commitment to multinational solutions. The government also began suggesting a division of labor between the two organizations reflecting their respective capabilities. For the British government, NATO remained the institution responsible for the major warfighting tasks because of its American membership. EU, in contrast, was viewed as having a lesser military capability but a wider capacity for missions such as nationbuilding. That division of labor would clearly suit America. Britain would act as a supportive military partner in any U.S.-led operation and as a leading EU partner in other operations. British policymakers began to talk of operations transferring from NATO to EU as peace was restored and attention was focused on the Balkans.

Afghanistan proved to be the first test of this idea. Britain was at the forefront of the Pentagon-led response to the 9/11 attacks and the only other power to deploy forces on the first day of strikes. It subsequently became the lead power in the International Security Assistance Force (ISAF), deployed around Kabul in January 2002. The creation of ISAF was very much a British initiative, with this division of labor appearing between the United States and United Kingdom, ISAF being in effect an EU force. America led the warfighting effort in Afghanistan with Britain in support while the British looked to lead the nationbuilding dimension with the explicit aim of using ISAF as a supporting mechanism for their mission. However, the ISAF remit was somewhat curtailed and the anticipated handover of its responsibility after the first 6 months was delayed until Turkey finally agreed to take responsibility for the operation.

This experience marked a turning point in British thinking as the government and MOD returned to a greater emphasis on warfighting tasks. Moreover, the rhetoric of both the Prime Minister and Secretary of State for Defence became more hawkish, with less differentiation from the American view. Emphasis on nationbuilding diminished, Royal Marine commandos were deployed soon after Operation *Anaconda*, and defense relations with the United States and Australia were emphasized. The latter also marked a major turning point, as the government appears to have become more resigned to coalitions of the willing based around traditional Commonwealth ties and linkages with Washington than on formal alliances. Australia and, to a lesser degree, Canada and New Zealand have joined the United States as principal allies, with France and Germany moving down the batting order.

This trend received additional impetus with the subsequent war with Iraq in which the United States, United Kingdom, and Australia proved to be the major allies, with France and Germany among the most vocal opponents. As a result, the Blair government's attitude toward a Common European Security and Defence Policy (CESDP) has changed. Frustration with the commitment of the rest of EU to the force goals set out at Helsinki and the slow European adaptation to the post-9/11 world has led to a partial British withdrawal, with London retaining the rhetoric of CESDP but leaving it to the rest of the Union to push forward on the substantive issues. As a result CESDP is, in reality, failing to meet its operational goals, and its leading military power is partially disengaged.

Changes to Thinking and Organization

The armed forces had no prescriptive doctrine for much of the Cold War; its development in its present form can be largely attributed to Field

GR–4 Tornado landing at Eielson Air Force Base, Exercise *Cope Thunder*

144th Communications Squadron (Chris Drudge)

Forum

Marshal Sir Nigel Bagnall. Until the beginning of the 1980s, the army had no formal doctrinal statements above the tactical level apart from those agreed within NATO. Since publication of *British Military Doctrine* in 1989, the armed forces, while acknowledging that future operations will likely be combined, have gone on to produce a library of joint doctrine designed for independent operations and to form the Joint Doctrine and Concepts Centre.

The Permanent Joint Headquarters was created to oversee operations with joint rapid reaction forces allocated to it and to be dual-hatted to NATO and EU. Joint staff training, helicopter provision, a joint logistic organization, and the joint force Harrier are examples of the new joint emphasis. However, implementing transformation has been a slower process. There have been three defense reviews since 1989:

■ *Options for Change*, announced 1990
■ *Frontline First: The Defence Costs Study*, published 1994
■ *Strategic Defence Review*, published 1998.

SDR: The New Chapter was announced in 2002. It provided the final shift toward a capabilities-based approach to defense planning, but that was only achieved by assuming that British forces would go to the threat rather than the reverse. There were significant reductions to the home defense capability to help fund this shift, with the exception of that dealing with Northern Ireland. The 9/11 strikes have challenged this, and Defence Secretary Geoff Hoon has acknowledged the SDR assumption that there was no direct threat to the United Kingdom apart from domestic terrorism was wrong.

Following 9/11, Hoon announced that a review of Britain's defense posture and plans would be undertaken but that the basic tenets of the 1998 SDR remained valid. *The New Chapter* was published as a white paper in July 2002 along with a commitment to increase defense spending. While this represented the first significant rise in over a decade, it still compared poorly with other government departments. As a result, the measures included in the white paper were marginal. So where is it likely to lead?

Afghanistan, like Sierra Leone before it, has revealed the requirements for light infantry capable of rapid deployment. In both cases, this has fallen on the Royal Marines deployed offshore and a parachute battalion attached to 16 Air Assault Brigade. SDR resulted in the army increasing its armored forces at the expense of light forces, which demands review. It would seem logical to reorder the balance between heavy and light forces, but that would be deeply unpopular with more traditional army elements. This area, at least, was acknowledged in the white paper, and the army still has more horses than main battle tanks or attack helicopters. Nevertheless, it is following the U.S. lead toward a medium force.

More significantly, the new chapter gave greater emphasis to the ideas of the revolution in military affairs

there has been a move away from a capabilities-based approach to an effects-based approach

than did SDR. Both the new chapter and the various statements surrounding its publication focused on network-centric warfare and utilizing new technologies such as unmanned aerial vehicles to confront threats facing the United Kingdom. In other words, warfighting and counterterrorism have been emphasized over wider soft security issues such as nationbuilding. As part of this shift, there has been a move away from a capabilities-based approach to what has been termed an "effects-based" approach, although no threats have been identified or effect requirements stated.

From an operational point of view, the increasingly reticent attitude of the government to the deployment of the military outside the NATO region that marked the latter half of the Cold War has given way to commitment of significant forces in a variety of operations both within and without Europe, including the Persian Gulf War and subsequent operations to relieve the Kurds in northern Iraq, peace support operations in Cambodia, humanitarian operations in Mozambique, and efforts

throughout the Balkans, Sierra Leone, Afghanistan, and now Iraq. At the height of the Iraq War, 57 percent of the army was deployed on operations while for the last few years the average has rarely been below 20 percent. Faced with fewer, overstretched, and smaller forces, MOD remains reluctant to undertake further overseas commitments, and the outgoing chief of the defence staff and incoming chief of the general staff have stated that the army is incapable of mounting a further deployment for 18 months.

Equipment

It can be seen that defense policy over the last decade has begun a considerable transformation, with a shift toward expeditionary warfare and continued emphasis on the higher warfighting end of the conflict spectrum. There is still a desire to remain compatible with the armed forces of the United States and Western Europe. Such goals are not uncommon in Europe. The difference is that the United Kingdom has been one of the first countries to articulate them and has led the way in reforming defense policy.

However, such goals are not cost free, and successive governments have shown unwillingness to invest in additional defense. Again, this is not unlike the rest of Europe, and in terms of overall defense budget and as a percentage of gross domestic product the United Kingdom remains a leading investor. Added to this is the cost of transformation. NATO currently has three tiers of technological capability. The United States is technologically alone at the top and investing heavily while tier 2 includes the leading military states of Western Europe, Britain and France. Below this are the smaller Western European states and new NATO members. For tier 2 militaries, the cost of remaining interoperable with both the United States and tier 3 countries is becoming prohibitive.

The United Kingdom has led in finding ways to finance defense, and many in Europe see the initiatives as models for affordable capabilities.

HMS Invincible entering Naval Station Mayport

U.S. Navy (Charles E. Hill)

The transformation of acquisition is not new. The 1980s witnessed an ideological revolution in defense thinking. Under Margaret Thatcher, Britain embarked on wide-scale privatization of much of its defense industry, the adoption of competition for defense orders, and the beginning of contractual support services such as base catering. This continued with the John Major administration and the development of private finance initiatives (PFI), which have now been developed into the public-private partnership (PPP). The SDR process has been a continuation of the previous administration's support for contracting out elements of defense and the search for creative private sector solutions to the conundrum of matching resources to missions.

What we have also seen is a change in thinking about acquisition,

with a shift away from looking merely at kit to looking at capability—that is, including all the support costs over the life of the asset. So what solutions have been utilized with what success? The operational requirements element of the acquisition process has been divided into capabilities-based groups rather than along service lines. Apart from the traditional approach of in-house acquisition and ownership, there has been a rise in alternative solutions. PFI/PPP has had a number of advantages. It has allowed the government to undertake capital projects much earlier because the contractor provides the up-front capital for constructing and providing the services. Moreover, in theory, risk has been transferred to the contractor. These ideas have been adopted not just for rear bases and services but also for forward-deploy-

ing units. In the case of the MOD acquisition of roll-on/roll-off ships for the navy, the government envisaged that the contractor would build the ships and provide crews and have both available at agreed readiness levels for the life of the contract. This means that when these ships are not required by the Ministry of Defence, they are available for the contractor to earn income elsewhere. The advantage has been that the armed forces have not had to pay for extra/surge capacity for wartime in full and, at least in this example, have presumably managed to negotiate a lower price because the contractor can now raise income during slack periods. PPP/PFI bids allow costs to be estimated in advance and, if there are no changes, remain fixed

for the life of the contract. This is both an advantage and a disadvantage for the defense budget. The advantage is that the risk of cost escalation is passed to the contractor. The disadvantage is that such contracts are fixed parts of the budget and therefore leave planners with less spending flexibility if requirements change.

Moreover, in event of changes, most contractors have significant penalty clauses in their contracts. In fact, there is evidence that contractors sometimes offer profit-neutral contracts based on the assumption that there will be contract variation. Transferred risk is also a double-edged sword. If a contractor fails in the contract, as with a refit of Tornado F3 aircraft, the Ministry of Defence is left to pick up the pieces and may lack a critical capability at a decisive moment because of contract default.

Leasing assets is to a degree a lesser version of PFI, with the government remaining responsible for providing some of the service. Leasing assets is not a new policy; the government has used it particularly with naval support ships, the Royal Fleet Auxiliary (RFA), as a means of acquiring ships and paying for them over the life of the asset rather than up front. Experience with the RFA acquisition of auxiliary tankers has been successful. Five ships were acquired in the early 1980s to replace older ships earlier than the defense budget would have allowed by recourse to leasing.

More recently, MOD has leased four C–17s from Boeing for 7 years with the option of extending by 1 or 2 years. The key difference between the C–17 contract and that for the tankers lies in ownership. The Ministry of Defence owns the RFA tankers, so this leasing is in effect hire-purchase while the C–17s will return to Boeing at the end of the lease or be bought outright. MOD undertook this lease because SDR identified a shortfall in Royal Air Force heavy lift capacity. The previous Conservative government had already agreed to acquire the Airbus A400M as a replacement for part of the Hercules fleet and provide an outsized load capability. However, the A400M is not due into service until 2007, and the Labour government felt it could not

afford to wait. In other words, leasing can provide affordable short-term solutions to capability gaps, depends less on contractors compared to PFI/PPP, and is arguably safer.

The disadvantages of leasing lie in the terms. The C–17 lease includes a limit on the number of hours flown before extra charges are levied as well as limits on the types and size of cargo. Boeing wishes to have a saleable product at the end of the contract. Rising cost can undermine the original economic rationale. Nevertheless, the C–17 option has been so successful that all four aircraft may well be acquired

the Ministry of Defence may lack a critical capability at a decisive moment because of contract default

at the end of the lease, with additional aircraft acquired possibly through outright purchase. In this example, leasing acts as a trial mechanism, with the leasor managing the risk and having an incentive to make sure everything works.

The Nature of Change

There are a number of problems associated with managing transformation, but as the introduction highlighted these are not new. Firstly, from the British experience to date it is clear that the pace of transformation is not uniform. This can be attributed to a number of factors. For example, changes in defense policy on the strategic level, such as adapting to the effects of 9/11, take time to permeate the system no matter how quickly policymakers wish to change. A conceptually led transformation will result in a doctrinal and acquisition time lag; thus, there will always be legacy forces and systems. Moreover, in a period of constant change, human beings and their institutions will want to retain the familiar rather than seek the new.

Secondly, with finite resources, transformation will inevitably result in compromise. More significantly, transformation within a fixed budget requires transformation of policy,

training, and acquisition, and the danger lies in these not being coordinated. The risk here is that the elements of transformation become out of sync or focused on single effects. In the British case, a transformed military will be smaller and involve greater use of contractors and innovative acquisition strategies. Such forces may be less suitable to the nationbuilding operations that have also become a regular part of British engagement. Efforts in Iraq highlight the problems of too few or nonspecialized personnel. Moreover, the transformed military may place increased pressure on certain assets.

Requirements for forces composed for traditional warfighting are different from those required for nationbuilding or peacekeeping. As a result, key assets have been disproportionately utilized in operational deployments (signals, engineers, the airborne warning and control system, light infantry, and special forces). This was acknowledged in *Strategic Defence Review: The New Chapter* although no obvious solutions have been put forward. **JFQ**

NOTES

[1] Heinz Guderian, *Achtung-Panzer: The Development of Tank Warfare,* translated by Christopher Duffy (London: Cassell Military Paperbacks, 1992), 24.

[2] Michael G. Burns, *Bader: The Man and His Men* (London: Arms and Armour, 1990), 33–34, 44.

[3] R.A. Mason, *Air Power: A Centennial Appraisal* (London: Brassey's, 1994), 160.

Battle damage in
Baghdad, April 2003

Airpower and
Psychological Denial

By W E S L E Y P. H A L L M A N

Qusay Hussein ordered three Republican Guard divisions to maneuver into position to oppose the U.S. advance to Baghdad. But the divisions were essentially destroyed by airstrikes when they were still about 30 miles south of the capital. This affected the morale of the troops. The Iraqi will to fight was broken outside Baghdad.

—Iraqi General Staff Colonel Ghassan[1]

According to RAND researcher Stephen Hosmer, the promise of airpower resides in "air operations against enemy deployed forces, the demoralization of which might cause enemy cohesion to disintegrate and battlefield resistance to collapse"[2]—a concept here termed *psychological denial*. While airpower enthusiasts have advocated psychological effects since the days of Giulio Douhet, these effects have usually been seen in terms of targeting the public's will and then the leadership's ability to continue the fight. Airpower could thus enable strategists to leapfrog fielded forces and strike at the heart of the enemy. But that did not happen in Operation *Iraqi Freedom*. Carl Conetta states that the operation was the first example of airpower used to effect psychological denial.[3] Is it true *Iraqi Freedom* was a unique use of joint and combined airpower, and did this strategy work?

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More importantly, are the results idiosyncratic or do they point the way forward in airpower employment? If they are case-specific, the strategic implications are few. If, as this article argues, they are not, *Iraqi Freedom* reinforces the move to redefine *strategic attack* and suggests future investments in more capabilities such as an enhanced joint surveillance and target attack radar system (JSTARS), Global Hawk, and Blue Force Tracking to improve airpower's ability to find and strike fielded forces.

Damaging Fielded Forces

The central tenet of Hosmer's theory is that while traditional strategic attacks "can provide important coercive leverage on an enemy, such attacks themselves are unlikely to secure war aims." Instead, he advocates dislocating fielded forces. How this mechanism works to cause enemy capitulation or concessions is based on coercion theory. Hosmer's concept is similar to Robert Pape's assertion regarding a denial strategy: "The coercer must exploit the particular vulnerabilities of the opponent's specific strategy."[4] In the case Hosmer seeks to explain, conventional conflict, Pape

Iraqi Freedom was unique in American military operations in ways that support psychological denial

notes the enemy's strategy is victory "by means of massive, heavily armed forces that fight intense, large-scale battles," and he advocates the destruction of those heavy forces through relentless air attack.

Hosmer, however, promotes attacking fielded forces not only to damage them physically but to destroy them psychologically. Attacking the will of these forces obtains the necessary and sufficient coercive condition of "threatening to defeat an adversary's strategy," leaving the enemy nation prostrate to a total military victory or willing to accede to limited objectives. Hosmer states that airpower can do this in two ways: "(1) Causing enemy troops to desert, defect, sur-

Mission planning cell briefing, Operation *Iraqi Freedom*

30th Space Communications Squadron (Janice H. Cannon)

render, or flee the battlefield and (2) dissuading troops from manning their weapons and otherwise carrying out their military duties." Key to this conception is a focus on linchpin units upon which enemy strategy depends. Finally, Hosmer proposes a six-factor concept of operations for a psychological denial strategy: constant attacks, supply denial, area bombing for surprise and shock, precision bombing to condition the enemy troops to desert their equipment, integrated psychological operations strategies, and exploitational ground operations. While *Iraqi Freedom* did not exactly mirror this concept of operations, it was remarkable how close it came.

Iraqi Freedom was unique in American military operations in ways that support psychological denial. It was the first operation in which commanders did not implement a long or medium-term independent air campaign on the enemy capital preceding major ground operations. Coalition forces did take advantage of ongoing Operation *Southern Watch* and *Northern Watch* missions to target selected command and con-

trol and integrated air defense systems, with some tracing the beginning of the air campaign to January when the coalition stepped up attacks within the no-fly zones. While they were a precursor to *Iraqi Freedom*, these operations did not rise to the level of the massed attacks against wide-ranging strategic, interdiction, and counterforce targets that preceded ground operations in the first Gulf War.

As Hosmer states, a strategist must "plan on multiple pressures to secure war aims." By kicking off the air operations nearly simultaneously with the ground invasion, coalition forces immediately presented the Iraqi forces with a strategic dilemma that at once stressed their will. They could either disperse and dig in to avoid the pounding punishment of coalition airpower and leave themselves open to the invasion force, or they could mass to meet the invading forces and expose themselves to the air threat. With no effective means to counter coalition airpower, they had no way out of the dilemma. That helped establish the conditions that consistently produced large-scale surrender and desertion. Not only did the coalition employ sustained airpower to dislocate the enemy forces, but the concurrent invasion allowed the ground forces to "exploit

collapsing morale" in a timely manner, thus maximizing airpower effects both physically and psychologically. Stated Colonel William Grimsley, USA, commander, 1st Brigade, "We never really found any cohesive unit of any brigade of any Republican Guard division."[5] Though this simultaneity from the start was unique, the targeting plan was exceptional as well.

An argument has long raged among theorists about what airpower should target. While Douhet advocated bombing cities to break morale, others,

key among differences in airpower employment against land forces are the tempo and intensity of attacks

such as the proponents of *Blitzkrieg,* argued for targeting enemy fielded forces to support ground action and break the opposing army's capabilities to resist. In all wars that have employed airpower, the Air Force has targeted both the *strategic* targets, which include leadership, command and control nodes, and transportation hubs, and the *tactical* targets of fielded forces. In *Iraqi Freedom*, however, coalition air forces employed a higher share of their sorties and munitions against fielded forces in a strategic manner meant to decisively destroy those forces and effect Iraq's defeat.

A Tale of Two Conflicts

Because of their similarities, it is instructive to compare operations in the two Gulf wars. While the majority of strikes during *Desert Storm* did hit Iraq's fielded forces, the order of the strikes and the manner in which they occurred belie not only a changed targeting plan but also a changed strategic framework. One need only compare the objectives of the coalition forces commander (CFC) and the coalition forces air component commander (CFACC). While in both Gulf wars the number-one CFC focus was the Iraqi forces, the importance assigned to fielded forces on the CFACC list versus traditional strategic attack targets is striking. Given the CFC objectives

in *Desert Storm,* Lieutenant General Charles Horner, USAF, CFACC, placed direct attacks on fielded forces, specifically the Republican Guard divisions, as number five of five objectives with a stated goal of "destroying the Republican Guard forces."[6] In contrast, Lieutenant General Michael Moseley, USAF, CFACC during *Iraqi Freedom*, placed such attacks as number 2 on his list of 11 "strategy-to-task mission areas."[7]

The differences do not end with priority; they extend into the intended effects of the attacks. In *Desert Storm,* air planners hoped coalition air attacks would make a ground offensive unnecessary by focusing on targets deep inside Iraq that were linked to leadership, forcing Saddam Hussein to capitulate. In contrast, the *Iraqi Freedom* attacks were meant to compel a collapse of the Iraqi forces to enable and complement the ground invasion and eventual occupation of Iraq. One can glean these intentions from the concept of operations. *Desert Storm* was a phased plan that began, according to a General Accounting Office evaluation, with "the strategic air campaign" focusing in order of importance on "strategic air defenses, aircraft/airfields, strategic chemical, biological, and nuclear capability, leadership targets, command and control systems, Republican Guard

forces, telecommunications facilities, and key elements of the national infrastructure."[8] *Iraqi Freedom*, however, did not have an independent strategic air phase; instead, air operations were conducted from the outset to "[help] the [coalition forces land component commander] to achieve defeat or compel capitulation of Republican Guard Forces and Iraqi Army Forces" from the start. This difference in objectives led to differences in the allocation of air forces to the various target sets. While Iraqi forces received an initial allocation of 7 percent of available forces during *Desert Storm,* they received a 51 percent apportionment in *Iraqi Freedom*. However, apportionment matters little without the other piece of the puzzle, force employment.

Key among the differences in airpower employment against land forces are the tempo and intensity of the attacks. As suggested above, strikes were stretched over several weeks during *Desert Storm,* with slowly increasing intensity that allowed Iraqi forces to adapt and habituate to the strikes. In fact, during the first 2 weeks of the operation, ground attacks were significantly below the overall average for a war whose intensity did not peak until 4 weeks into the campaign. When the attacks did come in force, Army commanders pressed for strikes against the

F–16CJs armed for combat sortie over Iraq

Marines capturing
enemy forces on the
road to Baghdad

U.S. Marine Corps (Andrew P. Roufs)

regular forces lined up facing friendly units rather than the Republican Guard arrayed in the rear. Attacks in *Iraqi Freedom* were immediate and intense and could not contrast more with *Desert Storm*:

Because the Republican Guard divisions did not capitulate, coalition airpower hammered them from the beginning of the air war, first with precision strikes against a small number of key targets and later with crushing blows from B–52 heavy bombers dropping both unguided iron bombs and precision weapons. That was a shift from Desert Storm, *when those units came in for heavy bombing only after other target sets had been worked over.*[9]

While fewer munitions were used per enemy soldier in *Iraqi Freedom* than in *Desert Storm,* they were delivered in half the time. *Iraqi Freedom* also included a sharp increase in the portion of precision-guided munitions (PGMs) in strikes against the Iraqi fielded forces. Coalition forces employed

PGMs against ground forces only 6.5 percent of the time in *Desert Storm* versus 67 percent in *Iraqi Freedom*. The combination of higher intensity and precision meant enemy soldiers experienced an unprecedented withering air attack meant to break their will to resist. The question is whether it did.

Better To Quit Than Fight

Iraqi Freedom planners seemed to follow Hosmer's concept of operations almost exactly.[10] The results were both impressive and sobering. Again, comparing the two Gulf Wars gives the best indication of effectiveness since they involved the same regime confronting similar forces. Studies indicate that the gradually building intensity of coalition air strikes coupled with privations forced by air interdiction led to a 40 percent desertion rate by Iraqi forces within Kuwait in 1991. However, by early April the level in *Iraqi*

Freedom reached 90 percent in some units. Overall, enemy desertion rates exceeded those of *Desert Storm* despite the shorter duration and smaller aggregate of munitions used. As Conetta notes, "collapse seemed to be preceded by a period of holding fast in defensive positions, attempting some substantial counteroffensive actions, and undergoing withering coalition aerial and artillery assaults." Accounts from the field give most of the credit to airpower:

Airstrikes killed 600 more of [Iraqi battalion commander] *Jaburi's men on Monday and Tuesday last week. American troops were forced to retreat 12 miles to Salman Pak . . . but the game was over. Divisional headquarters in Baghdad ordered them back to their base in the north. . . . More than half the remaining men deserted, stripping off their uniforms and heading home to protect their families.*[11]

Hosmer's psychological effects dominated in the end. Despite low casualties overall, Iraqi forces disintegrated when faced with the ubiquity of coalition airpower, focused attacks on elite units, and their own inability to produce effective counterstrategy. The ability for rapid exploitation by ground forces was pivotal to airpower effects. As Iraqi units were forced to maneuver to counter ground forces, they made themselves extremely vulnerable to air attacks. Large formations with high fatalities served as an example to lesser divisions. Conetta concludes, "The rest would have learned—as the coalition intended—that it was better to quit than fight." Given the mass collapse of Iraqi resistance and its subsequent defeat, it is important to determine

airspace access gave the coalition the unprecedented ability to gain precise information well in advance of hostilities

whether this unique use of airpower had these effects due to the specific circumstances of *Iraqi Freedom*.

Though three factors make the second Gulf War idiosyncratic, they do not invalidate general lessons for future air operations. First, Iraq was defeated in *Desert Storm* by a massed assault that left it still weakened 11 years after the fact. With the ongoing economic sanctions, restrictive trade regimes, and pervasive internal strife, Saddam's government and military were stretched to the breaking point even before fighting began. Baghdad went into the conflict not expecting a win but hoping for a good showing:

Iraqi armed forces had . . . never recovered from being pulverized in the 1991 Gulf War. 'You can't fight with what was left . . . and this war was not just about what you learn at the military academy— it is technological, and we recognized that,' says [Iraqi officer] *Asaad. 'The Army believed that from the first bullet fired by the British in the south, it would lose.'*[12]

Few soldiers wish to give their life to a hopeless cause in defense of a hated regime. However, with America's expanding military superiority, the balance of military power with a future adversary is likely to be the same or even more lopsided. Coupled with that, the recent U.S. track record will likely leave the forces of potential foes with the same level of expectations of victory the Iraqis had.

The second unique circumstance the coalition enjoyed was the ability to leverage 11 years of access and experience. During those years, especially immediately preceding *Iraqi Freedom*, the coalition was able to use retaliatory and punitive strikes to paralyze air defenses. The combination of *Southern Watch* and *Northern Watch* also kept the Iraqi air force marginalized, making it irrelevant in *Iraqi Freedom* and essentially giving the air medium up to coalition forces. Airspace access also gave coalition air-breathing intelligence, surveillance, and reconnaissance (ISR) assets the unprecedented ability to gain precise information well in advance of hostilities. Key was the ability to identify and track enemy forces along most of *Iraqi Freedom*'s axis of advance. This immediate and pervasive air and information supremacy, coupled with coalition dominance of space, enabled a concentrated assault. While future conflicts will not likely include these advantages, the U.S. lead in ISR platform capability and low-observable technology will still provide a substantial edge in most conventional scenarios. Important among these capabilities is a continuing American superiority in space. Regarding air superiority, the counterair threat will remain minimal, especially with the advent of the F/A–22, while the surface threat is more problematic and may require an initial period of airstrikes to gain the access for effective counterland operations. Initial air superiority will thus rapidly become air dominance into the foreseeable future.

The final factor driving the outcome of *Iraqi Freedom* was that it was a conventional campaign waged by a joint force. This context presented the coalition with an adversary dependent on heavy mechanized forces that could be compelled to mass defensively. The Iraqis were unable to disperse, as the Serbs had in Operation *Allied Force,* for fear of being overrun by ground forces. These factors combined to make the Iraqis excessively vulnerable to air attacks. Because it was a conventional conflict, the defenders also lacked the ability to melt into the countryside and await more opportune times for counterattack. A future scenario characterized by the exclusive use of airpower, or against an unconventional threat such as al Qaeda, would pose significant challenges to a psychological denial strategy. Conventional doctrine and current technology do not mitigate these challenges. Importantly, though, these other types of conflict imply radi-

F–15Es on combat sortie in support of *Iraqi Freedom*

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cally different strategies based on their widely differing centers of gravity. The CFC in both Gulf Wars identified the Republican Guard as a strategic center of gravity. In some future scenarios, ground forces may not be so considered. The center of gravity in an unconventional threat may be the sympathy of a target populace, a poor target for a fighter-bomber. In an air-only scenario, the center of gravity may be the leader and his cost-benefit calculus. But given that conventional threats still exist, the lessons and implications of airpower operations in *Iraqi Freedom* are applicable for the future.

Psychological Denial

The *Iraqi Freedom* experience reinforces the Air Force move to redefine strategic attack. Air Force Doctrine Document 2-1.2, *Strategic Attack*, identifies it as:

Those operations intended to directly achieve strategic effects by striking directly at the enemy's centers of gravity. These operations are designed to achieve their objectives without first having to directly engage the adversary's fielded military forces in extended operations at the operational and tactical levels of war.

While the first section is still valid, explicitly excluding the adversary's fielded forces as a center of gravity is problematic given the experience of *Iraqi Freedom*. Today the Air Force is moving to a definition that is both more inclusive of fielded forces as a possible center of gravity but also more focused on gaining operational and national objectives. The 2001 Air Force Doctrine Symposium proposed that strategic attack is "offensive action conducted by command authorities aimed at generating effects that most directly achieve our national security objectives by affecting an adversary's leadership, conflict sustaining resources, and/or strategy." This definition continues to focus air planners on both striking the enemy's center of gravity and defeating his strategy.

The Air Force should invest more in capabilities such as enhanced JSTARS, Global Hawk, and Blue Force Tracking to improve its ability to strike fielded forces. JSTARS has proven itself

in contingency operations since *Desert Storm*. *Iraqi Freedom* was the first operation in which it deployed in its production configuration. In Iraq, it proved invaluable to the effects described above:

Iraqi soldiers, interviewed by U.S. troops during and just after Gulf War II, commonly reported that their morale collapsed when, in the midst of a raging sandstorm, armored vehicles began exploding all around them. . . . JSTARS performance during the dust storms proved to be 'a major turning point' in the war, according to Air Force Chief of Staff General John P. Jumper, USAF.[13]

More of these platforms with enhanced sensors to detect ever smaller units with greater fidelity are not only key to attacking the conventional massed forces faced in Iraq, but they could also mitigate the challenges

Iraqi Freedom reinforces the Air Force move to redefine strategic attack

posed by a dispersed adversary. Another critical piece of the sandstorm attack was Global Hawk. In combination with JSTARS,

Global Hawk allowed coalition air strikes to continue . . . . While [its] optical and infrared sensors were blinded by the dust, the aircraft could focus its radar sensor on the Republican Guard below—checking to see if those forces were still at point A or B. Once again, Global Hawk passed updated information on to fighters and bombers using [joint direct attack munitions] to continue the attacks.[14]

The psychological effect of this attack is hard to overstate. According to a Republican Guard captain, it affected the morale of the soldiers, who were hiding and thought nobody could find them. Some fled their positions. Sometimes, though, even when the air forces know the enemy position, nearby joint ground forces are leery of airpower attacks because of friendly fire concerns.

When the enemy is massed in proximity with friendly forces, the Air Force is posed with another challenge in targeting fielded forces. Currently, the fire support coordination

line requires a time-consuming process to clear airpower to attack proximate threats. An effective Blue Force Tracking System that allows direct air attacks is an important development in bringing rapid, decisive airpower to the close fight. This is especially true in the nonlinear battlespace that, according to the Army, we are moving toward. *Stryker Brigade Combat Team Army Transformation* states:

Depending on the nature and evolution of the contingency, conditions may require the [Stryker Brigade Combat Team] *to operate in a continuum of linear, contiguous operations, or, to conduct nonlinear operations, with tactical actions separated spatially, but focused with respect to timing and purpose against key enemy capabilities and assets.*[15]

According to Lieutenant General William Wallace, USA, commander, V Corps, during *Iraqi Freedom*, "Blue Force Tracking provides the ability to deny fires to occur, but it doesn't clear fires. Because of that, there's going to have to be some kind of identify friend or foe system that complements Blue Force Tracking."[16] The Air Force should cooperate with the Army and Marine Corps to ensure the final product provides this capability, which will help not only in large-force engagements but also in support of small unit operations. The overall effect will be to multiply the scenarios where concentrated airpower can decisively engage fielded forces.

While some circumstances surrounding operations in *Iraqi Freedom* were idiosyncratic, the resulting air operations have broad applicability. As more data becomes available, the military should continue to explore the efficacy of the psychological denial strategy implied by Hosmer's theory and how it can be used more efficiently. Current trends to reassess the nature of strategic attack should continue at both Air Force and joint levels, along with focused investments in systems such as JSTARS, Global Hawk, and Blue Force Tracking that enable and extend the joint force air component's abil-

F/A–18 launching from
USS Harry S. Truman
during *Iraqi Freedom*

ity to apply the psychological denial strategy. Stephen Hosmer developed his conception of psychological denial from the glimmerings of airpower actions after World War II. Operation *Iraqi Freedom* provides convincing evidence that it is a successful strategy that future joint campaign planners should consider. **JFQ**

NOTES

[1] William Branigin, "A Brief, Bitter War for Iraq's Military Officers: Self-Deception a Factor in Defeat," *The Washington Post,* April 27, 2003, A25.

[2] Stephen T. Hosmer, *Psychological Effects of U.S. Air Operations in Four Wars 1941–1991: Lessons for U.S. Commanders* (Santa Monica, CA: RAND, 1996), xv. This article draws heavily on Hosmer's work throughout.

[3] Carl Conetta, "Catastrophic Interdiction: Air Power and the Collapse of the Iraqi Field Army in the 2003 War," Project on Defense Alternatives Briefing Memo 30, September 26, 2003, <http://www.comw.org/pda/fulltext/0309bm30.pdf>, 1. While Conetta uses the term *catastrophic interdiction,* this article uses *psychological denial* to dispel confusion and relate this strategy to Robert A. Pape's denial strategy.

[4] Robert A. Pape, *Bombing To Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996), 30.

[5] Branigin, "A Brief, Bitter War," A25.

[6] General Accounting Office, *Operation Desert Storm: Evaluation of the Air Campaign* (Washington: General Accounting Office, June 1997), appendix V, 1.

