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## Developing Leaders for Transformation

by
Lieutenant General
Mike Steele
*see page 2*

# Asymmetric Warfare

# Report Documentation Page

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# *From the Editor*

Do you ever feel as if we have it backward—as if we're talking about missile defense before assessing threats, choosing weapon systems before nailing down a strategy, losing officers when we need them most? If you feel unnerved, this issue of *Military Review* might confirm your suspicions but, at the same time, remind you that good minds are taking on the challenges.

In the opening selection, Lieutenant General Mike Steele discusses findings from the Army Training and Leader Development Panel's recent surveys of officer attitudes and concerns. A follow-on article in the September-October 2001 issue will discuss specific recommendations and directions that officers can expect to see in coming months, even as the noncommissioned officer panel is under way here at Fort Leavenworth and around the Army.

Whether the manifestation is suitcase nukes, computer network attacks or low-tech truck-bombs, the featured theme in this issue is contemporary and compelling: what do we do about terrorism and other forms of asymmetric warfare? Authors discuss asymmetric combat from different perspectives, ultimately offering solutions ranging from concepts to doctrine to training.

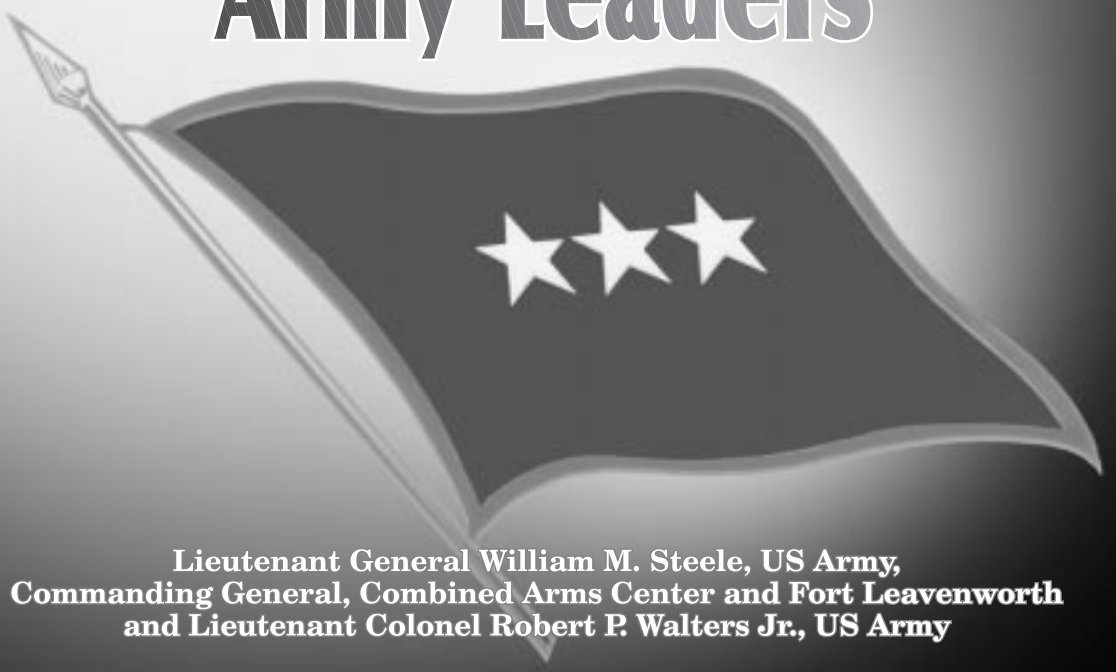
How the Army prepares to fight and win war is changing to deal with such emerging threats. Deployability is at the heart of many initiatives, and authors address that imperative from different angles as well. We need to be lighter to get overseas in time—do we need forces and equipment even lighter than currently projected to assure mobility once in theater? What about fire support during the vulnerable entry phase? Battleships that can steam 500 miles in 24 hours and obliterate the landscape from 25 miles offshore now lounge around the pool at the Old Ships' Home.

Organizations and systems aside, it will be Army leaders who assure victory, and the institution must support field commanders with both intellectual preparation and operational guidance. In particular, during peacekeeping they must understand social dynamics and clearly grasp the relationship between force protection and mission accomplishment—all underwritten by effective decisionmaking procedures.

It's been a long, hard, rewarding ride. I retire at the end of June, and this is my last editorial for *Military Review*. Colonel Melanie Reeder comes aboard from I Corps and Fort Lewis, Washington, to take the reins. Keep the faith.

***LJH***

# Training and Developing Army Leaders



**Lieutenant General William M. Steele, US Army,**
**Commanding General, Combined Arms Center and Fort Leavenworth**
**and Lieutenant Colonel Robert P. Walters Jr., US Army**

***General Shinseki chartered the Army Training and Leader Development Panel (ATLDP) to study training and leader development in light of Army Transformation and the new operational environment. As part of the Transformation process, the panel was asked to identify the characteristics and skills required for leaders of the transforming force. General Shinseki also tasked the panel to examine the current systems for training and leader development to see what changes would provide the best leaders for our Army and the best Army for our nation. The study was released 25 May.***

THE 21ST CENTURY brings new challenges for Army leaders. Information is now a doctrinal element of combat power, and technologies associated with information offer the potential to change the way the Army wages war. Technology that provides real-time information throughout our combat formations is seen by many as our edge against industrial-age armies. But technology alone cannot provide the dominance required to win. The centerpiece of our formations remains quality leaders and their soldiers . . . not technology.

Technology is only a part of the equation. The more complex portion is leadership. The key to victory is the combination of information-age technology and capable leaders who enable the United States Army to dominate adversaries on full spectrum battlefields. Armed with better situational understanding, leaders can make bold, quick decisions to solve complex problems. Changing missions and increased urban and complex terrain call for self-aware leaders who can operate and adapt across the full spectrum of operations. In today's operational environment, tactical actions by lieutenants, sergeants, corporals and their commanders can have strategic consequences with lasting impact on National policy. These demands highlight the need to assess our current training and leader development doctrine and programs to determine whether they will provide the leaders required for increasingly complex battlefields that are anticipated over the next 25 years.

More than a decade after the Cold War ended, the unitary, exclusive focus on fighting the Soviet Union is gone. US strategy and interests mandate an Army trained and ready for major theater wars, smaller-scale contingencies and peacetime military engage-

ments. The foundation of this full spectrum credibility is our ability to dominate land combat. Our demonstrated warfighting ability enhances deterrence by allowing the National Command Authority to deter conflict and, when deterrence fails, to enter and dominate combat on our terms. Adversaries know they cannot win conventional, high intensity clashes with US forces, so the threat to Army forces is increasingly unconventional and asymmetric. Threats have ready access to off-the-shelf technologies that can confound our units and inflict casualties as much for political effect as for tactical advantage. Battles will migrate into urban and complex terrain where US standoff weapons offer few advantages and the proximity of noncombatants limits US firepower. The elusive threat in close, complex terrain will challenge our leaders and their soldiers as never before.

Technology continues to change the way the Army trains and operates. Increasingly lethal weapons and breakthroughs in command and control improve US forces' effectiveness, but not uniformly. Legacy, digital and Interim forces operating in the same area challenge commanders and staffs to combine their capabilities effectively. US forces lack a technological monopoly; even adversaries without a research and development capability can purchase remarkably sophisticated systems. Army leaders in this technology-rich environment must be able to adopt emerging capabilities and adapt them to their rapidly changing operational environment.

Success in full spectrum operations depends on leaders who consistently make better and faster decisions than their opponents, which means battle command education and training must evolve and expand. Materiel approaches and technological advances are only tools that leaders leverage. Commanders must visualize an expanded battle space; describe it clearly; direct soldiers, units and systems to accomplish their missions; and lead from the front. Understanding, confidence and trust between commanders and subordinates enable everyone to exploit opportunities, even in the absence of orders. Battle command in this new operational environment requires relevant operational and educational experiences to train and develop leaders. The emerging question is whether current Army training and leader development systems are adequate to produce leaders for these information-age battlefields.

The Army established its current training doctrine in 1987 to meet Cold War needs and described it in Field Manual (FM) 7-0 (25-100), *Training the Force*, and FM 7-10 (25-101), *Battle Focused Training*. The doctrine's training principles and training management process have served the Army well. Today, a primary criticism concerning training doctrine is simply that leaders are not following the principles or the training management process. Increased taskings, high personnel tempo, excessive operational pace and undermanned units seriously degrade unit efforts to apply the doctrine. Solid training based on mission essential task lists (METL) competes with requirements for installation and community support, nonmission training and last minute taskings. The Red, Amber, Green training management process blurs and collapses when units are tasked regardless of their cycle. Unit training is top driven, not determined at the lowest tactical level, and the quarterly training brief has deviated from its doctrinal intent as a training contract with higher headquarters.