[7] USCENTAF Assessment and Analysis Division, *Operation* Iraqi Freedom—*By the Numbers,* April 30, 2003, <http://www.urbanoperations.com/oifcentaf.pdf>, 4.

[8] General Accounting Office, *Evaluation of the Air Campaign,* 1.1.

[9] Richard J. Newman, "The Iraqi File," *Air Force* (July 2003), 52.

[10] Besides the previous detailed ground force strikes, U.S. planners also integrated the plan with psychological operations. "Because American strategists did not expect Iraq's regular army units to fight very hard, they concluded that elite units would be the key barrier blocking the path of U.S. forces to the heart of Saddam's power in Baghdad. That's why they were the targets of much of the leafleting . . . prior to the war, when printed messages, dropped from U.S. aircraft, urged Iraqi commanders and troops to turn on Saddam, with detailed instructions about how to position their troops and vehicles to signal surrender and avoid U.S. air attacks." Ibid., 51.

[11] Scott Peterson and Peter Ford, "From Iraqi Officers, Three Tales of Shock and Defeat," *Christian Science Monitor,* April 18, 2003, <http://www.csmonitor.com/2003/0418/p01s03-woiq.html>.

[12] Ibid., 1.

[13] John A. Tirpack, "The Blended Wing Goes to War," *Air Force* (October 2003), 27.

[14] Rebecca Grant, "Eyes Wide Open," *Air Force* (November 2003), 42.

[15] 25th Infantry Division (Light), *Army Transformation Environmental Impact Statement,* appendix C, December 16, 2003, <http://www.ttsfo.com/sbcteis/deis/Appendices/Appendix%20C.pdf>.

[16] Mathew French, "Generals Point Ways to Better Blue Force," *Federal Computer Weekly* (October 21, 2003), <http://www.fcw.com/fcw/articles/2003/1020/web-oif-10-21-03.asp>.

Saddam Hussein portrait in destroyed Republican Guard barracks

Paralyzed or Pulverized?
The Fall of the Republican Guard

By HOWARD D. BELOTE

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T elevision viewers around the world witnessed the symbolic end of Saddam Hussein's regime on April 9, 2003, as U.S. Marines helped Iraqi citizens destroy a statue of the dictator in Baghdad. Coming 3 weeks after the onset of Operation *Iraqi Freedom*, the scene seemed to vindicate the "fast and final" campaign plan of General Tommy Franks, USA, Commander, U.S. Central Command (CENTCOM)—a

rapid, two-pronged attack along the Tigris-Euphrates crescent.

The statue's fall may also have validated tenets of classical military theory. With crowds dancing in the streets and Saddam in hiding, the regime appeared paralyzed by the rapid approach and seizure of the capital. In his seminal work, *Strategy*, B.H. Liddell Hart argued for precisely that effect—a psychological paralysis created by land maneuver. As Army V Corps and 1st Marine Expeditionary Force fought through regular and paramilitary resistance, bypassed Iraqi strongholds, and quickly pressed Baghdad, the regime could not respond. On the surface, then, the campaign plan appeared to be a textbook

application of Liddell Hart's indirect-approach theory.

Appearances can be deceiving. In conjunction with the ground maneuver, the coalition air component conducted its own multifaceted operations, which, according to air component Commander Lieutenant General T. Michael Moseley, USAF, ran the gamut

Liddell Hart and Clausewitz occupy opposite ends of the theoretical spectrum

from "strategic attack, to interdiction, to close air support, to resupply." This includes joint and international airpower assets. Significantly, Moseley's air plan focused not on breaking the regime's will or merely supporting a ground advance. Instead, as the general said, it focused on destruction: "I find it interesting when folks say we're softening them up. We're not softening them up. We're killing them."[1] Rather than paralyzing the enemy, Moseley sought to engage him in decisive battle—as Prussian theorist Carl von Clausewitz suggested nearly two hundred years ago.

Moseley's words are important for theorists and campaign strategists, for they suggest a role reversal between airpower and landpower and highlight joint success. Furthermore, they suggest a rethinking of contemporary airpower theory, much of which has focused on paralysis. Through this apparent contradiction—an indirect (although aggressive) ground scheme of maneuver, coupled with a direct air attack—Clausewitz appears to explain the joint *Iraqi Freedom* campaign more fully than Liddell Hart. This essay compares the theorists' concepts and analyzes *Iraqi Freedom* in their terms. Which theorist better describes the character of war and thereby points out lessons for future conduct?

The Theories and *Iraqi Freedom*

Liddell Hart and Clausewitz occupy opposite ends of the theoretical spectrum. Indeed, Liddell Hart disdained Clausewitz and explicitly wrote to overturn what he called "the prime canon of military doctrine . . . that 'the

destruction of the enemy's main forces on the battlefield constituted the only true aim in war.'"[2] Influenced by the horrific trench warfare along the Western Front in World War I, and with an eye toward a better postwar peace, Liddell Hart sought to minimize death and destruction. Believing that one should "subdue the opposing will at the lowest war-cost and minimum injury to the postwar prospect," he argued "it is both more potent, as well as more economical, to disarm the enemy than to attempt his destruction by hard fighting." Therefore, the strategist "should think in terms of paralyzing, not killing," and should use the indirect approach "to upset the opponent's balance, psychological and physical, thereby making possible his overthrow."[3]

The *Iraqi Freedom* ground scheme of maneuver dovetailed with Liddell Hart's indirect approach, which held that "no general is justified in launching his troops to a direct attack upon an enemy firmly in position."[4] Although Soldiers and Marines clearly fought a number of vicious engagements, the land component plan sought to minimize direct contact before Baghdad. Lead elements of 3d Infantry Division's 7th Cavalry Regiment pushed 100 miles into Iraq by March

21—the first full day of the ground war. Lieutenant General William Wallace, Commander, V Corps, planned to bypass towns and admitted surprise at the Iraqi willingness "to attack out of those towns toward our formations, when my expectation was that they would be defending those towns and not be as aggressive."[5] As 1st Marine Expeditionary Force advanced on the right—and after a brief pause following tremendous sandstorms—V Corps encircled, fought, and passed enemy concentrations at Nasiriyah and Najaf. U.S. forces drew within 50 kilometers of Baghdad by April 2, with the Army southwest near Karbala, and the Marines southeast near Al Kut. Two days later, V Corps seized Baghdad International Airport, with follow-on forces eliminating positions bypassed by 3d Infantry Division. Only 5 days later, after destroying remnants of armored divisions between al Kut and Baghdad, 3d Infantry Division and 1st Marine Expeditionary Force linked up in the capital and Saddam's statue fell. Along the way, by moving quickly, exploiting an information campaign, and bypassing engagements, coalition forces achieved one of General Franks' operational objectives for a better peace, "to prevent the destruction of a big chunk of the Iraqi people's future wealth." Liddell Hart would have approved of the CENTCOM commander's economi-

U.S. Soldier standing guard over Republican Guard general

982d Signal Company (Charles B. Johnson)

Marine tanks approaching the Tigris River on Highway 27

1st Marine Division Combat Camera (Paul L. Anstine II)

cal approach. It saved lives on both sides and retained Iraqi oilfields for postwar reconstruction.

While Clausewitz also valued economy of force, he most likely would have approached the operational problem differently. For him, economy of force had little to do with saving lives or husbanding resources. Emphasizing that "theory demands the shortest roads to the goal," he argued that economy simply meant not wasting strength.[6] Clausewitz also took a different view of moral and psychological paralysis. For Liddell Hart, moral factors were predominant "in all military decisions. On them constantly turns the issue of war and battle."[7] For Clausewitz, victory lay in "the sum of all strengths, physical as well as moral," and the two were interrelated. Loss in battle would affect the losing side psychologically, which would "in turn, [give] rise to additional loss of

material strength, which is echoed in loss of morale; the two become mutually interactive as each enhances and intensifies the other." Psychological paralysis and physical destruction were inseparable, and Clausewitz highlighted the latter: "destruction of the enemy forces is the overriding principle of war, and, so far as positive action is concerned, the principal way to achieve our object." To underscore his argument in favor of decisive battle, the Prussian flatly stated, "We are not interested in generals who win victories without bloodshed."[8]

Away from embedded reporters and studio briefings, the air component put Clausewitz's ideas into action. Rather than psychologically defeating regime leadership, Airmen waged a classic battle of attrition and took away the regime's ability to respond. According to Major General Daniel Leaf,

senior Airman in the land component headquarters, attacks focused on the Republican Guard, which started Gulf War II with as many as 900 T–72 and T–62 tanks at between 80 and 90 percent effectiveness—more than twice as many tanks as coalition forces had in the theater. Six Republican Guard divisions defended Baghdad; five of those attempted to use the cover of sandstorms on March 25–26 to position themselves between the capital and advancing coalition forces—but found themselves stymied by superior surveillance and targeting from above. When ground forces did make contact with Republican Guard armor on March 30, the Iraqis could not mount a coordinated defense and, in General Wallace's words, "the U.S. Air Force had a heyday against those repositioning forces." From that point on, Moseley exhorted his command to "kill them faster," and April 2–3 saw over 1,300 sorties—80 percent of the daily

totals—target the Republican Guard. Throughout the air war, 15,592 targets, or 82 percent of the total, related to the ground battle.

While battle damage statistics remain classified, open-source information and anecdotal evidence suggest that coalition air forces decimated the Republican Guard. General Leaf highlighted how ground forces found "a tremendous amount of destroyed equipment and a significant number of enemy casualties as they moved toward Baghdad," and on April 3, Major General Stanley McChrystal, USA, Joint

the form of the decisive battle suggests ground forces maneuver for effect, and air and space forces bring the killing power to the fight

Staff vice director of operations, told a Pentagon news conference that the Republican Guard units were "no longer credible forces." The following day, an Army intelligence officer briefed commanders that the Medina Republican Guard Division had fallen to 18 percent of full strength while its sister division, the Hammurabi, was down to 44 percent, but noted that "These numbers are somewhat in dispute. They may actually be lower." On April 5, the day the Army made its "thunder run" into Baghdad, Moseley confidently reported, "Our sensors show that the preponderance of the Republican Guard divisions that were outside of Baghdad are now dead."[9]

Clearly, the air component, both alone and in close coordination with ground forces, did more than psychologically imbalance Saddam's regime; it took away its major source of power. In Moseley's words, that allowed the "incredibly brave U.S. Army and U.S. Marine Corps troops...to capitalize on the effect that we've had on the Republican Guard and...to exploit that success."[10] Therefore, any depiction of the *Iraqi Freedom* campaign plan in Liddell Hart's terms would be incomplete at best. Certainly the ground forces used maneuver to set conditions for success, and that maneuver, coupled with information operations

and airpower, undoubtedly upset the equilibrium of the Iraqi troops and the regime. However, the "sword" did not drop "from a paralysed hand," as Liddell Hart forecast. Coalition forces destroyed the sword in a Clausewitzian decisive battle.

Lessons Learned

Interestingly, the form of the decisive battle suggests a role reversal wherein ground forces maneuver for effect, and air and space forces bring the killing power to the fight. Until all the lessons learned and statistical compilations become available, the point will be moot, but airpower had a phenomenal aggregate effect on ground forces in *Iraqi Freedom*. In the long run, the statistics matter less than the fact that jointness triumphed in this fight. The concentration of airpower against armor shows how the joint force commander's tools can be used interchangeably. "Combined arms works like gangbusters," exclaimed Richard Sinnreich, formerly of the Army School of Advanced Military Studies, and re-

tired Vice Admiral Arthur Cebrowski echoed the enthusiasm: "When the lessons learned come out...it is as if we will have discovered a new sweet spot in the relationship between land warfare and air warfare."[11]

In addition to underscoring joint success, *Iraqi Freedom* should redefine the airpower debate in Clausewitzian terms. For much of the 1990s, theorists John Warden and Robert Pape argued about the proper use of airpower. Warden claimed that Airmen should first focus on leadership and critical infrastructure and seldom target fielded forces, while Pape countered that airpower was effective only when focused on those fielded forces.[12] Recent operations, seen through a Clausewitzian lens, suggest a middle ground: fielded forces can be strategic targets.

Clausewitz defined a center of gravity as "the hub of all power and movement, on which everything depends,"[13] and the Republican Guard was precisely that: it undergirded all Saddam's operational and political power. Twelve years earlier, General Norman Schwarzkopf, USA, had called its divisions "the heart and soul" of Saddam's army, and it was the Repub-

Marines destroying ammunition cache at Republican Guard base near Daly Airfield, Iraq

Forum

lican Guard that brutally suppressed the Shi'ite rebellion after Gulf War I. Indeed, analyst Rebecca Grant, among many others, argued that the Guard kept Saddam in power for nearly two decades, and that decimating Guard forces "signaled that Saddam's control over Iraq was about to collapse for good."[14] What better use could there be for any of the joint force commander's tools than to destroy an operational or strategic center of gravity? To be sure, fielded forces are not always centers of gravity—they were not in Kosovo, for example—but when a regime relies on an elite force to maintain power, airpower should focus on that force's destruction.

Saddam's 20-year reliance on the Republican Guard highlights a final lesson for the military theorist, one that underscores the elegance and completeness of Clausewitz's descriptive power. As argued above, Liddell Hart emphasized paralysis, which he believed would ensure a better peace. Clausewitz, on the other hand, emphasized that war is merely a political tool, and that the aim of combat "is to destroy the enemy's forces as a means to a further end."[15] He cautioned that "the ultimate outcome of a war is not always to be regarded as final. The defeated state often considers the outcome merely as a transitory evil, for which a remedy may still be found in political conditions at some later date."[16] After Gulf War I, Saddam proved Clausewitz right. He was paralyzed by General Charles Horner's air war and Schwarzkopf's "left hook" ground campaign. The Republican Guard survived, however, and the United States was tied down in Iraq for the next 12 years. Paralysis proved to be merely the means to an intermediate end—Saddam's ejection from Kuwait, not Liddell Hart's perfection of strategy. In hindsight, the United States would have likely created a better political endstate by engaging in decisive battle in 1991. Even without going to Baghdad, which was politically untenable at the time, coalition forces could have produced a more acceptable regional balance of power by destroying the Republican Guard.

Light armored vehicles traveling on highway to Euphrates River

U.S. Marine Corps (Andrew P. Roufs)

Implications for the Future

Although Clausewitz wrote nearly 200 years ago, and with no concept of airpower, his theory more completely explains recent history than does Liddell Hart's. Furthermore, Clausewitz highlighted a number of pitfalls that could still influence military operations. General Wallace's comment that "the enemy is a bit different from the one we wargamed against" calls to mind one Clausewitzian principle that the strategist will ignore at his peril: uncertainty. The Prussian master argued, "In war, everything is uncertain," lamented the "general unreliability of all information," and warned that the "difficulty of accurate recognition constitutes one of the most serious sources of friction in war."[17]

Much contemporary military thought discounts uncertainty and friction. One prominent historian argued to a National War College audience that the entire spectrum of effects-based operations ignores the very possibility of uncertain information. To be sure, many theorists side with John Warden, who has written that technology will overcome uncertainty, friction, and fog; and the current development of joint operations centers and air operations centers seeks to capitalize on that technol-

ogy. In Operation *Iraqi Freedom,* intelligence, surveillance, and reconnaissance aircraft flew 1,000 sorties and transmitted 42,000 battlefield images, 3,200 hours of full-motion video, and 1,700 hours of moving target images back to Moseley's Combined Air Operations Center. In fairness, that technology undoubtedly contributed to the defeat of the Republican Guard. In one instance, the Marine Operations Center detected a column of vehicles and artillery trying to escape Baghdad by night. Using live video, the watch officer vectored aircraft to the column and observed as they destroyed at least 80 vehicles.

Technology brings danger as well as success, however. Williamson Murray has pointed out that technologies that remove the fog of war "are unlikely because they defy modern science and what science suggests about the world."[18] Uncertainty will rear its head, and both operators in the field and command and control warriors at the various operations centers must prepare for the inevitable moments when communications nodes and data links will drop off the air. Likewise, operations-center personnel must guard against a tendency to micromanage.

Those on the front line will usually have a better ability to make tactical decisions. Lieutenant General Michael Short, USAF, the air component commander for Operation *Allied Force* over Kosovo, stated that his own real-time micromanagement of tactics may have led to, or at least contributed to, shootdown of an F–117. No matter how good data transmission technology becomes, operations-center personnel must force themselves to push execution decisions down to the lowest possible level.

As luck or genius would have it, Clausewitz also suggested a solution. He believed in education, primarily to develop the mind of future commanders, but also because "knowledge must be transformed into genuine capability." If the U.S. military is to both decentralize and take maximum advantage of developing technology, that knowledge transformation

operations-center personnel must force themselves to push execution decisions down to the lowest possible level

must take place through world-class training. Such training is on the horizon. Distributed mission operations will link mission simulators and operations centers around the world to facilitate large-scale operational- and tactical-level joint training. To be most effective, however, that training must incorporate uncertainty and friction. High-fidelity command and control can actually provide negative learning. As Air National Guard F–16 pilot Major David Meyer reported, "communications are 100 percent in the simulator," but in combat over Iraq, the controller "only hears you 50 percent of the time." Quite simply, distributed mission operations need to include mission-type orders and periods of limited communication. The front-line fighter cannot allow his datalink to become a crutch, lest he lose that crutch the first time in actual combat. Education and training must prepare lieutenants and corporals for action with strategic impact, just as command and control systems must empower them to act alone when appropriate.

To those who watched *Iraqi Freedom* via CNN footage, embedded reporters' updates, and CENTCOM news briefings, the joint campaign appeared to embody a classic indirect approach. Despite difficult fighting around cities such as Nasiriyah, ground forces shot through the country rapidly, leapfrogging enemy strongholds—precisely as Liddell Hart recommended. When they made contact with regular forces, coalition troops quickly defeated them and continued on to Baghdad. The rapid fall of the capital, just days after the Iraqi information minister assured viewers that there were no foreign troops anywhere near the city, suggested that Saddam's regime lay paralyzed by the rapid maneuver.

A closer look reveals a different story. The regime was not paralyzed; it lacked the capability to act. The war was rapidly concluded in Baghdad in part due to the effect of joint and coalition airpower on Republican Guard divisions. In conjunction with landpower, the air component crushed Saddam's major source of power in decisive battle—and once again validated the enduring insights of Carl von Clausewitz. Seen through a Clausewitzian lens, *Iraqi Freedom* air operations highlight joint success and recast the airpower debate: fielded forces can be centers of gravity and strategic targets, and paralysis is a means—not "the perfection of strategy." Finally, Clausewitz's focus on uncertainty cautions against overreliance on command and control technology, but at the same time he suggests a way to counteract uncertainty, fog, and friction. The U.S. military possesses the most incredible assets in the world—its fighting men and women. We must educate them, train them, trust them, then use them. **JFQ**

NOTES

[1] Rebecca Grant, "Saddam's Elite in the Meat Grinder," *Air Force* (September 2003), 44.

[2] Basil H. Liddell Hart, *Strategy,* 2d revised edition (New York: Meridian, 1991), 339.

See also Howard D. Belote, "Paralyze or Pulverize? Liddell Hart, Clausewitz, and Their Influence on Air Power Theory," *Strategic Review* (Winter 1999), 41.

[3] Liddell Hart, 213.

[4] Ibid., 147.

[5] Rebecca Grant, "Gulf War II: Air and Space Power Led the Way" (Arlington, VA: Aerospace Education Foundation, 2003), 18.

[6] Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1984), 624.

[7] Liddell Hart, 4.

[8] Clausewitz, 253–60.

[9] Grant, "Saddam's Elite," 40.

[10] Rebecca Grant, "Hand in Glove," *Air Force* (July 2003), 30–31.

[11] Ibid., 34.

[12] See Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell University Press, 1996); John A. Warden III, "Success in Modern War: A Reply to Robert Pape's Bombing to Win," *Security Studies* (Winter 1997/1998), 172–190; Robert A. Pape, "The Air Force Strikes Back: A Reply to Barry Watts and John Warden," *Security Studies* (Winter 1997/1998), 191–214; and Karl Mueller, "Strategies of Coercion: Denial, Punishment, and the Future of Air Power," *Security Studies* (Spring 1998), 182–228.

[13] Clausewitz, 595–96.

[14] Grant, "Saddam's Elite," 40.

[15] Clausewitz, 97.

[16] Ibid., 80.

[17] Ibid., 117.

[18] Williamson Murray, "The Evolution of Joint Warfare," *Joint Force Quarterly* (Summer 2002), 36.

Baghdad University Museum and Internet Café rebuilt with emergency funding

1st Combat Camera Squadron (John L. Houghton, Jr.)

The Commander's Emergency Response Program

By MARK S. MARTINS

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With the rapid and synchronized operations to reach Baghdad and Kabul now history, U.S. joint task forces in Iraq and Afghanistan are in what John Keegan calls "the small change of soldiering."[1] The metaphor is apt. For some commanders, such unorthodox operations do not fulfill a warrior's calling. Yet these dangerous missions can exceed conventional battles in terms of time, life, blood, and national treasure.

Remaining hostile elements are smaller and more difficult to identify and defang. The time span of conflict now depends on how long it will take to grow Iraqi and Afghan institutions of self-government and security, while potential battlefields extend to wherever the Fedayeen, the Taliban, or al Qaeda may be hiding. The current phase must be about winning the hearts and minds of the Iraqi and Afghan people. As

stated in Joint Publication 3–0, *Doctrine for Joint Operations,* military combat operations must give way to "civilian dominance as the threat wanes and civil infrastructures are reestablished."

The Commander's Emergency Response Program (CERP) is helping to win trust and promote civil infrastructures in Iraq and Afghanistan. It provides U.S. Governmental appropriations directly to operational and tactical forces, enabling them to meet emergency needs of civilians. But the undisciplined use of CERP funds could

in seizing funds, coalition forces were safeguarding movable Iraqi government property rather than personal property of Iraqi citizens

cause Congress to end them. Such a fate is worth averting because the program's success proves that small sums spent intelligently by joint force commanders can yield great benefits.

CERP Origins

CERP originated as a stabilizing tool that commanders could use to benefit the Iraqi people. Initial resources came from millions of dollars of ill-gotten Ba'athist Party cash discovered by U.S. forces. This loot, along with the other regime assets, funded a variety of emergency projects.

Handling of recovered assets was well documented and subject to law. Treasury Department officials determined the authenticity of all seized negotiable instruments. A Presidential memorandum required the Department of Defense (DOD) to prescribe procedures governing use, accounting, and auditing of seized funds in consultation with the Departments of Treasury and State and the Office of Management and Budget (OMB). DOD and OMB further determined that seized funds were not "miscellaneous receipts" of the United States because they were not "for the Government" within the meaning of Federal appropriations law.

Meanwhile, commanders and senior policymakers ensured that seizure, control, and disposition of former regime property complied with international law. Specifically, U.S. Central Command (CENTCOM) announced that in seizing the funds, coalition forces were safeguarding movable Iraqi government property rather than personal property of its citizens.

A vacuum of civil institutions developed overnight in Iraq, as did a multitude of emergency needs. Clearing destroyed vehicles, bulldozing garbage, distributing rations, rehabilitating jails and police stations, tending to urgent medical needs, and repairing roofs, wells, and sewers became the business of U.S. forces.

Military manpower, services, and supplies provided early humanitarian and civic assistance in Iraq. Judge advocates advised that DOD funds could lawfully be spent on certain emergency relief and reconstruction projects because coalition forces had assumed responsibility as an occupying force. Yet uncertainty over legality, combined with conservative fiscal procedures, inhibited direct expenditure of service component operations and maintenance (O&M) funds to purchase goods or services locally for humanitarian requirements.

Available seized regime cash and urgent humanitarian needs compelled the coalition commander to establish, in a May 7, 2003, fragmentary order (FRAGO), a "Brigade Commander's Discretionary Recovery Program to Directly Benefit the Iraqi People." Unit and DOD comptrollers and finance officers, coordinating with the DOD Office of Reconstruction and Humanitarian Assistance, developed procedures to account for, secure, control, and pay out seized Iraqi cash and to keep it separate from appropriated funds.

In June, the Coalition Provisional Authority (CPA) gave the program its current name, linked it to governing law and authorities relating to Iraqi property, and articulated its purpose. The CPA administrator, Ambassador L. Paul Bremer, having authority over "certain state- or regime-owned property in Iraq," redelegated some of his authority to the commander of coalition forces in a June 16 memo authorizing him "to take all actions necessary to operate a Commanders'

Emergency Response Program." The memo stated:

This Program will enable commanders to respond to urgent humanitarian relief and reconstruction requirements within their areas of responsibility, by carrying out programs that will immediately assist the Iraqi people and support the reconstruction of Iraq.

The memo also set a limit on expenditure of seized funds under CERP and dictated spending ceilings and transactional caps for commanders at different levels.

FRAGO 89

Commander, Combined Joint Task Force 7 (CJTF–7), implemented CERP on June 19 by issuing FRAGO 89, which outlined permissible reconstruction projects, issued implementing tasks, and stated expenditure limits. It also announced that seized Iraqi assets were the source of CERP funding.

FRAGO 89 made clear that expenditures could include purchase of goods and services from local Iraqis. It also defined permissible reconstruction assistance as:

the building, repair, reconstitution, and reestablishment of the social and material infrastructure in Iraq. This includes but is not limited to: water and sanitation infrastructure, food production and distribution, healthcare, education, telecommunications, projects in furtherance of economic, financial, management improvements, transportation, and initiatives which further restore the rule of law and effective governance, irrigation systems installation or restoration, day laborers to perform civic cleaning, purchase or repair of civic support vehicles, and repairs to civic or cultural facilities.

Subordinate commanders were to appoint trained and certified project purchasing officers, who were to document each purchase and follow purchase order procedures. They could use standard forms to document purchases up to $100,000. For purchases over $10,000, they were to inform the first O–7/O–8 level commander in advance, obtain three competitive bids, identify a project manager, and pay for services

Ambassador Paul
Bremer meeting with
congressional delegates
on rebuilding Iraq

1st Combat Camera Squadron (Verlin Levi Collins)

as progress occurred. FRAGO 89 forbade mixing CERP funds with appropriated funds and required purchasing officers to maintain separate document registers.

Unit finance detachments were to train individuals other than purchasing officers as pay agents for drawing, safeguarding, and paying for purchases. Using finance standing operating procedures ensured security of the funds, to include coordinating for military police or tactical maneuver units to provide point, route, or area security. Pay agents were to draw funds only as needed.

FRAGO 89 prohibited expenditures for seven categories:

■ direct or indirect benefit of CJTF–7 forces, to include coalition forces

■ entertaining Iraqi population

■ weapons buy-back or rewards programs

■ buying firearms, ammunition, or removing unexploded ordnance

■ duplicating services available through municipal governments

■ supporting individuals or private businesses (exceptions possible, such as repairing damage caused by coalition forces)

■ salaries for the civil work force, pensions, or emergency civil service worker payments.

Commanders were to coordinate all projects with the CPA regional offices, government support teams, and civil affairs elements. They were cautioned that "Iraqi seized assets used for this program are not unlimited" and that they should "work to ensure reasonable prices are paid for goods/

thousands in Baghdad received a daily wage to clean streets, alleys, buildings, and public spaces

services received, and projects are constructed to a modest, functional standard."

Units were to report weekly to higher headquarters with the dates, locations, amounts spent, and descriptions of CERP projects. The initial amounts allocated ranged from $200,000 for colonel-level commanders to $500,000 for commanders at the brigadier/major general level, and could be replenished after CPA review.

CJTF–7 issued two fragmentary orders modifying the CERP. The first relaxed the restriction in FRAGO 89 on reward payments. The second permitted delegation of approval authority for reward payments to battalion-squadron command level.

CERP Impact in Iraq

From early June to mid-October 2003, Iraqis benefited from the seized

funds entrusted to commanders. More than 11,000 projects were completed, resulting in the purchase of $78.6 million in goods and services, mostly from local sources.

Thousands in Baghdad received a daily wage to clean streets, alleys, buildings, and public spaces, far exceeding what U.S. forces alone could do. Iraqis repaired and installed hundreds of small generators in municipal buildings—many confiscated from abandoned Ba'athist buildings and villas—enabling communities to resume basic functions despite slow progress on the electrical grid. Hundreds of air conditioners were installed, providing relief from high temperatures, cooling hot tempers, and permitting clear thinking on problems of self-governance. Dozens of jails and police stations were repaired, facilitating public order and creating more secure and humane conditions for detainees.

Similar projects were under way throughout the country. Over $6 million was spent on 999 water and sewage repair projects, providing clean water supplies and preventing the spread of dysentery, cholera, and other diseases. Bridge, road, and other reconstruction projects numbered 1,758 during the first 18 weeks of CERP and put nearly $13 million into nascent markets for building materials and labor. Over $1 million was spent on 188 projects that distributed humanitarian relief to places nongovernmental and international relief organizations could not reach. Another $450,000 enabled displaced Iraqis to go home and paid for transporting supplies and equipment. Expenditures to get governing councils, town officials, judges, and investigators operating totaled $4.7 million in 742 projects.

A dramatic CERP use occurred in northern Iraq, where 101st Airborne Division partnered with the civilian population. The division undertook over 3,600 CERP projects costing more than $28 million. It refurbished more than 400 schools and employed thousands of locals. The school projects complemented work by nongovernmental organizations and the CPA, enabling many children to return to class.

The CERP of the 101st was front-page news in an October 30, 2003 story in *The Washington Post* featuring the pediatric wing of a hospital near the Iraq-Syria border:

Within a week, a Humvee pulled up with the first installment of $9,600 in cash to fix the wing. Within four more weeks, the building was rebuilt and refurnished, complete with fuzzy blankets in primary colors and Mickey and Minnie Mouse decorations. "It happened so fast I almost couldn't believe it," said [Kifah Mohammad] Kato, director of the Sinjar General Hospital.

The article contrasted the streamlined procedures for spending former regime cash with the delays plaguing funds handled by the U.S. Agency for International Development (USAID). It also recorded concerns over abuse, as commanders could purchase goods or services with minimal competitive bidding or market research. The article added that in addition to hospital refurbishment, a humanitarian expenditure, CERP had been used for "projects such as hiring a civil defense corps . . . and fixing an oil refinery and a sulfur plant."

Commanders and judge advocates throughout Iraq justified these security-oriented and infrastructural investments as permissible under CERP because they supported humanitarian needs. These indirectly humanitarian expenditures were spent on recruiting, training, outfitting, and deploying police, facility security guards, and civil defense corps units. Additional millions were spent on construction or repairs to industrial plants. Moreover, in September and October, the average CERP project cost jumped from about $4,000 to over $17,000, reflecting commanders' efforts to address the security and infrastructural causes of Iraqi hardships and immediate needs.

Although legal interpretations of the June 16 memorandum and FRAGO 89 help reconcile humanitarian purposes with security and industrial infrastructure expenditures, CERP is an emergency response program, not a fund for investments in security forces and industrial capacity. Moreover, Congress had already appropri-

ated nearly $2.5 billion within the Iraq Relief and Reconstruction Fund that included rule of law and governance among its purposes. In the same legislation, Congress provided over half a billion dollars to the Natural Resources Risk Remediation Fund to repair oil facilities and related infrastructure and to preserve a distribution capability.

Despite the duplication of security force and industrial capacity projects with funds administered outside

officers related CERP to a stabilization tool no less essential to victory than the world's finest military equipment

the military command structure, Ambassador Bremer decided to reinforce CERP, given the slow pace of nonmilitary reconstruction. Eventually, the CPA Program Review Board recommended providing additional millions in seized assets.
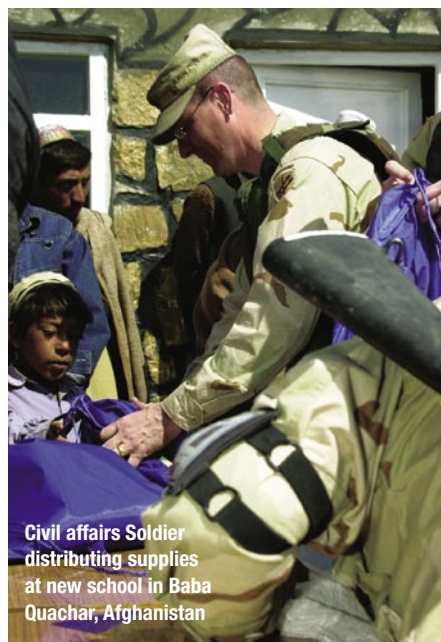
Civil affairs Soldier distributing supplies at new school in Baba Quachar, Afghanistan

55th Signal Company Combat Camera (Jeremy Colvin)

Funding CERP with U.S. Appropriations

While CERP was attracting attention for early achievements, it was running out of money as commanders spent seized cash at faster rates. It be-

came clear that the amount CPA programmed would not last beyond 2003.

On September 17, just before funds from seized assets ran out, President George W. Bush sent Congress a request for $87 billion of emergency supplemental funding. More than $20 billion was for reconstruction in Iraq and Afghanistan. Congress considered on this legislation quickly. By the time the administration was prepared to request a specific amount for CERP, the House and Senate versions of the supplemental appropriations bill were almost ready to be sent to the joint conference charged with reconciling differences. In October, before the start of the conference, the administration included a draft provision in the House bill authorizing up to $180 million of O&M funds. Increasing requests by commanders in Afghanistan for funding to undertake such projects resulted in a provision authorizing CERP for both countries.

Senate Appropriations Committee staffers identified the CERP provision in the House version of the bill as one not included in the President's original request. Concerned about diversion of O&M funding from its purpose, and aware that billions of dollars elsewhere in the legislation were being granted for humanitarian and reconstruction needs in Iraq and Afghanistan, the committee requested more information on CERP and on how the provision would be implemented.

Joint Staff members outlined the Bremer memo and FRAGO 89 guidance to Senate staffers on October 22. Officers with experience in Iraq described representative projects and related CERP to a stabilization tool no less essential to victory than the world's finest military equipment provided by Congress. When spent well, the funding convinced Iraqis of coalition commitment to their well-being, increased the flow of intelligence to U.S. forces, and improved security and economic conditions.

Regarding why O&M should be t   source of funding, the Joint Staff ex plained that commanders were familiar with its use, accountability, and man-

agement. The Joint Staff also described the training of both ordering officers and pay agents, their separate functions, and the procedures for securing cash, obtaining maximum results from purchases, documenting transactions, and investigating irregularities.

Senate staffers were cautious about the administration request that O&M funding be available for use "notwith-

a commander typically does have substantial influence over millions of dollars in appropriated funds

standing any other provision of law." The Joint Staff replied that this phrase was essential to keeping CERP flexible, responsive, and unencumbered by procedures associated with procurement, payment of claims, or other actions that involve the expenditure of appropriated funds.

After the briefing, the Senate receded to the House version of the CERP provision, which amended the administration's request by adding a quarterly reporting requirement. Following debate on the legislation, Section 1110 of the bill that Congress passed gave commanders the authority to continue CERP with appropriated funds:

During the current fiscal year, from funds made available in this Act to the Department of Defense for operation and maintenance, not to exceed $180,000,000 may be used, notwithstanding any other provision of law, to fund the Commander's Emergency Response Program, established by the Administrator of the Coalition Provisional Authority for the purpose of enabling military commanders in Iraq to respond to urgent humanitarian relief and reconstruction requirements within their areas of responsibility by carrying out programs that will immediately assist the Iraqi people, and to establish and fund a similar program to assist the people of Afghanistan: Provided, that the Secretary of Defense shall provide quarterly reports, beginning on January 15, 2004, to the congressional defense committees regarding the source of funds and the allocation and use of funds made available pursuant to the authority in this section.

The President signed the bill into law on November 6, 2003, which allowed Federal appropriations to fund CERP projects in Iraq and Afghanistan for the first time.

Then Under Secretary of Defense Dov Zakheim issued guidance on using appropriated CERP funds on November 25. Recognizing "a very powerful tool for the military commanders in carrying out their current security and stabilization mission," he expressed the Department's intent that appropriated CERP funding "preserve the same flexibility and responsiveness . . . maintained with the original CERP that was funded with seized Iraqi assets." The guidance also tasked CENTCOM and the Department of the Army to develop operating procedures for use of the funds.

When the Iraqi Interim Government assumed authority from CPA on June 28, 2004, the original source of CERP-seized Iraqi assets was no longer available. Congress and the President renewed their support for CERP in the DOD Appropriations Act in August, authorizing an additional $300 million for operations and maintenance in FY05. The Consolidated Appropriations Act, which the President signed into law December 8, 2004, raised the amount to $500 million. Also during the latter half of 2004, military commanders issued minor administrative changes to the CERP program.

Significance of CERP

Hailed for its contributions to stabilizing Iraq, CERP in Section 1110 became a significant development in the law and a potentially transforming influence on military operations. The potential impact of this provision is best appreciated against the background of restrictions historically imposed on a commander's ability to spend public funds.

Under normal circumstances, a commander in Baghdad, Mosul, or Kandahar has no discretionary funds to apply toward his mission. He and his troops have the finest equipment in the world without having to make decisions about paying for it. Funds for these capital expenditures and for their

fielding to tactical units come from Congress programmatically or in other procurement appropriations.

Unless a commander's prior assignments included a tour with a higher headquarters involved in researching, developing, testing, or evaluating military equipment, he will have no role in spending these additional billions. So long as forces are well equipped and weapons development incorporates lessons from the field, commanders are satisfied to leave management of weapons and equipment programs to others.

Troops patrolling streets and raiding terrorist hideouts are paid with military personnel appropriations within a well-maintained apparatus. A commander has no direct function other than through promotions, evaluation reports, and other personnel decisions that impact earnings. Also, centrally managed contracts typically furnish most necessities once the tactical situation permits base camps.

A commander typically does have substantial influence over millions of dollars in appropriated funds within a service component's O&M account. The command's supply and maintenance personnel order materiel and other items required for day-to-day activities with these moneys.

Although most of the O&M funds are expended through charging accounts maintained within closed supply and distribution systems, government-wide commercial purchase card holders can make small buys on the open economy before deployment. Following deployment, trips by purchase card holders to and from developed countries might enable a few commercially purchased supplies to reach the force.

Forces can spend O&M funds locally in Afghanistan and Iraq only through ordering officers and pay agents. Local purchases for unit needs—ice, fans, cleaning supplies, office products, and even pack animals to support movement in difficult terrain—are representative uses of these procedures.

Military engineer and Iraqi contractors discussing reconstruction, Fallujah

U.S. Marine Corps Forces Pacific (Theresa M. Medina)

According to the comptroller general, the criterion for spending O&M funds is whether an expense is essential or nonessential to executing the object of the appropriation (here, those expenses necessary for the O&M of the various military departments). The Alexander decision, issued in reply to an inquiry by Congressman Bill Alexander, applied the doctrine of Federal appropriations law, that to be "necessary and incidental," an expenditure must:

■ be reasonably related to the purposes for which the appropriation was made
■ not be prohibited by law
■ not fall specifically within the scope of some other category of appropriation.

Applying this doctrine to military expenditures connected with joint exercises in Honduras, the comptroller general held that expenses for civic and humanitarian assistance and for training Honduran forces charged to DOD O&M funds violated U.S. Code, volume 31, section 1301—the "purpose" statute. Although stopping short of a violation, the Alexander decision criticized Department justifications that O&M funds could be used for building base camps, runways, and other projects benefiting the Honduran military.

Though subsequent legislation superseded parts of the Alexander ruling,

the decision casts a shadow over tactical unit expenditures. Without CERP, a commander in Iraq would not have authority to pay Iraqis for garbage cleanup, purchase generators for emergencies, or acquire local supplies and labor to make jails humane and secure. U.S. forces could only undertake water and sewage repair projects after receiving approval at higher headquarters, with coordination at the Joint Staff, the Office of the Secretary of Defense, and the Defense Security Cooperation Agency. Training or equipping Iraqi security forces and using U.S. equipment or items purchased with O&M funds to resource this effort would be off-limits under the Alexander ruling. This is security assistance that Congress funds with appropriations for foreign operations. Congress intends that military units not undertake development or infrastructure construction projects that are typically funded by the State Department and USAID.

By authorizing and funding a program for discretionary humanitarian projects of commanders, Congress has acknowledged the need for tools such as CERP to conduct stability operations. Authority to use a certain amount of O&M funds "notwithstanding any

other provision of law" is indispensable to ensuring CERP remains effective.

Challenges

Using the planning and decision-making process, built on joint intelligence preparation of the battlefield, is key to selecting CERP projects. Ordering generators and copper wiring from Ba'athists could set off a spree of burglaries while financing attacks on U.S. troops. Ignoring a tip from a townsman that Fedayeen mortars collapsed the roof of a school may cost the chance to help children return to their studies or information from grateful parents on the location of explosive devices or the organization of hostile cells.

Coordinated project planning is essential. Neighborhoods suffering collateral damage from fires should be high priorities for immediate reconstruction. Opportunities to stretch CERP funds or enhance their impact should be seized by using them in tandem with bulldozers, backhoes, and other engineer assets. Ground maneuver forces should secure areas of newly completed projects. Public affairs messages should be timed to make the most of good news stories while avoiding any suggestion that loyalty can simply be purchased—a notion revolting to regional sensibilities.

CERP efforts must complement projects and programs of other U.S. Government organizations, nongovernmental organizations, and local and national efforts. Programs initiated by commanders on a decentralized basis could disrupt a central, nationwide program to train, equip, and pay security personnel. Military-sponsored medical and dental care should emphasize indigenous capability and coordinate with humanitarian relief organizations and USAID to improve follow-on care. Construction projects should balance rapid responsiveness with quality. The longer view of organizations whose mission is reconstruction and nationbuilding must temper the allure of headline-grabbing victories. Also, commanders must be careful that perceptions that they are providers do not stunt the growth of local institutions and authorities.

Although Congress intended Section 1110 to preserve CERP as a re-

Forum
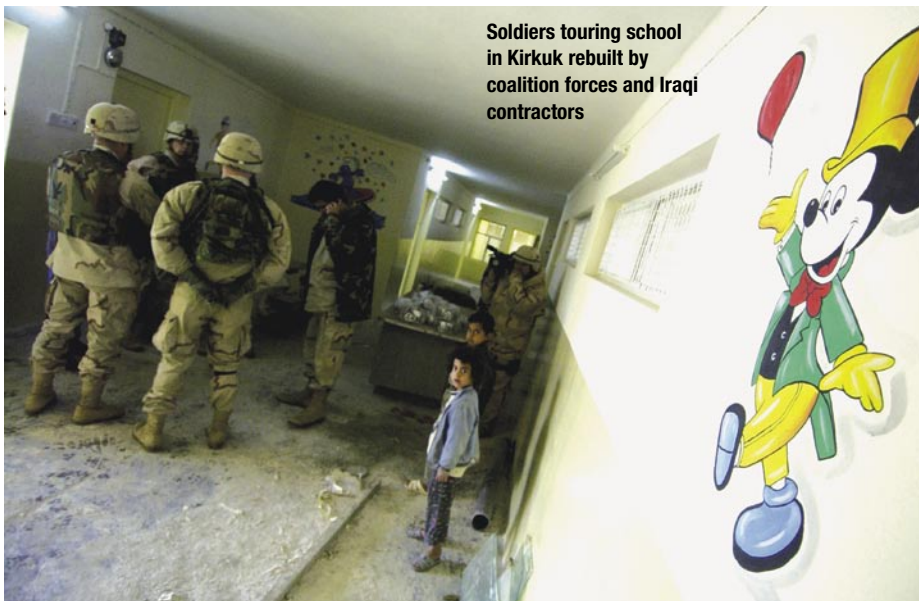
Soldiers touring school in Kirkuk rebuilt by coalition forces and Iraqi contractors

1st Combat Camera Squadron (Jeffrey A. Wolfe)

sponsive program, the use of appropriated funds creates complications that do not arise with seized funds. CERP funds are not for cash rewards to civilians for information on terrorists or arms caches because DOD already has a rewards program. Also, funding CERP with Government appropriations inhibits commanders from making outlays that could be perceived as compensating combat-related damage to civilians or property.

The quarterly reporting requirement will cause greater scrutiny of security-oriented and infrastructural investments. In the November 2003 supplemental, Congress provided $3.24 billion for security and law enforce-

quarterly reporting will cause greater scrutiny of security-oriented and infrastructural investments

ment in Iraq, $1.32 billion for justice and public safety infrastructure, $5.56 billion for the electric sector, $1.89 billion for oil infrastructure, and $370 million for roads, bridges, and construction and related appropriations. Given congressional concerns on tapping O&M accounts for reconstruction projects when enormous sums were already appropriated, reports that the

military is using CERP to recruit, train, equip, and pay security forces could threaten the program.

In sum, the challenge CERP presents to commanders is coordinating its projects with individuals, teams, and organizations pursuing the common objective. This will yield maximum effects per dollar. Keeping expenditures focused on urgent humanitarian needs rather than infrastructure and security force investments will capture hearts and minds.

The impact of the Commander's Emergency Response Program will be profound if commanders surmount the challenges to it. Effectiveness requires DOD and Congress to resist encumbering the program with purpose-based fiscal prohibitions. An example would be any policy statement that to pay a reward, or purchase a policeman's uniform, or build a dam is an improper use. The positive impact of CERP will continue to stem from commanders being able to make judgments quickly about how best to benefit Afghans and Iraqis. They will make these calls based partly on information from troops patrolling affected communities.

Commanders need freedom of action for the program to retain its responsiveness. The legal rule in Section 1110 that O&M funds may be used "notwithstanding any other provision of law" is sound. That a commander's purposes could overlap other appropriations should not inhibit his response to urgent local needs. Some overlap is inevitable. What distinguishes CERP is that commanders spend funds based on local information. The only purpose-based legal prohibition should be that which is against the use of public funds for personal enrichment.

The program should become part of organic authorizing legislation and be codified in Title 10, Code of Military Law. With permanent legislation, U.S. Joint Forces Command could ensure that joint force commanders are educated in the use of these funds. Joint exercises and simulations, service component pre-command courses, and the National Defense University could incorporate CERP into training, leader development, and school curriculums, providing long-term assurance that use of funds will be disciplined. While no system of control can eliminate every poor project choice, joint force commanders of every service will continue to demonstrate that the optimal system is one that encourages initiative and relies on their judgment.

Unorthodox modern operations are challenging the Government to provide new mechanisms within the law no less than they are challenging joint forces to adapt new technologies, weapons, and organization. CERP promises to be one answer to the legal challenge. As such, it is no "small change" of joint soldiering. **JFQ**

NOTE

[1] John Keegan, *The Face of Battle* (New York: Vintage Books, 1976), 14.
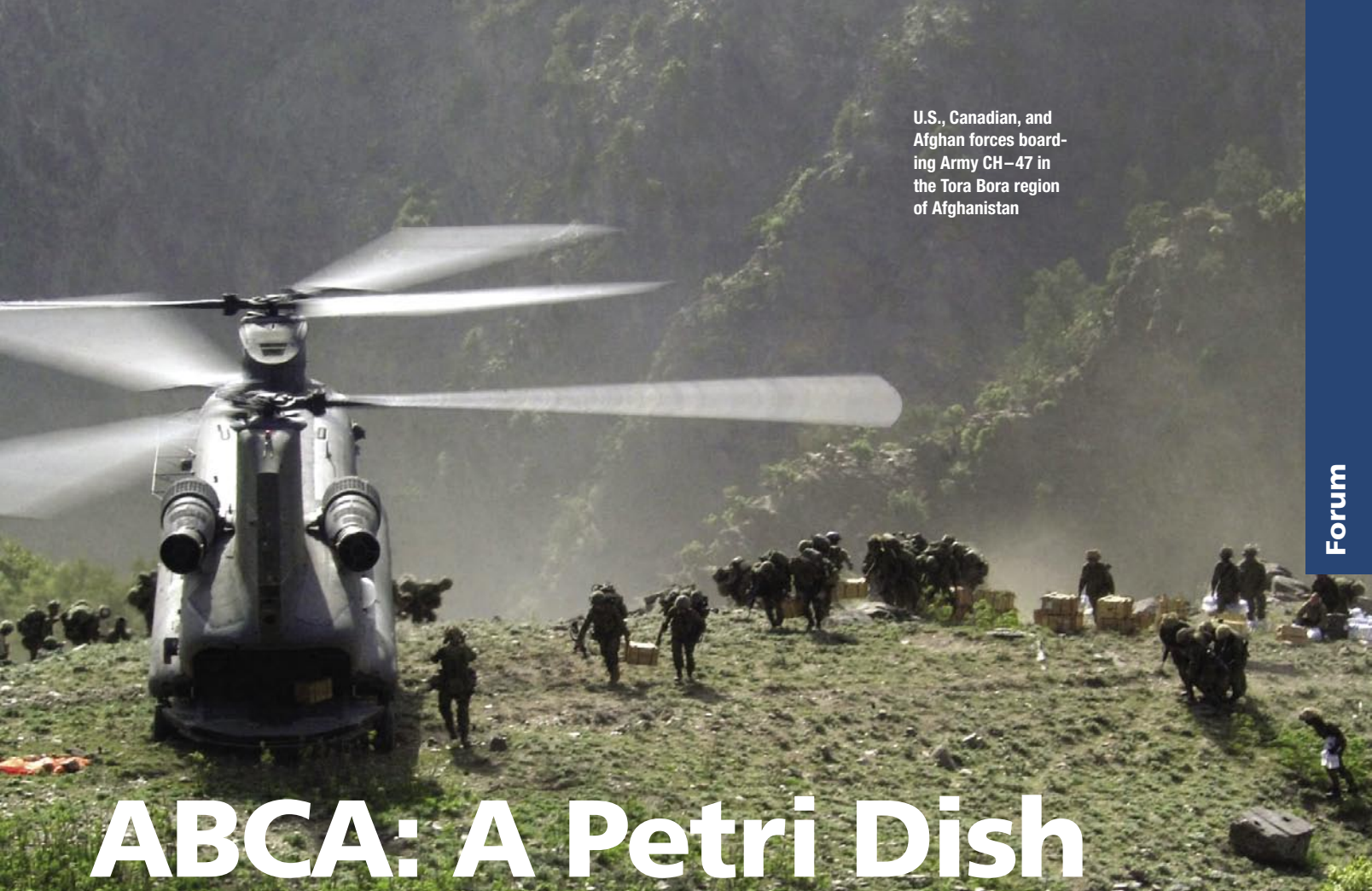
U.S., Canadian, and Afghan forces boarding Army CH–47 in the Tora Bora region of Afghanistan

U.S. Air Force (Jeremy T. Lock)

ABCA: A Petri Dish
for Multinational
Interoperability

By ROBERT L. MAGINNIS

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Creating multinational interoperable armies is the cutting edge of force projection in the 21st century. Like many "new" things, however, interoperability is a concept that has been around a long time. In fact, the U.S. Army's most dependable allies in the global war on terror have been committed to a standardization program for more than half a century. Known as ABCA (for the armies of America, Britain, Canada, and Australia, with New Zealand as an associate member), this standardization program is changing in response to new threats. Like the U.S. Armed Forces, ABCA is undergoing radical transformation as comprehensive requirements for combat interoperability emerge.

Capability Gaps

The ABCA armies have shared hardships and victories in such far-flung countries as Kosovo and Somalia. British and Australian forces were integral to Operation *Iraqi Freedom*, and warriors from Canada and New Zealand shared the burdens in Operation *Enduring Freedom*. As the United States

continues to prosecute the war on terror, interoperability is paramount, especially among these most dependable allies.

Today's threat environment, including the war on terror, requires multinational forces that can interoperate anywhere in the world, in multidimensional responses, against adversaries who give little or no warning of an attack. It is too late to start focusing on interoperability after the "balloon goes up."

The U.S. Army always has been serious about training the way it will fight. Today that encompasses forging and integrating multinational interoperability into Army training. Mission-focused warfighters must have protocols and procedures for coordinating the actions of diverse multinational units in place. These preparations enhance political-military operations. They are important force multipliers. Ultimately, the capacity to bring allied soldiers to the fight enhances the deterrent effect of U.S. forces as well as their ability to fight and win.

To achieve this comprehensive level of multinational jointness, the Army must forge interoperability as an integral aspect of transforming the force. The investment in transformation is not matched by allied armies, the very forces that will likely deploy alongside the United States in future coalitions. Without a strong priority on standardization, disparities will arise, leading to incompatibilities. Such incompatibilities could undermine the effectiveness of multinational forces. Although capability gaps are affected by budgets, force structures, and threat assessments, gaps can be overcome through aggressive efforts to promote appropriate levels of interoperability among willing allies.

The origins of ABCA were grand. Its founders, General Dwight Eisenhower, USA, and British Field Marshall Bernard Montgomery, wished the program to improve the levels of standardization and cooperation the military achieved during World War II, which were characterized as mostly workarounds and temporary fixes, leaving nothing enduring.

Montgomery, visiting North America in 1946, recommended that the United States, Britain, and Canada should "cooperate closely in all defense matters; discussions should deal not only with standardization, but should cover the whole field of cooperation and combined action in the event of war."[1] Later that year, according to the British press, the three countries were considering whether to standardize all weapons, tactics, and training.

The original ABCA program was established with the 1947 signing of the Plan to Effect Standardization among the American, British, and Canadian armies. One of the first standardization agreements coming out

ABCA founders wished to improve on the levels of standardization and cooperation the military achieved during World War II

of the 1947 program was a standard thread pattern for nuts and bolts, the so-called unified American-British-Canadian screw thread.

The 1947 plan was replaced by several versions of the Tripartite Armies' Standardization Agreement until 1964. The current agreement, "The Basic Standardization Agreement among the Armies of the United States, United Kingdom, Canada, and Australia, 1964," became effective on October 1, almost a year after Australia joined the program. New Zealand gained associate membership through Australian sponsorship in 1965.

Relevant and Responsive

Although nuts and bolts remain fundamental to combat power, today's 21st-century armies have come a long way from that first agreement on a unified screw thread. Through these changes, in doctrine as well as in equipment and technology, ABCA armies continue to provide an effective petri dish for demonstrating how transformation to promote interoperability across national armies is possible. These allies, who have stood alongside the U.S. Army in hundreds of operations and exercises over the past half century, have embraced a radical ABCA program realignment that began with a landmark decision.

In June 2002, senior army leaders representing ABCA nations launched a top-to-bottom review to discover how to make the program more relevant and responsive. On May 2, 2003, an ABCA special working party announced the results of its year-long review, and the nations' senior army leaders, which included a former Vice Chief of Staff of the Army, General John Keane, approved the start of the proposed transformation designed to close critical interoperability gaps.

The radical reboot of ABCA started with a strategic assessment that shed light on changing geopolitical realities. In particular, the review noted the emergence of a transnational, asymmetrical, and nonstate actor enemy engaging on a more urbanized battlefield and possibly using weapons of mass destruction. The assessment resulted in a view that comports with the accelerated requirements for armies that must fight in an intricately integrated land-sea-air-space-cyber and even geopolitical environment.

The program review also included an internal analysis of the stodgy Cold War culture and structure. Throughout the Cold War, ABCA had standardized mostly tactical-level doctrine and equipment. The new approach will meet the 21st-century concept of interoperability: the ability to fight together in a coalition, anywhere in the world, at any force level or structure. Modeled on the transformation of interoperable land forces, the program will address interoperability across all battlefield operating systems. ABCA will integrate combat lessons learned as well as lessons from exercises and training to maximize the punch that emerges from force structure transformations and constrained defense budgets.

The program will anticipate future interoperability demands as well. For example, at a 2002 conference for senior ABCA leaders, interoperability among Special Operations Forces (SOF) across the member armies was seen as positive, but the need for such forces to be interoperable in the same bat-

tlespace with conventional forces was identified as needing attention. Less than a year later, on the battlefield in Iraq, coalition SOF and conventional forces joined ranks, and in one instance

a special operations leader had conventional forces under his command.

The review team rewrote the program's vision, mission, goals, structures, and processes. The new vision has seized on the guidance of senior leaders within the defense forces of

Airmen from the United States, Great Britain, and Australia providing security for *Iraqi Freedom*

U.S. Air Force (David Donovan)

member countries to focus on the integration of the armies' capabilities in a joint environment. The new mission seeks to optimize interoperability through collaboration and standardization. The goals are ambitious: relevance and responsiveness; standardization, integration, and interoperability; mutual understanding; sharing knowledge; and efficiency and effectiveness.

In the asymmetric post-9/11 security environment, ABCA seeks maximum responsiveness and relevance to the way the armies will fight. The new program will focus on the full spectrum of coalition land operations in a joint and interagency environment. It will prioritize resources around identified interoperability gaps, particularly regarding battlefield operating systems (BOS). A concepts capability group will assess the future security environment and its requirements. Capability groups formed around BOS will then assess when member armies can respond to the requirements and where there are gaps.

Fighting Seamlessly

Most standardization fixes were previously driven from the ground up by ABCA working groups from each nation, manned by subject matter experts. These specialists knew their systems but seldom saw the big picture. That approach bogged down because the efforts to standardize systems and doctrine failed to comport with the coalition armies' top priorities at the sharp end of the spear.

The new capability gap process and the top-down priority system are force multipliers. This new system will be managed by a chief of staff, who will work with a board of allied senior officers to close capability gaps. The first fix will be to stand up project teams focused on delivering specific products that close capability gaps and are responsive to the master priorities list. The teams will disband when they have finished.

The priorities of the participating armies will drive the master list. An example of how ABCA might work to this list was evidenced in recent multinational efforts. During opera-

tions in Afghanistan and Iraq, ABCA allies fought almost seamlessly in several arenas. Special Operations Forces alongside conventional units from the United States, Australia, and Great Britain engaged regular and paramilitary enemy forces in northern and western Iraq. Similarly, U.S. SOF and regular forces were interoperable with British forces in the Basra region, capturing the city and the al Faw peninsula with the oil fields and the petroleum piers. Canada and New Zealand joined Operation *Enduring Freedom* in Afghanistan, rounding out ABCA armies' participation with both special operations and regular force packages.

As these operations demonstrate, advancing interoperability across ABCA allies is no longer a luxury, and the standardization program is leading the way among all multinational forums. The former British Army Chief, General Sir Roger Wheeler, put it bluntly: "There is simply no point, in my view, in developing battle-winning capabilities at the national level if it's muted through lack of interoperability in coalition."[2] That is why the U.S. Army has enthusiastically endorsed the new ABCA direction. Additionally, participating armies have been invited to assign standardization officers to the U.S. Army Objective Force Task Force Office, part of the U.S. Army transformation campaign plan. These standardization

officers will ensure the exchange of transforming ideas. Working together to develop cutting edge concepts will help the armies to become more interoperable through future doctrine and equipment.

Former Army Chief of Staff General Eric Shinseki, USA, agrees with Wheeler's assessment and the need to bring allies along the transformation path: "The coalition remains the essential framework for the application of military forces."[3] That coalition framework must be flexible and highly responsive for political and military rea-

U.S. regular and special operations forces were interoperable with British forces in the Basra region

sons. Wheeler's point bears repeating: lack of interoperability at the coalition level is a dangerous drag on a nation's battle-winning capabilities.

ABCA has provided a platform for advancing interoperability through layers of standardization for more than five decades. The old program produced over 2,000 standardization agreements to help the armies become more interoperable. These agreements included standardization of operations and equipment as disparate as friendly nuclear strike warnings, biological agent detection, medical stretchers, and gas can nozzles. The purpose of

these agreements was to influence doctrine and equipment design to comply with the appropriate level of standardization: common, interchangeable, or compatible. Where the program failed to standardize through such fixes, it developed workarounds such as memorandums of understanding, liaison officers, or advisory publications listing national procedures to aid mutual understanding.

The new ABCA will go much further. Besides identifying high-priority interoperability gaps, it will help alert senior leaders to interoperability shortfalls before it is too late. In 2001, the British ABCA head of delegation, Major General Christopher Elliot, was surprised to hear that he was about to approve a multi-billion-pound contract for new combat network radios, but did not know whether the system was fully compatible with the current or future radio systems of partner armies. The new proactive ABCA should help prevent such problems by thorough coordination across nations and frequent interoperability checks from concept to production.

By contrast with the old program, the new ABCA now has a top-down driven priority system that focuses limited resources on fewer issues, which are prioritized by various armies. The system is designed to alert members of interoperability questions such as that experienced by General Elliot. Further, ABCA has a mandate to produce faster fixes for pressing interoperability gaps. The program will be cost-neutral but produce far more relevant results.

Another example from *Iraqi Freedom* illustrates the present and future direction of ABCA and its responsiveness to perceived interoperability gaps. In December 2002, the program's leadership anticipated that war in Iraq could require urban combat with allies fighting together. They assembled a cadre of urban operations experts from each army to draft coalition procedures in advance. The procedures became a chapter in the ABCA *Coalition Operations Handbook,* which addresses such topics as logistics, communications, operations, and forming coali-

Canadian light infantry forces preparing to load Bombardier Iltis vehicle onto U.S. Army CH–47, Afghanistan

U.S. Army (Robert Hyatt)

British soldiers with Alvis Striker antitank vehicles in Kuwait, *Enduring Freedom*

DOD

tions. The program's quick response prior to operations in Iraq—3 weeks—shows that ABCA is now a critical part of war planning. To complete the task, program representatives will study the after-action reports to incorporate lessons learned into the procedures as well as the process.

Transforming Together

The new program is well established to maintain contact with the transformation revolution put in motion by Secretary of Defense Donald Rumsfeld. As seen in Afghanistan and Iraq, the Secretary's ideas have significant implications for the U.S. Army and its work with ABCA allies.

The transformation revolution is grounded in the conclusion that the threat requires the U.S. land force to become lighter and more lethal and be able to move quickly to combat zones. Transformation is distinct from modernization, which focuses on equipment. The new threat requires new thinking first, then equipment and technology to manifest that thinking in a land-sea-air-space-cyber battlefield.

ABCA members were interoperable in Iraq primarily because of shared procedural measures, liaison officers, and doctrinal compatibility. Much remains to be done, especially as the armies transform technically and doctrin-

the shared objective is to reach as much coalition effectiveness as possible based on member army budgets

ally. The shared objective is to reach as much coalition effectiveness as possible based on member army budgets.

At the ABCA 50th anniversary celebration, General Shinseki emphasized the need for member armies to transform together: "Coalitions remain the essential framework for the application of military force."[4] This viewpoint echoes former British Prime Minister Winston Churchill's pragmatic perspective about allied operations: "There is only one thing worse than fighting with allies; and that is fighting without them."[5]

General Wheeler was more specific about what makes an effective coalition. "We will have to think through very carefully how we organize and fight on future battlefields, and it will be essential that we do this together with our allies." He warns that "if we get too far out of synch [our armies will] not function effectively" together.[6] ABCA seeks to prevent such decoupling, and promoting interoperability through standardization is key.

Historically, ABCA was a tactical-level standardization program that produced agreements promoting interchangeable or common equipment and doctrine. In today's incredibly diverse landscape, with the armies being transformed from without and within, ABCA is incorporating lessons from ongoing coalition combat and operational missions. Future work will not be fettered by previous constraints. Rather, ABCA will be free to roam the spectrum of the armies' needs, cross all BOS, and cover the range of operations from tactical to strategic.

Forum

Chief of Naval Operations and Australian Chief of Navy signing statement of cooperation, 2004

U.S. Navy (Johnny Bivera)

Secretary Rumsfeld's transformation emphasis helped push ABCA toward radical change:

We entered the century really arranged to fight big armies, big navies, and big air forces, and not to fight the shadowy terrorists and terrorist networks that operate with the support and assistance of terrorist states. And that's why we are so focused on transforming the department and the armed services. To win the global war on terror, the Armed Forces simply have to be more flexible, more agile, so that our forces can respond more quickly.[7]

Transforming while fighting the war on terror is not just a challenge; it is a necessity. The United States must stretch limited resources across the landscape of dangers. Washington must encourage greater cooperation with important allies, with true interoperability being of paramount importance. That is why the ABCA program is changing and remaining relevant.

During the program's first half century, it issued warehouses full of standardization agreements designed to align members' doctrine and equipment. ABCA products enhanced mutual understanding and increased effectiveness across hundreds of shared combat, contingency, and training experiences.

Unfortunately, however, ABCA lost its original spark over the decades. It went the way of many creaking bureaucracies, preserving the status quo and preoccupying itself with survival. Now, after a period of self-examination, the ABCA Armies' Standardization Program has emerged with a new vision, mission, goals, and structure and a modern set of business practices. This reboot puts the program on a fast track to greater effectiveness in forging comprehensive combat interoperability in a global environment where the threat requires agile, multidimensional responses.

Indeed, a large part of the ABCA program review was a strategic assessment of the threat and security environment. Interoperability will not be pursued for interoperability's sake. ABCA will tailor its interoperability to the threat, because the U.S. Army trains as it fights. More often than not, it will fight in a coalition. That is called intelligent interoperability!

War, at its most fundamental, never changes. Yet how armies fight does change—because the enemy, technology, and geopolitics change. War remains the imposition of one nation's will, or a coalition's will, by force. In-creasingly that goal is reached more quickly when coalitions of the willing fight in a highly interoperable manner. Interoperability is costly in time and money, but in the end it saves lives and treasure.

The British former ABCA head of delegation, Major General Anthony Pigott, explained the program's challenges in remaining relevant in a changing security environment. "ABCA is everything about procedures, equipment, standardization, but it is much more than that. . . . ABCA is about interoperability of the spirit and the mind."[8] Interoperability of armies at the level of spirit and mind—the realm of esprit de corps as well as the soldier's trained thought process—represents change. Nevertheless, as General Shinseki stated, "We must transform our force to meet these challenges, and we must do it faster. . . . If you don't like change, you're going to like irrelevance even less."[9]   **JFQ**

NOTES

[1] Jon B. McLin, *Canada's Changing Defense Policy, 1957–1963: The Problems of a Middle Power in Alliance* (Baltimore: The Johns Hopkins University Press, 1967), 9–10.

[2] Kevin L. Robinson, "Interoperability Key to Future Success British Army Chief Says," Army News Service, October 19, 1999.

[3] Gerry J. Gilmore, "Military Leaders Praise Five-Nation Partnership," Army News Service, May 17, 1999.

[4] Ibid.

[5] Kay Halle, *Irrepressible Churchill* (New York: World, 1966).

[6] Robinson, "Interoperability."

[7] Donald H. Rumsfeld, Pentagon Town Hall Meeting, March 6, 2003.

[8] Gilmore, "Five-Nation Partnership."

[9] General Eric K. Shinseki, remarks at the Association of the United States Army Seminar, Washington, D.C., November 8, 2001.

Precision air strike in
Kirkuk, Iraq, Operation
Ivy Cyclone

1st Combat Camera Squadron (Jeffrey A. Wolfe)

Battle Damage Assessment

The Ground Truth

By JAMES G. DIEHL *and* CHARLES E. SLOAN

Colonel James G. Diehl, USA, is a joint test director, Joint Battle Damage Assessment Joint Test and Evaluation Center. Charles E. Sloan is a senior military analyst with Computer Sciences Corporation.