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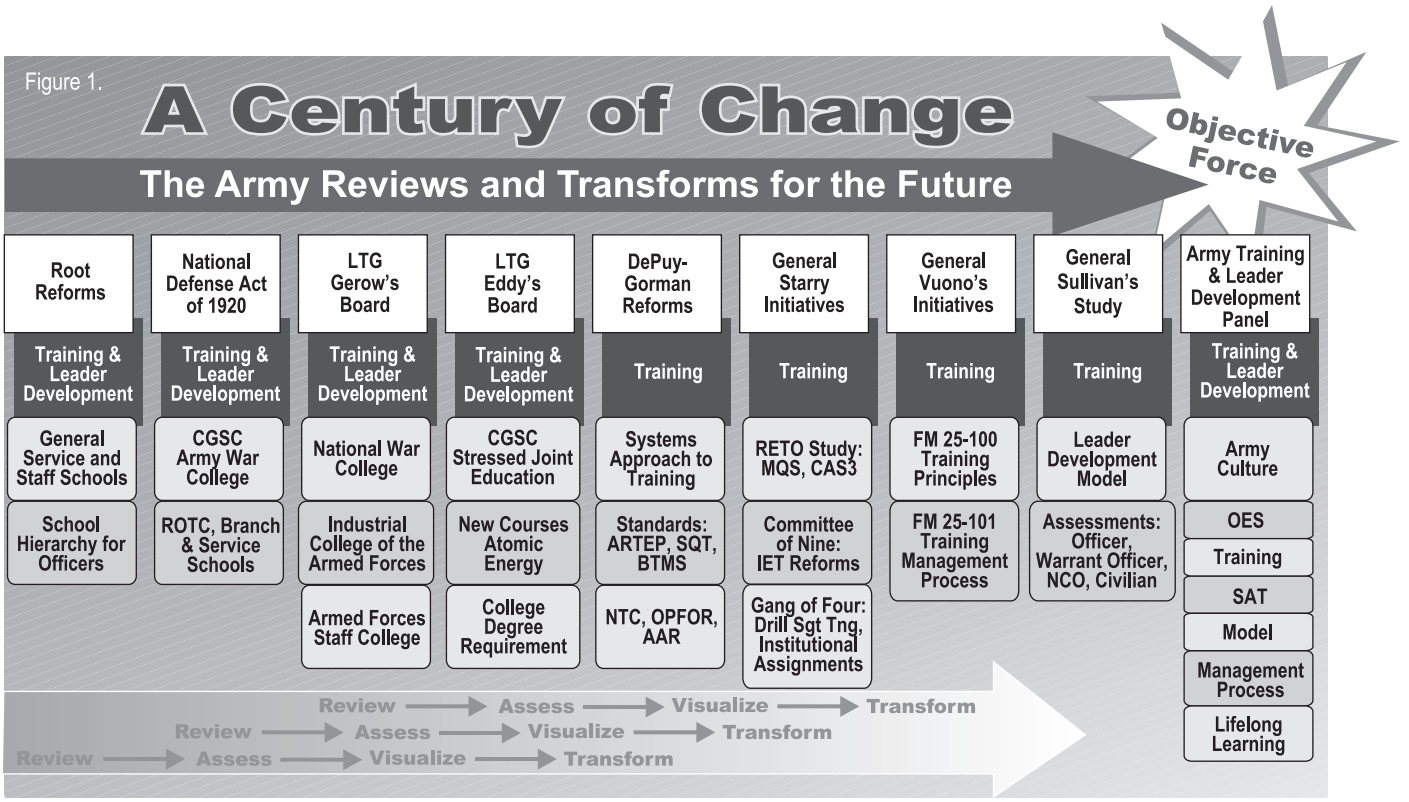
Changes in the operational environment, the National Military Strategy and force structure require the Army to reevaluate training doctrine and techniques. Fundamentally sound principles from current doctrine, such as standards-based METL training, assessments and feedback for leaders, units and the Army, should continue to provide the foundation for the next generation of training doctrine.

Like current training doctrine, Army leadership doctrine has roots more than a decade old. In a leader development study directed by General (GEN) Carl E. Vuono and completed in April 1988, GEN Gordon R. Sullivan, then Deputy Commandant of the US Army Command and General Staff College, concluded that the Army has two primary leader development tasks. First, the Army must develop leaders who can prepare the force for war. Second, the Army must develop leaders who can apply doctrine to win battles and campaigns. A key recommendation of the Sullivan Study was a formal Army leader development system. This system now includes a leader development model that

Figure 1.




**Our leaders and their soldiers must be at the center of our Transformation efforts. Otherwise, we will remain focused on technology, platforms and weapon systems at the expense of Transformation's center-of-gravity . . . our people. Using technology, our leaders can dominate full spectrum battlefields, and developing those leaders is the best preparation for an uncertain future.**

addresses the importance of institutional training and education, operational experience and self-development. Common doctrine-based standards for development and evaluation, such as officer Military Qualification Standards and soldier manuals are central features of today's Army Leader Development Model.

An Army looking toward the future must determine the best ways to train and develop leaders for full spectrum operations. From peacekeeping to preparing for war, our Army asks a great deal of leaders. As missions demand more of leaders, our training and leader development challenges increase. How should we adapt to these challenges?

The Army has always adopted a forward-looking attitude, and periodically we have sought self-reflection and self-assessment to measure our capabilities against future requirements. This has occurred about once per decade over the past century. Examples include Elihu Root's reforms in 1902, the National Defense Act of 1920, Lieutenant General (LTG) Leonard T. Gerow's and LTG Manton S. Eddy's boards, GEN William E. DePuy's and GEN Paul F. Gorman's reforms, GEN Don Starry's initiatives, GEN Vuono's training principles and training management process, and the Sullivan Study. Such introspection characterizes a true profession, and today's Army welcomes such self-examination.

On 1 June 2000, the Chief of Staff, US Army, (CSA), GEN Eric K. Shinseki, directed the Commanding General, US Army Training and Doctrine Command (CG, TRADOC), to convene an Army panel to review, assess and provide recommendations for developing and training our 21st-century leaders. The CSA designated CG, TRADOC, as the executive agent for the study and subsequently designated the CG, US Army Combined Arms Center, as the study director. GEN Shinseki chartered the Army Training and Leader Development Panel (ATLDP) to study training and leader development in light of Army Transformation and the new operational environment. While Transformation's

US Army

*"Soldiers are the centerpiece of our formations."*
Elements of the 92d MP Company respond to a mob in Kosovo.

**Changing missions and increased urban and complex terrain call for self-aware leaders who can operate and adapt across the full spectrum of operations. In today's operational environment, tactical actions by lieutenants, sergeants, corporals and their commanders can have strategic consequences with lasting impact on National policy.**

warfighting concepts, doctrine, force structures and materiel solutions have received most attention to date, the panel's review shifted our focus to leaders, soldiers and units as the "centerpiece of our formations." As part of the Transformation process, the panel was asked to identify the characteristics and skills required for officer, noncommissioned officer (NCO) and warrant officer leaders of this transformed force. GEN Shinseki also tasked the panel to examine current systems for training and leader development to see what changes would provide the best leaders for our Army and the best Army for our nation.

For the commissioned officer portion of the study, the ATLDP task organized four study groups, an integration team and a Red Team. The study groups comprised senior NCOs and company and field grade officers serving throughout the Army. Three study groups assessed the unit, institution and self-development pillars of the Army's Leader Development Model. A fourth study group examined Army culture as it relates to officer development, service ethic and retention. Senior officers, NCOs, civilian experts from industry and academia, and GEN (Retired) Frederick M. Franks—our senior mentor—provided the panel with advice and direction. The integration team provided analytic, planning and logistic support. The Red Team provided real-time, critical review of the panel's process and findings. The panel's analytic process was thorough, concentrating on the specified and implied tasks directed by the CSA and CG, TRADOC. Members used comprehensive surveys, focus groups, personal interviews and independent research to compile data for analysis. Study groups traveled around the world and interviewed more than 13,500 Army leaders and their spouses. Most of those surveyed were lieutenants, captains and majors.

The ATLDP used a disciplined process to determine issues, collect data, form conclusions and make recommendations. Detailed mission analysis and investigation of the issues became the basis of survey instruments and field interviews. The broad sample from soldiers across the Army lends ultimate credibility to the panel's conclusions and recommendations. Input from the Army was informative, candid and heartfelt. As expected, leaders identified many strengths and weaknesses in our present

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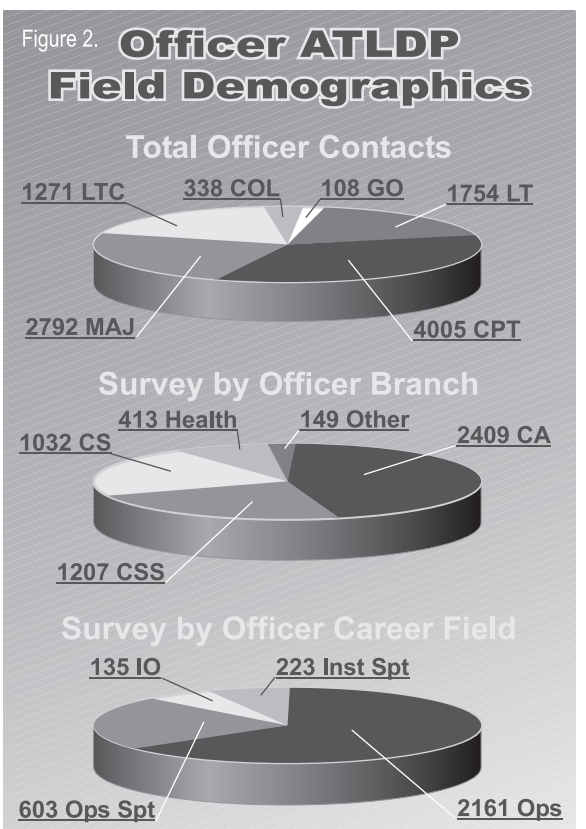
programs. Foremost among our strengths were the strong sense of service and commitment to the Nation and Army, the value of operational and educational experiences, the benefit of leadership opportunities and recognition that our combat training centers (CTCs) remain the crown jewels of Army training and leader development. The revealed weaknesses include an undisciplined operational pace; lack of senior-subordinate confidence and contact; micromanagement; personnel management; the Officer Efficiency Report (OER); validity of the current Officer Education System (OES); currency of training standards; resources for home station and CTC training; outdated training aids, devices, simulations and simulators (TADSS); and the lack of a sound training and leader development management system. The panel energetically discussed these and other issues and determined that several require immediate attention. They are so important and the need for change so significant, we considered them strategic imperatives. A brief synopsis of each follows.

**Army culture.** There is a strong relationship between Army culture and the quality of training and leader development programs. Army culture must operate routinely within an acceptable band of tolerance between what the Army expects of its leaders and what leaders expect from the Army. Any change that widens the gap between Army beliefs and practices threatens readiness, soldier and unit training, and leader growth. That widening gap between beliefs and practice leaves our Army culture out of balance. One pressure on the acceptable band of tolerance is micromanagement. Junior officers need opportunities to develop; they need commanders who trust them and are willing to underwrite mistakes. Additional tensions arise from the undisciplined operational pace and an OER system and application yet to be accepted by our officer corps. Further, lieutenants want to be platoon leaders and lead soldiers, not serve in captain staff positions for which they are not trained. They are disappointed because they are rushed through developmental leadership positions and often do not have the opportunity to master tactical and technical leadership skills. When junior officers are quickly processed through key developmental positions, their expectations of leading soldiers are cut short. Unmet expectations and insufficient contact with battalion and brigade commanders reduce job satisfaction. Without early, quality tours leading soldiers, junior officers seriously consider other career opportunities—a retention concern for the Army.

**Officer Education System**. The OES does not train and educate officers in the skills they need for full spectrum operations. Schools should meet Army-directed accreditation and be staffed with our most professionally qualified intructors educating our least qualified officer students. The new operational environment emphasizes the need for joint operations. This translates to a necessity for joint education. Our OES provides Joint Professional Military Education (JPME) Phase I during the Com-



US Army

10th Mountain Division soldiers line up on the tarmac to deploy (again).

**A primary criticism concerning training doctrine is simply that leaders are not following the principles or the training management process. Increasing taskings, high personnel tempo, excessive operational pace and undermanned units seriously degrade unit efforts to apply the doctrine. Solid training based on METL competes with requirements for installation and community support, nonmission training and last minute taskings. The Red, Amber, Green training management process blurs and collapses when units are tasked regardless of their cycle.**

mand and General Staff Officer Course, but access to the critical joint education provided during JPME Phase II is limited. The OES must adapt to meet the needs of the transforming Army and the realities of the operational environment. Largely untouched since the end of the Cold War and progressively underresourced during downsizing, the OES is not coordinated with Army needs. The OES requires a new approach that focuses each school on a central task and purpose; promotes officer bonding, cohesion, trust and lifelong learning; links schools horizontally and vertically; synchronizes educational and operational experiences; and educates officers to common standards.

**Training**. Army training doctrine is fundamentally sound but must be adapted to reflect the new operational environment. Additionally, units cannot execute home station training in accordance with Army training doctrine because of undisciplined application of that doctrine and resource shortages. Our training system must be re-

Figure 3.

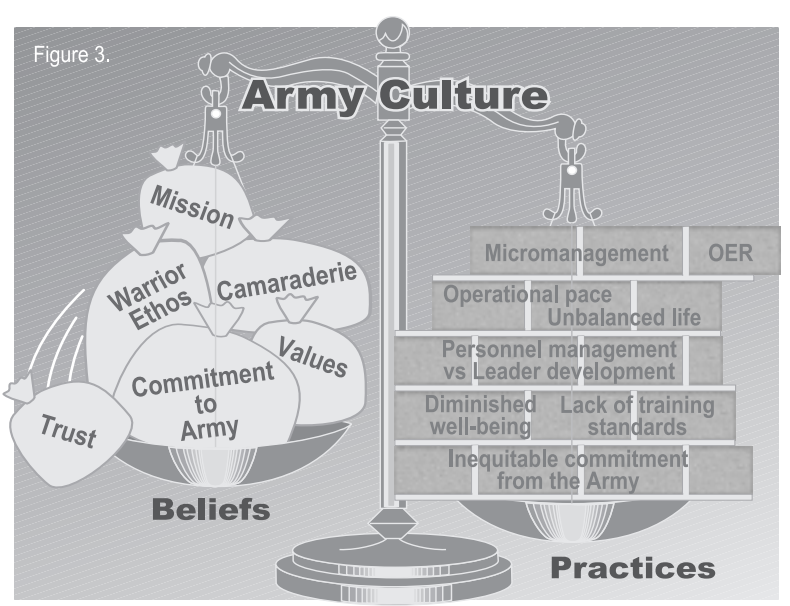


Figure 4.


**Using technology, our leaders can dominate full spectrum battlefields, and developing those leaders is the best preparation for an uncertain future. The ATLDP has taken a self-generated, introspective review of our training and leader development programs. The entire Army participated in the officer portion of the study to provide credible conclusions and recommendations. A similar process will review warrant officer and noncommissioned officer programs this summer.**

vitalized. Training doctrine needs to be updated, home station training improved and CTCs recapitalized and modernized. Training doctrine—FM 7-0 (25-100) and FM 7-10 (25-101)—must adapt to account for the new operational environment. This training doctrine must also be nested with doctrine in FM 3-0 (100-5), *Operations*, and FM 6-22 (22-100), *Army Leadership*. In the meantime, commanders and units must adhere to existing training doctrine, principles and practices to help reduce operational pace and discipline training management. The Army must provide commanders with sufficient resources, including improved TADSS, to improve home station training. Finally, the Army must recapitalize, modernize, staff and resource the CTCs to provide full spectrum, multi-echelon, combined arms training and leader development experiences.

**Systems approach to training**. We must return to standards-based training, the strength of Army readiness during post-Vietnam reforms. Standards served our Army well as we transformed from Vietnam to the Army of Excellence that fought *Desert Storm*. Standards-based training can do the same for our transforming Army today. While standards have been the basis for developing training, assessing performance and providing feedback, the systems approach designed to document and publish training standards has atrophied. The Army lacks training and education publications and standards for its Legacy and Interim forces. Without documented, accessible and digital standards, readiness among our soldiers, leaders and units will falter and endanger battlefield success.

**Training and leader development model.** The existing leader development model is outdated, and there is no training model. The Army needs a model that clearly shows leaders, staffs and outside agencies how training and leader development are interrelated and mutually supporting. This training and leader development model must emphasize Army culture; mandate standards for soldiers, leaders and units; provide feedback to leaders, units and the

Army; allow for self-development; balance operational and educational experience; and be founded on sound training and leader development principles. The model should produce self-aware, adaptive leaders, and trained and ready units. By focusing institutional education, guiding field training and advocating self-development, the model will describe a lifelong learning paradigm. It should also promote a mature management process that continually addresses training and leader development issues and provides feedback for the CSA.

**Training and leader development management process.** The Army has no management system for training or leader development, and without one, we risk losing sight of the reasons for change. An iterative, collaborative and comprehensive management process is needed to measure progress, adjust priorities and apply resources. Initially, this process should provide a quarterly CSA decision forum to build momentum, interest and enthusiasm for these programs throughout the Army.

**Lifelong learning.** Army culture underwrites leaders' commitment to lifelong learning through a balance of educational and operational experiences, complemented by self-development to fill knowledge gaps. To be a learning organization that supports this lifelong learning the Army must:

- Provide training, education, standards and products for leader development.
- Provide doctrine, tools and support to foster lifelong learning.
- Provide balanced educational and operational experiences supported by self-development.
- Develop and maintain a web-based Warrior Development Center that publishes standards, training and education publications, doctrinal manuals, assessment and feedback tools and provides distance and distributed learning programs for self-development.

**Any change that widens the gap between Army beliefs and practices threatens readiness, soldier and unit training, and leader growth. That widening gap between beliefs and practice leaves our Army culture out of balance. One pressure on the acceptable band of tolerance is micromanagement. Junior officers need opportunities to develop; they need commanders who trust them and are willing to underwrite mistakes.**

Leaders and soldiers must be at the center of our Transformation efforts. Otherwise, we will focus on technology, platforms and weapon systems at the expense of Transformation's center of gravity . . . our people. Using technology, our leaders can dominate full spectrum battlefields, and developing those leaders is the best preparation for an uncertain future. The ATLDP has taken a self-generated, introspective review of our training and leader development programs. The entire Army participated in the officer portion of the study to provide credible conclusions and recommendations. A similar process will review noncommissioned officer and warrant officer programs this summer. The officer study revealed the seven strategic imperatives outlined above. Detailed discussion, conclusions and recommendations regarding each imperative will be featured in the next issue of *Military Review*.

*Lieutenant General William M. Steele is the study director for the Army Training and Leader Development Panel. He is the commanding general, US Army Combined Arms Center and Fort Leavenworth, Kansas. His career includes six tours (more than 12 years) in the US Army Training and Doctrine Command (TRADOC), during which he addressed training and leader development issues. He has commanded at every level from company through division and Army major command. His command and staff positions include commanding general, US Army Pacific, Fort Shafter, Hawaii; director for operations, J3, US Atlantic Command, Norfolk, Virginia; commanding general, 82d Airborne Division, Fort Bragg, North Carolina; deputy commandant, US Army Command and General Staff College, Fort Leavenworth; assistant division commander, 8th Infantry Division (Mechanized), US Army Europe and Seventh Army, Germany; assistant commandant, US Army Infantry School, Fort Benning, Georgia; executive officer to the commanding general, TRADOC, Fort Monroe, Virginia; commander, 1st Brigade, 82d Airborne Division, Fort Bragg; and commander, 2d Battalion (Airborne), 504th Infantry, 82d Airborne Division. His article "Army Leaders: How You Build Them; How You Grow Them" was published in the August 1992* Military Review.