Since the dawn of organized combat, assessing the effects of actions against enemies has played a key role in the prosecution and outcome of battles, campaigns, and ultimately wars. Early assessments were simple because battles were confined in space and time, so a commander could observe all developments as they occurred. As combat became more complex, especially with the increased use of joint and combined forces, assessing battle damage became correspondingly more complicated.

The difficulty of accurate damage assessment became evident during Operation *Desert Storm*, where the rapid tempo and large scale of combined operations exceeded the capabilities of the traditional ad hoc approach to battle damage assessment (BDA). In its *Final Report to Congress, Conduct of the Persian Gulf War, 1992*, the Department of Defense (DOD) cited this problem as a major lesson learned and identified BDA as a failure: "The number-one DOD finding concerning BDA was that it was slow and inadequate." Although technology has evolved since the first

Gulf War, the assessment mission during both Operations *Enduring Freedom* and *Iraqi Freedom* was again overrun by the rapid operations tempo and endured much of the same criticism it received in the previous decade.

To address chronic BDA process issues, the Office of the Director, Strategic and Tactical Systems, chartered the Joint Battle Damage Assessment (JBDA) Joint Test and Evaluation Program in August 2000. The program subsequently fell under the cognizance

JBDA demonstrated enhancements to improve the timeliness, accuracy, and completeness of joint and combined poststrike reporting

of the Office of the Secretary of Defense, Director, Operational Test and Evaluation. The JBDA charter was to enhance current joint BDA processes to provide more timely and effective assessments of fixed and mobile targets. It began by modeling and conducting a thorough analysis of existing joint and service BDA processes, then executed joint tests over 3 years to establish a baseline analysis of current joint

processes and test the JBDA-developed enhancements applied to those baseline processes. Although the primary test venue was Exercise *Ulchi Focus Lens* (UFL '02 and '03), the program also collected and analyzed BDA data during *Enduring Freedom* and *Iraqi Freedom*. Data collection consisted of manual observation by collectors and augmentee subject matter experts at key theater nodes, semi-automated capture of planning and execution products, and automated capture of command, control, communications, computers, and intelligence (C⁴I) data.

After an iterative analysis of BDA process data collected from such sources as manual and automated systems, operator and senior leader interviews, and after-action reports, JBDA was able to document joint processes and develop and test process enhancements in three areas: command, control, communications, computers, intelligence, surveillance, and reconnaissance (C⁴ISR) interoperability; joint tactics, techniques, and procedures (TTP) for BDA; and joint BDA training. The following is an overview of the JBDA enhancements as applied to each focus area.

Precision air strike in Fallujah, Iraq, Operation *Al Fajr*

1st Marine Division Combat Camera (Thomas D. Hudzinski)

Improved Interoperability

Initial analysis of BDA data highlighted several trends in joint C⁴ISR interoperability to which enhancements were applied:

■ failure to feed immediate poststrike BDA information to air and ground component decisionmakers (especially against time-sensitive/mobile targets)

■ lack of BDA information cross-flow among joint and service component headquarters

■ limited theater visibility of damage assessment status

■ lack of emphasis on high-interest targets

■ need for more reporting paths to BDA cells

■ enhanced poststrike reporting.

Joint Battle Damage Assessment demonstrated enhancements to improve the timeliness, accuracy, and completeness of joint and combined poststrike reporting. Among them was the addition of poststrike BDA boxes to the Automated Deep Operations Coordination System (ADOCS) used by both operations and BDA intelligence personnel. Previously, Combined Air Operations Center (CAOC) BDA cell personnel were not using ADOCS to stay abreast of last-minute targeting changes to the integrated tasking order or to keep up with assessment requirements during time-sensitive/dynamic targeting. Without such knowledge, BDA assets and efforts could be wasted on invalid targets and not be available for collection on newly approved targets. JBDA worked with the Theater Precision Strike Office to add poststrike BDA, combat assessment, and restrike recommendation menus to the ADOCS Intra-Air Operations Center Target Manager software and display. This provided both operations and intelligence personnel with the means to update and maintain awareness of poststrike activity associated with specific time-sensitive and dynamic targets.

Another reporting enhancement involving improved ADOCS utilization was provided to the Combined Unconventional Warfare Task Force (CUWTF) to increase the speed and cross-flow of Special Operations Forces (SOF) direct reporting of time-sensitive and high-priority target information to both CUWTF headquarters and the

Satellite image of Baghdad prior to Operation *Iraqi Freedom*

CAOC Hardened Theater Air Control Center combat operations execution floor. JBDA achieved this by replacing a manual CUWTF targeting coordination process, hampered by limited stovepipe reporting, with an ADOCS network approach that provided near-real-time reporting of SOF target detection and strike results to all joint theater ADOCS nodes. This proved to be a low-cost, high-payoff enhancement and was demonstrated during live operations in Exercise *Foal Eagle '03*. This enhancement is now permanently integrated into CUWTF operations.

Theater-wide Visibility of BDA Status

Joint Battle Damage Assessment discovered that the primary reason theater operations and intelligence personnel did not have up-to-date situational awareness on the overall BDA mission was that parts of BDA resided in numerous unconnected or unlinked locations. This amounted to a needle in a haystack for intelligence analysts and operators seeking assessment information. Furthermore, the existence of component-specific systems such as ADOCS, Interim Targeting Solution (ITS), and All-Source Analysis System (ASAS) negated the possibility of a single database management system for joint BDA.

The answer was to establish a single repository of assessment information by developing a Web-enabled database to accomplish remote query and storage of data read from ADOCS, ITS, and ASAS. That allows users to see specific target information such as the identification number, name, next mission number scheduled against it, *hit* or *no hit* status, BDA, re-attack recommendation, and intelligence, surveillance, and reconnaissance (ISR) collections status. This solution is currently in place within U.S. Forces Korea (USFK) and is being incorporated into the joint targeting toolbox.

JBDA also discovered similar problems in getting the overall ground maneuver BDA status from the Ground Component Command–Combined Analysis and Control Center (GCC–CACC) PERL-based Web server. It completely rewrote the center's BDA Web page to account for enhanced TTP for managing maneuver information, providing USFK with a modern, coherently coded Web capability for tracking maneuver BDA results.

While observing the dissemination of BDA-related products on the USFK theater dissemination Web site, JBDA noted delays of up to 4 hours in posting damage assessment and battle rhythm-related products. The answer was to develop the theater intelligence dissemination battle-rhythm support Web site, another low-cost, high-payoff solution that provides one-stop shopping for damage assessment and other intelligence-related information.

Forum

Improved Joint TTP

Closely associated with the C⁴ISR interoperability problems were trends pointing to outdated or nonexistent joint BDA tactics, techniques, and procedures. JBDA developed enhancements targeted at the following deficiencies:

- insufficient mobile/maneuver BDA TTP
- inadequate poststrike reporting/processing TTP
- overreliance on imagery intelligence (IMINT) for BDA
- minimal involvement of federated partners
- no single BDA procedures/checklists publication.

New maneuver and ground mobile target TTP. Observations made in the GCC–CACC during UFL '02 pointed to areas within the maneuver and ground mobile target (M&GMT) BDA process in need of further refinement, including enemy unit association, report submittal procedures, locations of applicable information, and specific battle rhythm requirements.

Joint BDA targeted these deficiencies by developing a detailed guide explaining the Combined Forces Command (CFC) M&GMT BDA TTP that incorporated improvements in analysis methods, reporting requirements, and the portrayal and coordination of M&GMT BDA. These changes were also incorporated into the JBDA-enhanced GCC–CACC BDA Web server.

Improved BDA template and communications for federated BDA sites. Federated BDA is a process in which other joint and national agencies around the world perform specific BDA functions in support of USFK. These functions usually pertain to some particular expertise resident in the BDA federated partners. During UFL '02, JBDA data collectors noted extensive delays in exchanging BDA-related products between USFK and its off-peninsula BDA federated partners.

The solution was to install Global Command and Control System–Korea terminals at each federated partner site and optimize the federated template for BDA information exchange. This made it possible for the USFK BDA cell and the federated partners to post, query, and collaborate on damage assessment data in support of CFC operations. This enhancement provided USFK with immediate connectivity to their federated BDA counterparts and allowed warfighters to view and collaborate on important information with up-to-the-minute timeliness.

Procedures and exercise scripting inputs for multiple intelligence sources (multi-INTS) BDA. During UFL '02, JBDA observed that intelligence analysts relied almost exclusively on imagery intelligence (IMINT) to assess BDA, even though the exercise simulation systems supporting UFL were capable of generating reports from over 50 non-IMINT collection assets. This included theater and national signals

> **observations from *Enduring Freedom* and *Iraqi Freedom* indicated that mission reporting was plagued by nonstandard reporting formats**

intelligence assets, other electronic intelligence producers, and nontraditional, technically derived intelligence such as measurement and signature intelligence. JBDA focused on increasing interaction between the training audience and the USFK exercise modeling and simulation coordinators to provide more timely and relevant raw multi-INTS data to the intelligence analysts responsible for producing BDA.

Standardize and facilitate flow of poststrike reports to BDA cells. During UFL '02, JBDA noted that mission reports were not flowing properly from the Air Simulation Cell to the Air Component Command (ACC) BDA Cell targeting database. The primary reason was that the simulation models and the UFL '02 player databases were configured to process different versions of U.S. message text format (USMTF) 1998 and 2000. The result was a 24-hour backlog of messages and failure of the information to reach other components and federated partners until a workaround was devised.

In an attempt to resolve this situation, the JBDA staff worked with USMTF users, simulation center contractors, and USMTF program office personnel to ensure that USMTF 2000 messages were generated and validation software was installed on all C⁴I and simulation systems. JBDA also conducted a robust campaign to educate CFC and ACC active-duty and civilian operations, intelligence, and simulation support personnel on the importance of the USMTF program and directives to utilize it.

JBDA found that mission reporting and processing was not only an exercise simulation problem, but that it also was, and still is, a real-world problem. Observations from *Enduring Freedom* and *Iraqi Freedom,* along with interviews of U.S. Central Command (CENTCOM) BDA cell chiefs and after-action lessons learned, all indicated that mission reporting was plagued by nonstandard reporting formats employed by service, joint component, and headquarters-level intelligence cells. Since *Iraqi Freedom*, JBDA has worked closely with the Air Force Combat Assessment Working Group (CAWG), the Joint Chiefs of Staff lead agent for joint combat assessment solutions, to develop a permanent approach to mission reporting standardization. More recently, U.S. Joint Forces Command (J–7/8) and JBDA have teamed to forward a transitional change proposal containing poststrike reporting enhancements to the Joint Requirements Oversight Council for approval.

Improved Joint BDA Training

Joint BDA documented a chronic problem with untrained or unqualified augmentees arriving in the USFK theater to perform BDA cell functions during UFL exercises. Worse, the same problem plagued the CENTCOM BDA mission throughout *Enduring Freedom* and *Iraqi Freedom*, even though the shortfall was thoroughly documented. The problem of untrained augmentees remained a lesson not learned from *Desert Storm*, Kosovo, and even *Enduring Freedom*. JBDA developed several enhancements to improve this issue.

**Air Force Tactical
Air Control Party
conducting bomb
crater analysis in Iraq**

U.S. Air Force (Shane A. Cuomo)

Designated Reserve BDA units. Early on in its program, JBDA was a proponent for identifying and training designated Reserve units to augment theater BDA cells in time of crisis or during major exercises. For UFL exercises, JBDA coordinated an enhancement with the Air Force Reserve 701st Combat Operations Squadron to have a core of dedicated, trained BDA augmentees available on a recurring basis to the ACC BDA Cell. This habitual relationship reduced standup times and provided augmentees familiar with the gaining organization's personnel and TTP. This enhancement will be forwarded to CENTCOM and other theaters for adoption.

A joint guide. JBDA noted during UFL '02 that inexperienced augmentees arrived in theater without a full understanding of theater BDA processes or their own responsibilities within the cells. Accordingly, JBDA developed and published the USFK *Joint BDA Guide* to assist inexperienced augmentees. Other theaters, such as CENTCOM and U.S. European Command, also requested guides. In response, JBDA teamed with U.S. Joint Forces Command to produce a guide applicable to all theaters, *Commander's Handbook for Joint Battle Damage Assessment.*

Computer-based training for BDA augmentees. To provide untrained augmentees training in BDA cell processes and procedures, JBDA developed computer-based, self-study course on compact disks to provide rapid familiarization for joint and service exercise augmentees. The goals were increased personnel efficiency during training, more rapid training, and accelerated learning and performance curves within the cells, resulting in improved BDA support to the joint force commander. This course was also provided to CENTCOM BDA augmentees during *Enduring Freedom* and *Iraqi Freedom* with positive feedback. In many cases, augmentees considered the disks a primary reference while performing their missions.

The Future of Joint BDA

The JBDA program has significantly impacted a wide range of BDA issues through such activities as extensive background study, data collection and analysis, enhancement development, warfighter symposiums, and senior leader mentorship. That said, the program was designed from the start to be a limited look at a mission that remains as formidable an undertaking as when it began in 2000. As JBDA prepares to close down, other issues remain for consideration by those now stepping up to the BDA plate.

Is BDA really broken? It comes as no surprise that *Enduring Freedom* and *Iraqi Freedom* lessons learned highlighted many failures in the joint BDA mission. A look back will show that the mission has rarely been judged as successful. Although there have been several technical and process improvements, assessment still receives failing grades regardless of whether people even understand the mission. In defense of BDA, however, there is also little historical evidence of any formal attempt to fix it or to simply agree what it is. Indeed, joint organizations such as the Joint Chiefs of Staff-sponsored Combat Assessment Working Group are still trying to define it.

If the mission is not made a priority during operational and crisis action planning; if, from day one of a contingency, cells are hopelessly undermanned with unqualified personnel trying to keep pace with the overwhelming information flow of a major operation; if theater and federated coordination procedures are not regularly exercised together before going into combat; and if it is common knowledge beforehand that current C^4I systems and databases cannot talk to joint theater or federated BDA partners, then it is not BDA that is broken, but rather the approach to conducting it. If the approach is fixed, BDA will be fixed.

BDA is not just an "intel thing." The BDA mission, if it is going to integrate into an effects-based operations culture, must become an integrated operations/intelligence function that begins with and continuously feeds back to support the commanders' strategy. To realize this, commanders must provide the personal oversight to fuse both operations and intelligence to create a new, unified culture that tolerates no planning or execution that is not operations/intelligence–centric. This paradigm shift will most probably come slowly and with significant growing pains, but in the end it will help reduce the number of Joint Staff teams to one and put the *unified* back into *command.*

Prioritizing collection assets. One of the ongoing challenges for joint commanders is the effective employment of limited ISR collection assets

Pilot reviewing F–14 Targeting Pod images during postmission debrief

to meet both surveillance (targeting) and BDA demands. By nature, these two divergent missions conflict during both planning and execution because there never seem to be enough ISR assets on hand to meet the requirements of both simultaneously. This creates a continuous tug-of-war between those looking for tomorrow's targets and those providing BDA collection on today's targets.

Many believe that overemphasis of BDA collection denigrates the target acquisition effort because it consumes too many assets that can be used more proactively for surveillance and targeting. They also point to the increasing accuracy of precision-guided munitions (PGMs) and the current trend by joint commanders to accept predictive PGM damage results (for example, from computer modeling and/or risk assessment) versus waiting for formal BDA reporting before making a decision.

Others disagree with basing decisions solely on predictive BDA and warn that BDA is only one part of the overall combat assessment mission. Thus, it is the combat assessment process, not merely predictive BDA (or even actual BDA), that more accurately determines a target's poststrike functional status and, where this target is part of a larger target system, whether poststrike effects met theater objectives against that target system.

The answer to this dilemma lies in investing the time and effort to re-engineer the current joint ISR piece of battle rhythm planning, and provide commanders with a new ISR planning and execution framework. This new framework, by design, would incorporate the attributes of an effects-based operations culture such as unified operations/intelligence-centric planning and execution processes, coherent ISR strategy-to-task planning methodology, and daily tasking orders that are resilient under the stress of execution, yet flexible enough to accommodate dynamic changes.

Collateral damage and the media war. The advent of real-time and near-real-time worldwide combat reporting, especially from embedded news reporters, significantly increases the impact that collateral damage places on the BDA mission. Current exercises do not usually involve media participation to provide commanders with realistic training scenarios to operate in this environment. Observations from *Enduring Freedom* and *Iraqi Freedom* indicated that collateral damage is now an integral part of BDA, and analysts now devote considerable effort to evaluating pre-targeting collateral damage risk in addition to poststrike BDA. Both missions will demand rapid response timelines and a much wider focus pro-

vided by the traditional BDA approach. What is not damaged may become as important as what is.

Another challenge for the BDA mission comes from the use of smaller weapons or nonlethal attacks to avoid collateral damage. Performing BDA on these confined attacks is more difficult because the resulting damage signatures are harder to detect and analyze. This points to the significance of employing a strategy of diverse, multiple intelligence sources along with coherent and responsive all-source intelligence fusion and dissemination to meet collateral damage priorities.

Whether we know if battle damage assessment is broken, or what the term really means, the mission remains ripe for process improvement. Over the past 4 years, joint battle damage assessment has contributed to this improvement by demonstrating numerous enhancements. Some are now in place in operational theaters and others are in transitional phases, but all are contributing to the overall effectiveness of the battle damage and combat assessment missions.

Nevertheless, the need still exists for a combined effort, from services to joint staffs, to codify mission definitions, build an off-the-shelf framework of BDA and combat assessment processes, and establish a truly integrated operations/intelligence warfighting approach. Now would be a great time and the aforementioned recommendations would certainly be acceptable in an effects-based operations culture. More important than reengineering, however, is the need to educate joint commanders and their staffs on BDA and combat assessment because as long as BDA is viewed as primarily an intelligence function, we will continue to fight ourselves while we fight the enemy. **JFQ**

Members of Chemical Biological Incident Response Force removing chemicals in Fallujah

U.S. Marine Corps (Daniel J. Klein)

Force Protection
Lessons from Iraq

By PHILLIP G. PATTEE

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Referring to the war on terror, President George W. Bush has stated, "America is taking the offensive—denying terrorists refuge; identifying, blocking, and seizing their finances; and holding terrorists and their sponsors to account."[1] Operations *Enduring Freedom* in Afghanistan and *Iraqi Freedom* in Iraq are campaigns in this war, each with its own purpose and character. The United States and its coalition partners invaded Afghanistan because it was a haven for terrorists. Iraq was invaded for a multitude of reasons, including its sponsorship of international terrorism, possible development of weapons of mass destruction, and violation of United Nations resolutions. American leaders found these invasions necessary to national security.

With the declared end of major combat operations in Iraq, coalition forces transitioned into what joint doctrine identifies as *operations other than*

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war, and Army doctrine identifies as *stability and support operations*. Even though these monikers sound less dangerous than major combat, the United States has had more casualties since the end of major combat operations in Iraq than during them, most inflicted by ambushes and improvised explosive devices (IED).

These alarming statistics have highlighted a need for improved force protection. Coalition commanders are taking strong measures, using current doctrine and available resources to address the threat. The most visible means to enhance force protection is to improve armor on vehicles and personnel protective armor.

While these methods mirror overall Department of Defense (DOD) strategic guidance, which pursues a capabilities-based force rather than a threat-based force, commanders at operational and tactical levels must critically consider the enemies and threats

commanders must decide whether the problem is criminal violence, terrorism, insurgency using guerrilla tactics, or a combination

facing them. Carl von Clausewitz observed that "War . . . is not the action of a living force upon a lifeless mass (total nonresistance would be no war at all) but always the collision of two living forces."[2] Commanders must assess more than material solutions that render specific enemy capabilities ineffective. To improve force protection, they must determine and address not only how an enemy inflicts casualties, but also why the enemy attacks coalition soldiers.

Organized Violence

Understanding the nature of the challenge should inform decisions about how best to achieve a lasting solution. Commanders must decide whether the problem confronting them is criminal violence (such as murder, robbery, revenge, looting), terrorism, insurgency using guerrilla tactics, or a combination, as in Iraq. Measures a

commander would normally adopt for force protection and antiterrorism may not work against an insurgency, where a lasting solution requires prevailing against adaptable enemies whose goals often oppose those of the United States.

This distinction between criminal violence, terrorism, and guerrilla tactics is not always obvious because when a central authority no longer controls an area, a period of looting and general violence often follows. Reasons for loss of control vary. In some cases it is due to natural disaster and is temporary. The reasons for violence also vary. It may result from frustrations, groups seeking a share of scarce resources, or criminals taking advantage of chaos to enrich themselves.

When central authority is lacking, the violence is focused against anyone or anything that prevents the perpetrator from realizing an immediate need. Restoring basic services and ensuring that property is protected will generally quell such violence. In this scenario, the perpetrators actually have goals that coincide with the units trying to restore services and order. These perpetrators use violence as a temporary expedient. When their needs are consistently met by the resumption of controlling authority that can maintain order and provide services, they can stop resorting to violence. In this case, the violence is not directed specifically and repeatedly at soldiers. Implementing personal protection measures, as indicated in Joint Publication 3–07.2, *JTTP* [Joint Tactics, Techniques, and Procedures] *for Antiterrorism*, should reduce the risk. Providing personal protective gear or directing soldiers to avoid dangerous zones or not go out during certain hours will likely prove effective. In an essentially random process, passive measures that reduce the probability of attacks and provide personal protection should remain effective.

Terrorism and insurgency using guerrilla tactics differ from criminal violence in that they are organized and conducted to achieve a political purpose. Victims of either terror or insurgent guerrilla attacks will not find much to distinguish between them.

Joint Publication 1–02, *Department of Defense Dictionary of Military and Associated Terms,* defines *terrorism* as "the calculated use of unlawful violence or threat of unlawful violence to inculcate fear; intended to coerce or to intimidate governments or societies in the pursuit of goals that are generally political, religious, or ideological." *Insurgency* is "an organized movement aimed at the overthrow of a constituted government through use of subversion and armed conflict." These definitions suggest a stark contrast between the two violent activities, but since insurgency uses armed conflict to overthrow a constituted government, it is also unlawful.

Terrorism is an organized violent activity as well. In the main, it aims at creating fear in large segments of a population to erode confidence in the government. In general, the goal is to change government policy or gain some concession. To have an effect, terrorism relies on government concern for the well-being of the populace. It is most effective and is employed most often against Western-style governments.

An insurgency targets governments, government symbols, and government supporters while simultaneously relying on significant segments of the population for its own support. Most insurgencies actually aim at overthrow of the current regime, so insurgents attack the government directly, using the devices and tactics of unconventional warfare. The *Department of Defense Dictionary of Military and Associated Terms* defines *unconventional warfare* as:

a broad spectrum of military and paramilitary operations, normally of long duration, predominantly conducted by indigenous or surrogate forces who are organized, trained, equipped, supported, and directed in varying degrees by an external source. It includes guerrilla warfare and other direct offensive, low visibility, covert, or clandestine operations, as well as the indirect activities of subversion, sabotage, intelligence activities, and evasion and escape.

Marine M1A1 Abrams
returning fire in
Fallujah, during
Operation *Al Fajr*

1st Marine Division Combat Camera (James J. Vooris)

Targets for insurgency might be government civilian workers, military or police personnel, or government buildings. Although insurgents may attack civilians, they must discriminate between their own supporters and government supporters or risk eroding their local power base.

Nevertheless, the tactics used by each group of perpetrators look much the same to the soldier. Hence there is a natural tendency to simplify the problem and try to create an accept-

when soldiers are the objects of directed and systematic attack, strictly passive measures will fail to protect them

able solution that can be quickly implemented. Each form of violence has distinct constraints and advantages for the perpetrators that are useful for planning force protection measures.

Well-Directed Blows

Defeating terrorism encompasses *counterterrorism* and *antiterrorism*. These two concepts form what joint doctrine calls *combating terrorism*. Counterterrorism is the domain of highly trained, specialized forces working in concert with other U.S. agencies. In contrast, antiterrorism is the responsibility of every commander and encompasses operations security, personal security, physical security, and awareness and training designed to deter terrorist incidents against U.S. military personnel, their families, and facilities.

Antiterrorism tactics rely on maintaining a low profile and avoiding risky scenarios for personnel protection. Physical security measures include intrusion detection, barriers, structural hardening, access control, and response forces designed to delay the threat until security forces arrive

to eliminate it. Army Field Manual 3–07, *Stability and Support Operations*, defines *antiterrorism* as "defensive measures used to reduce the vulnerability of individuals and property to terrorist attacks, to include limited response and containment by local military forces." The goal is to make installations and personnel such difficult targets that terrorists look elsewhere. The prevailing philosophy is that terrorists seek easy targets, so if the military has defensive shields in place or avoids dangerous situations, the force will be protected. However, when soldiers are the objects of directed and systematic attack, as they may be during an insurgency, strictly passive measures will fail to protect them.

To determine what the threat to soldiers actually is and implement counters, commanders must understand the enemy's intent. For example, with Saddam's regime toppled, the U.S. military has destroyed the Iraqi state,

not in the sense of the material infrastructure, but in the sense that the social norms of order have been removed. However tyrannical, the regime was one that Iraqi society understood and that had long governed the populace. Despite the fact that coalition forces were instrumental in preserving power, water, communications, and transportation systems during major combat, the political infrastructure was destroyed. While some citizens were exploited under the old regime, others benefited. The only thing Iraqis can count on now, despite American promises, is that their society will work differently.

Those who were exploited might find promise in a new social structure, but they are a minority within larger Iraq, and without adequate guarantees for their safety and property they have reason to oppose the American vision for their country. On the other hand, those who benefited by their association with the regime might fear for their positions under the new order. Former regime loyalists, Ba'th party members, and assorted others continue to oppose American interests. Either group has reason to be uneasy about social change.

When coalition forces toppled the Saddam government, only the highest levels were effectively removed. Many leaders in lower positions, some closely affiliated with the regime and others associated only by convenience, went into hiding. They have lost control of most of the state's assets but have never surrendered to coalition forces. Given their weakness compared to coalition military strength, they have adopted guerrilla tactics. Their presumed strategic goal is to cause losses to the coalition, in particular the United States, at a rate the American public will not sustain. The costs to Washington will outweigh the political benefits, causing U.S. forces to leave and giving the insurgents a freer hand to exert influence in the new Iraq. Even though the enemy tactics are scarcely distinguishable from terrorism where individual soldiers are concerned, the enemy might best be considered combatants or insurgents. Hence the coalition response should be different from standard antiterrorism.

As has been noted, this distinction is not always obvious because when a central authority has lost the ability to control an area, a period of looting and general violence often follows. The reasons for loss of control vary. In some cases it is due to natural disaster and is only temporary. Or violence may result from frustrations, from groups trying to get a share of scarce resources, or from individuals taking advantage of a chaotic situation to enrich themselves. Under such conditions, the violence is focused against anything preventing perpetrators from fulfilling immediate needs. Restoring basic services and providing reassurance that individual property is protected will generally quell the violence. Under these circumstances, the perpetrators have goals that actually coincide with the units trying to restore services and order, although their methods differ. These perpetrators use violence as a temporary expedient to meet needs and deal with uncertainty. When their needs are consistently met with the resumption of controlling authority that can maintain order and provide services, they stop resorting to violence. Since the hostility is not directed specifically and repeatedly at soldiers, implementing passive protection measures should reduce the risk. Providing soldiers with personal protective gear or directing them to avoid dangerous zones and going out during certain hours will most likely prove effective.

However, when soldiers are the objects of directed and systematic attack—as they may be if an insurgency begins—adopting strictly passive measures will ultimately fail to provide adequate protection. Clausewitz explains, "The defensive form of war is not a simple shield, but a shield made up of well-directed blows."[3] Counters to insurgent attacks cannot rely solely on protective armor for individuals and vehicles. This mechanical form of resistance is only a shield and is completely passive. The problem it presents to an adaptive enemy is purely technical. The enemy only has to solve a simple engineering problem to produce a counter, such as building a bigger bomb or changing its placement. To really reduce the threat to soldiers, the defense must add "well-directed blows." Soldiers must direct their blows against those perpetrating ambushes, emplacing IEDs, building bombs, recruiting perpetrators, and planning operations. Of these, the most important to individual soldiers are those perpetrators conducting ambushes and emplacing IEDs. Commanders must implement measures that give offensive capabilities to all individual soldiers and groups.

Soldiers conducting early morning raid in Iraqi village

55th Signal Company Combat Camera (James B. Smith, Jr.)

Iraqi police securing
suspected insurgents
detained by U.S. troops

55th Signal Company Combat Camera (Elizabeth Erste)

Improvised Explosive Devices

Understanding the challenge should inform decisions about how to achieve a lasting solution. Commanders must decide whether the problem is best approached by succeeding in a scenario, such as providing relief until services are restored, or by prevailing over an adapting enemy whose goals differ from and often oppose their own. Events in Iraq and Afghanistan highlight the issue with the repeated use of IEDs against coalition forces, particularly U.S. Army convoys. Early in the occupation of Iraq, much of the violence was directed not just at U.S. forces, but also at other factions. As one leader who conducted patrols in the Samara area put it, "With 21 large tribes, the locals are fighting one another as much as they are fighting you."[4]

Who is committing the violence in Iraq, against whom, and why? Over time, the ferocity and size of bombs used have grown. U.S. forces are struggling to protect convoys while carrying out the daily business of stability operations. The area most affected by IEDs is the Sunni triangle, incorporating the area in the northwest part of Baghdad, west to Ar Ramadi, and north to Tikrit. The correlation of these attacks to a specific area populated by the Sunni Muslims, and to targets made up most often of U.S. Army convoys, suggests that much of the violence is an insurgency against U.S forces. The rest is more difficult to account for, and other regions of Iraq differ significantly in the level and type of violence. Some of the hostility may be designed to create and prolong general chaos to create havens for terrorist organizations to take root, or it may be posturing by local tribes and sects to assert control. Some may be simple revenge. Presented with a range of violent perpetrators with different motives, a commander must be cautious in committing to a course of action. The point is that there is no monolithic *they* in Iraq, nor is there a single type of violence, nor is there one tactic for protecting soldiers.

Military leaders are currently working to improve armor protection for vehicles used in Iraq and pro-

convoys that look complacent or ill-prepared to engage the enemy are the convoys most likely to be attacked

vide soldiers with personal protective armor. While important, increasing armor protection will not in and of itself reduce violence to U.S. and coalition soldiers. When the violence is generally of the criminal variety, restoration of services, not armor protection, is what will curb the hostility. In this case, restoring essential services becomes a well-directed blow—an active measure that addresses the motives of the perpetrators. An information campaign that informs the population of coalition intentions, provides instructions on how to obtain services, and presents a hope for the future is another active measure that must be incorporated alongside restoring services. Force protection is enhanced when additional measures are adopted in conjunction with armor protection.

A study conducted at the U.S. Army Command and General Staff College found in wargames that, from the friendly perspective, the methodology for convoy operations was based on a purely linear progression of events. However, from the enemy perspective, the timeframe for emplacing and initiating an IED was longer than the friendly timeframes for organizing and conducting a convoy. If this is true, insurgents using IEDs are not targeting any specific convoy, but convoys in general. Once a device is emplaced, the chain of events to initiate the attack is in place. It is difficult after this to prevent an attack. The study also showed:

In many situations the enemy may decide to not initiate the IED but wait for another day or opportunity to ambush a convoy. The number of variables for the enemy determination to initiate an IED was difficult to discern—the enemy may see a change in friendly patterns and may simply decide to wait and see if the new patterns continue.[5]

What the wargaming points out is that the enemy is not suicidal. He waits for the best opportunity to inflict casualties while avoiding them himself. In vignettes written by company-grade officers coming from tours in Iraq, a pattern emerges: convoys that look complacent or ill-prepared to engage

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Marines securing Iraqi personnel after firefight outside Baghdad, April 2003

1st Marine Division Combat Camera (Kevin R. Reed)

the enemy are the convoys most likely to be attacked. Those the perpetrators skip are those that appear best able to inflict casualties, not those that appear better armored.

For example, it seems that most of the convoys being hit by IEDs could have avoided the attacks by following the standard operating procedures currently in place in theater. The data for the convoys that have been hit is difficult to pull together, but some patterns emerge—again, convoys that had an "aggressive and professional" appearance were less likely to be selected. Convoys that are well organized with soldiers alert and professional are simply more dangerous; the enemy would rather wait for a less alert, more vulnerable target.[6]

Analysis shows that route surveillance and persistence of reconnaissance would generally make it more difficult for perpetrators to emplace IEDs. However, the manpower required for patrolling routes is an issue. Since friendly forces are not able to secure specific routes and close some routes based on unit manning, perpetrators have a haven within which to prepare and emplace IEDs. As the U.S. Army Command and General Staff College study showed, "IED attacks tend to occur at certain times of day when friendly convoys are on the road; those times of day when convoys and patrols

are not on the road are the critical times when the IEDs are emplaced."[7]

Perpetrators are most vulnerable when they can be distinguished from civilians. There are specific times that this occurs prior to, during, and immediately after an IED attack. When a perpetrator is sighted emplacing an IED, the soldier must engage him. During the actual ambush soldiers must return effective fire, inflicting casualties on the perpetrators. These actions increase risk to the perpetrators, which the wargames and vignettes indicate is the surest method of reducing the risk of attack on convoys. Additionally, human intelligence increases significantly after engagements where U.S. Soldiers show strength and prevail.