*Lieutenant Colonel Robert P. Walters Jr. is aide-de-camp for the commanding general, US Army Combined Arms Center and Fort Leavenworth. He received a B.A. from the University of Maryland, an M.P.A. from Golden Gate University and an M.A. from Webster University. He is a graduate of the US Army Command and General Staff College. He has served in various command and staff positions in the United States, Korea, Persian Gulf, Haiti and Bosnia.*

# Airmechanization

**Brigadier General David L. Grange, US Army, Retired;**
**Lieutenant Colonel Richard D. Liebert, US Army Reserve;**
**and Major Chuck Jarnot, US Army**

***Tactical and operational maneuverability need not be constrained to two dimensions if forces are light enough for transport by Army helicopters and Air Force C-130s. Does Transformation need to expand conceptually within the third dimension of tactical warfare? Does Transformation need to shrink materially to field airmechanized vehicles? While the authors describe a future force of vehicles even smaller than those the Army is now considering for the Interim and Objective Forces, Isenberg's sidebar warns that when you need heavyweights, you'd better have them.***

*Superior mobility must be achieved if we are to surprise our opponent, select the terrain on which we are to fight and gain the initiative. There is no alternative. If we are slow in movement, awkward in maneuver, clumsy in deployment—in a word, not mobile—we can expect to be forestalled, enveloped or constrained to launch costly frontal attacks against an enemy advantageously posted.*

—Infantry in Battle, *The Infantry Journal*, Washington DC, 1939

TRANSFORMATION IS A TIME for developing new concepts, organizations and capabilities for dealing with adversaries and maintaining relevance with our national security strategy. In concert with the other US Armed Forces, the Army should have rapid global reach for conducting major theater wars, smaller-scale contingencies and peacetime military engagements. The current geopolitical environment, effects of globalization, critical regional resources, vulnerable trade routes and continued economic growth require an Army that can access landmass interiors and resolve a situation quickly and decisively with tailored overmatch. All this must be done while operating from exterior lines, a requirement no other country has on the scale of the United States.

To be strategically deployable, the Transformed Army must maximize critical airlift to move heavy, medium and light force packages anywhere in the world rapidly. This transformed force must optimize the synergistic use of US Army and US Air Force (USAF) systems for immediate operational maneuver regardless of enemy strategies to deny use of airfields, seaports and forward bases. To have tactical mobility in all types of terrain, forces must have fast-moving, protected vehicles and a vertical lift capability. A force today must have multipurpose systems for versatility, organizational flexibility to act freely throughout the area of operations and adaptability to immediately move from peace support operations to combat. It is unadvisable to depend on only one method of operation, which the enemy has been studying to counter.

## Operational Reality

During the Cold War the US National Military Strategy (NMS) centered on a policy of containment, which required robust forces forwardly deployed in Europe and Asia. Extensive basing with well-developed interior lines and mature infrastructure characterized US force disposition. Mobilization and methodical phased deployment fo-

cused on sending troops to stored equipment sites to support a defensive doctrine. Rapid deployment was a relatively low strategic priority. Without the influence of two superpowers, regional stability has decreased since the end of the Cold War. Irregular forces, rogue states, terrorist groups and transnational criminal organizations have found the environment ripe to exploit. In response, US forces have conducted operations from humanitarian assistance to peacekeeping, to smaller-scale contingencies—all while maintaining readiness for major conflict—despite fiscal constraints and a massive reduction in force structure.

Today's requirements demand the ability to project forces rapidly worldwide with an overmatch capability throughout the spectrum of conflict. This means operating almost exclusively from exterior lines with versatile, substantial, joint forces capable of swift offensive action. Potential adversaries recognize our dependency on secure ports and airfields along with the time required to build combat power. It is unlikely that US forces will be allowed *Desert Storm* buildup luxuries in future conflicts. Dangerous geopolitical and technological trends, along with antiaccess weapons such as long-range missiles and weapons of mass destruction, demand an extended-range, power-projection, forced-entry capability.

The US Navy and Air Force strike capability, along with the littoral reach of the US Marine Corps, provides rapid projection of US forces, a vital component of the NMS. Projecting decisive Army land power also depends on the Navy and Air Force. Current Army force structure, built to defend against a Soviet invasion of Europe, has extremely heavy divisions that are difficult to project or extremely light forces that lack mobility, lethality and protection. US Army Chief of Staff General Eric K. Shinseki set a bold new course to correct the too-heavy, too-light force structure. His Transformation initiative is designed to field medium-size forces that have sufficient mobility, lethality and protection, and are light enough to be projected quickly into the theater. This vision will close the gap in Army landpower projection. Shinseki set specific goals of projecting a brigade-sized combat team worldwide in 96 hours and an entire division in 120 hours. These tough standards will require new paradigms and creative approaches.

For Army Transformation to remain relevant, it must be integrated into Joint Vision 2020 based on dominant maneuver, precision engagement, focused logistics and force projection, supported by information superiority and quality leadership. This Transformation is structured with three forces:

***Army Transformation is focused on deploying a combat brigade via C-130 aircraft. Interim and Objective Forces will be lighter than legacy brigades but are equipped with combat vehicles that provide more mobility, lethality and protection than current Army light forces. However, as envisioned, they will rely on secured international airports, have no forced-entry capability and employ traditional two-dimensional maneuver warfare.***

- A sustained, recapitalized Legacy Force.
- An Interim Force using available technology.
- An Objective Force equipped with technological breakthroughs.

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***The M113LW has about the same internal space as a LAV-III and, being tracked, superior cross-country and urban mobility. Both vehicles can mount the same weapon systems, including the 105mm cannon armored turret. The band tracks for the M113LW increase the road speed over the stock M113 and make the ride smoother and quieter although the LAV-III has a slight advantage in both areas. The low-pressure footprint of the M113LW reduces mine vulnerability. The M113LW uses existing M113A3s with only minor modifications, resulting in the low acquisition cost of $250,000 each.***

### IBCT European Airmechanized Models

The Army selected the heavy-wheeled light armored vehicle (LAV)-III to equip the interim brigade combat team (IBCT). The LAV-III weighs about 38,000 pounds, combat equipped, which is at the extreme payload envelope of the C-130, limiting landings to long, improved runways. No US helicopter can sling load it. As with most wheeled armored vehicles, the LAV-III is very tall, barely clearing the roof of a C-130, which rules out airdrop. The LAV-III armored gun version is entirely too tall for the C-130. When the LAV-III add-on armor is mounted, the LAV-III weighs 43,000 pounds, which precludes C-130 transport altogether.

The extra weight of the LAV-III is a consequence of the typical arrangement of most wheeled armored cars. US Tank-Automotive and Armaments Command studies found that armored cars are about 28 percent heavier and larger than comparable tracked vehicles. Large wheel assemblies, multiple drive shafts and the numerous gearboxes involved in all-wheel-drive running gear—not additional armor protection—account for the extra weight. The LAV-III's heavy weight is divided among eight wheels, resulting in high ground pressure and dramatically increased vulnerability to mines. Compared with heavy tracked M1 Abrams tanks and M2 Bradley infantry fighting vehicles (IFVs), the LAV-III is far easier to maintain, has much faster road speed, runs dramatically quieter and burns less than 25 percent of the fuel. However, these advantages are only marginal when compared to light tracked vehicles like the M113 family of vehicles. Finally, as an entirely new inventory item, the LAV-III is expensive at $2 million each and will require extended time for high-rate production, mechanics' training and spare parts.

An alternative to the strategy constrained by the LAV-III, the air-mech-strike (AMS) concept achieves the strategic deployment, operational maneuver and tactical mobility necessary for a cost-effective,

US Army

**I Corps soldiers training with LAV-IIIs at Fort Lewis, Washington.**

progressive, joint-friendly, relevant Army Transformation. Other armies around the world have already developed this concept with far less funding than the US Army's.

AMS is the projection of protected mechanized forces by air-land, airdrop and helicopter insertion from both internal and external loads. This full-dimensional maneuver concept emphasizes air transportability to break friction with terrain and obstacles and insert maneuver forces quickly for positional advantage. Recent improvements in the lift capacity of helicopters and the performance of lightweight, armored vehicles have made vertical insertion of mechanized forces possible. Russian, British and German armies already have operational airmechanized forces. The French, Swiss, Swedish and Finnish armies have all recently purchased large numbers of airmechanized vehicles. The People's Republic of China has likewise purchased 200 airmech vehicles from Russia. In contrast, the US Army has the world's largest helicopter fleet but no airmech capability.

Russia's army has had an operational airmechanized force for more than 40 years. In fact, the term "airmechanization" comes from a Russian translation of early work Soviet Field Marshal Tuchechevsky did on this concept in the 1930s. At the height of the Soviet army's strength, there were eight airmechanized divisions equipped with motorcycles, light weapons carriers and the BMD-series armored fighting vehicles. These airborne divisions could parachute mechanized infantry units behind enemy lines or air assault these mechanized forces via Mi-6 and Mi-26 helicopters. Today the reduced Russian army has about three such divisions equipped with more than 2,000 BMD-2 airmech combat vehicles and several hundred new BMD-3s equipped with a tank-like 100-millimeter (mm) cannon. These vehicles are airdrop-capable and helo-transportable, even by US Army CH-47 helicopters.

The British army built a rapidly deployable light armored force in the late 1960s and early 1970s. Its criteria called for a brigade-sized element whose vehicles could be transported by C-130 transports,

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A Wiesel-2 sling-loaded from a UH-60 Black Hawk.

US Army

newly purchased from the United States. The British army selected an 8-ton series of armored vehicles that eventually led to the Spartan troop carrier and the Scimitar fighting vehicle equipped with a shoot-on-the-move, high-velocity, 30mm automatic cannon. The 8-ton design allowed a C-130 to transport two vehicles and a CH-47 helicopter to sling one, making Great Britain the first NATO country with airmechanized capability. A British airmobile brigade conducted an AMS 25 years later over Serbian minefields in Kosovo following the July 1999 air campaign—establishing its sector in only 24 hours. With no such capability, the US Army took several days to occupy its sector fully.

In the 1980s the German army, influenced by the earlier Russian and British efforts, decided to reorganize its foot-mobile airborne (parachute) regiment into an airmechanized force. In 1992 the Germans fielded more than 300 Wiesel armored tracked vehicles, which are light enough to sling under a UH-60 Black Hawk. Optimized as a counter-Soviet antiarmored force, these vehicles were equipped with 20mm auto cannons and heavy tube-launched, optically tracked, wire-guided missiles with all-around armor protection from 7.62mm small arms. To improve the brigade's infantry carrying capability in the post-Cold War, the German army is purchasing the Swedish airmech vehicle, the 6-ton BV-206S. This armored, articulated vehicle carries a full 11-troop squad; is still light enough for the CH-47 Chinook to carry; and detaches into two separate cabs that Black Hawks can carry. The British royal marines and the French, Swiss, Swedish, Spanish and Finnish armies are purchasing the BV-206S to gain an airmechanized capability. The US Army operates an unarmored earlier version called the small-unit support vehicle in Alaska. The small sizes of the Wiesel and BV-206S allow the entire German airmechanized brigade to deploy using only 20 Boeing 747 jets, or it can be inserted via parachute from 100 to 150 C-130 sorties.

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## The AMS Concept for the US Army

An improved European-based airmechanized model can work in the US Army. This proposal uses a combination of existing combat vehicles, along with a modest purchase of European airmech vehicles already in production, lift helicopters, USAF aircraft and civilian Boeing 747s. The airmechanized concept optimizes combat vehicles for aircraft transportability. When secure airports are available, Boeing 747s can move an airmechanized brigade's entire combat power, releasing available C-17s and C-5s for transporting outsized force packages such as helicopters, tanks, artillery and multiple-launch rocket systems.

The following option focuses on the four active light divisions. Three classes of vehicles are introduced: airmechanized vehicle—medium (AMV-M) weighing 8 to 10 tons, airmechanized vehicle—light (AMV-L) weighing 3 to 7 tons and military all-terrain vehicles (MATVs) weighing 500 to 4,000 pounds. For simpler comparisons the four light divisions are centered on the three types of airmech vehicles. Actual organizations should consist of combinations in various percentages.

**AMV-M design.** The US Army's 10th and 25th light divisions are reorganized using a modified lightweight M113 armored personnel carrier employing band tracks and Kevlar hatches (M113LW) as the prime candidate for the AMV-M. Each division has three brigades of 300 M113LWs each. The M113LW weighs about 19,000 pounds (the M113A3 weighs 23,000) and can be sling-loaded by a CH-47 helicopter. Two M113LWs can be transported by C-130 as opposed to one LAV-III. Add-on armor carried in follow-on aircraft can increase protection up to the LAV-III's 14.5mm proof standard. The M113LW has about the same internal space as a LAV-III and, being tracked, superior cross-country and urban mobility. Both vehicles can mount the same weapon systems, including the 105mm cannon armored turret.

The band tracks for the M113LW increase the road speed over the stock M113 and make the ride smoother and quieter although the LAV-III has a slight advantage in both areas. The low-pressure footprint of the M113LW reduces mine vulnerability. The M113LW uses

***The 101st Air Assault Division is reorganized around the purchase of 900 European 3- to 7-ton AMV-Ls, 300 per brigade combat team. The two leading candidates are the German Wiesel-2 and the Swedish BV-206S tracked armored vehicles. A squad would require two Wiesels, carrying six troops each, but could be sling-loaded by one UH-60 helicopter. The BV-206S is larger with room for full squads of 11 troops but requires three UH-60s to sling load two complete vehicles with cabs separated.***

A Wiesel-2 mounting a 120mm mortar.

MaK, System Gesellschaft mbH

***Russian, British and German armies already have operational airmechanized forces. . . . The People's Republic of China has likewise purchased 200 airmech vehicles from Russia. In contrast, the US Army has the world's largest helicopter fleet but no airmech capability.***

existing M113A3s with only minor modifications, resulting in the low acquisition cost of $250,000 each; a fast fielding time line; and excellent sustainability by leveraging the parts and maintenance know-how of the existing M113A3 fleet. Finally, the M113LW's low weight and compact size facilitate transport by commercial aircraft, which can deliver an entire M113LW brigade by 60 Boeing 747 sorties.

**AMV-L design.** The 101st Air Assault Division is reorganized around the purchase of 900 European 3- to 7-ton AMV-Ls, 300 per brigade combat team. The two leading candidates are the German Wiesel-2 and the Swedish BV-206S tracked armored vehicles. A squad would require two Wiesels, carrying six troops each, but could be sling-loaded by one UH-60 helicopter. The BV-206S is larger with room for full squads of

# Is Army Deployability Overemphasized?

David Isenberg

H.L. Mencken, the famed sage of Baltimore, wrote that for every problem there is a nice, neat solution, which is inevitably wrong. The same might be said for critics who claim that the US Army's new heavy weapon systems, such as the Crusader self-propelled howitzer or the M1A2 system enhancement package (SEP), are not suitable for the Army's 21st-century transformation strategy, which seeks to make major Army weapons lighter and air deployable.[1] Such single-minded critics fear that these high-tech weapon systems cannot be transported aboard a C-130. However, they fail to see the bigger problem—the breathtaking and almost hidden presumption that all future conflicts will be relatively minor intrastate affairs.

Smaller-scale contingencies will require US ground forces to be deployed overseas at unprecedented speeds: a combat brigade of up to 3,500 troops in four days and a division of 12,000 in five. The risk is simple: will future US Army forces, lacking heavy direct- and indirect-fire weapons, be ready to take on a well-armed aggressor? Historically, deficiencies in heavy fire support do not become obvious until large ground forces are deeply embroiled in combat.[2]

Without heavy forces, how does an army move forward 20 to 50 kilometers (km) a day and live to tell the tale? Transformation advocates explain that future forces will not move 20 km a day but 150, finding safety inside the enemy's observe, orient, decide, act loop. What happens if the enemy is not there at the end of a 150-km hop? What if he has the initiative elsewhere and you lose visualization of the battle? At that point, will it not be just enemy tanks against your wheels? Can we afford to commit to combat if we cannot hold our own?

The United States does not face a high probability of major interstate war. However, the probability is not zero. It was only in 1994 that Saddam Hussein once again threatened to invade Kuwait, and a few months later, Pyongyang threatened to invade South Korea.[3] Moreover, the presumption that the future will involve only low- and medium-intensity conflicts runs counter to a 250-year trend in warfare. Since the mid-18th century, armies have inexorably increased the weight of their armaments as well as their manpower requirements. The United States went from a million-man force during the Civil War, to an expeditionary force 2.8 million strong during World War I, to a gargantuan force of 12 million during World War II. History hardly disproves the claim that we have recently crossed some watershed and reached the end of an era. Such sea change is clearly possible. However, it takes more than Pentagon officials' unsupported assertions to prove the case.

In fact, criticism of the Army's deployment capabilities has entered the realm of the absurd. Because the Army has experienced problems deploying heavy ground combat power, such as the 1999 war over Kosovo, critics have illogically challenged the future relevance of major ground combat forces. More important, the Army itself has not ruled out the possibility of major combat operations. A case in point is the Army's positioning of bulky equipment. Today the Army has seven heavy-brigade sets of equipment pre-positioned: one in Italy, Kuwait, Qatar and South Korea; two in Central Europe; and one afloat.[4]

Agreeing with the Army, the congressionally mandated US Commission on National Security/21st Century noted in 2000 that future US military capabilities should still include "conventional capabilities necessary to win major wars."[5] The very fact that the United States is now the world's dominant economic and military power makes it certain that rivals seeking regional hegemony will modernize conventional forces to take advantage of US force structure vulnerabilities.[6] This is especially so because the US military shapes the international order.

Critics confuse the probability and number of future interstate wars with the likelihood of firepower-intense conflicts. It is not difficult to foresee future operations, short of a major interstate war, in which the firepower provided by Crusader and the M1A2 SEP would be necessary to counter our adversaries. States can easily obtain sophisticated weaponry. A recent study authorized by the National Intelligence Council noted that technology diffusion "will accelerate as weapons and militarily relevant technologies are moved rapidly and routinely

11 troops but requires three UH-60s to sling load two complete vehicles with cabs separated. Both vehicles offer all-around 7.62mm ball protection with add-on armor to stop 7.62 armor-piercing rounds. Light footprints make these two vehicles unlikely to set off pressure-detonated antitank mines; however, in a blast sequence, the vehicles are less survivable than the M113 or LAV-III. Low-recoil auto cannons up to 30mm can be carried along with every known antitank guided missile and the heavy 120mm mortar.

While the Wiesel and LAV-III have comparable road speeds, the BV-206S is slower. The BV-206S has superior terrain agility; its articulated track system allows it to negotiate large obstacles, swampland, wooded terrain and steep slopes. The two separate cabs of the BV-206S also

***[For the proposed Active light divisions] three classes of vehicles are introduced: airmechanized vehicle—medium (AMV-M) weighing 8 to10 tons, airmechanized vehicle—light (AMV-L) weighing 3 to 7 tons and military all-terrain vehicles (MATVs) weighing 500 to 4,000 pounds.***

across national borders in response to increasingly commercial rather than security calculations."[7] Deploying a force that is operationally capable and genuinely respected by its enemies ensures force protection. Getting a lightly armed force to the conflict zone—even if it arrives first—will not.