Forcing the Enemy to Engage

The foregoing analysis leads to some general conclusions. Aggressive and persistent patrolling will increase risk to the perpetrators and present the best opportunity to distinguish them from civilians. In an ideal campaign, the most effective strategy would be to have constant surveillance on all routes, protect all convoys with combat troops, and provide additional armor on vehicles and personal body armor. Soldiers would also actively en-

gage the populace, collecting intelligence on perpetrators while following up with raids. They would remove the unexpended ordnance used for most of the IEDs. In these ways, perpetrators have smaller havens of time to place IEDs, fewer materials to make devices, more likelihood of being informed upon, and less likelihood of surviving even a successful attack. The cumulative effects would eventually force perpetrators to build smaller bombs that could be more easily transported and emplaced in a short time. This would make personal armor and up-armored vehicles more effective at protecting forces.

But the increased safety follows improvements in offensive capability. The advantages of the defense flow from the ability to deliver well-directed blows from a position of relative safety, not from an impervious shield. Soldiers effectively engaging perpetrators at every opportunity would eventually drive them into more remote areas that are patrolled less frequently but are also inhabited by a populace other than their supporters. Ultimately, the enemy may shift to different tactics or a different target set or both.

The enemy's shift to a different target set would indicate the overall success of the defensive strategy. The coalition should expect and prepare for this. The enemy prefers ambush with IEDs to actually engaging soldiers in a firefight. Using the former tactic, the enemy inflicts casualties and receives none. Using the latter, he consistently loses because the United States has better Soldiers. When forced to engage, the enemy must therefore shift tactics or targets.

As long as the enemy remains committed to not permitting a democratic Iraq, he will continue to fight. However, unless the enemy is able to cause the coalition to back down, the plan to build a democratic Iraq will proceed. At the point where Iraqi citizens become involved in stability and security as trained policemen, attacks on U.S. Soldiers will no longer be able to prevent the drive toward a democratic Iraq. The enemy must cause the Iraqis to fail in standing up a working police force to drive responsibility for security back to U.S. Soldiers. This will

require attacks against Iraqi police stations, recruitment centers, and training centers. If that fails as well, the enemy will have to attack the elections and candidates.

If the enemy is not winning using current tactics, he must either escalate the war or quit. If the enemy perceives he is winning, he can maintain the status quo. Another of Clausewitz's themes is the idea of escalation: "If the enemy is to be coerced, you must put him in a situation that is even more unpleasant than the sacrifice you call on him to make."[8] This is what the enemy must accomplish. While the coalition has not been overthrown or forced to quit, the enemy must always fear that he himself may still be overthrown. The enemy must be made to fear this outcome. He must not believe that the coalition will adjust to his continued presence and interruptions. The enemy must be forced to bring

soldiers must deny the enemy havens for rest, planning, and training and force him to engage in firefights

more power to bear or quit. The coalition cannot allow the status quo.

Having argued that the enemy has only two choices if the coalition really presses him, it seems likely he will attempt to bring more power to bear. This is what coalition forces must be operationally and tactically prepared to prevent. Aggressive patrolling must preclude enemy attempts to train more perpetrators. Every soldier must have the ability to communicate positions and aggressively engage the enemy. Soldiers must deny the enemy havens for rest, planning, and training and force him to engage in firefights. This is where the enemy is least prepared. Reports from Iraq and Afghanistan indicate that the enemy has little proficiency in aiming his weapon. In short, in a gunfight the enemy consistently loses. He must not be allowed to change this dynamic by being granted a haven to train.

Knowing what to do and being able to do it are different matters. In a resource-constrained environment, commanders must make the diffi-

cult choices of where to accept risk. If constraints do not allow for enough trained infantry or the technology to conduct patrols for continuous surveillance everywhere it is needed, local commanders must choose where they can do it. Every soldier should be capable of such duty. One of a convoy's missions should be to seek out and engage the enemy. Resupply is coincidental to this. When the enemy begins to see convoys as proffered bait, the right kind of progress is being made. If a soldier cannot be a proficient marksman with an operational weapon, have personal protective armor, ride in an up-armored vehicle, and have a radio, then he must be given what will make him able to close and engage the enemy. A soldier with a radio who is proficient with a rifle is more of a threat than one in an up-armored vehicle. It is the threat that will force the enemy to give up his objectives.

Once a commander finds a tactic that is working, he must also abandon the idea that "if it isn't broken, don't fix it." The first indication that a tactic no longer works will be a successful enemy attack. Commanders must change routinely to keep the enemy guessing. Since the enemy chooses to remain formless, U.S. Soldiers are much more likely to capture good lessons and tactics that can be shared across units than the enemy is. For the enemy to remain hidden, he must also remain isolated. This precludes the free and easy exchange of information that will allow mastery of certain weapons and procedures. This ability to train and learn is an advantage the coalition has and should deny the enemy.

Since the enemy in Iraq has elected to continue to fight rather than lay down his weapons, we must conclude that he currently views the situation unfavorably. Coalition commanders using defensive measures with nationbuilding and offensive capabilities wisely can keep the enemy off balance, remove havens for rest and training, and force the enemy into more

risky encounters. By forcing the war to escalate to conditions the enemy cannot match, the coalition will cause the enemy to engage and be destroyed or to capitulate.

This is not a lesson just for U.S. Soldiers. Force protection is for everyone, regardless of rank, service, agency, or nation. Passive measures promoted by antiterrorism doctrine alone are not sufficient to protect the force or America. Objective evidence from Afghanistan and Iraq, theory espoused by Clausewitz, and national security strategy all support this. Nor should commanders rely on specialized forces conducting counterterrorism to protect their forces. All commanders must include active and offensive measures to reduce violence directed toward their forces. The active measures and offensive capabilities that forces exert against an adapting adversary are enablers that make passive measures more effective in the short term and are the only measures that will produce lasting solutions. **JFQ**

NOTES

[1] George W. Bush, State of the Union Address, January 20, 2004.

[2] Carl von Clausewitz, *On War*, ed. and trans. by Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), 77.

[3] Ibid., 357.

[4] Anonymous company commander, "Experiences of B/1–8 from September 28 to October 14, 2003" (unpublished paper).

[5] Jackie David Kem, "Annex H; Team Leader Paper," *ILE Team 7 IED Study Group Final Report* (Fort Leavenworth: U.S. Army Command and General Staff College, February 3, 2004), H–7.

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The Industrial College of the Armed Forces @ 80

During the past year, we celebrated the 80th anniversary of the Industrial College of the Armed Forces (ICAF). The college provides competitively selected students an education that reflects the unique demands of the post–Cold War international security environment. At ICAF, America's top military and civilian defense professionals, as well as selected international students, receive a graduate-level education in national security strategy and the resource component of that strategy.

With its roots stretching back to the Army Industrial College established in 1924, today's ICAF maintains the critical legacy of a close, productive partnership among the American military, the U.S. Government, and industry leaders. Today's graduates continue the proud heritage of distinguished alumni such as General Henry H. ("Hap") Arnold, Army Air Forces (Class of 1925); President Dwight D. Eisenhower (Class of 1933); General John W. Vessey, Jr., USA (Class of 1966); Honorable James M. Loy, USCG (Class of 1985); and General Carlton W. Fulford, Jr., USMC (Class of 1985). Graduates also include international

fellows such as His Royal Highness Prince Bandar Bin Sultan Bin Abdul Aziz Al Saud (Class of 1976) and Lieutenant General Svein Ivar Hansen, Deputy Chief of Defence, Norway (Class of 1997).

Today this legacy of harnessing America's unique ideological, military, and industrial potential is more important than ever. The war on terror and the horrific potential of terrorists armed with weapons of mass destruction—or even weapons of mass effect—make contemporary threats as dangerous as any our Nation and allies have ever faced. Globalization and the universal spread of information networks make maintaining long-term security for the Nation an increasingly complex proposition. With limited resources at our disposal, researching, funding, and maintaining the ability to fight and win the Nation's wars tomorrow present a continual challenge.

ICAF reflects the need for modern integrated operations. The U.S. military needs new partners—interagency, international, industry, and private sector organizations—all of whom must work with the military from the initial planning stage through the transition from turmoil to peace. To support this reality, ICAF provides the Chairman and the Joint Chiefs with joint and interagency education programs developed

Generals Eisenhower and Arnold in Sicily, December 1943

National Archives

and executed by a diverse faculty of military officers from all the services, civilian professors, and visiting academicians from several Federal agencies. Likewise, the student body is diverse: roughly two-thirds are military officers from each of the uniformed services. Within this mix, an active International Fellows program provides approximately 20 officers from allied nations who work closely with their American counterparts throughout the academic year. The remaining third is composed of civilians from various DOD and non-DOD Federal agencies and from private industry. This unique mix of faculty and students allows ICAF to provide an unparalleled strategic security studies education with a special emphasis on acquisition and logistics.

This commemorative section of *Joint Force Quarterly* features three articles written by ICAF faculty. The first, by John Yaeger, Director of Institutional Research, recounts the development of the college and its contributions to joint professional military education. Next, Paul B. Davis, Jr., professor of logistics, looks at ICAF's past and future as the "Industrial" College maintains its legacy while adapting to the information age.

The third, by Irene Kyriakopoulos, professor of economics, and Donald L. Losman, professor of strategic studies, explores the economics of defense mobilization in the 21st century. These articles represent a small portion of the extensive and ongoing research portfolio pursued by ICAF faculty and students.

I am proud of all those—faculty, students, and private sector supporters alike—who demonstrate the importance and uniqueness of ICAF each year. No other curriculum at a professional military or other educational institution emphasizes the management of resources to support the National Security Strategy. This is the college's abiding hallmark, and it is the unique and enduring contribution of ICAF to the Nation.

MAJOR GENERAL FRANCES C. WILSON, USMC
Commandant
Industrial College of the Armed Forces

First class at the Army Industrial College, June 1924

The Origins of Joint Professional Military Education

By JOHN W. YAEGER

The Industrial College of the Armed Forces (ICAF) was established 80 years ago in response to a deficiency in the U.S. security environment. It was a shared shortcoming affecting both the War and the Navy Departments. Recognizing this joint problem, the departments decided that Industrial College students should come from various backgrounds. The Army Industrial College, as it was first named, became a successful model for additional joint professional military education institutions.

Working together has always been a challenge for the Army and Navy, even in an academic environment. The attitude of officers is best captured in the words of Captain Caspar Go-

odrich of the USS *St. Louis*. In 1898 in reference to the Spanish-American War, the captain stated:

I wish the Army appreciated the excellent work done for it by the Navy, but our sister branch of the service is a spoiled child and takes every exertion on our part as a matter of course. From its point of view the Navy is but a handmaid to the Army. Some of the things done lately have not been calculated to soothe the nautical temper. Especially it is hard for us to put up with an irritating assumption of superiority. Of its only maritime enterprise—the moving of troops from Tampa to Daiquiri, it is well not to speak. Some day a grave scandal will probably be unearthed.[1]

The following year, Goodrich became the president of the Naval War College. Clearly there was a need for the Navy and Army to understand each other. What better place to accomplish this than an academic environment? Dual purposes could be served; the Armed Forces could work

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toward solving the Nation's problems and, by doing so, could understand each other better. This was one of the fundamental principles for establishing joint professional military education. The National Defense University (NDU), and each component that eventually became a part of it, was created in an effort to solve problems facing our nation. The joint aspect of each new college became a fundamental reason for its success.

the statistics for wartime production were dismal for such critical war items as tanks, aircraft, and food

In the mid-1970s, political and economic considerations evolved to a point to induce the merger of some of the war colleges. ICAF and the National War College (NWC) joined to create NDU. The Joint Forces Staff College (JFSC) joined the university in 1981. This article describes the origins of the Industrial College and the influence that two of its graduates had on the establishment of NWC and JFSC.

Industrial College of the Armed Forces

By the end of any major conflict, the U.S. military has gone through a period of assessment and instituted change based on lessons learned. The oldest component of NDU is ICAF, situated at Fort Lesley J. McNair in Washington, D.C. World War I was the conflict that brought to light the need for this institution. American industries were unable to support the war effort. For example, the War Department ordered some 50,000 pieces of 75-mm field artillery, yet only 143 American-made units were available to U.S. forces on November 11, 1918. The statistics for wartime

Temporary quarters of ICAF at Fort McNair after World War II

NDU Special Collections

production were similarly dismal for such critical war items as tanks, aircraft, and food.[2]

During postwar assessment, the criticism of American industries and business performance was strong, not only by the Federal Government but by allies as well. David Lloyd George, Britain's prime minister during the war, later reflected:

No field guns of American pattern or manufacture fired a shot in the War. The same thing applies to tanks. Here one would have thought that the nation who were the greatest manufacturers of automobiles in the world could have turned out tanks with the greatest facility and in the largest numbers, but not a single tank of American manufacture ever rolled into action in the War.[3]
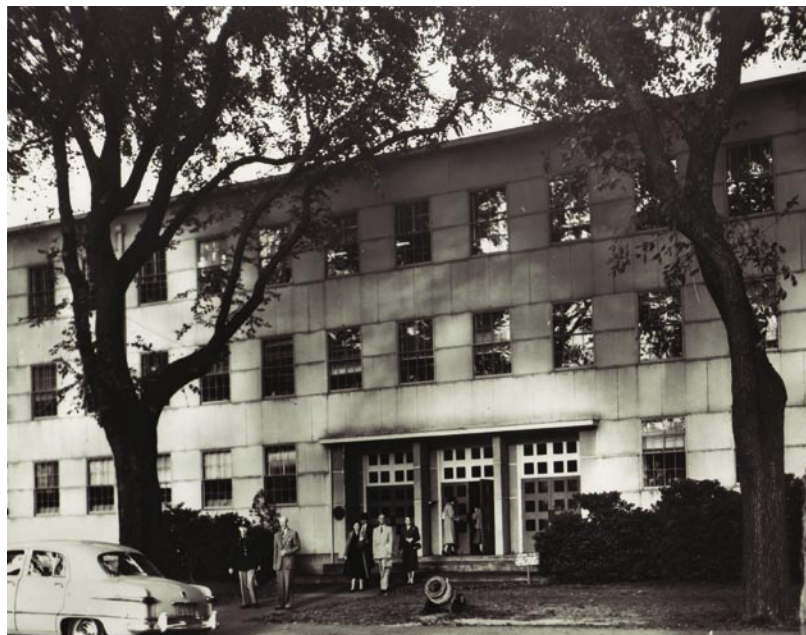
Transport was so defective that ships sometimes took a couple of months to turn round at ports, and on land it was so badly organized that, in spite of help from other armies, a large number of the American troops who fought in the Argonne in the autumn of 1918 were without sufficient food to sustain them in their struggle in a difficult terrain.

The War Department's supply bureaus and programs were condemned in a series of congressional hearings in 1918 and 1919.[4] Political pressure forced the Department to come up with a solution to preclude the mistakes of World War I from ever being repeated. Tension between Congress and manufacturers led directly to the War Department's review of America's industrial preparedness. One of the initial steps taken to solve the problems was the National Defense Act of 1920, which reorganized the structure of the War Department. One new position was an assistant secretary of war charged with ensuring that the Department would be prepared for future wartime mobilizations.[5] Additionally, this assistant secretary was empowered to plan for the entire wartime economy, a daunting task.[6] President Warren Harding appointed John Wainwright to this post in the spring of 1921. One of the first individuals Wainwright consulted with was the Chairman of the War Industries Board, Bernard Baruch. Wainwright's staff constantly asked Baruch to review their plans for industrial mobilization. Proposals of how to train and educate individuals in the arena of industrial support for a war were discussed frequently by the staff and reviewed by Baruch over the next several years.[7]

President Harding replaced Wainwright with a new assistant secretary of war on March 21, 1923. Dwight Davis, a former colonel in the American Expeditionary Force in France, had a strong interest in educating officers in procure-

ment and industrial mobilization planning. Four months after taking office, two of Davis' staff members presented him with a proposal to establish a school specializing in the education of industrial mobilization. Initially, Davis was skeptical; however, after careful examination of the preparations his staff officers had made for such a school, he became convinced enough to propose it to the Secretary of War on October 11, 1923.[8] The proposal was accepted.

Originally chartered as the Army Industrial College, the institution was established by the War Department's General Orders, Number Seven, on February 25, 1924:

A college, to be known as the Army Industrial College, is hereby established for the purpose of training Army officers in the useful knowledge pertaining to the supervision of procurement of all military supplies in time of war and to the assurance of adequate provision for the mobilization of material and industrial organization essential to war-time needs.

Today, the purpose of the Industrial College is the same as the original vision of Baruch, who had great appreciation for the complexities and challenges of mobilization and for the ability of industry to support national defense. While Baruch lectured at the Army War College on February 12, 1924, a student asked his opinion on how the military should be organized in time of peace to be ready to mobilize in time of war. Baruch

almost from the beginning, the Army Industrial College included students from other services

stressed the importance of establishing:

little school or something of the kind . . . where those of us who did serve . . . could give the benefit of our experience to these possible industrial leaders. . . . Let it be a living thing. . . . The military-minded man who has to devise the machines of destruction should keep in touch with the man of industry who can go out and get those things and who knows how he can turn a factory that is making one thing into another thing. They should keep in touch all the time so that if war has to come, we shall be ready for it.[9]

Two other individuals, both Army officers, had early associations with the Industrial College and would later become instrumental in establishing institutions that would eventually become a part of NDU. Major Henry H. ("Hap") Arnold, who would become one of the pioneers of military aviation, was a member of one of the first classes to graduate from the Army Industrial College. The other was Major Dwight Eisenhower, who reported to the Industrial College in 1932 immediately following his graduation from the Army War College. Eisenhower graduated and taught at the Army Industrial College during the

interwar years. During this time he established a close relationship with Baruch.

Almost from the beginning, the Army Industrial College included students from other services and stressed the importance of understanding each other's capabilities. The first Navy students arrived in February 1925. When Eisenhower reported, 25 percent of the class was composed of Navy and Marine Corps officers.[10] Eisenhower would frequently refer to the positive aspects of a joint student body later in his career.

Classes at the college were suspended for a time during World War II. When they resumed in 1944 with short courses in contract termination and surplus property disposal, civilians were members of the student body for the first time.[11]

National War College

Early on in World War II, it was apparent to key service leaders that there was a need for officers educated in joint operations. A new means of education was desired to alleviate the conflicts surrounding respective roles and capabilities of the Army and Navy.[12]

Hap Arnold, Commanding General of the Army Air Forces, submitted a proposal to fellow members of the Joint Chiefs of Staff: General George Marshall, Army Chief of Staff, and Fleet Admiral Ernest King, Commander in Chief of the U.S. Fleet and Chief of Naval Operations. Arnold proposed that a study be undertaken by the Joint Chiefs to determine the feasibility of establishing a war college. Arnold's recommendations established the initial groundwork for the Joint Forces Staff College and National War College. His memorandum of December 26, 1942, stated that the purpose of the War College would be twofold:

(1) To train selected officers of the Army and Navy for command and staff duties with unified (Army-Navy) commands.

(2) To develop methods and ideas for the most effective unified employment of all arms and services and to translate lessons learned in the field into appropriate doctrines. Conclusions reached should be spread through the services both by service publications and by the influence of the graduates of the College in planning and conducting operations.[13]

The Joint Chiefs of Staff began an examination of the proposal in mid-March 1943. The Navy Department did not totally agree with Arnold's proposal. King responded on April 1, disagreeing on three major issues: the location, jurisdiction, and curriculum. In this memorandum, the Navy proposed that a "Joint Army and Navy

Dedication of ICAF
academic building,
1960

NDU Special Collections

Staff Course" be formed while the details establishing the college crystallized.[14]

The issues were finally resolved, and on April 10, 1943, Marshall signed a memorandum that documented the requirement for a special course of instruction to train Army, Navy, and Marine Corps officers for staff and command duties with unified commands. Greater weight would be given to instruction in air operations, as King had proposed. The location would be as the Army suggested, Washington, D.C. The course would fall under the jurisdiction of the Joint Chiefs, also as the Army had proposed.[15] The Army-Navy Staff College was established in Washington on April 23, 1943, with a mission to train selected officers for command and staff duty in unified or coordinated commands. The students from the initial class were told to meet on August 5, 1943, in the new War Department building.[16] In a display of the unity of effort envisioned for the college, General Marshall and Admiral King each spoke at the opening ceremony, and General Arnold provided the concluding remarks.[17]

The course of instruction at the Army-Navy Staff College was 4 months. The composition of the student body reflected the desire for an increased understanding of each other's service. Classes were composed of officers from each service, at times including students from the United Kingdom and Canada and even one from Australia. To fulfill the goal of producing students who understood the relationship between the diplomatic corps and military, the eighth and all subsequent classes included one to three Foreign Service officers from the State Department.[18]

With the ongoing war, the services began to examine the possibilities for improving professional military education. In January 1944, the Commandant of the Army-Navy Staff College, Lieutenant General John Dewitt, USA, was tasked with examining the future of joint education. One of the two civilians named to assist the commandant in this study was Baruch. Dewitt's study recommended that a national university be established, composed of a joint industrial college, joint war college, and State Department college.[19]

Industrial College of
the Armed Forces, Fort
Lesley J. McNair, 1964

Nothing was decided about these recommendations until broader issues were resolved: What should the postwar military look like? How joint should the military be? Should there continue to be separate services, and what should become of the Army Air Corps? To answer these questions, the Joint Chiefs formed the Special Committee for Reorganization of the National Defense in late 1944,[20] which was frequently referred to as the Richardson Committee after its chairman, retired Admiral James Richardson, USN. The committee interviewed senior officers worldwide in over 80 meetings. Richardson's group was in favor of a "single department system of organization" for the military. One member, however, cast a dissenting opinion—the chairman. Admiral Richardson thought the two-department system under the Joint Chiefs would be adequate if a joint secretary were added.[21]

the Richardson Committee had a profound effect on the shape of professional military education in the United States and NDU in particular

Once the committee described their recommendations for the shape of the services, their report provided a vision for joint professional military education. The Richardson Committee had a profound effect on the shape of professional military education in the United States and NDU in particular. It stated:

There are three basic requirements of the Armed Forces for the program of joint education and training. First there must be an exchange of duties and joint training on appropriate levels particularly designed to enable juniors to work together in the execution of joint plans drawn by their seniors. Second, joint education must be provided at intermediate levels to develop officers capable of planning and participating in joint operations. Third, joint education must be provided at high levels to develop officers capable of formulating strategic concepts and conducting, in command positions, large-scale operations employing all components.[22]

The third level of education referred to by the Richardson Committee is directly applicable to NWC and ICAF. Intermediate-level education would be attained at the Joint Forces Staff College, which today is a part of NDU. The committee recognized that the Army Industrial College already functioned as a joint institution since its faculty and student body were composed of both Army and Naval officers. The committee's intent was to place responsibility of the institution with the Joint Chiefs instead of the Army, and to have the name of the college reflect the inclusion of all services.[23]

Out of the many Richardson Committee recommendations came the National War College. Since the Industrial College, in the view of the committee, had been a joint institution, it was important to rename it and place it under the Joint Chiefs of Staff to reflect its actual operations.[24] Another recommendation loosely described a function of a university when it referred to an integrated effort in common fields. However, without some entity fulfilling the function of a university, this goal was not achieved until NDU was actually established years later. Foreign Service officers were included in the student body of the National War College from the beginning and later added to the student population at the Industrial College.[25]

The recommendations from the Richardson Committee were indeed controversial. For example, General Eisenhower and Admiral Chester Nimitz had opposite opinions of how the Armed Forces should be structured. The issue was just as contentious when presented to Congress. While the different options were being considered in congressional hearings, the Senate Military Affairs Committee prematurely provided the Richardson Committee report and recommendations to the press on November 3, 1945. This created quite a commotion because the Secretary of the Navy, James Forrestal, let the press know that Admiral King was in disagreement with Generals Marshall and Arnold.[26] The effect of these dissentions was to prolong a decision while precious time was lost in planning for a military education system.

On November 16, 1945, the Senate Committee on Military Affairs questioned General Eisenhower on his views on unification of the Armed Forces. His testimony underscored the reason he placed such high importance on joint education, a theme he would return to when he became Commander in Chief.

This testimony was only one side of the debate. General Eisenhower and Admiral Nimitz led U.S. forces to victory in opposite theaters of combat during the war and similarly were in opposite theaters in considering how the defense establishment should be structured. This was not an Army versus Navy argument, as plenty of individuals from each service differed in their views. Every warfighter testified to the need to fight together, but peacetime training and education was another matter. One of the fundamental questions dealt with how professional military education should be structured: Is it more constructive to educate forces in a joint environment (such as the National War College) or in a separate environment (such as the Army War College)? Some feared that service identity would be lost in the joint environment. They also believed that competition is healthy for an organization.

This debate was not resolved in 1945 and, to a certain extent, remains with the military today. The Joint Chiefs of Staff disagreed with General Eisenhower's assessment that the overall organizational structure had to be decided before the military educational system was devised. The Joint Chiefs continued to develop a postwar plan while Congress considered the reorganization of the Armed Forces.[27] On December 19, 1945, President Truman forwarded a special message to Congress recommending the establishment of a Department of National Defense.[28] His message contained many indirect references to the need for joint education:

I recommend that the Congress adopt legislation combining the War and Navy Departments into one single Department of National Defense. Such unification is another essential step—along with universal training—in the development of a comprehensive and continuous program for our future safety and for the peace and security of the world. . . . True *preparedness now means preparedness not only in armaments and numbers but also in organization. It means establishing in peacetime the kind of military organization that will be able to meet the test of sudden attack quickly and without having to improvise radical readjustment in structure and habits.*[29]

This message from the President helped military leaders put to rest the controversy of what should be done with the two-department system under which they had been operating. The Commander in Chief had spoken, so now the services could devote their energy to finalizing the plans for establishing the War College, Staff College, and Industrial College as recommended by the Richardson Committee. Proceeding with the planning turned out to be a wise decision because President Harry Truman did not approve the National Security Act of 1947 until July 26. The act provided for a Secretary of Defense and for a National Military Establishment comprising Departments of the Army, Navy, and Air Force, and related staff agencies.[30]

Soon after Truman's message to Congress, the War Department commissioned another major study of officer education. The Commandant of the Army Command and General Staff School, Lieutenant General Leonard Gerow, was placed in charge of the study. The Joint Chiefs heavily influenced the group's report.[31] The board met in Washington between January 3 and 12, 1946,

the Gerow board proposed five joint colleges, which would form a National Security University and fall under the Joint Chiefs

and interviewed several individuals knowledgeable about joint professional military education, including Lieutenant General Dewitt, by now retired. Gerow's report had many similarities to Dewitt's proposals from 2 years earlier. In February 1946, Gerow submitted his board's recommendations to General Eisenhower, who was now Chief of Staff of the Army. The Gerow board proposed five joint colleges, which would collectively form a National Security University located in Washington and fall under the direction of the Joint Chiefs of Staff.[32] In addition to the Industrial College and National War College, the board proposed a joint administrative college, a joint intelligence college, and a Department of State college. The function of the university was to prescribe the scope and supervise instruction for the five colleges.

Ultimately, the fate of the proposed university and the five colleges came down to resources. The Gerow report recommended that the Army

Bernard Baruch

NDU Special Collections

War College, which was suspended during World War II, remain closed; that the new National War College occupy the facilities; and that the Army War College funding be used for the new college. The proposals for a national security university, joint administrative college, joint intelligence college, and Department of State college were ultimately rejected.[33]

As the Gerow board was meeting and developing an overall plan, there was a desire to work on the specific details for a national war college. To plan the actual curriculum, student composition, and other essential specifics for the college, the Chief of Naval Operations, Admiral King, selected Vice Admiral Harry Wilbur Hill to replace General DeWitt as the Commandant of the Army-

ICAF student and special instructor Dwight D. Eisenhower, 1933

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Navy Staff College and be responsible for creating an implementation plan. Admiral Hill took over the Army-Navy Staff College in August 1945, and the twelfth (and last) class graduated on December 7, 1945, enabling Admiral Hill to devote his full attention to plans for the new college. On January 22, 1946, Admiral Hill forwarded his proposed curriculum to General Eisenhower and Admiral Nimitz, who had assumed responsibilities of Army Chief of Staff and Chief of Naval Operations, respectively.[34] Admiral Hill brought up the location for the college and submitted the iden-

tical proposal contained in the Gerow report of using the building in Washington once occupied by the Army War College. Eisenhower not only donated the building but also ensured that the Army would provide the funding to maintain and operate the institution,[35] including hiring civilian faculty members.[36]

The mission of the National War College, as identified by Hill, was:

(1) to prepare selected ground, air and naval officers for the exercise of command and the performance of joint staff duties in the highest echelons of the armed forces

(2) to promote the development of understanding between the high echelons of the armed forces and those other agencies of government and industry which are an essential part of a national war effort.[37]

The Joint Chiefs of Staff authorized the National War College on April 23, 1946, and the first class started on September 3 of that year and was made up of 30 Army ground force and service officers, 30 Army Air Force officers, 30 Navy and Marine officers, and 10 Foreign Service officers. George Kennan was assigned to the faculty to act as Admiral Hill's deputy for foreign affairs. Kennan was a career diplomat and recognized as one of the State Department's outstanding experts on Russia.[38] The selection of such a prestigious individual was an indication of the tremendous support the State Department offered to the institution.

Joint Forces Staff College

The National War College was not the only college that evolved from the Army-Navy Staff College. The Richardson Committee had recommended an intermediate-level school to develop officers capable of planning and participating in joint operations. However, no detailed planning had been conducted to prepare for a joint college to fulfill that requirement. Recognizing this, General Eisenhower sent the following memorandum to Admiral Nimitz on April 17, 1946:

There is a need for a school which will conduct short courses of approximately five months duration in joint staff technique and procedures in theatres and joint overseas operations. These courses will be similar to those conducted at ANSCOL during the war. I visualize that this school will be operated on a co-equal basis by the Army, Navy and Air. There is a distinct joint necessity for a school of this type for officers of our services prior to attendance at the National War College, thus permitting the scope of this college to embrace national planning and strategy. Since the National War College and the Industrial College are

located at an Army installation, I presume you would like to have this new school located at a Naval installation.[39]

This set into motion a working group that would feverishly develop a plan for establishing such a college.

Eisenhower's presumption that Nimitz would like to have the new school located at a naval installation was correct. On receiving the memorandum, Admiral Nimitz assigned two admirals to work out the details with their Army counterparts. The committee was directed to identify a wartime facility that would no longer be of use to the Navy. The chosen site was the Receiving Station of the Norfolk Naval Operating Base.[40]

Soon after the working group had developed a draft plan for the school, a disagreement surfaced between General Eisenhower and Admiral Nimitz concerning the curriculum. Nimitz sent a memorandum to Eisenhower indicating that he was unhappy with the scope of the courses as described in a draft of the course descriptions. He thought there should be a clear distinction between the National War College and the proposed staff college. The war college should teach joint command and stress the development of commanders and doctrines associated with joint operations; these disciplines, however, should *not* be taught at the new staff college.[41]

> **Nimitz thought the war college should teach joint command and stress the development of commanders and doctrines associated with joint operations**

There was also a discussion on the name of the new institution. Nimitz wanted to ensure that the distinction of its mission was clear by including the word *staff* in the name. Eisenhower, conveying his belief that there would soon be a separate branch of the armed services, countered the Admiral's proposal of *Army-Navy Staff College* with *Armed Forces College*.[42]

The special committee of flag and general officers selected by General Eisenhower and Admiral Nimitz drafted a directive for the new college and submitted it for approval to the Joint Chiefs. The proposed name, *Armed Forces Staff College,* addressed both of the leaders' concerns. The planned scope of instruction did include "study of the organization, composition, and functions of theaters and major joint task forces and responsibilities of the commanders,"[43] as General Eisenhower had suggested. The Joint Chiefs of Staff accepted the proposal and approved the Armed Forces Staff College (AFSC) on June 28, 1946, just over 2 months after General Eisenhower's original memorandum. The stated mission of the college was "to train selected officers of the armed forces in joint operations."[44]

The first class arrived in late January 1947 for their 5-month course, which ran from February 3 until June 28, 1947. The students lived on the 55-acre site that had been used during the war for processing and reassigning Navy personnel. The U-shaped barracks housed the students and their families, and each building was named after a World War II joint land, sea, and air operation such as Sicily, Iwo Jima, and Okinawa.[45] Although AFSC was initially not a part of NDU, it joined the institution in 1981.

Improving the education system has been a solution to problems facing the Nation and the military. The U.S. military has been encouraged to reorganize, reform, and transform—in other words, *change*. Change begins in the mind and that is why education has been the key. Joint professional military education thus contains curriculum components designed to educate students in preparation for working with officers and civilians from other services, agencies, and countries. The birth of the Industrial College may be credited to Davis, Baruch, and others, but the birth of the system should be credited to its graduates. Eisenhower appreciated the joint education he received at the Industrial College when he was Supreme Allied Commander, Europe, and then Commander in Chief. A few weeks before he passed away, he wrote a note to the ICAF Commandant and closed:

It is my conviction that the educational programs conducted by the [Industrial] *College are of the greatest importance in developing the kind of enlightened military and civilian leadership our Nation must have if its purposes and security are to endure.*

These words are as true today as when Eisenhower penned them from Walter Reed Hospital in 1969, and they are also applicable to the system of joint professional military education. **JFQ**

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What's in a Name?
The Future of the Industrial College

By PAUL B. DAVIS, JR.

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The Industrial College of the Armed Forces (ICAF) is fortunate to be able to build on traditions of excellence in the education of uniformed military and civilian Government executives. ICAF was founded on the recognition that the Nation could ill afford to repeat the mistakes of the past, that the nature of warfare had changed, and that the executive leaders required for future endeavors would demand significantly different education and training than their predecessors received. The 80th anniversary of the founding of the Industrial College creates an excellent opportunity to critically evaluate its future relevancy.

Organizationally, ICAF is one of the elite senior schools providing Government executives (uniformed military and civilians alike) a degree in leadership. It is a premiere postgraduate college

awarding a fully accredited Masters in Resource Management on completion of the intensive 10-month curriculum. The Industrial College, along with the National War College, is one of the only two truly joint senior educational institutions within the Department of Defense. While often referred to as senior service schools, the colleges of the National Defense University (NDU) are not service affiliated. The distinction appears academic to most, until uniformed officers consider the credential process under which graduates of the Army, Navy, Marine, and Air Force war colleges require an additional educational experience ranging from a short executive course to several weeks at the Joint Forces Staff College in Norfolk, Virginia, to meet the mandated joint service training requirements. The President of NDU, moreover, reports to the Chairman of the Joint Chiefs of Staff. Their relationship is close and direct.

With a student-faculty ratio of 3.65 to 1, seminar sizes of 15 or 16, and classroom contact hours managed to just over 14 hours per week, student-faculty interchanges are diverse and unique. Faculty members facilitate discussions rather than lecture. The almost daily out-of-class interfacing is even more individualized. In this sense, the faculty act as intellectual mentors, concentrating on relevant reasoning and supporting positions. In another sense, the faculty work to position themselves as contemporarily relevant and dealing with the most strategically critical issues that might face the graduates.

ICAF concentrated on executive leaders versed in the demands mandated by increasingly joint endeavors at all levels

A Commitment to Looking Ahead

The issue today is how to retain interests that may be important in the uncertainty of the future. What worked to our institutional and national advantage in the middle of the last century may only lead us to misapply critical resources such as time and attention in the emerging environment.

The best example of the Industrial College's commitment to looking ahead and jointness melds large portions of adaptation and leadership components in strengthing the core curriculum, which must include an emphasis on the skills required by senior leaders. ICAF needed to link scholarship and practical necessity. It concentrated on the issue of executive leaders versed in the demands mandated by increasingly joint operations and endeavors at all levels.

What began just over a decade ago as administering an executive skills set has evolved into comprehensive examinations by the students of factors and issues impacting organizational change and transformation. The students now participate in a battery of executive skills assessments and make personal decisions regarding how they need to continue their professional development in order to contribute most effectively at the executive level of knowledge-centric organizations. These same students will move to critical positions leading service and governmental transformations that address the demands of the systems dynamics on all fronts and levels.

In this manner, the Industrial College has proven responsive to the changes in the external environment and has adapted the curriculum as it modernized for relevancy in an era in which thinking in a totally integrative/joint manner is imperative. This example of adapting to meet newly emerging demands of the military educational system, while interesting and critical, does not represent the most arduous contemporary example of building on a legacy. That distinction has to do with the college's original purpose and most long-standing legacy: industrial mobilization/demobilization supporting the national strategy.

The current industry study program offers one of the major avenues of research and study for students as they examine the national and global resource base to support national security strategy. Students have the opportunity to assess the ability of 1 of the 20 selected industrial sectors to support national security in both the near and midterms. They also develop a strategic perspective of one industry and its role in supporting the technology and materiel requirements of national defense in normal and emergency conditions. They do this by completing a comparative analysis of U.S. and international members of these industries in both defense and nondefense environments and by preparing policy options to enhance industrial preparedness.

Examining how various industry sectors identify and manage their most pressing problems is providing certain benefits as the students observe the old and new, the traditional and novel industrial sectors. One example comes from the Strategic Materials Industry Study. What it examines is especially informative. On one hand, there are the traditional materials, those that are extracted from the ground: iron, aluminum, titanium, and so forth. Additionally, the study examines sectors that include manmade materials such as ceramic polymers and carbon fibers. It goes so far as to include what might be

better characterized as processes such as nano-technology and molecular manufacturing.

Critical Evaluation

Identifying the differences in concerns among firms in the traditional sectors, the man-made sectors, and the manufacturing processes sectors highlights issues that are otherwise difficult for students to address. And these are the issues critical for transition, incorporation, or generalization within the military. Is there anything rationally constituting a strategic materials industry? Is the concept of "industry" useful or even relevant to this sector of manufacturing? How do firms in the industry characterize their competition? What makes a material strategic? As we gain a greater appreciation for the complexities of this "industry," what are the attributes of competitive advantage; how are they arrayed and related; how and at what pace are they evolving? Generalizing such understandings and appreciations to potential military applications proves exciting for innovative students.

today, we more fully understand how the means of war give character to the eventual peace

The most interesting avenues of study recently have concerned the nature of the changing relationships among the various elements of some of the firms. Two years ago, the director of a nationally recognized research institution startled a group by beginning a 4-hour visit with the question: "How do you treat the kids?" He was asking those present to consider the relationship between the senior leadership and staff directors and the youth of the organization. He wanted the group to examine its acculturation techniques, beliefs, assumptions, and even basic value structure. This researcher proceeded to tell how excited he had been recently as his young postdoctoral researchers gave him a valuable lesson in solving problems they did not know could be solved. The experience has changed an entire industry sector.

This was not an isolated experience. A Nobel Laureate nominee related how he and his staff of renowned experts had been wrestling with a nanotechnology theory when a college summer intern dared to walk to the board, erase much of what had been developed, and replace it with an elegantly simple alternative. The "breakthrough" is of the prize-winning category.

In a recent lecture to the college, Greg Foster, a colleague from the Political Science and Regional Studies Department, raised exactly these kinds of points about the changing relationships among various institutional elements. Initially, institutions tend to organize the way their leadership thinks. Afterward, there is a tendency or intellectual proclivity to think the way the institution is organized. Foster suggests that a solution to this conundrum is to reorganize. While that might be a distinct possibility, such turbulent action may not be necessary. What seems critical is for the institution to recognize the possibility of falling into legacy-system thinking and to question whether or not this has indeed occurred. People versed in the theories of complexity and chaos understand that a system in stasis, at rest, or overly comfortable lacks the dynamics necessary for comparative advantage in a complex adaptive world. In such environments, relevancy, adaptation, and growth are found closer to the "edge of chaos" than in the comfort zones.

This is the challenge for today's Industrial College: how to critically evaluate all that it does and the strategies for accomplishing the mission. This challenge includes the necessity to go back to such basics as questioning our institutional values, beliefs, and the assumptions derived from them. It requires a constant evaluation of institutional measures of merit, excellence, and performance. Such a chore is more about examining *what* the institution does than *how* it does it. Once satisfied with the *what*, recrafting the *how* is necessary. If we have learned anything from recent military excursions in places like Bosnia, Kosovo, Afghanistan, and Iraq, it may be that how we do what we do may be more strategically important that what we do initially—a contemporary wrinkle to the more traditional "ends justifying the means." Today, we more fully understand how the means of war give character to the eventual peace.

Perhaps what all this suggests is something that the Industrial College observes in every one of its studies: an entrepreneurial spirit. Harnessing this spirit, incorporating it into the ICAF culture, and reinforcing it are becoming touchstones for enlightened strategic leadership facing the complexities of knowledge-based globalization. The significance of its contributions, as well as the future relevancy of the Industrial College of the Armed Forces, is inextricably linked to vigorous entrepreneurship. We have a proud history of being the scholar-practitioners.

An Incomplete Metaphor

It is perhaps only fitting to conclude with an appraisal of our name. The earlier reference to Dr. Foster's caution about falling into the legacy thinking trap is of great concern to the college's leadership. To date, that leadership has repeatedly found wisdom in retaining the powerful metaphorical link with the institution's legacies.

Multiservice students attending procurement seminar, 1952

NDU Special Collections

In *Images of Organization,* Gareth Morgan seriously questions any use of the quintessential instrument of industry, the machine, as a metaphor for any organization, much less as a basis for thinking:

Consider the popular idea that the organization is a machine. The metaphor may create valuable insights about how an organization is structured to achieve predetermined results. But the metaphor is incomplete: it ignores the human aspects. The metaphor is biased: it elevates the importance of the rational structured dimensions. The metaphor is misleading: the organization is not a machine and can never really be designed, structured, and controlled as a set of inanimate parts. . . . Metaphor is inherently paradoxical, as the way of seeing created through a metaphor becomes a way of not seeing.

The debates are frequent and heated: leave the anomalous, but for what? More often than not the consensus is that we are leaving (some would go so far as to say we have left) the industrial age and should move to a keener sense of reality for the basis of our dominant theories and strategies. In the rush to change, we must be careful not to be swept up in the excitement of the "here-and-now," the short term. The feeling that the world has moved into an information age is ubiquitous. Yet we may be witnessing the opening stages of something we have yet to understand fully. The industrial age required generations of visionaries before it took hold and its power was felt. The institutions and organizations within them that engaged in the debates about the transition or transformation, that exhibited energy and created new dynamics, were the ones that retained and grew in power, stature, and relevancy.

Retaining the name Industrial College is a conscious act, not of defiance or a consequence of a resistance to leave the familiar, but of vision. It reflects a critical appreciation for the legacies that drove the college in its journey to the present focus on leadership, a strategic perspective, adaptation, integration (jointness), and mobilizing the elements essential to contemporary necessity. The Industrial College of the Armed Forces is doing this for itself and, in doing so, is relevantly preparing future Government and industry leaders to meet the uncertainties of what will unfold as we pass through what might be the information/knowledge phase of what will eventually become the next "age." We are helping to discipline tomorrow's leaders in how to think relevantly about an environment daily becoming exponentially more complex. **JFQ**

Sailors repairing computers at Naval Support Activity, Bahrain

U.S. Navy (Phillip A. Nickerson)

The Economics of Mobilization in the Information Age

By IRENE KYRIAKOPOULOS *and* DONALD L. LOSMAN

Mobilization—the marshalling of resources for defense—is a multifaceted and multidimensional process dealing with military, political, diplomatic, social, and financial components of national power. This essay focuses on the economic aspect of mobilization: the transformation of resources away from civilian to military uses, subject to budgetary, technological, and other constraints. Transformation implies choices; hence, it is essentially an economic process. Economics, in turn, is the study of trade-

offs, with every gain coming at a cost and every goal ordinarily attainable through a variety of approaches. In any production process, economic choices must be made to maximize output from inputs used or to minimize the cost of producing a given level of output. Making such choices in the public sector is particularly difficult because there is no obvious way to gauge the economic or market value of national security services the government produces on behalf of the public. Even so, economic choices are made daily by legislators and government officials. Such decisions, whether they are made in peacetime or in wartime, always involve trade-offs.

In preparing for and prosecuting a war, the materiel dimension is critical; troops without weapons and vehicles without fuel are useless.

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Preparation effectiveness is largely a function of intelligence, makeup and location of stockpiles, industrial mobilization capabilities, and logistic capabilities. There are clear trade-offs among these variables. If critical defense requirements have been properly identified and appropriate stockpiles are strategically prepositioned, industrial surge capabilities are less critical—the required inputs are already there. If intelligence is effective and provides accurate and timely prediction of future attacks, surge capabilities are again less critical since manufacturing efforts can begin well before the conflict. Similarly, effective logistic capabilities make the need for prepositioned materials less pressing. In allocating resources toward material preparedness and sustainability, each of these dimensions and their interrelationships must be recognized. Reductions of effort in one arena can be compensated for with increased efforts in another; without such compensation, however, defense capabilities will be degraded. This essay examines definitions, concepts, and policy alternatives that help frame the role of economics in mobilizing the defense industrial base as an element of national power in the 21st century.

marshalling resources to defense purposes always generates frictions and encounters bottlenecks

Mobilization: Definition and Concepts

From an economic perspective, mobilization is neither a single act nor one accomplished on a specific date; rather, it is the process of allocating resources to defense purposes. Mobilization affects the manner and speed with which all resources are utilized and distributed. The proportion of national resources allocated from the civilian to the military sector provides a static measure of the degree of mobilization. The lower the degree to which a country routinely devotes resources to defense, the lower its level of mobilization; conversely, the greater the proportion of resources routinely allocated to the defense sector, the greater the economy's degree of mobilization. Although such statistics do not describe the presence or absence of military conflict or the efficiency of defense outlays, they do indicate the kinds of economic choices associated with maintaining defense and military potential.

Demobilization is the reversal of the process: the reallocating of resources to the civilian sector. For example, during World War II, the economy was highly mobilized, with roughly 40 percent of economic activity in 1943 devoted to the war effort. After the war, real military spending "hit a postwar low in calendar year 1947 at $10 billion . . . or 4.3 percent of GNP."[1] That decline was only temporary; Cold War realities soon evoked a 25 percent increase in outlays. The demobilization reversal intensified during the Korean War: real defense spending more than doubled from 1950 to 1951.[2] As a percent of gross domestic product (GDP), defense spending rose roughly from 5 percent in 1950 to 11 percent in 1955, gradually falling to 7 percent by 1965.[3] By contrast, American defense spending as a share of GDP during the Vietnam War did not exceed 10 percent. This pattern of increased and lessened defense outputs and efforts—mobilization and demobilization—has continued, generally conforming to perceived threats in the international security environment. Not surprisingly, since September 11, 2001, both real outlays and the defense share of GDP have been rising.

All mobilizations are characterized by resource reallocations and often by increasing production capacity for defense materiel. *Surge* is that stage of mobilization in which greater defense outputs can only come from existing economic capacity.[4] Major mobilizations seek to attain higher defense production as quickly as possible. Speed and time thus become important variables, yet the process of marshalling resources to defense purposes always generates frictions and encounters bottlenecks that impede the pace of mobilization.

The term *capacity* suggests precise limits or calculable maximums, but in reality the concept is far more ambiguous. Frequently, economic capacity is described as the level of production at which average costs are lowest. The U.S. Bureau of the Census defines full production capacity as "the maximum level of production an establishment could attain under normal operating conditions."[5] However, plants can almost always be run "harder"—assuming additional human and material inputs are available—pushing production to higher levels, though often at higher unit costs. Indeed, the maximum output of one 8-hour shift will obviously be less than that of a double shift; triple shifts are also possible and have been common in major mobilizations. Accordingly, the actual levels of output associated with full production capacity are less quantifiable than the expression suggests. The Bureau of the Census uses an empirical approximation of "national emergency production," which is broadly defined as "the greatest level of production an establishment can expect to sustain for 1 year or more under national emergency conditions."[6] However, capacity utilization information is highly subjective since it is provided by manufacturing establishments

U.S. Air Force (Kevin J. Gruenwald)

ScanEagle UAV being tested for Marine Corps

in response to mail questionnaires sent by the Bureau of the Census.[7]

Nor is the capacity concept necessarily limited to facilities alone. Today there is increasing reliance on human capacities, which also can be strained severely under surge conditions. Reports of overtime fatigue and increased security burdens during the Afghanistan campaign are a clear example.[8] Of course, under surged production, unit costs are likely to rise substantially as there is increased downtime for repair and maintenance and because fatigued workers and less experienced labor perform at lower productivity rates. These frictions, coupled with the likely utilization of either more expensive or reduced quality material inputs, will be reflected in higher unit costs.

The ability to surge production also depends on the amount of relevant raw material and supply inventories on hand or readily obtainable. In the past, metal castings, bearings, fasteners, automated test equipment, and materials such as titanium and cobalt were significant pacing items in short supply. For decades, the Department of Defense (DOD) spent considerable amounts on industrial preparedness, much of which went to

fund contractors' maintenance of adequate materials inventories to enable surged production. The guidelines used, which often required companies to maintain spare capacity as well, were dropped at the end of the Cold War. The subsequent declines in defense spending resulted in a substantially downsized defense industrial base and a correspondingly lower surge capacity.

Production bottlenecks—clogs at significant points in the overall industrial process—critically impact downstream production. Bottlenecks generally result from suppliers' inability to obtain long lead-time inputs or to further expand output because production maximums have already been reached. The latter is commonplace in major mobilizations, particularly when the defense industrial base shrinks and reliance upon sole-source suppliers is generalized. For example, following the attacks of 9/11, almost all major defense contractors were asked to surge production of spare parts, precision munitions, and electronic equipment, while some major programs were simultaneously accelerated. In October 2001, orders from defense industries, which had been shrinking for over a decade, surged 206.3 percent over those in August.[9] By December, defense orders stood 40.5

Nanotechnology chip developed by Dupont
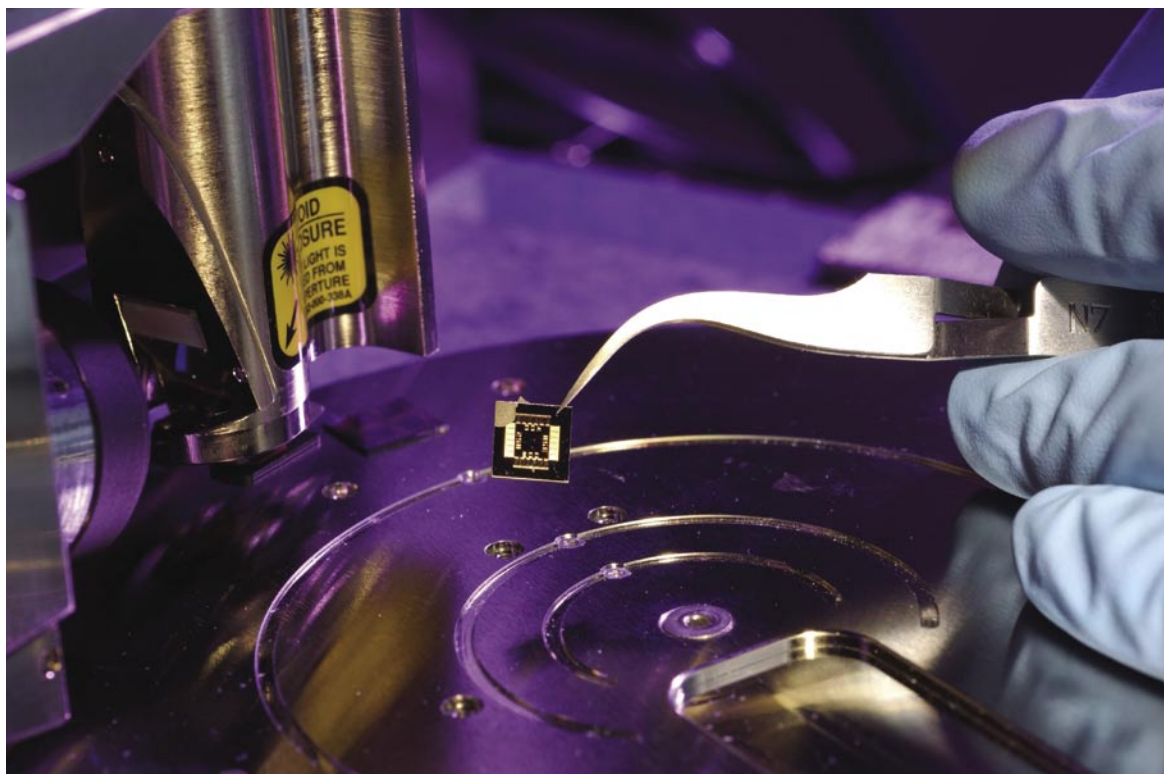
Dupont

percent higher than a year earlier.[10] A significant mobilization surge was clearly the order of the day. Since the prime contractors depend on a limited number of smaller contractors for key components, such as specialty computer chips, a backup at sub-tiers can produce bottlenecks for many purchasing firms, both at the prime and sub-prime level. And such a backup indeed occurred among lower tier parts suppliers.[11]

Changing Structure of the Defense Industrial Base

Defense analysts, planners, and economists have traditionally used the phrase *defense industrial base*, an expression that sounds precise but is actually empirically inexact and fuzzy. Conceptually, it can encompass those firms, organizations, and industries that directly or indirectly produce national security outputs. The defense industrial base may describe a part of the industrial sector, large or small, depending on the specific context, circumstances, policy approach, and orientation of the analyst. In this essay, the phrase is used to describe all output, regardless of industry origin, that is purchased directly or indirectly by DOD. For example, the acquisition of radars and telecommunications equipment, all of which embody semiconductors, would constitute an indirect purchase from the semiconductor sector. This definition of defense industrial base is

conceptually clear, but obtaining precise data for analysis is not easy.

The Department of Commerce standard industrial classification system does not include an industrial grouping called "defense industrial base," nor does it contain a suggested industrial grouping with its own numerical code. The conventional (or institutional) approach treats the defense industrial base as "the combination of people, institutions, technological know-how, and facilities used to design, develop, manufacture, and maintain the weapons and supporting defense equipment needed to meet U.S. national security objectives."[12] But this approach is not helpful for data collection purposes since some important components, such as *institutions* or *technological know-how*, are impossible to measure.

Jacques Gansler and others take a similar approach; Gansler defines the U.S. defense industry as including "aerospace contractors as well as producers of small electronic microchips and manufacturers of tanks as well as engineering services contractors hired for the independent testing and evaluation of advanced weapons systems."[13] Producers include prime contractors, subcontractors, and parts suppliers; ownership of the means of production is both public and private. Another

approach relies on a more restrictive definition, referred to as *high-tech defense*. This consists of four manufacturing industries: aircraft and parts; guided missiles and space vehicles; ordnance and accessories; and search and navigation equipment.[14] But this approach ignores supplying sectors as well as critical but low-tech items such as meals ready-to-eat, parachutes, and tires.

The Industrial College of the Armed Forces (ICAF) has developed a much more comprehensive approach. It focuses on the industrial base as a whole and considers industrial linkages in the context of domestic as well as international interdependence.[15] The result is a range of industries representing both goods-producing and service-producing sectors. Representative sectors include advanced manufacturing, aircraft, biotechnology, construction, electronics, energy, information technology, land combat systems, munitions, shipbuilding, space, strategic materials, strategic supply, and transportation. Such an array of industrial sectors, comprising the backbone of the U.S. economy, is examined in terms of structure, conduct, performance, and international competitiveness. Insights gained in the course of the study are used to develop strategic assessments of the condition and outlook of industrial sectors considered vital to national security. The broader ICAF approach considers the defense industrial base to include any and all industries that produce output, directly or indirectly, for purchase by DOD. Clearly, the defense industrial base is a subset of the overall economy that changes in size and structure over time; accordingly, issues and policies dealing with it should not be treated in isolation from the larger national economy. And to complete the analysis, the defense industrial base should also be examined in an international context.

In the 1980s, analysts of the American manufacturing sector disagreed on the extent to which de-industrialization threatened the economic health of the defense industrial base. It has since become evident that the perceived process of de-industrialization was largely a shift from smokestack industries to high-technology industries. The relative defense orientation of an industry can be measured by the extent to which it depends on DOD for output purchases and, therefore, for employment. For example, an industry that directly and indirectly sells half of its output to DOD has a far greater proportion of its industrial capacity tied to the prevailing level of mobi-

> **ICAF considers industrial linkages in the context of domestic as well as international interdependence**

lization than an industry that sells only 5 percent of its output to DOD. Similarly, an industrial sector selling only 5 percent of its output to defense will cater to other customers and be relatively unresponsive to defense needs and requirements. In 1991, the defense share of output ranged from 99 percent in shipbuilding and repair to 18 percent in engineering and scientific instruments.[16] Employment directly or indirectly attributed to production destined for DOD purchase also varies across industries. For example, defense-related employment was roughly 2.3 percent of total employment (excluding Armed Forces personnel) in the U.S. economy in 1996. But the figure was as high as 54.7 percent in ordnance and ammunitions, 46.8 percent in search and navigation equipment, and 18.6 percent in research and testing services.[17]

To assess the state of each industrial sector, the competitiveness of the industries that comprise the defense industrial base must be analyzed. At the competitive end would be industries that function effectively in the world market, such as aircraft and telecommunications. At the

Laser event recorder to warn aviators

U.S. Navy

noncompetitive end would be industries with little export potential, such as shipbuilding. The critical questions are: Which industries must be maintained, at what cost, and in what manner in order to preserve a healthy industrial base? Should government intervene to maintain or augment capacity in the less competitive industries? What constitutes an acceptable rationale for intervention? If intervention is warranted, what form should it take? Should government assume full responsibility, as is the case with depots, or partial responsibility, as is the case with government-owned/contractor-operated facilities? If taxes, subsidies, and trade interventions are used to maintain domestic defense production capabilities or surge potential, they are likely to contribute to further erosion of competitiveness.

Such is the price of maintaining defense production capabilities that no longer possess a comparative advantage in the marketplace. Finally, when economic capacity increases are warranted, how much reliance should be placed on market forces and how much on policy intervention?

Economic Capacity in the Information Age

Under ordinary circumstances, the market effectively responds to increased demands for output over time. In the long run, market-driven resource allocations, through the price mechanism, are the most efficient means of reordering economic processes as society's demands change. In a major mobilization, however, time is of the essence. Successful resource reallocation via the price mechanism evokes output adjustments over a variety of time frames. But time itself may become a critically scarce input. The relevant military forces must be speedily positioned with the right weapons, communications equipment, and supplies of expendables. Accordingly, the need for a quick response is the main justification for government controls and interference in market allocations to support a war effort, although such interventions always bring about their own problems.[18] In supporting Operation *Desert Storm,* for example, 135 special priorities cases were invoked under the Defense Priorities and Allocation System (DPAS). From its implementation by the Department of Commerce under Title I of the Defense Production Act of 1950, the purpose of DPAS is to "assure the timely availability of industrial resources to meet current national defense and emergency preparedness program requirements [and] to provide an operating system to support rapid industrial response in a national emergency."[19] Nonetheless, for *Desert Storm* the price mechanism was extensively relied upon; DOD paid above-market rates for shipping and insurance to obtain expansion of cargo capacity through commercial shipping firms.

A second important justification for government controls is the need to alert the body politic to the economic costs of the war and assure the public that sacrifices will be fairly shared by all economic classes and groupings. If, for example, workers perceive that corporations are benefiting at their expense, strikes and work stoppages may disrupt critical production. If some groups appear immune to wartime inflation while others are vulnerable, both public support for the

whereas just-in-time inventory practices reduce operating and other costs, they also reduce surge capabilities

war effort and morale in general may be harmed. Under such circumstances, wage and price controls, corporate profits surcharges, and related measures may be used to promote equity and unity of effort, thus garnering maximum public support, albeit at some possible loss in economic efficiency. An alternative is to avoid explicit market intervention, which could result in "guns and butter" policies like those of the Vietnam War era. In choosing among alternative policies, it is imperative to estimate the stream of net economic and political benefits likely to accrue to society at large. Here again, trade-offs must be assessed.

Is government better prepared to interfere explicitly with the market processes at work in the so-called information age? Not necessarily. The laws of economics have not been repealed. Increased demand for output without corresponding increases in industrial capacity will ultimately generate bottlenecks and higher prices. If idle capacity exists in the form of underutilized plants and equipment and unemployed workers, or if the economy in general is operating below its potential, price increases will take longer to register and shortages may be avoided. By contrast, in a fully employed economy, an increase in defense orders may easily lead to shortages, price increases, and bottlenecks. Further, to the extent that increases in the defense budget bring about rapid changes in the level and structure of relative prices, they can lead to macroeconomic instabilities.

But the environment in which economic laws operate may well have changed, in part due to information technology. The information revolution has transformed both the goods-producing and service-producing sectors of the industrial production system around the globe. Electronic trade in real and financial assets has revolutionized the conduct of business for producers, consumers, and governments. The relationships between the industrial world and financial markets have become much more interlinked, seamless, and internationalized. Real-time information affects how market participants react, decisions are made, and equilibria are attained. In an age of instant communications and globalization, to what extent are the transmission of economic shocks faster and the resulting volatility more pronounced? This is an open question that needs to be modeled and empirically tested.

Another contributing factor involves structural changes that have reduced the degree of idle capacity in the economy; these same technological and economic adjustment forces will operate during periods of higher defense spending. In the 1980s and even more in the 1990s, companies relied on extensive applications of information technology to reduce the costs of doing business across the board. But whereas just-in-time inven-

tory practices reduce operating and other costs, for example, they also reduce surge capabilities because stockpiles (inventories) are smaller. While the continuous application of information technology and other cost-saving techniques generate peacetime cost benefits, will this trend begin to dangerously degrade industry's surge and mobilization capabilities due to reduced idle capacity and minimal inventories?

Finally, a third factor concerns structural change in the patterns of economic life. The labor force participation rate among women has increased dramatically since the 1970s, reaching nearly 70 percent. Mobilization might entail large increases in employment and, therefore, in the labor force. In the past, the number of nonworking married and unmarried women who were potentially available to join the labor force was much greater. Today's high participation shows that the reservoir of potential female workers has all but disappeared. In a major mobilization, there most likely would be meaningfully increased frictions and dislocations since defense employment growth would come at the expense of private sector positions rather than housekeeping and domestic activities. This is an important, relatively new constraint to rapid expansion of industrial capacity. However, if recent history is a guide, this trend may speed future capital-for-labor substitutions across all industries, including the defense sector in general and the Armed Forces in particular.[20]

In view of these realities, the question of what constitutes optimum policy for output expansion during mobilization is a topic of debate.[21] The strongest argument in favor of narrowly targeted government support relates to those defense-related sectors whose future capacity is expected to fall short of desired levels to meet defense orders. This is a sufficiently narrow policy goal that it may be safely pursued through the defense budget, independent of the specific level of funding involved. But how can those critical gaps be identified? One way is to use recent data to rank industries by the proportion of output they sell to DOD. As a next step, it is possible to project DOD purchases of output, by industry, at higher levels of defense spending.[22] This approach is sensible in the short run, but it may not be appropriate in the long run. Rapid technological change leading to efficient resource substitution works well in the market economy but can cause serious resource misallocations in a centrally controlled system such as DOD's requirements determination process.

Even so, estimation of desired capacity depends on assumptions about future demand for increased defense orders, given that industrial sectors can be correctly identified. When such

Global Hawk UAV developed by Northrop Grumman and other contractors, Beale Air Force Base

U.S. Air Force (Dave Ahlschwede)

Soldiers transporting injured Iraqi to combat support hospital in Baghdad on John Deere Gator

estimation is possible, a range of policies can be considered for capacity augmentation purposes. These policies should address defense requirements to be met through stockpiling, reliance on foreign or non-U.S.-based capacity (including U.S.-owned capacity abroad as well as allied capacity), and requirements that ought to be met by domestic U.S. capacity. Costs and benefits are associated with each option. Stockpiling continues to be used where storage makes technical and economic sense, as in the case of petroleum, but it is not an effective option for resources affected by rapid technological obsolescence. Similarly, foreign-based capacity would subsume industrial capacity and production available in allied countries, including all North Atlantic Treaty Organization member states. Overseas suppliers often offer the most price-competitive sourcing for many systems or components, thus promoting the objective of low-cost peacetime procurement. But reliance on offshore suppliers may degrade reliability because of political and economic uncertainties overseas or possible transportation bottlenecks. Above all, reliance on offshore supplies or on allied capacity presupposes that they cannot or will not be withheld or curtailed by a foreign government. In the absence of permanent overseas alliances, total dependence on offshore production capabilities may be imprudent. For those sectors where foreign sourcing remains or becomes an unacceptable option, capacity expansion can be achieved by trade restrictions, by explicit use of the defense budget to subsidize domestic production, or by establishing government arsenals. Use

if some foreign action is deemed unacceptable, diplomatic negotiations can be supported with partial mobilization

of the defense budget for subsidies can be justified on grounds of transparency and equity: subsidies spread defense costs across all taxpayers and are less difficult to reconcile with U.S. commitments to a liberal trading regime.

Mobilization as a Strategic Tool

The ability to rapidly effect and sustain a mobilization is not only a critical operational imperative for warfighting, but also can be an integral strategic tool. Mobilizations are a form of muscle-flexing that can reveal both intentions and capabilities. If some foreign action is deemed unacceptable, diplomatic negotiations can be supported with the option of partial mobilization, a policy demonstrating seriousness of intent. Mobilization capabilities can thus be an integral portion of a deterrent strategy; the ability to quickly marshal resources for defense purposes presents a deterrent to would-be aggressors. And if deterrence fails, a nation with substantial industrial mobilization capabilities can more easily prevail. Similarly, a nation that can sustain a prolonged military effort can render aggression against it far more costly and therefore less likely. However, every reduction of risk entails mobilization resource demands. There is no such thing as a costless mobilization.

A larger question is whether the nature, speed, and industrial dimensions of economic transformation from peace to war will acquire different characteristics in the information age and especially in the era of asymmetric warfare. Economic evolution is likely to continue producing movement away from the traditional industrial sectors and toward new sectors of the information economy, but at what pace? What are the implications for the demand for highly skilled personnel and specialists in information processing and management? How will excess demand for such personnel be handled domestically when jobs and work responsibilities can be contracted out across the globe? And how relevant is the notion of a national industrial base in a globalized world? These questions suggest the need for rethinking traditional models of economic transformation and adapting them to the conditions and technological realities of the information age.