No one can be confident that the revolutions in warfare and the concomitant rush to transform US military forces allow greater reliance on air and naval standoff capabilities and less on ground forces. Using air power for nearly a decade after defeating Iraq during Operation *Desert Storm* has not removed Hussein's threat. And, using air power in Operation *Allied Force* to force Serbia to withdraw from Kosovo was plagued with enough problems to cause the Clinton administration to contemplate using ground forces almost to the very end.

Our new tanks and cannon field artillery will provide increased and more accurate firepower from longer distances and the ability to share battlefield intelligence with ships and aircraft. Moreover, using tube artillery instead of missiles does not exclude precision fires. The latest howitzers are two-fers. In addition to firing inexpensive iron rounds, advanced cannons could deliver precision submunitions inside 30-foot circles. Considering that the standard 155-millimeter projectile's normal bursting radius is around 100 feet, the cannon critics' single-minded preference for missiles seems all the more misplaced.

Finally, there is a remarkable lack of hard data backing up the presumption that US forces must be able to deploy immediately to fight successfully and defeat an opponent. Consider the cases in Iraq and Taiwan. Although air power has not unseated Hussein, it has quite capably contained him. US Central Command's ability to slow down an Iraqi attack has improved since *Desert Storm*, through regular exercises, pre-positioned materiel and the much lower readiness level of Iraqi military forces. US ground forces have more time to deploy to the theater to defeat Iraq decisively, should it attack anyone in the Middle East again.

In Taiwan, it is improbable that China could successfully mount a surprise amphibious assault against the main island because it is unlikely China can quickly achieve air superiority. While the long-term threat to Taiwan remains serious, it is doubtful the People's Liberation Army (PLA) could achieve the maneuver, surprise and strength necessary to land troops where they would not be locally outnumbered and outgunned by defenders. It is unlikely that mainland China will acquire the logistic muscle to strengthen its invading forces faster than Taiwan can reinforce its defending forces. The protracted PLA campaign necessary to put Taiwan in real jeopardy would allow more than enough time for the United States to deploy or pre-position even its heaviest forces.

Major conflicts remain not only possible but probable. However, unlike Federal Express packages, US ground forces do not really have to get there overnight. To make US forces formidable when they do arrive, heavy weapon systems, such as Crusader, are still good investments both for the 21st-century Army and national security in an uncertain world.

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*David Isenberg is an analyst in the Arms Control and Threat Reduction Division, DynMeridian, Alexandria, Virginia. He is an adjunct scholar at the CATO Institute in Washington, DC, and an associate fellow at the Matthew B. Ridgway Center for International Security Studies, University of Pittsburgh.*

allow excellent modularity for mission flexibility and increased survivability through compartmented blast areas. The 101st Air Assault Division has sufficient UH-60 and CH-47 helicopters to insert an entire brigade's maneuver strength in one lift out to a radius of about 200 kilometers (km). Both vehicles cost about $500,000 and are small enough for about 20 Boeing 747 sorties to transport the entire brigade's combat power.

***The 82d Airborne Division is reorganized with 300 wheeled MATVs per brigade and 900 per division. The MATVs would be 4x4 or 6x6 wheeled vehicles, some with limited 5.56mm armor plate. The candidates are the British Supacat and the US-made Flyer 21 and Polaris RANGER. These vehicles would be easy to deploy with stacking capability; one Boeing 747 could transport about 50.***

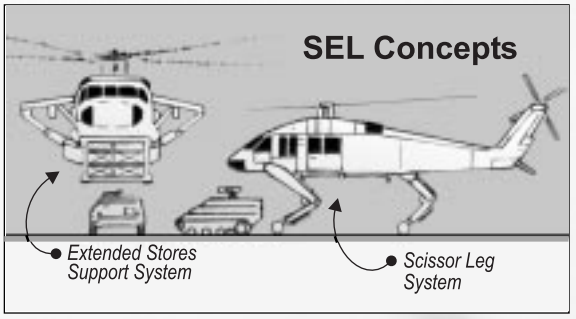
**MATV design.** The 82d Airborne Division is reorganized with 300 wheeled MATVs per brigade and 900 per division. The MATVs would be 4x4 or 6x6 wheeled vehicles, some with limited 5.56mm armor plate. The candidates are the British Supacat and the US-made Flyer 21 and Polaris RANGER. These vehicles would be easy to deploy with stacking capability; one Boeing 747 could transport about 50. The MATV's light weight and small size would also facilitate airdropping large numbers by relatively few T-tail USAF cargo aircraft. The light weight and compact size would facilitate long-range air assaults, employing UH-60 and CH-47 helicopters with auxiliary fuel tanks making insertions out to 400 km. The MATV can carry various weapons up to 40mm automatic grenade launchers, heavy antitank missiles and medium mortars. These vehicles cost about $100,000 and are very easy to maintain. While the MATV would not present a well-protected vehicle like the M113 or BV-206S, the ability to deploy so many in so few aircraft sorties would allow the 82d Airborne Division to be inserted rapidly with excellent ground mobility and more firepower than current foot-mobile brigades with hand-held weapons. The low cost per vehicle makes the option all the more attainable.

## What About Air Defenses?

Air defense artillery affects helicopter flight as antitank defenses do armored maneuver. Both defenses must be suppressed and accounted for in risk-factor planning, but history has shown that the static nature of such defenses normally does not preclude armored or helicopter maneuver. Because AMS forces are mechanized, landing and drop zones can be displaced tens of km away from enemy concentrations and high-density air defenses. If enemy air defenses are too strong to permit helicopter operations, then the AMS brigade can maneuver at mechanized speeds. Sling-loading vehicles, which increases risk, can be replaced by streamlined external-load (SEL) technology already available in the civil helicopter market. Using SEL to carry large external loads close to the underbelly of helicopters greatly improves maneuverability, nearly doubles assault radius and reduces above-ground signatures.

## Future AMS, 2008-2020

Adopting the proposed airmech option provides a foundation for developing more advanced three-dimensional capabilities in the Objective Force. In addition to meeting Shinseki's strategic deployment standards, the concept allows the force to airdrop an entire mechanized brigade in one lift and the option to insert light armor via helicopters out to a combat radius of 200 km—all using 1980s airmech vehicles and 1970s helicopter technology. Recent technological advances in information warfare, combat vehicles, weaponry, signature management and rotary- and fixed-wing aircraft point to revolutionary expansion of three-dimensional maneuver warfare. Committing now to the first stage of airmechanized capability assures institutional conversion throughout the Army that will




Sikorski Aircraft Corp.


(*Right*) A Black Hawk tailored for fire-fighting by adding a specialized SEL. (*Below*) An S-64 Sky Crane with a typical SEL payload, 1965.


US Army

drive leader training and doctrine development to keep pace with future technological maneuver advances.

**The need for increased range.** Army legacy aircraft have a relatively short range and require large cargo aircraft for timely deployment to a crisis theater. This limitation also increases risk in the short 200-km tactical sling-load radius of airmech vehicles. AMS proposes to remedy this shortfall by joining the Navy's vectored thrust ducted propeller (VTDP) modification to the Sikorsky H-60 helicopter series. This technology replaces the tail rotor of the AH-64 and UH-60 with a ducted fan and short wings to nearly double the cruise speed from 120 to 220 knots. This increased speed changes a worldwide, self-deployed, seven- to 10-day challenge to a four-day operation.

Adopting commercially available SEL configurations for the CH-47 and UH-60 would likewise extend the range even further, reducing the risk from enemy air defenses through closer terrain flight. The result of an aggressive 5-year VTDP and SEL program could achieve 4-day self-deployment for Army aviation and double the combat insertion radius from 200 to 400 km. The range increase greatly enhances surprise, flexibility and survivability while multiplying the area of influence of a deployed Army force. These programs would extend the viability of legacy aircraft until about 2015 to 2020 when a future transport rotorcraft (FTR) could be fielded as a CH-47 and UH-60 replacement. FTR would employ revolutionary rotor technologies such as retractable and tilt rotors to achieve 500-knot cruise speeds, same-day self-deployment and a 1,500-km insertion radius for a 20-ton armored vehicle.

**Future combat system (FCS).** Scheduled to arrive with the FTR in 2015, the FCS is the Army's replacement for the M1 Abrams tank and the M2 Bradley IFV. The FCS's common chassis will yield a carrier version weighing 10 tons and an attack version weighing 20 tons. The

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The Piasecki PiAC 16H Pathfinder with wings and vectored thrust ducted propeller, circa 1962. (*Inset left*) The heavily armored AH-56 Cheyenne flew in excess of 400 km per hour in "clean" configuration. Production stopped at 10 aircraft in 1972 because of budgetary problems. (*Inset right*) Artist's conception of the Paisecki components on a Black Hawk.

Kulair Inc.


US Army

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FTR will transport either two carriers or one attack FCS to mass for an operation. Instead of fielding heavy armor, advanced weapons will include hypervelocity rocket penetrators and advanced chemical energy warheads. FCS will use advanced signature-management technologies to hide from sensors and avoid being hit as the principal means of ballistic survivability. Different mission models of FCS will have the same external appearance to complicate enemy imagery calculations. Even fire support platforms, such as trailer-mounted artillery rockets, will appear to be logistic carriers.

**Unmanned aerial vehicle (UAV) and unmanned ground vehicle (UGV) use.** The lighter FCS and FTR force of the future will employ large numbers of UAVs and UGVs. Leaders down to platoon level will be able to launch these relatively inexpensive aerial and ground probes to greatly expand situational awareness and reduce risk to manned reconnaissance. Using ground robotics will also allow commanders to move weapons, ammunition and logistic materiel while reducing the drain on manpower and the risk on soldiers from ambush, land mines and contaminated areas. Organic flying and driving sensors will be tied into larger, more sophisticated platforms with data downlinks, further enhancing commanders' battlefield awareness. By widely using UAVs and UGVs, a two-dimensional enemy force will be especially vulnerable to standoff joint and Army precision munitions, facilitating a better overmatch when the inevitable closure with the enemy and objectives occurs.