Mobilization of resources to meet national security needs can be approached as a macroeconomic problem associated with the national budget in general and the defense budget in particular. It can also be approached from the microeconomic perspective since it affects resource allocation decisions at the level of the firm, agency, or organization. Issues of macroeconomic stability

and trade-offs between inflation and unemployment arise at any level of mobilization but can become especially acute in some sectors as the economy approaches full employment. Resource allocation, utilization, and distribution problems become more difficult to resolve as mobilizations intensify because social and political constraints are more intense and speed of response becomes a critical variable. The defense industrial base is an evolving subset of the larger national and international economic space within which most industries must function. Global applications of information-age technologies have led to efficiencies in plant, equipment, and facility utilization, generally via reductions in inventories or underutilized industrial capacity. For those defense-oriented industries that are not likely to survive or maintain adequate production capabilities when exposed to market forces, policy proposals to support capacity should address reliable estimates of gaps between actual and desired output. Alternatively, government production is another option. Finally, it is imperative that in the information age traditional approaches to achieve output and capacity expansion be reexamined with respect to cost effectiveness and consistency with principles of equity. **JFQ**

NOTES

[1] Robert Higgs, "U.S. Military Spending in the Cold War Era: Opportunity Costs, Foreign Crises, and Domestic Constraints," *Policy Analysis #114* (Washington, D.C.: Cato Institute, November 30, 1988), 2.

[2] Ibid., appendix.

[3] U.S. Bureau of the Census, *Statistical Abstract of the United States,* 103d annual edition (Washington, D.C.: U.S. Department of Commerce, 1983), 350.

[4] For a detailed analysis of surge dynamics, see Rolf Clark, "Surge Dynamics," in *Readings in the Economics of Strategy and Resources Management* (Washington, D.C.: Industrial College of the Armed Forces, 2002).

[5] U.S. Bureau of the Census, Economics and Statistics Administration, *Current Industrial Reports* (Washington, D.C.: U.S. Department of Commerce, September 2001), 1.

[6] Ibid.

[7] Capacity utilization estimates, published by the Bureau of the Census, are based on information collected from a sample of 17,000 manufacturing establishments. The estimates are subject to errors.

[8] For example, 70 security guards had a work stoppage at a high-security military installation; the union president stated, "There's been too much overtime since September 11. . . . Overtime on top of overtime." See Keith Rogers, "Security Guards for 'Nowhere' Strike for Contract, Higher Pay," *Las Vegas Review-Journal,* December 11, 2001.

[9] "Defense Boosts Durables Orders," *Investor's Business Daily,* November 30, 2001, 1A.

[10] Charles Oliver, "Solid 2% Rise in Durable Goods Orders," *Investor's Business Daily,* January 30, 2002, 1A.

[11] See "Industry Surge Hampered by Parts Suppliers, Air Force to Help Speed Rampup," *Defense Daily,* October 15, 2001, 6.

[12] U.S. Congress, Office of Technology Assessment, *Redesigning Defense: Planning the Transition to the Future U.S. Defense Industrial Base* (Washington, D.C.: U.S. Government Printing Office, July 1991), 3.

[13] Jacques S. Gansler, *Defense Conversion* (Cambridge, MA: The MIT Press, 1995), 21.

[14] Ron L. Hetrick, "Employment in High-Tech Defense Industries in a Post–Cold War Era," *Monthly Labor Review* 119, no. 8 (August 1996), 1. Along the same lines, the designation *defense technology and industrial base* has been proposed; see Gordon Boezer, Ivars Gutmanis, and Joseph E. Muckerman II, "The Defense Technology and Industrial Base," *Parameters* 27, no. 2 (Summer 1997).

[15] See Industrial College of the Armed Forces, *In Touch with Industry* (Washington, D.C.: National Defense University Press, 1999).

[16] Congressional Budget Office, *The Economic Effects of Reduced Defense Spending* (Washington, D.C.: Congressional Budget Office, 1992), 2.

[17] Hetrick, 17–20. By contrast, some traditional defense industries had lower shares: 10.4 percent in nonferrous foundries and 8.8 percent in engines and turbines.

[18] See Donald L. Losman, Irene Kyriakopoulos, and J. Dawson Ahalt, "The Economics of America's World War II Mobilization," in *The Big L: American Logistics in World War II,* ed. Alan Gropman (Washington, D.C.: National Defense University Press, 1997), particularly 170–175.

[19] Office of Strategic Industries and Economic Security, Bureau of Export Administration, "Defense Priorities and Allocation System" (Washington, D.C.: U.S. Department of Commerce, August 1998), iii.

[20] The military services identified the reservoir of women workers as a source of recruitment and expanded job opportunities for women joining the enlisted and officer corps beginning in the late 1970s. Also, they proceeded with capital-for-labor substitution as the relative cost of manpower continued to rise faster than the cost of defense capital. Greater reliance by the military services on unmanned systems is sure to follow.

[21] Irene Kyriakopoulos, testimony before the Subcommittee on Defense Industry and Technology of the Committee on Armed Services, United States Senate, Washington, D.C., May 14, 1992.

[22] The Department of Defense used this approach through the 1980s. Specifically, the Defense Economic Impact Modeling System (DEIMS), which was developed and maintained by DOD in collaboration with DRI, Inc., was used to estimate disaggregated industry measures of the economic impact of defense expenditures. See U.S. Department of Defense, Office of the Under Secretary of Defense for Research and Engineering, Office of Industrial Base Assessment, *Defense Purchases: An Introduction to DEIMS* (Washington, D.C.: Department of Defense, 1984).

Unloading M1A1 Abrams tank from C–17 in northern Iraq

U.S. Air Force (Rich Puckett)

In Defense of Service Component Commands

By BURWELL B. BELL III *and* THOMAS P. GALVIN

The Army is engaged in transformation because it recognizes the need to reorganize to meet new and emerging threats and to equip soldiers with the best technology. Strategic and operational battle planners make the final plan clear and executable down to the individual soldier, particularly when it comes to rules of engagement and tactics, techniques, and procedures. The Army has a robust Title 10 infrastructure designed to ensure that soldiers are fed and armed, their trucks are fueled,

their wounds are treated, and their families are cared for so they can focus on the mission.

Who makes this effort? On the theater level, it is Army Service Component Command (ASCC), an operational and Title 10 support headquarters serving both the commander and the Department of the Army (DA).

Behind the Scenes

While the media focus on the soldiers walking the ground in Iraq, thousands of other soldiers, civilians, and contractors are deployed along the lines of communication ensuring that supplies, replacements, and parts keep coming. ASCC keeps it all running smoothly behind the scenes.

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The execution of warfighting hides the incredible complexity of the planning process, especially when both military and political considerations force sudden changes. Yet some argue that ASCC headquarters are unnecessary overhead and their functions should be transferred to a joint headquarters. *Iraqi Freedom* proved how essential ASCC is to joint warfighting. Consider the following vignette.

U.S. Army, Europe (USAREUR) deployed V Corps headquarters to serve as the coalition forces land component command (CFLCC) main ground command and control (C^2) force in the southern front attacking from Kuwait. Although its principal maneuver units came from the continental United States (CONUS) and the United Kingdom, V Corps deployed with its full array of USAREUR-based enabling forces, including its corps support command, a corps artillery force, and eight corps separate brigades. Some 14,000 of the 16,000 soldiers assigned to the separate brigades deployed to the southern front, while elements of 69th Air Defense Brigade were sent to Turkey and Israel. Meanwhile, in the northern front, USAREUR formed Army Forces Turkey with C^2 elements of 1st Infantry Division (Mechanized), 21st Theater Support Command, and 18th Engineer Brigade. Army Forces Turkey conducted a complex theater-opening operation with follow-on orders to facilitate a 700-kilometer approach march for 4th Infantry Division across Turkey to a line of departure into northern Iraq. The necessary lines of communication had been established when the operational concept had to change for political reasons. USAREUR and its Southern European Task Force (SETAF) showed their flexibility in quickly preparing 173^d Airborne Brigade and USAREUR heavy and medium immediate ready companies (HIRC/MIRC) for an airborne insertion into northern Iraq.

At the same time, other operations and planning efforts were continuing and still needed support: missile defense in Israel and Turkey, *Enduring Freedom* in Afghanistan, Task Force Falcon in Kosovo, Task Force Eagle in Bosnia, the train and equip program in Georgia, and training of Free Iraqi Forces in Hungary. Joint and combined training and exercises were ongoing, although reduced in scope. The Army and Department of Defense pressed on with transforming the force.

> **ASCC is the ideal organization to anticipate commanders' needs, set conditions for operational success, and project capabilities**

Those efforts could not afford to suffer during *Iraqi Freedom*, and they did not.

Collectively, USAREUR and U.S. Army Forces Central Command (ARCENT) projected a versatile and tailored force package capable of conducting full-spectrum operations and providing sustained land dominance to the joint fight on two fronts. They took approved plans, task-organized the ground forces for combat, projected the forces to the theater, and made it possible to change plans midstream when the political situation necessitated rethinking the northern front. They set the conditions for success in Iraq, while USAREUR kept the Title 10 support for the remainder of the U.S. European Command (EUCOM) area of responsibility (AOR) running as normal. Those who propose eliminating the ASCC "layer" from the command structure do not adequately address how the joint headquarters would assume its responsibilities.

ASCC is essential, and its role in enabling the joint fight cannot be replicated in any other headquarters. That will remain true as the global war on terrorism continues and the Army transforms to the Future Force. This essay will show that ASCC is the ideal organization to anticipate commanders' needs, set conditions for operational success, and project capabilities and tools to get the job done. ASCC may be out of sight and its contributions will rarely make headlines, but *Iraqi Freedom* showed that a combatant commander cannot go to war without it.

Anticipate, Set Conditions, and Project

Current joint and emerging Army doctrine lays out what a service component command (SCC) is. Their responsibilities were most recently updated in Joint Publication 0-2, Unified Action Armed Forces, dated September 10, 2001, and include recommending ground forces to the joint force commander, conducting joint training, developing programs and budgets, providing joint operation and exercise plans, and accomplishing operational missions as assigned. Joint Publication 3-33, Joint Force Capabilities, went farther and defined ASCC explicitly as having both support and operational responsibilities. It states that its commander is responsible to the combatant commander for recommending how Army forces should be allocated and employed and for exercising administrative control of the Army force, to include logistics. Title 10 responsibilities include requirements to organize, equip, train, and maintain Army forces in the theater and provide support to other services in accordance with executive agent responsibilities. Field Manual 3-0, *Operations*, adds that the ASCC commander is the senior Army leader in a combatant commander's AOR. ASCC also provides theater-strategic and

operational-level support to combatant command campaign and major operation planning. The joint doctrine does not require a specific ratio of SCCs to combatant commands, but Field Manual 3-93, *The Army in Theater Operations*, states that ASCCs are dedicated to a specific combatant command, implying that they will always equal or outnumber combatant commands.

The problem is that what doesn't directly answer the question of why not give this task to someone else? The answer is found in how ASCC does its job in practice and how it meets the requirements of the combatant commander. Exploring the how gives the case material to determine how ASCC should be organized and if it could serve more than one commander.

ASCCs must be highly proactive, action-oriented agencies, far more than described in their doctrinally assigned tasks of "recommending" forces or "providing" capabilities. It is the proactive nature of the modern ASCC that makes its contribution unique in its assigned theater. It anticipates the needs of the commander and sets the conditions for success before Army forces are committed and the assigned Title 10 requirements are put into effect. It also projects the capabilities and tools to accomplish the mission, including joint capabilities and enablers.

Iraqi Freedom demonstrated this proactive nature in USAREUR. The relative smoothness of the operation belied the complexity of planning, the extraordinary agility and flexibility of theater-enabling organizations, and the preparations to support deploying forces and their families. It

USAREUR experienced a steady increase in short-notice contingencies that required early-entry combat punch along with enabling capabilities

Mess hall in forward area, *Iraqi Freedom*

further showed that transformational activities USAREUR undertook over the past 6 years bore fruit in the Iraqi desert, proving that a proactive ASCC can help meet its combatant commander's needs in the short term while the Department of the Army develops and fields Army-wide solutions for the medium to long term.

Anticipating Commander Needs

Anticipating looks good on paper, but the proof is in real-world operational success. While ARCENT focused on U.S. Central Command (CENTCOM) requirements once forces arrived in theater in the south, USAREUR was able to focus on deploying forces to the south while preparing, deploying, and sustaining forces as they entered Iraq from the north. Consider the airlanding of the USAREUR HIRC/MIRC, referred to as Task Force 1–63 (Armor), into the northern front in *Iraqi Freedom*. The task force was part of a light-heavy rapid-reaction force that did not exist 3 years earlier but was an identified needed capability from lessons learned in Bosnia and Kosovo. USAREUR took the initiative to build that capability. Thus Task Force 1–63 was standing by when the original plans for the northern front were abandoned.

While most media attention focused on the deployment of 173d Airborne Brigade, Task Force 1–63 was a huge success. Its deployment was a worldwide premier—the first airlanding of M1A1 tanks by C–17s into combat, notwithstanding the success of the 24th Mechanized Division immediate-ready-force insertion into Somalia. This was important because heavy forces provided the combat punch and the deterring presence that facilitated the seizing and securing of key positions in northern Iraq, including oil fields, before the enemy could build a resistance. While CENTCOM retained operational control of the northern force, USAREUR and EUCOM retained administrative control and all the implications of sustainment and logistics.

Task Force 1–63 was the result of a major initiative to realign the USAREUR-assigned units and support structure to temporarily correct an exposed capability gap. In the mid-1990s, the Army rapid-projection force in the European theater was a single airborne battalion in SETAF. Heavier forces and corps/theater enablers were not on a short string. USAREUR then experienced a steady increase in short-notice contingencies, both potential and realized, that required early-entry combat punch along with certain enabling capabilities, such as engineers for road and runway repair and medics for humanitarian assistance

Contractor instructing Soldiers on mine detector sensor

55th Signal Company (Milton H. Robinson)

and disaster relief. This gap had to be at least part-way closed immediately and could not wait for Stryker Brigade combat teams to be fielded later in the decade. Therefore, USAREUR established the HIRC/MIRC, a rotation of tank and Bradley companies prepositioned and uploaded, whose Soldiers were on 24-hour deployment notice.

The short-notice requirements for the enablers were solved in a related initiative, force enhancement modules(FEMs). Prepositioned with the HIRC/MIRC at Ramstein Air Force Base, these modules are fly-away packages of engineer, military police, signal, and other enablers on a similar deployment timeline. They allow USAREUR to tailor force packages rapidly to a wide range of short-notice contingencies such as humanitarian assistance, noncombatant evacuation, and disaster relief.

Another initiative recognized that the single airborne battalion in SETAF was insufficient in the 93-country EUCOM AOR (not to mention potential CENTCOM requirements), so a second was established for only $14 million in new construction and rearrangement of 500 personnel spaces entirely out of hide. Called efficient basing-South, this initiative brought on line a second airborne battalion south of the Alps and provided USAREUR a more robust 173d Airborne Brigade. This move has already paid for itself with the deployment of the 173d to northern Iraq just months after the second battalion was

activated. These three initiatives—HIRC/MIRC, FEMs, and efficient basing-South—demonstrate the gulf between predicting what might be needed and making it a reality.

The initiatives were feasible because in-theater assigned forces were present and mature planning staffs were available. The harder part was building the support structure to project and sustain them. This was the subject of the initiative to establish the Deployment Processing Center (DPC) at Ramstein, a collaborative joint effort between USAREUR and its sister service component, U.S. Air Forces in Europe. Run by 21st Theater Support Command, DPC included warehouses for the prepositioned HIRC/MIRC equipment, maintained with contracted support. The soldier support area furnished housing, dining and unit maintenance facilities, and morale, welfare, and recreation activities. A C–130 mock-up enabled airload training to USAREUR units.

Equally important was the culmination of a cultural and organizational shift in 21st Theater Support Command since the Cold War. The former 21st Theater Army Area Command was properly focused on receiving forces into the theater and getting them to the fight under the general defense plan. The Deployment Processing Center signified the complete change to power projection from within Germany and Italy to anywhere in the EUCOM or CENTCOM AORs along with

throughput from CONUS. The cost of establishing the center was low but the return was high. In addition to pushing out HIRC/MIRC in *Iraqi Freedom*, it has deployed 56,437 Soldiers, 3,142 pallets, and 5,269 pieces of equipment and supplies through 229 operations and exercises since November 1998.

These initiatives demonstrate the effort needed to provide new capabilities to meet the combatant commander's immediate needs. It takes an organization with a proactive problem-solving approach and the freedom to operate out of the box. That organization is the modern-day ASCC. Its staff combines the situational awareness of the operating theaters with the institutional know-how to provide solutions to difficult ground force issues. The expertise ASCC has through its Title 10 responsibilities enables it to turn an idea into action to the last detail. Similarly, that allows it to identify initiatives that may be infeasible or unlikely to achieve the desired effects.

the ability to get to the fight and sustain it is facilitated by establishing an environment that secures allies and guarantees access to facilities

ASCC can also provide a platform for testing and evaluating joint, DA, and outside agency initiatives. An example was *Dragon Impact*, an information operations-based, force-on-force exercise initiated by USAREUR 5th Signal Command. It was first held in August 2001 and provided a platform for Army Signal Command to test emerging network-operations concepts and doctrine. These were validated or rejected through a rigorous exercise with a realistic scenario presented by ASCC serving an overseas commander.

Success stories ASCC reports back to both the joint commands and DA allow ideas to be field tested in a controlled operational environment. By serving as the dedicated link between DA and the combatant commander, ASCC makes things happen quickly and proactively.

Setting Conditions for Success

Little in power projection and Title 10 support is routine. Indeed, as the war on terror requires continued pursuit of stability in regions characterized by anarchy, totalitarian regimes, and religious or tribal fanaticism, the complexity of deployment operations will be anything but predictable. Further, *Iraqi Freedom* has shown that post-combat security and stability operations can be as hazardous as combat.

The ability to get to the fight and sustain it is rarely established smoothly at the last minute. It is facilitated well in advance by establishing an environment that secures stable and friendly allies and guarantees timely access to facilities across the AOR. This is doubly true in the EUCOM strategic transformation through the development of joint forward operating bases and locations (JFOBs and JFOLs) in new, austere locales. EUCOM will forge the agreements with potential JFOB and JFOL host nations, but the groundwork—construction, manning, and support—will fall on ASCC and its sister Service Component Commands.

Establishing partnerships with friends and allies and securing access to key facilities are two ways ASCC sets the conditions for success. It falls on ASCC to see that power projection and sustainment occur routinely in support of the joint force, which may include Special Operations Forces, coalition partners, government agencies, and nongovernmental organizations.

In a dynamic environment such as the EUCOM AOR, an organization must be proactive to stay abreast of the political and security climate. The region is culturally and economically diverse, and national interests are vested in relatively stable and prosperous Western Europe, in parts of Africa that are rich in vital natural resources, and in Russia and members of the former Soviet Union. USAREUR is a major implementer of the EUCOM theater security cooperation program, which promotes stability, maintains partnerships with allies, establishes partnerships with new allies and friends from Central and Eastern Europe, and allows access to key infrastructure throughout the AOR.

Partnerships are two-way streets, and typically ASCC secures access through conducting theater security cooperation activities such as combined exercises and training events, schools, and mil-to-mil contacts. Theater security cooperation is leadership-intensive, as partnerships tend to be built from the top down. And since most countries in the AOR have land-centric militaries, much of the work falls on the EUCOM land component, USAREUR. In FY02, V Corps was involved in 18 exercises, 150 partnership activities, 40 joint contact team program events, and 8 out-of-sector gunneries/field training exercises while simultaneously supporting Bosnia and Kosovo. Likewise, SETAF was involved in 75 events in 18 countries.

The value of these partnerships is hard to measure. They cannot be made on demand and then ignored. Partnerships require regular attention, particularly because friends will not always agree politically. It is tempting to let the apparent security cooperation failures of *Iraqi Freedom* discolor our view of the value of relationships with friends and allies. Although the United States had the intent and ability to conduct the war unilaterally if necessary, *Iraqi Freedom* would have been more difficult without help.

Providing security for convoy to Taji, Iraq

1st Combat Camera Squadron (Ashley Brokop)

Some countries that harbored strong political or popular opposition to the global war on terror still gave critical support. For example, Germany provided Bundeswehr augmentation to help with the force protection of facilities. It also facilitated air, barge, rail, and road movement of combatant units from both USAREUR and CONUS, speeding delivery and sustainment to commander, CENTCOM. Belgium and the Netherlands provided access to ports that permitted the deployment of V Corps and its corps separate brigades. Italy facilitated the direct parachute operation of 173d Airborne Brigade.

Setting conditions for success in operations is a grass-roots function. The political and senior military leadership establish the formal security-cooperation relationship, but it is turned into a cohesive reality through contacts between junior officers, noncommissioned officers (NCOs), and Soldiers. These contacts demonstrate American values to allied militaries. They include opening the doors of the NCO Academy to foreign sergeants to build professional NCO corps. The ASCC role is to ensure that these contacts achieve desired goals and improve the theater security cooperation program as a whole.

ASCC also sets conditions through demonstrating resolve—exercising strategic influence to dissuade and deter potential enemies while reassuring allies and friends. Establishing the aforementioned immediate ready forces may have been perceived as cosmetic, but not after they were drilled routinely in emergency readiness exercises that deployed them from Germany and Italy to the Balkans, Hungary, Morocco, Poland, and Tunisia. Visible demonstration of capability to respond rapidly to crises throughout the AOR is an important instrument of strategic influence, especially in the global war on terror. The best vehicle is a dedicated ASCC operating in concert with the overarching theater strategy of the combatant commander.

U.S. Air Force (Shane A. Cuomo)

Refueling tanks outside Samarra, Iraq, Operation *Baton Rouge*

Another means of setting conditions is through ASCC theater enablers, whether assigned in theater or projected from CONUS. If ASCC requires a strong base of situational awareness to accomplish its mission, that is doubly true of the low-density but high-demand theater enablers who often balance competing priorities during simultaneous missions. 21st Theater Support Command has an extensive knowledge base of the infrastructure in theater that permits it to identify and implement creative solutions to such power projection problems as the 700-kilometer line of communication it had to establish under Armed Forces, Turkey. Seventh Army Training Command made it possible to use training areas outside Germany and Italy to exercise power projection more realistically, while 66th Military Intelligence Group is a critical enabler, providing strategic intelligence. Enablers are vital to relieving the burden on tactical commanders in complex operations.

enablers are vital to relieving the burden on tactical commanders in complex operations

Enduring Freedom in Afghanistan offers an object lesson. In humanitarian assistance operations early on, 21st Theater Support Command purchased and shipped over $30 million worth of supplies, including 2.2 million meals, 2.3 million pounds of wheat, saddles, blankets, and personal gear, all packed by a combined U.S.-German rigging team—on top of its traditional operational support mission that transited 24,300 soldiers and 9,300 pieces of equipment. It also established a rail line from Ramstein to Afghanistan to transit noncritical supplies, reducing reliance on aircraft, which was possible because years of partnerships between USAREUR and Germany encouraged the host nation to contribute both through government agencies (for example the Bundeswehr, which provided the riggers) and private firms (Deutsche Bahn, which helped coordinate the rail line). This was setting conditions for success at its finest.

Projecting Capabilities and Tools

The relevance of ASCC is ultimately proven on the battlefield. One of its primary responsibilities delineated in Joint Pub 0-2 is to "accomplish such operational missions as may be assigned." It must thus be prepared to serve as joint forces land component commander (JFLCC) and project

commentary

trained and ready Army forces, both current and transformed, into the joint fight. It must provide C² to lead the ground campaign in a major regional conflict, including linkages to joint, multinational, interagency, and other organizations in support of the combatant commander. It must also orchestrate the employment of Army assets such as theater signal, intelligence, civil affairs, and space systems.

The unique ability of Army forces to not only execute strike operations in an expeditionary sense, but also to conduct campaigns over long periods (for example, the stability and security campaign ongoing in Iraq) is at the core of the debate over ASCC requirements and relevance. In achieving expeditionary and campaign qualities,

ASCC ensures that modernized and transformed forces are integrated into the theater whether they are assigned or deployed from CONUS

the Army has been moving away from employing forces based on their habitual relationships in garrison. When organized and tailored for combat in *Iraqi Freedom*, V Corps headquarters did not deploy with its assigned divisions, 1st Armored and 1st Infantry Divisions in Germany. Instead it was assigned 3d Infantry and 101st Airborne Divisions. As stability operations began, the SETAF headquarters deployed as Joint Task Force (JTF) Liberia aboard USS Iwo Jima to lead a Marine force. No Army forces were assigned, representing a shift in the ASCC training and readiness role. Rather than preparing for a ground campaign, the command's new focus includes preparation of its subordinate headquarters to deploy independently as a JTF CFLCC/JFLCC or Army forces headquarters. Indeed, a USAREUR mission-essential task was recently changed to reflect "trained and ready forces and headquarters."

Trained and ready forces carries a new meaning with the global war on terrorism because the spectrum of missions is ever widening, as USAREUR learned in the Balkans. Finding that combat forces were challenged in performing peacekeeping, Seventh Army Training Command instituted mission rehearsal exercises that gave units on Balkans rotation peacekeeping/peace enforcement training in a realistic scenario. The command also developed a reintegration cycle that permitted forces to hone their combat skills on return and established a deployable operations group that conducted combat-oriented training for units deployed in peacekeeping missions.

Major USAREUR subordinate commands have also focused on becoming lighter and therefore more deployable and relevant for expeditionary operations. For example, in Task Force Hawk the V Corps command post consisted of

58 "expando" vans, requiring oversized aircraft to deploy them to Albania. By 2001, the Corps Strike command post was proven to have equal capability yet was deployable entirely by C–130. In the ground combat phase of *Iraqi Freedom*, V Corps employed the C²V, a highly capable yet compact C² vehicle that further reduced the need for aircraft to deploy the headquarters.

ASCC also ensures that modernized and transformed forces are integrated into the theater whether they are assigned or deployed from CONUS. The future fielding of Stryker Brigade combat teams includes more than just Title 10 support to provide new or upgraded facilities for them to train and sustain forces and offers opportunities for joint and combined exercises with allies and trains the rest of the force, particularly the joint headquarters, in how to employ them.

These initiatives show the value of ASCC, whose training and support infrastructure provide commanders with forces and headquarters ready to function across the spectrum of joint and combined operations in expeditions or campaigns.

The Future

Advocates of eliminating ASCC favor consolidating joint force C² under joint headquarters in peacetime and in war. They presume that a single joint headquarters could run everything while achieving personnel savings. The complexities of the modern environment speak otherwise. The global war on terror is a continuous conflict against a mobile and adaptable enemy. As Field Manual 3-93 says, "Planning and executing major operations . . . is a formidable task for the global-based, force-projection Army of the 21st Century." Experience suggests that the ASCC role must remain resident in the Army and not be subsumed on the joint level. However, the way the command conducts business will change.

First, support across combatant command boundaries will become more prevalent in the global effort. *Enduring Freedom* and *Iraqi Freedom* were examples of cooperation, and USAREUR continues to provide Title 10 support to ARCENT forces. Such teamwork will carry on as enemies spread across unified command plan boundaries and large-scale operations require multiple ASCCs. Consolidation may appear attractive because a single joint command would coordinate support. The danger is that the absence of ASCCs would risk the ability to set readiness conditions in the assigned AORs. The campaign plans and manpower necessary for theater security cooperation programs to produce tangible results, as demonstrated by 21st Theater Support Command

Field surgical team, Afghanistan
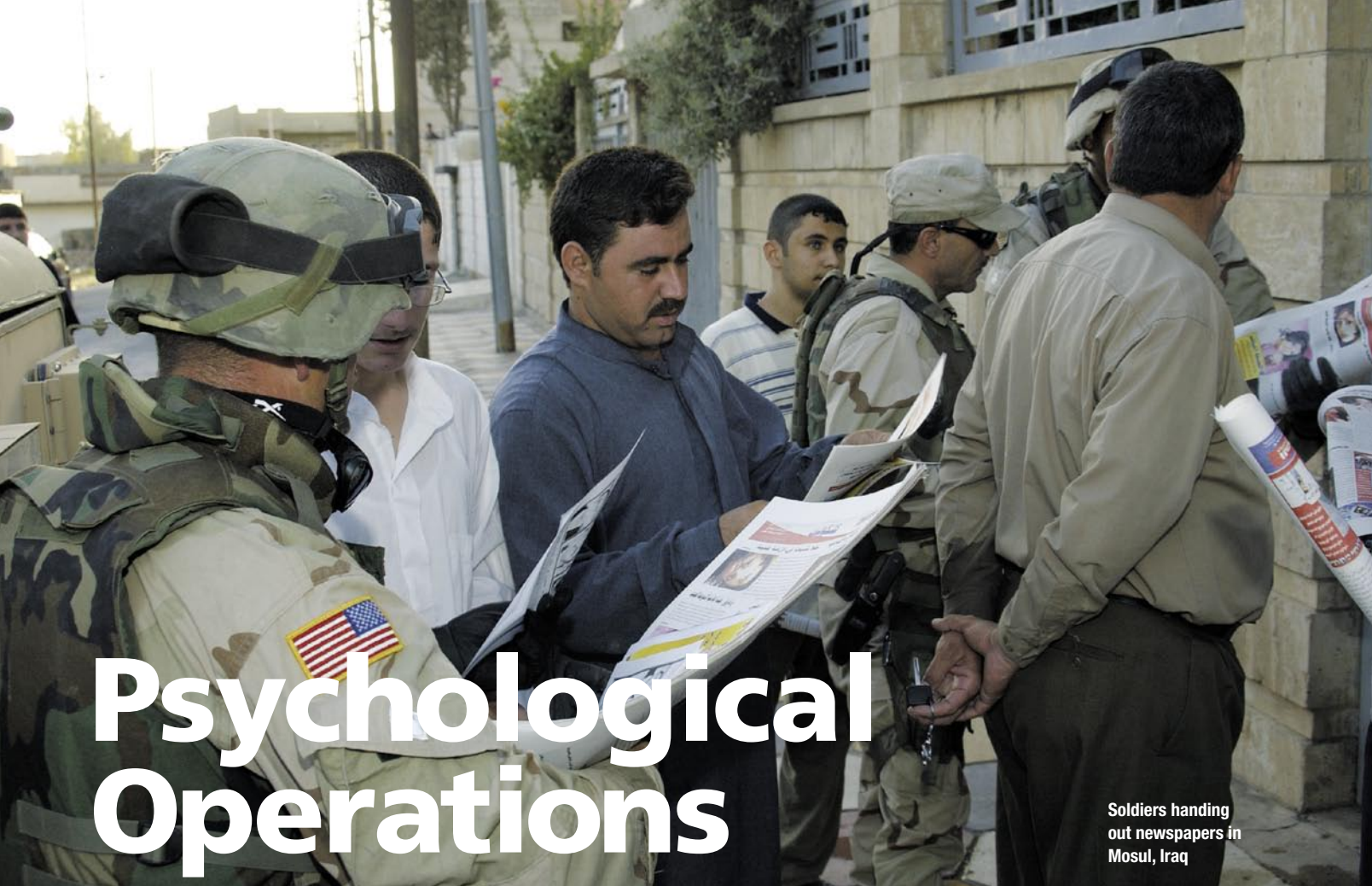

U.S. Army (Joseph P. Collins, Jr.)

during *Enduring Freedom*, would be absent. The better solution is to empower ASCCs to work closer together to ensure that unified command plan boundaries do not become exposed seams and the global war on terror is fought effectively as a global effort. This will ensure that ASCCs continue to be out front, anticipating commanders' needs.

Second, joint enablement will become central to the ASCC role. A recent example is USAREUR simultaneously supporting a three-star JTF headquarters in Iraq (CENTCOM AOR) and a two-star JTF headquarters off the coast of Liberia (EUCOM AOR) in the summer of 2003. This showed the power of having JTF-enabled headquarters on the two-star level ready to conduct operations as Army Forces, JFLCC, or JTF, depending on the mission. With USAREUR supporting *Iraqi Freedom*, SETAF was ready to stand up a JTF to plan and conduct operations in west Africa on short notice. Training and equipping SETAF and V Corps headquarters to become joint-enabled was an ASCC function and will become the extension of joint capability to lower echelons. In the same vein, ASCC will lead the effort to extend the Title 10 infrastructure—the establishment of JFOBs and JFOLs—allowing greater flexibility in projecting and sustaining the joint force. Joint enablement will be key to the continued ASCC ability to set the conditions for success.

Third, ASCC will be a major cog in the wheel of transformation. The global war on terror demands a lighter, more rapidly deployable, and more lethal Army structure. At the same time, the foundation of the warfighting structure, the Title 10 support provided by ASCC, must be strengthened because of the increased complexity of getting transformed forces to the fight. Even should transformation planning be consolidated on the joint level, its execution—training, equipping, and fielding—will still be done by the services. It will therefore fall on ASCC to turn the promises of transformation into realities and project them as needed.

The Army Service Component Command may operate in the background, and its contributions may never make the news, but it is now more critical than ever. There will be intense debate as to how it can support one or more combatant commanders, but the focus must remain on the right issue: how best to train, ready, deploy, and sustain warfighting forces while protecting formations and facilities and taking care of dependents. With that as a guidepost, and in partnership with the combatant commanders, the Army will continue to accomplish any mission anywhere with excellence. **JFQ**

Psychological Operations

and Counterterrorism

By JERROLD M. POST

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According to Chinese strategist Sun Tzu, whose The Art of War continues to inform political-military strategy after 2,000 years, "What is of supreme importance in war is to attack the enemy's strategy. . . . Next best is to disrupt his alliances. . . . The next best is to attack his army. . . . The worst policy is to attack cities."

Sun Tzu also observed that of the five fundamental factors affecting war, the first is moral influence: "that which causes the people to be in harmony with their leaders so that they will accompany them in life and unto death without fear of mortal peril." Elsewhere he observes, "To subdue the enemy without fighting is the acme of skill." In effect, Sun Tzu is advocating psychological undermining of the enemy, a prescription still valid today.