**Strategic joint projection improvements**. More sophisticated cargo aircraft, such as the C-17, will be needed to project Army combat power. The aging C-130 fleet will need to be replaced with new platforms that deliver Army forces to unimproved fields employing super-short takeoff

and landing craft. A leading candidate is Lockheed's tilt-wing concept that promises to deliver up to three 20-ton FCSs. Another projecting and sustaining technology for Army land forces is the wing-in-ground (WIG) effect. Large Russian-built prototypes have demonstrated that surface-skimming aircraft can carry four times the load of a current C-5 by using the extra lift associated with ground effect. WIG is a possible replacement for the aging C-5 fleet. The aircraft would be used only over water but could substantially improve early-entry forces' projection and sustainment. Joint mobile offshore bases can also be substantially improved by linking 10 to 12 supertankers together, under a flat deck, projecting Army forces via USAF tilt-wing and FTR systems. Not intended for amphibious Marine-style assaults, these floating bases would be semi-permanent as a partial solution to the lack of forward bases.

US Army relevance in the 21st century depends on the ability to deploy sizable forces rapidly from the Continental United States. Once deployed, they must quickly gain decisive, positional advantage over any adversary throughout the spectrum of conflict. The formula for such a force lies in the concept of airmechanization, which takes advantage of information superiority and provides strategic deployability, forced-entry capability, dominant maneuver, tactical agility, survivability, operations in depth and flexibility for the commander. Two-dimensional warfare will no longer give our forces the overmatch to win. Many of our European allies are already well down the airmech road. The US military already has airmechanization's most expensive element—the most robust helicopter and fixed-wing force in the world. Transformation should capitalize on that capability and enable the Army's full-dimensional maneuver—the money saved can be reallocated to other NMS priorities.

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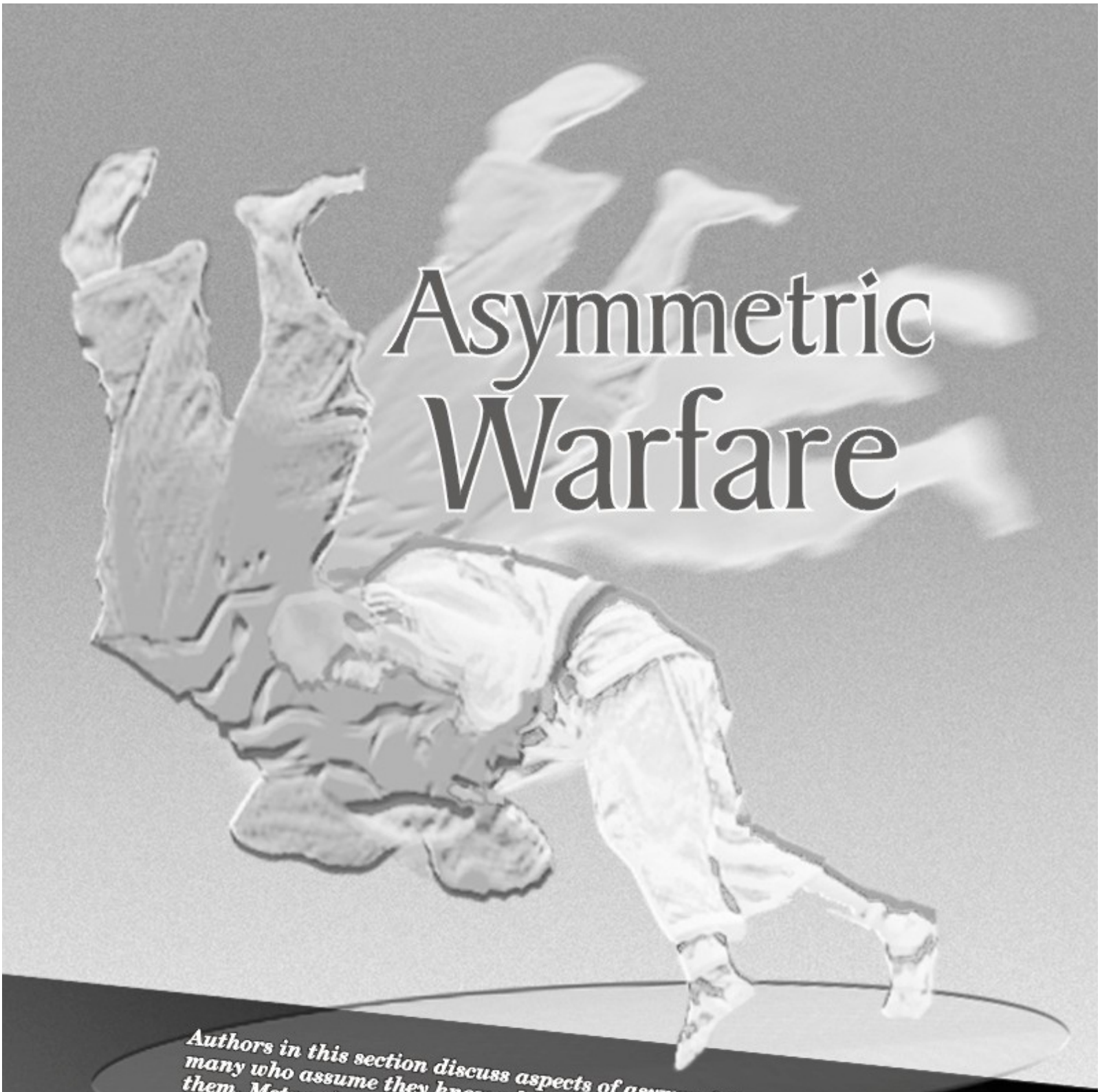
*Brigadier General David L. Grange, US Army, Retired, is executive vice president and chief operating officer of the McCormick Tribune Foundation. He received a B.S. from North Georgia College and an M.A. from Western Kentucky University. He is a graduate of the US Marine Corps Command and General Staff College, the National War College and the British Special Air Service College. He held various infantry and special forces command and staff positions in the Continental United States, Europe, Korea and Vietnam, including commanding general, 1st Infantry Division. He has also commanded the 75th Ranger Regiment; 1st Battalion, 503d Infantry; and a task force during Operation* Desert Storm*. His article, "Task Force Eagle and the Battle of the Buses" appeared in the March-April 2000 issue of* Military Review.

*Lieutenant Colonel Richard D. Liebert, US Army Reserve, operates his family's farm in Great Falls, Montana, and is a staff leader and instructor, 11th Battalion, 6th Brigade, 104th Division, Vancouver Barracks, Washington. He received a B.S. from Purdue University and is a graduate of the US Army Command and General Staff College. He has served in various command and staff positions in the Continental United States and Europe, including company XO, 1st Infantry Division, Goeppingen, Germany; assistant S3, 2d Brigade, 1st Cavalry Division, Fort Hood, Texas; and XO, 163d Infantry Regiment, Montana Army National Guard, Bozeman, Montana.*

*Major Chuck Jarnot, US Army, is the operations officer, Active and Reserve Component Training Support Battalion, Fort Riley, Kansas. He received a B.S. from Western Michigan University and an M.S. from Embry Riddle Aeronautical University. He is a graduate of the US Army Command and General Staff College. He has served in various command and staff positions in the Continental United States, including air cavalry troop commander, Fort Campbell, Kentucky; heavy lift company commander, Fort Riley; and strategic planner, Pacific Theater.*



# Asymmetric Warfare

***Authors in this section discuss aspects of asymmetric warfare that escape many who assume they know what such threats are and how to cope with them. Metz points out that our joint doctrine inadequately addresses these strategic vulnerabilities—and related US advantages. Readiness against these threats may seem to emanate from doctrine, but it must begin even deeper, according to Thomas. He says that the real asymmetries we have to address are disparities in intangibles like values and will. Given all these considerations, Army leaders must adapt to rapidly changing realities of global threats and asymmetric combat, a process that Worley outlines.***

# Strategic Asymmetry

**Steven Metz**

STRATEGIC ASYMMETRY uses some sort of difference to gain an advantage over an adversary. Many of history's greatest generals had an instinct for it. Like the US military in the Gulf War, Mongols under Genghis Khan and his successors often used superior mobility, operational speed, intelligence, synchronization, training and morale to crush enemies in lightning campaigns. When necessary, the Mongols used superior Chinese engineering for successful sieges. Other conquerors, such as the Romans, Europeans, Aztecs and Zulus, brought superior technology, discipline, training and leadership to the battlefield. Rebels in anticolonial wars also relied on asymmetry by weaving guerrilla operations, protracted warfare, political warfare and a willingness to sacrifice into Maoist People's War, the Intifada and the troubles of Northern Ireland.

Throughout the Cold War, asymmetry was important to US strategic thinking but was not labeled as such. Matching Soviet quantitative advantages in Europe with US and NATO qualitative superiority was integral to US strategy. Other concepts such as Massive Retaliation in the 1950s or the maritime strategy in the 1980s elevated asymmetry to an even higher plane.[1] Beginning in the 1990s, the Department of Defense (DOD) began to recognize the potential for asymmetric threats to the United States. This was part of DOD's increased understanding of the post-Cold War security environment. Since the global power distribution was asymmetric, it followed that asymmetric strategies would naturally evolve.