Psychological operations (PSYOP) has been defined as "the planned use of communications to influence human attitudes and behavior. It consists of political, military, and ideological actions conducted to induce in target groups behavior, emotions, and attitudes that support the attainment of national objectives."[1]

The term psychological operations, especially when combined with political warfare, denotes "operations, whether tactical or strategic, on the battlefield or in the theater, in peacetime or in

war, directed primarily at our adversary's mind rather than his body."[2]

Yet historically, psychological operations has for the most part only been employed tactically, in wartime. There has been little attention to the potential of strategic PSYOP in undermining the enemy to prepare the battlefield. Properly conducted, it should "precede, accompany, and follow all applications of force"[3] and be an integral component of the overall strategic plan. Yet

PSYOP should be the primary weapon in the war against terrorism

because planners overrely on technological superiority and pay insufficient attention to an enemy's psychology, it is either omitted or is a late afterthought. But information operations—preparing the battlefield—must be integrated with battle planning from inception, and in particular not merely tactical PSYOP but also strategic. Enemy resistance is not undermined with the turn of a switch; it is a long process. Influencing attitudes requires deconstruction of the enemy. By this is meant identifying the constituent elements—and audiences—of its power base and the sources of its influence.

Terrorism is a vicious species of psychological warfare waged through the media. It is a war for hearts and minds. If one accepts this premise, then the war against terrorism will not be won with smart bombs and missiles. One does not counter psychological warfare with high-tech weapons.

Indeed, research on the effects of retaliation on terrorist behavior conducted by the author and Ariel Merari, with support from the U.S. Institute of Peace, demonstrated that the major goal of retaliation against terrorism was solipsistic—meant to convey to the public that the government was strongly defending them. There was no statistical evidence in the three cases examined, which included Israeli retaliation against the terrorist campaign in the 1970s, that retaliation deterred terrorist actions. To the contrary, in some cases there was a trend suggesting that it reinforced the terrorist group. Thus the way to counter psychological warfare is with psychological warfare, and PSYOP should be the primary weapon in the war against terrorism.

Four major elements of a psychological program designed to counter terrorism are:

■ inhibiting potential terrorists from joining terrorist groups
■ producing dissension within groups
■ facilitating exit from groups
■ reducing support for groups and their leaders.

These elements are components of a strategic psychological operations program that must be conducted over decades, for these attitudes are not easily changed when hatred is bred in the bone. Vladimir Lenin conveyed that "the goal of terrorism is to terrorize." This suggests a fifth element of a sustained campaign of strategic psychological operations: insulating the target audience, the public, from the intended goals of the terrorist to terrorize. These five elements of a sustained strategic psychological operations campaign deserve a closer look.

Addressing the Source

The first element, inhibiting potential terrorists from joining terrorist organizations, is the most important and complex of the five. Once an individual is in a body, especially underground, group dynamics will enforce his psychological commitment to its goals. From childhood there is a normalization and social value attached to joining a terrorist group, especially in the constituencies of particular concern to Israel. In a research project the author directed under the auspices of the Smith-Richardson Foundation, for which Ehud Sprinzak served as principal scientist, 35 incarcerated Middle Eastern terrorists in Israeli and Palestinian prisons were interviewed: 21 radical Islamist terrorists from Hamas, Islamic Jihad, and Hezbollah and 14 secular nationalists from Fatah and its military wing as well as from the Palestinian Front for the Liberation of Palestine and the Democratic Front for the Liberation of Palestine.[4]

It was clear that the major influence was the social setting. As one terrorist remarked, "Everyone was joining." Individuals from strictly religious Islamic backgrounds were more likely to join Islamist groups, while those with no religious background might join either a secular or a religious group. Peers were of great influence and often recruited the subjects. For the secular groups the social environment centered on schools and clubs, while for Islamists the mosque, religious organizations, and religious instruction dominated. Some 64 percent of secular members, but only 43 percent of Islamist members, reported that their group was the most active in their community. Over half of the secular group cited their community or a youth club as the primary influence. For Islamist groups, almost half cited the mosque, Moslem Brotherhood, or other religious influence as central, and another 20 percent cited a university or professional school. Only 30 percent of secular and 20 percent of Islamist group members reported their families as a vital influence. Although introduction to the cause varied, almost all subjects grew up in villages or refugee camps that were active in the struggle. Some 80 percent of secular group members were raised in communities that were radically involved compared with 75 percent of Islamist members. Less

Muqtada al-Sadr poster, Baghdad

than a tenth of each group came from communities that were not particularly active.

Representative quotes follow, beginning with the Islamist view:

■ I came from a religious family which used to observe all the Islamic traditions. My initial political awareness came during prayers at the mosque. That's where I was also asked to join religious classes. In the context of these studies, the sheik used to inject some historical background in which he would tell us how we were effectively evicted from Palestine. . . . The sheik also used to explain the significance of the fact that there was an [Israeli] military outpost in the heart of the camp. He compared it to a cancer in the human body which was threatening its very existence.

■ At the age of 16 I developed an interest in religion. I was exposed to the Moslem Brotherhood and began to pray in a mosque and to study Islam. The Koran and my religious studies were the tools that shaped my political consciousness. The mosque and the religious clerics in my village provided the focal point of my social life.

enlistment was a natural step for the secular terrorists too

Community support was important to the families of the fighters as well:

■ Families of terrorists who were wounded, killed, or captured enjoyed a great deal of economic aid and attention. And that strengthened popular support for the attacks.

■ Perpetrators of armed attacks were seen as heroes. Their families got a great deal of material assistance, including the construction of new homes to replace those destroyed by the Israeli authorities as punishment for terrorist acts.

■ The entire family did all it could for the Palestinian people and won great respect for doing so. All my brothers are in jail, and one is serving a life sentence for his activities in the Izz a-Din al-Qassam

battalions. My brothers all went to school and most are university graduates.

The emir blesses all actions.

■ *Major actions become the subject of sermons in the mosque, glorifying the attack and the attackers.*

Joining Hamas or Fatah increased social standing.

■ Recruits were treated with great respect. A youngster who belonged to Hamas or Fatah was regarded more highly than one who didn't belong to a group and got better treatment than unaffiliated kids.

■ Anyone who didn't enlist during [intifada] would have been ostracized.

The hatred for the Israelis was remarkable, especially given that few reported any contact with them.

■ You Israelis are Nazis in your souls and in your conduct. In your occupation you never distinguish between men and women, or between old people and children. You adopted methods of collective punishment, you uprooted people from their homeland and from their homes and chased them into exile. You fired live ammunition at women and children. You smashed the skulls of defenseless civilians. You set up detention camps for thousands of people in subhuman conditions. You destroyed homes and turned children into orphans. You prevented people from making a living, you stole their property, you trampled on their honor. Given that kind of conduct, there is no choice but to strike at you without mercy in every possible way.

Secular influences had an impact, beginning with family background and early life. As with other Palestinian terrorist organizations, there is a dichotomy between how families felt in theory and how they felt in reality. Publicly, families supported the organization and were proud of their sons for joining. Privately, they feared for their sons and often for what the security forces might do to the families. One mother who lost a son reported in an interview about "human bombs" that if possible she would cut a hole in her heart and sew her remaining son inside for safety.

■ Families who had paid their dues to the war effort by allowing the recruitment of a son tried to prevent other sons from enlisting too.

While most Fatah members reported that their families had good social standing, their status and experience as refugees were paramount in developing self-identity.

■ I belong to the generation of occupation. My family are refugees from the 1967 war. The war and my refugee status were the seminal events that formed my political consciousness and provided the incentive for doing all I could to help regain our legitimate rights in our occupied country.

Enlistment was a natural step for the secular terrorists too.

Soldiers arriving in Haiti, March 13, 2004

1st Combat Camera Squadron (Andy Dunaway)

■ In a way, [enlistment] can be compared to a young Israeli from a nationalist Zionist family who wants to fulfill himself through army service.

■ My motivation in joining Fatah was both ideological and personal. It was a question of self-fulfillment, of honor, and a feeling of independence. . . . The goal of every young Palestinian was to be a fighter.

■ After recruitment my social status was greatly enhanced. I got a lot of respect from my acquaintances and from the young people in the village.

Combating such deeply ingrained attitudes will be difficult. Yet failing that, there will be a growing stream of terrorists to replace those killed or arrested. Particularly problematic is schooling. The virulent anti-West brand of Islam being taught in the radical *madrassas* of Pakistan is a case in point. What steps might ameliorate the poison being dispensed? How can moderate clerics be encouraged to temper the curricula? Under a program the Department of Labor recently funded in Pakistan to combat child labor, for $80 a student can receive a year's education at a secular school. Each child enrolled is one not exposed to the anti-Israel, anti-West propaganda in the radical *madrassas*.

Youth taught by hatemongering leaders and seeing a bleak future are impelled to violence out of despair. What can be done to open pathways for ambitious young people within their society? Support to programs that encourage economic development and opening of societies, be it Pakistan, the West Bank, or Gaza, can shrink the reservoir of dispirited youngsters.

Both measures—educational support and economic programs—require funding by government agencies or nongovernmental organizations, but the investment would go a long way toward reducing the population that sees no path other than terrorism.

Isolating the Group

The second element is to produce dissension within the group. Terrorist organizations are often hothouses of tension. When they are attacked, internal tensions disappear and it becomes them against the world. What would magnify tension, sow distrust, recast the image of the leader or pretenders to the throne, or weaken the already stressed climate and paralyze the group? Injecting such influences into a closed body is by no means easy but would reduce cohesion and efficiency.

The third element, facilitating exit from the group, exposes a danger of becoming a terrorist: once one has made that choice it is hard to turn back, for an early hurdle for full acceptance is to carry out a terrorist action, which can lead to a criminal sanction. Yet a number of governments countering terrorism have instituted creative amnesty programs, akin to the U.S. protected witness program; amnesty is given in return for cooperation and information. The bargain includes

financial support for a new life and can extend to resettlement in other countries and even plastic surgery, as Spanish authorities provided Basque Fatherland and Liberty defectors. The Italian pentiti program was instrumental in breaking the back of the Red Brigades. Moreover, information developed by defectors can be fed back to the group to strengthen option two, producing internal dissension.

The fourth element is information operations directed against the group to reduce public support. An exemplar of this goal is al Qaeda. For years Osama bin Laden has been unchallenged in the arena of marshalling opinion to his view of Islam and the West.

if the act of one extremist youth can derail fragile movement toward dialogue, terrorism is being rewarded

The virulent brand of Islam he has championed and the violence he has justified with his extreme interpretation of the Koran are consistent with those of Hamas and Islamic Jihad leaders and have not been countered. Al Qaeda has attracted alienated Muslim youth sensitized in the *madrassas* and mosques. In the 2001 trial of the al Qaeda bombers of the U.S. Embassies in Tanzania and Nairobi in Federal court in New York, the author served as expert witness during the death penalty phase and spent many hours with one of the lower-level participants of the bombing in Dar es Salaam as well as one of the seniors. The roles of the *madrassa* and the mosque were particularly noteworthy. In the *madrassa* in Zanzibar, the participant was taught never to question learned authorities, especially those with religious credentials. In the mosque in Dar es Salaam, where he felt welcomed as a member of the uma (the community of observant Muslims), he heard of the obligation to help other Muslims wherever they were. He was

Soldiers explaining U.S. mission in Afghanistan

55th Signal Company (Matthew Burkhart)

shown films of Muslim mass graves in Bosnia and the bodies of women and children in Chechnya.

Alone and isolated except for the mosque, he vowed, in his words, to become a soldier for Allah and defend these innocent victims against the soldiers of Serbia and Russia. When he gave voice to these sentiments, he was informed by a spotter for al Qaeda that to be a soldier for Allah he must get training; so using his own money, he went to Pakistan to be screened and was sent to an Osama bin Laden training camp in Afghanistan. After 7 months there, when he was offered only participation in Kashmir rather than fighting soldiers in either Bosnia or Chechnya, he returned to Dar es Salaam and was isolated as an assistant grocery clerk. Still participating at the mosque, he received the call to take part in a jihad job 3 years later. He responded immediately. His pious wish to defend Muslim victims was bent into participating in an act of mass casualty terrorism. As he was confronted with the consequences of the bombing, in contrast to other terrorists, he was overwhelmed with the death of innocents, which he saw as inconsistent with his views of jihad: "Their jihad is not my jihad." Nor is it the jihad of the majority of mainstream Muslims, yet they have been remarkably mute, giving free rein to the extremists to steer alienated youth into violence in the name of Islam. Osama bin Laden's justifications, as spelled out in the al Qaeda terrorism manual, are inconsistent with the Koran, and yet to the alienated youth they are justification for killing in the name of God.

What can counter these religiously based arguments? This will take moderate Islamic clerics and leaders reclaiming their hijacked religion and depicting Osama bin Laden and his ilk as distorting the meaning of the Koran and violating the spirit of Islam in the service of self-aggrandizing motivations. The goal is to make the group not a mainstream path for alienated youth but a deviant path, and to not have the leaders seen as romantic heroes but as preachers of a perverted Islam. This requires activating voices not now heard, for these changes must come from within Islam, and at present the extremist view is uncontested.

Insulating the Public

Addressed thus far is a fourfold approach to countering terrorism by reducing the attraction to the group and confronting and undermining internal cohesion, but as important is the fifth element: defending against the central goal of terrorism—to terrorize. If the act of one extremist youth can derail fragile movement toward dialogue and reconciliation, terrorism is being rewarded. Sustained public education is needed.

Militants showing children how to hold assault rifles

Israel has come a long way in this direction, but the United States, as witnessed during the paralyzing effects of the Washington area snipers, has far to go.

A complicated need of a strategic information campaign is a coordinated information policy so statements from the White House or the office of the Prime Minister are in sync with the message campaigns coming out of the operational units. Indeed, public diplomacy statements designed to reassure the domestic constituency too often undermine the information goals of those conducting psychological operations. It is difficult in a large bureaucracy to integrate and coordinate information campaigns among key elements of government, for many of the targets of influence will require pressure and inducements for which the Department of State or foreign ministry might take the lead. To inject threatening information within the inner circle may require the sophisticated and covert techniques of the Central Intelligence Agency or Mossad.

In sum, coordinated information operations are seen as an underutilized but critical weapon in combating terrorism. A five-pronged strategy has been specified for strategic psychological operations. It will take years to alter attitudes, for when hatred is deeply inbred it does not easily yield.

To conduct sophisticated strategic psychological operations campaigns requires nuanced research and analysis of the history, politics, and culture of potential enemies, and in particular of their leadership and strategic culture. **JFQ**

NOTES

[1] Alfred Paddock, Jr., "Military Psychological Operations," in Political Warfare and Psychological Operations, edited by Carnes Lord and Frank R. Barnett (Washington, D.C.: National Defense University Press, 1989), 45.

[2] Alvin H. Bernstein, "Political Strategies in Coercive Diplomacy and Limited War," in Lord and Barnett, Political Warfare and Psychological Operations, 145.

[3] Ibid., 45.

[4] The results were published in Political Violence and Terrorism in March 2004.

General John William Vessey, Jr.

(1922–   )

Chairman of the Joint Chiefs of Staff

VITA

Born in Minneapolis, Minnesota; enlisted in Minnesota National Guard and assigned to the Minnesota 34th Division (1939); called to active duty (1941); fought with 34th Division in Tunisia and Italy (1941–1945); received field commission at Anzio (1944); earned B.A. from University of Maryland (1963); received M.S. from The George Washington University (1965); graduated from the Industrial College of the Armed Forces (1966); joined 25th Division in Vietnam, commanding artillery unit (1966); began various assignments in Thailand and Laos (1971); assumed command of Fourth Division, Colorado (1974); appointed Deputy Chief of Staff for Operations and Plans, then took command of U.S. forces in Korea (1976); chosen as Army Vice Chief of Staff (1979); served two terms as Chairman of the Joint Chiefs of Staff (1982–1985); served 46 years of active duty, the longest in Army history; after retiring worked to secure remains of servicemen listed as MIA in Vietnam, acted as diplomat and adviser to several Presidents, and served on a variety of commissions and boards.
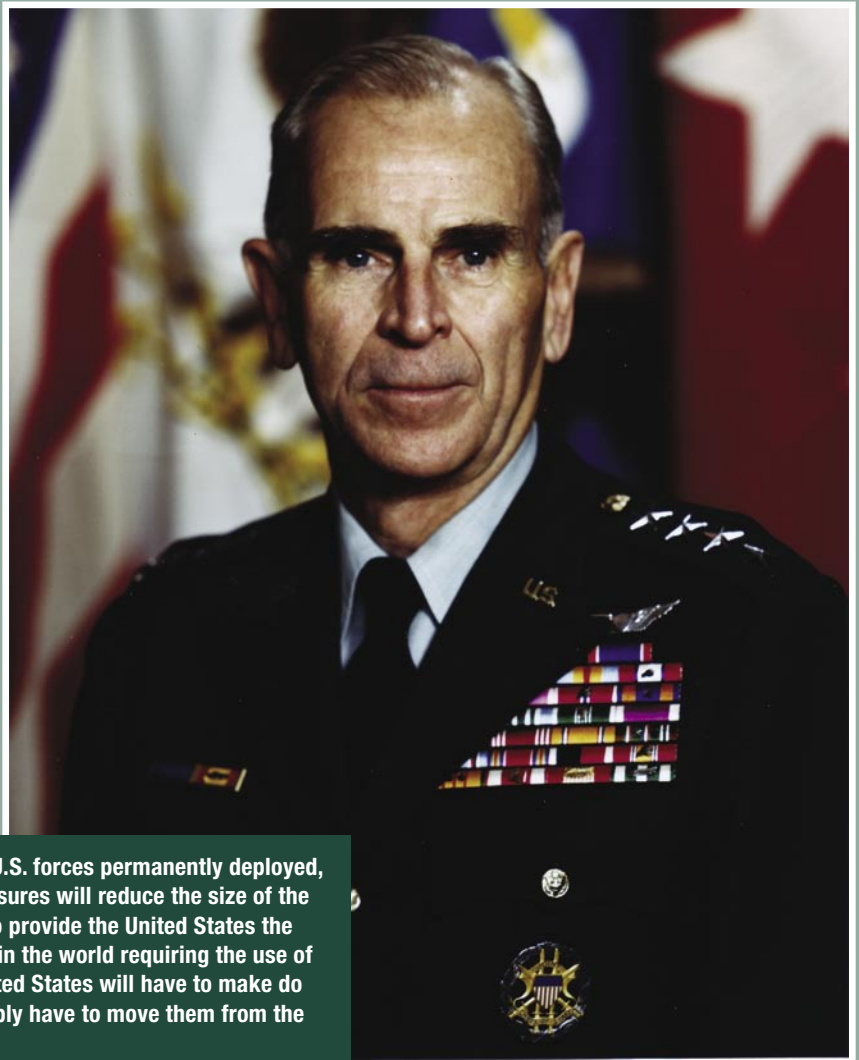
The change in the strategic situation will see fewer U.S. forces permanently deployed, and as the deployed forces are reduced, budget pressures will reduce the size of the total force. The overseas base structure is unlikely to provide the United States the flexibility it has had in the past. If there are troubles in the world requiring the use of American forces—and there surely will be—the United States will have to make do with fewer forces than it has today, and it will probably have to move them from the United States to the trouble spot.

—from General Vessey's foreword to Michael J. Mazarr's *Light Forces and the Future of U.S. Military Strategy* (1990)

DOD

A Book Review

By ROBERT B. OAKLEY

Shake Hands with the Devil: The Failure of Humanity in Rwanda
by Romeo A. Dallaire
Toronto: Random House, Canada, 2003
584 pp., $30.00
[ISBN 0–7867–14870–5]

Retired Canadian General Romeo A. Dallaire has written an intensely gripping and informative account of his searing experience as the commander of the UN Observer Mission Uganda-Rwanda (UNAMIR) during the horrors of civil war, genocide, and massive refugee exodus in Rwanda from 1993 to 1994. He describes in a very personal style the unimaginable hatred and violence he witnessed, the heroic efforts of his badly understaffed forces to head off and then to alleviate the nightmare, and the obstruction of UN headquarters and the Security Council.

The sudden conclusion of a peace agreement at Arusha in August 1993, which included a call for an international force to help with implementation, sent the UN Department of Peacekeeping Operations (DPKO) into high gear planning for a peacekeeping force. Dallaire was charged with planning a classical 2,500–man, no-use-of-force mission, approved by the Security Council on October 4, even before becoming commander of the force. The full force only arrived in late February, but Dallaire began operations in late November with some 400 Belgians plus several hundred Ghanaians and Tunisians. Small-scale clashes and ethnic massacres by Rwandan government forces and militias at that time presaged the horror to follow and the challenges Dallaire's forces would face. On April 6, 1994, the plane carrying the presidents of Rwanda and Burundi was shot down. Hutu hardliners took power in Rwanda, and events quickly moved to a resumption of the civil war that had been ended by the agreement at Arusha, and to the systematic tracking and killing of moderate Hutu leaders and general violence by government and militia forces against the Tutsi population. Belgian soldiers were killed and mutilated while protecting the moderate Hutu prime minister, evoking memories of the United States venture in Somalia and intimidating the Belgian government and members of the UN Security Council. Dallaire requested an immediate doubling of his force of 2,300. Instead, Belgian forces were withdrawn and the United States took the lead in Security Council action, reducing the overall force to 450.

Dallaire details the spiraling violence on the ground, the delays in arrival of men and materials, the reluctance of most troop-contributing governments to confront the violence, and the refusal of senior UN officials to allow him to act to head off the building war. His decision to seize hard-line Hutu arms caches to stop a planned offensive against the Tutsis was rejected by the Security Council, who feared an incident similar to the killing of Pakistani peacekeepers in Somalia. He recounts his bafflement at the negative response to proposed action he believed to be within his mandate. Only later did he discover that the United States and France were arguing in the Security Council against any more active UNAMIR role. He tells in detail how he used his limited forces and authority to protect pockets of civilians from massacre, at the same time talking ceaselessly but in vain with Hutu and Tutsi leaders to stop the fighting. His accounts of the savagery his force could not prevent, and its shattering emotional impact on himself and his men, are a measure of their humanity and total commitment to save lives, despite the unresponsiveness from UN Headquarters and the Security Council, who were politically immobilized.

By June, the impact of these events and the publicity they received finally caused the Security Council to authorize a UNAMIR II force of 5,500 with a much firmer mandate, as well as the separate French intervention force already authorized to protect Hutus in southern Rwanda (and allow the perpetrators of genocide to escape to the Congo en masse). However, by then the rebel Tutsi *Front Patriotique Rwandais* had virtually won the civil war, and some eight hundred thousand mostly Tutsi civilians had been butchered. Dallaire then describes the failure of the United Nations and United States to act to prevent the exodus of over 1.5 million Hutus to the Congo and Tanzania. Rather than providing supplies to help the displaced population inside Rwanda, the relief effort was focused entirely on the Congo, pulling the refugees out and allowing those Hutus who had perpetrated the massacres to reestablish control in the refugee camps. (The commander of U.S. forces supporting the relief effort told Dallaire that his forces should be inside Rwanda, but the Clinton administration was so fearful of U.S. casualties after Somalia that the orders were to stay out of the country and harm's way.) Thus the apparent short-term success of the 1994 U.S.–UN relief effort unwittingly created the condition for the 1996 military operations by the Tutsi government of Rwanda against the refugee camps in the Congo, in order to prevent a Tutsi attack from the camps against Rwanda and recuperate as many refugees as possible. This ignited a civil war in the eastern Congo involving Rwanda, Uganda, and other African states in which some two million people died of war-related diseases and malnutrition and which only abated in late 2003.

In the course of recounting the events, Dallaire provides a personal perspective on the systemic problems confronting DPKO, UN headquarters, and the Security Council in coordinating and supporting peacekeeping operations. These issues included unrealistic mandates, under-resourced missions, delays in delivering those resources that were provided, bureaucratic bottlenecks, and the influence exerted both in the Security Council and behind the scenes by key member states (especially the United States). The failure of UNAMIR in the face of the Rwandan genocide and of the UN Protection Force to prevent the massacre at Srebenica in Bosnia a year later led to brutally honest auto-critiques. They also led to widespread reform of the entire UN peacekeeping function, leading to more realistic alignment of Security Council mandates, mission, and resources with both the realities on the ground and the willingness of member states to provide resources and political commitment. Finally, they led to enhanced capabilities of UN headquarters to support field operations in a timely manner. **JFQ**

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A Book Review

By DIK DASO

**Airpower in Small Wars: Fighting
Insurgents and Terrorists**
by James S. Corum and Wray R. Johnson
Lawrence, Kansas: University of Kansas
Press, 2003
507 pp., $24.95
[ISBN 0–7006–1240–8]

With the Cold War now a perilously distant memory, more contemporary examinations are emerging from military historians and political scientists. Among them is *Airpower in Small Wars* by James S. Corum and Wray R. Johnson, a study of *small wars*—struggles against terrorism and insurgency defined as "war waged against a non-state entity and nonregular forces." To set it apart from other books on the subject, the authors have included a detailed examination of how airpower was used during selected conflicts. Recent military terminology might refer to such clashes as *asymmetric*, *low intensity*, or the once-popular *military operations other than war*.

Despite the authors' assertion that small wars do not refer to "the scale of the war but rather to its nature," the terminology surrounding asymmetric conflict is inherently slippery. By the authors' definition, for example, the war that established the independent United States qualifies as a small war from the British perspective. In fact, in the context of the 18th-century global British Empire, that war was largely a sideshow. For the colonial population, however, it was much closer to a *total war*. It was a struggle between ideologies—independence versus imperialism. The perspective from which wars are viewed decides their nature and scale. If the reader can overlook the inherent difficulties with definitions and look to the broader lessons that apply to conflict today, they will be well served by reading *Airpower in Small Wars*.

The attractiveness of this book lies in the global scope of airpower operations scrutinized. American aerial failures during Pershing's expedition into Mexico (1916), the Greek civil war (particularly 1949), French colonial experiences in Indochina and Algiers (1946–1962), the Soviet venture in Afghanistan (through-

out the 1980s), and airpower use in the Middle East and in other interesting but less compelling cases are also covered. The chapters follow similar structure, adding to a well-designed book that reads like a textbook. Indeed, the work is the product of each writer's teaching experience at the Air Force School of Advanced Airpower Studies (now the School of Advanced Air and Space Studies). In fact, this book could be combined with Max Boot's *Savage Wars of Peace: Small Wars and the Rise of American Power* if one wished to structure a class toward American involvement in small wars.

Each chapter begins with several

**F/A–18C heading for
Taliban-held positions
in Afghanistan,
Enduring Freedom, 2001**

U.S. Air Force (Efrain Gonzalez)

pages of background and contextualizes the rationale for the air campaign. In a few sections, more space is used to set the stage than to discuss airpower contributions, but the background and conclusions are instructive even if the uses of airpower seem mundane. Part of the book's charm is the history behind several struggles that are usually relegated to footnotes or dissertation topics. The Philippine anti-Huk campaign and several conflicts in South America may fall in this category. If nothing else, it becomes clear that there have been more airpower campaigns around the globe than generally realized.

The authors have listed 11 specific lessons for fighting small wars, all having varying degrees of validity. Perhaps the most crucial is that so-called small wars are usually long and are generally won by the home team—the insurgents and terrorists. This chilling reality suggests that Afghan terrorists and Iraqi insurgents have the house odds more as the conflicts drag on.

Historically, then, military success in small wars does not guarantee victory, particularly since in most of the case studies only one side has air assets (much like the coalitions in Afghanistan

and Iraq). Airpower in smaller conflicts is utilized less for direct combat and more for reconnaissance, supply, and transport missions. Political changes are often the catalyst for ending conflict, be it colonial or civil in nature. American failure in Southeast Asia is the hallmark example of such a national political shift.

The above being the case, a twelfth lesson is implied: to achieve victory against terrorists and insurgents fighting on their own soil, a drastic change in military and political strategy must be made when fighting today's small wars. Unfortunately, such strategies would most likely need to include traditionally non-Western means of waging war that are more clearly understood by the male-dominated societies of the Middle and Far East. It is this "clash of civilizations" that Samuel Huntington has described as the battleground of today and the future.

More practically, although some elements of early service rivalry are mentioned, within this book is the implication that airpower—and increasingly in the future, space power—will continue to be used to fight terror and insurgency throughout the world. If this remains true, particularly when the United States fights in places like Afghanistan and Iraq, competition for defense and homeland security dollars is likely to intensify. As has happened before, expanding missions require expanding budgets, as with the "Revolt of the Admirals" over the B–36. Who will get the cash to expand and perfect airpower operations for future small wars? This has yet to be determined, but Pentagon battles to obtain these dollars will likely be more brutal than some of the conflicts examined in this timely book. **JFQ**

Dik Daso is curator of modern military aircraft at the National Air and Space Museum.

A Book Review

By JOHN S. BROWN

An Army at Dawn: The War in North Africa, 1942–1943
by Rick Atkinson
New York: Henry Holt and Company, 2002
681 pp., $30.00
[ISBN 0–8050–6288–2]

U.S. troops landing in North Africa, 1943

Those coming to grips with what promises to be a long and arduous war on terrorism would be wise to consult the past to inform the future. The endeavor would be well served by Rick Atkinson's superlative *An Army at Dawn: The War in North Africa, 1942–1943*, a thoughtful and insightful book well deserving of the Pulitzer Prize it has already won. In compelling prose Atkinson carries his story from the Operation *Torch* landings in November 1942 through the Axis collapse in Tunisia 6 months later. Readers will be gripped by the account itself and the way it is told. They may also learn lessons with respect to adaptation, teamwork, coalition warfare, and the human dimension of combat.

It is no secret that American soldiers came to North Africa green, yet the pace and dimensions of their adaptation to combat remain impressive. Atkinson captures their early cockiness, reinforced by their speedy, albeit bloodier than anticipated, victory over the Vichy French. They did not find out how rigorous combat could be until they measured themselves against the veterans of Rommel's Afrika Korps. Badly worsted at Kasserine Pass in February 1943, they rebounded for a creditable win at el Guettar in March and a clear victory with the capture of Bizerte in May. How much difference a few months of combat experience made! They had to adapt not only to the hardships of field living and the general requirements of combat, but also to the specific character and techniques of their formidable adversaries, a lesson that remains valuable.

One of the most salient aspects of the American adaptation in North Africa was the development of teamwork: within units, among units, and across units of the several branches and ser-

vices. It is no easy matter to coordinate the effects of infantry, artillery, armor, aviation, combat engineers, and others when under fire, and even harder to sustain that effectiveness logistically. By 1942 professional soldiers had a reasonable idea of how such systems were supposed to come together in combat, but translating that cerebral appreciation into performance was a challenge. Atkinson masterfully relates the school of hard knocks in North Africa, where the American fighting style that ultimately triumphed in Europe painfully emerged. He also captures the winnowing process whereby leaders who could master modern combined arms combat rose to the top and others fell away.

As if building teamwork within the American Army were not challenge enough, there was also the need to build an international alliance. Winston Churchill allegedly quipped, "There is only one thing worse than fighting with allies; and that is fighting without them." In colorful detail, *An Army at Dawn* describes the impediments to Allied teamwork: initial and bloody Vichy hostility, pervasive American anglophobia, overweening British arrogance, the bizarre habits of colonial troops, and recurrent international mishaps or failures to perform. There were bright spots as well. Churchill and Roosevelt got on famously, Eisenhower could make a coalition work, and the Allied soldiers strongly believed in the righteousness of their cause. In the end, numbers illustrated the merits of alliance; of some 77,000 allied casualties, 38,000 were British and Commonwealth troops, 19,000 were French, and almost 20,000 American. The blood lost for the hard-fought victory was shared, a point that should not be lost on those who contemplate unilateral actions when the

interests of several friendly nations are at stake.

Above all, Atkinson never loses the human dimensions of combat. He starts his narrative amidst the tombstones of the American Military Cemetery in Carthage, Tunisia. From their information—name, rank, unit, and date of death—he surmises the places and circumstances of their occupants' final moments. This focus on people—whether they are the most senior generals, the most junior privates, or the most colorful allies—continues throughout. Atkinson's instinct for the pithy anecdote, colorful yarn, and personal drama is flawless. He incorporates them with an artistry that vastly enriches the narrative while moving it along.

An Army at Dawn is majestic in its sweep, recalling the Civil War trilogies of Bruce Catton and Shelby Foote. Atkinson's research is exhaustive, as 82 pages of notes and 28 pages of tightly written bibliography attest. He does not use actual footnotes or endnotes. Instead, he documents his text a page or passage at a time. This makes it more difficult to verify specific facts but correspondingly easier to appreciate the overall literature relevant to a subject under discussion. The maps are unsurpassed for a commercial publication and the photographs are well chosen.

This first volume of Atkinson's emerging Liberation Trilogy will soon be iconic if it is not already. I strongly recommend it to students of World War II and to casual readers looking for a thoughtful and gripping campaign account. **JFQ**

Brigadier General John S. Brown, USA, is commander, U.S. Army Center of Military History.

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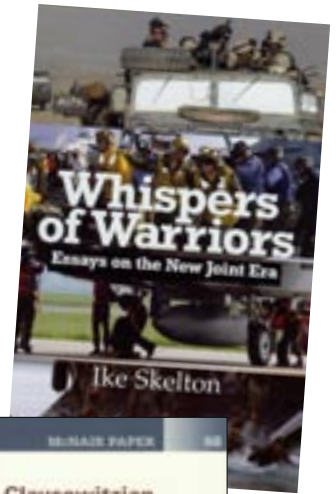
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