Explicit mention of asymmetry first appeared in the 1995 Joint Publication 1, *Joint Warfare of the Armed Forces of the United States*, but the concept was used in a very simplistic, limited sense.[2] The doctrine defined asymmetric engagements as those between dissimilar forces, specifically air versus land, air versus sea and so forth.[3] This narrow concept of asymmetry had limited utility. The 1995 National Military Strategy approached the issue somewhat more broadly, listing terrorism, using or threatening to use weapons of mass destruction and information warfare as asymmetric challenges. In 1997 asymmetric threats began to receive greater attention. The *Report of the Quadrennial Defense Review* stated, "US dominance in the conventional military arena may encourage adversaries to . . . use asymmetric means to attack our forces and interests overseas and Americans at home."[4]

***There is more to precision than simply hitting the right target. Military strategists and commanders must think in terms of psychological precision as well—structuring a military operation to shape the attitudes, beliefs and perceptions among the enemy and other observers, whether local noncombatants or global audiences.***

The National Defense Panel (NDP), a senior-level group Congress commissioned to assess long-term US defense issues, was even more explicit. The panel reported: "We can assume that our enemies and future adversaries have learned from the Gulf War. They are unlikely to confront us conventionally with mass armor formations, air superiority forces, and deep-water naval fleets of their own, all areas of overwhelming US strength today. Instead, they may find new ways to attack our interests, our forces and our citizens. They will look for ways to match their strengths against our weaknesses."[5] The NDP specifically mentioned danger of massive US casualties caused by enemy weapons of mass destruction to delay or complicate US access to a region and inflict casualties, attacks on US electronic and computer-based information systems, use of mines and missiles along straits and littorals, and terrorism.

The intelligence community and the Joint Staff reacted to the panel's report, and a flurry of activity

North Vietnamese artillery in action, April 1972. Heralded by massive artillery attacks, North Vietnamese forces advanced straight across the demilitarized zone, the Central Highlands and toward An Loc in the Saigon corridor. A later conventional offensive overran South Vietnam in 1975.

US Army Center of Military History

***In most anticolonial wars or insurgencies, the less-advanced forces preferred to emulate the advanced ones. . . . Mao held that guerrilla warfare was seldom decisive but should be used as a preface for large-scale mobile war. After all, it was not the Viet Cong who overthrew the government of South Vietnam but a conventional combined arms force from North Vietnam. Understanding whether the asymmetry is deliberate or by default is important since an enemy using deliberate asymmetry is likely to make more adjustments and require a more flexible counterstrategy.***

ensued to flesh out the meaning and implications of strategic asymmetry.[6] The most important single study was the 1999 *Joint Strategy Review*, *Asymmetric Approaches to Warfare,* which provided a conceptual framework and a number of recommendations. *Joint Vision 2010*, a 1995 document prepared by the chairman, Joint Chiefs of Staff, to provide a conceptual template for future US Armed Forces, did not mention asymmetry, but *Joint Vision 2020*, the follow-on document released in 2000, labeled asymmetric approaches as "perhaps the most serious danger the United States faces in the immediate future."[7] Finally, the Secretary of Defense's Annual Report to Congress in 1998 and 1999 noted that US conventional military dominance encourages adversaries to seek asymmetric means of attacking US military forces, US interests and US citizens. The 2000 annual report, while retaining the description of asymmetric threats used in previous reports, dropped the word "asymmetric."

This treatment of asymmetry in official strategy documents indicates that the concept may grow even more significant. Yet, strategy and doctrine to deal with asymmetric threats and highlight US asymmetric capabilities require greater conceptual rigor.

## Definition and Conceptual Foundation

Clear thinking begins with simple, comprehensive, shared definitions. The 1999 *Joint Strategy Review* provided the broadest official treatment of asymmetry: "Asymmetric approaches are attempts to circumvent or undermine US strengths while exploiting US weaknesses using methods that differ significantly from the United States' expected method of operations. . . . [Asymmetric approaches] generally seek a major psychological impact, such as shock or confusion, that affects an opponent's initiative, freedom of action or will. Asymmetric methods require an appreciation of an opponent's vulnerabilities. Asymmetric approaches often employ innovative, nontraditional tactics, weapons or technologies and can be applied at all levels of warfare—strategic, operational and tactical—and across the spectrum of military operations."[8] This latest official definition of asymmetry expanded official thinking but has two shortcomings: it is specific to the current strategic environment and US security situation, and it deals primarily with what an opponent might do to the United States rather than giving equal weight to how the US military might use asymmetry against its opponents.

A more general, complete definition of strategic asymmetry would be: In military affairs and national security, asymmetry is acting, organizing and thinking differently from opponents to maximize relative strengths, exploit opponents' weaknesses or gain greater freedom of action. It can be political-strategic, military-strategic, operational or a combination, and entail different methods, technologies, values, organizations or time perspectives. It can be short-term, long-term, deliberate or by default. It also can be discrete or pursued in conjunction with symmetric approaches and have both psychological and physical dimensions. While the key idea is that significant differences exist, there are several elements of this definition that warrant elaboration.

**Dimensions of asymmetry**. Strategic asymmetry can be positive or negative. Positive asymmetry uses differences to gain an advantage. US military strategy places great value on superior training, leadership and technology to sustain and exploit superiority. Negative asymmetry involves an opponent's threat to one's vulnerabilities. Most DOD thinking about asymmetry focuses on its negative form.

Strategic asymmetry can also be short-term or long-term. Military history shows that sooner or later the enemy adjusts to many types of short-term strategic asymmetry. During World War II, for instance, blitzkrieg succeeded for a year or two until the Soviets found ways to counter it. It took longer, but Third World governments and their militaries eventually found counters to the Maoist People's War. The 1999 air campaign against Serbia suggests that enemies may find ways to counter US advantages in air power by camouflage, dispersion and dense, but relatively unsophisticated, air defense systems. Long-term asymmetry is more rare. The United States will probably sustain its asymmetric advantage over certain types of enemies for a fairly long time, largely by devoting more resources to maintain military superiority than potential enemies. However, sustaining an asymmetric advantage requires constant effort; any military force that does not adapt to strategic change will decline in effectiveness.

Strategic asymmetry can be deliberate or by default. US strategists actively think about asymmetry and how best to use or control it. More often, antagonists in a conflict simply use what they have and do what they know. An asymmetric outcome is more accidental than planned. For instance, a combined French and Indian force defeated British General Edward Braddock near Fort Duquesne in 1775, and a group of colonial mountaineers defeated loyalists, commanded by Major Patrick Ferguson, at King's Mountain in 1780. The Indians and mountaineers were victorious because they fought in a way they understood, not because they analyzed the weakness of the more conventional loyalist forces and designed ways to take advantage of them. In most anticolonial wars or insurgencies, the less-advanced forces preferred to emulate the advanced ones.

Mao Zedong held that guerrilla warfare was seldom decisive but should be used as a preface for large-scale mobile war.[9] After all, it was not the Viet Cong who overthrew the government of South Vietnam but a conventional combined arms force from North Vietnam. Understanding whether the asymmetry is deliberate or by default is important since an enemy using deliberate asymmetry is likely to make more adjustments and require a more flexible counterstrategy.

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Strategic asymmetry can be low-risk or high-risk. Some forms of asymmetry such as superior training or leadership are time-tested. They may be costly to develop and maintain but seldom increase strategic or operational risk. The high cost of having a fully trained, equipped, ready force reduces risk even though it may not fully protect against all asymmetric actions such as the attack in Aden, Yemen. In another sense the assault was a low-cost, high-risk action that may have had disproportionate consequences—removing US naval presence from a key port and possibly others. Other forms of asymmetry are experimental and are risky. Terrorism, for instance, may be a low-cost, high-risk approach because it can generate a backlash against users or reinforce rather than erode the target's resolve. Just as most mutations in nature are dysfunctional or insignificant, many forms of strategic asymmetry are acts of desperation that do not work or only work temporarily.

Strategic asymmetry can be discrete or integrated with symmetric techniques. Generally, only the most desperate antagonists would rely solely on asymmetric methods. Those who are capable integrate asymmetric and symmetric methods. *Joint Vision 2020* notes that "our adversaries may pursue a combination of asymmetries, or the United States may face

US Army

A German victory parade in Warsaw after the Nazis divided Poland between themselves and the Soviets in 1939.

***Asymmetry can be material or psychological. The two concepts are interrelated: a material asymmetric advantage often generates psychological advantages. But, there have been states and militaries throughout history that were particularly adept at manipulating psychological asymmetry, often by propagating an image of fierceness. The Mongols, Assyrians, Aztecs and Zulus are examples of great conquerors who effectively combined material and psychological asymmetry.***

a number of adversaries who, in combination, create an asymmetric threat."[10] Commonly, such integrated approaches are more powerful than strategies that rely solely on either symmetric or asymmetric methods.

Finally, asymmetry can be material or psychological. The two concepts are interrelated: a material asymmetric advantage often generates psychological advantages. But there have been states and militaries throughout history that were particularly adept at manipulating psychological asymmetry, often by propagating an image of fierceness. The Mongols, Assyrians, Aztecs and Zulus are examples of great conquerors who effectively combined material and psychological asymmetry. Their fierce image augmented advantages in training, leadership and doctrine. Often psychological asymmetry is cheaper than the material variant but is harder to sustain.

**Levels of asymmetry**. The most common form of asymmetry resides at the operational level of war. Historical examples include the Germans' use of submarine warfare to counterbalance the British advantage in capital ships; urban operations to counterbalance a military force with superior mobility; long-range fires in the battles for Stalingrad or Hue; guerrilla operations in an enemy's rear area as an adjunct to conventional operations; Operation *Bodyguard*, the operational-level deception plan to support the Normandy invasion; and antiaccess or counterdeployment techniques using missiles, mines, terrorism and other weapons. Military-strategic asymmetry is an integrated military strategy based on asymmetry rather than using it as an adjunct to symmetric methods. Examples include the Maoist People's War, blitzkrieg and Massive Retaliation, the strategic concept that Warsaw Pact aggression would invite a US nuclear strike on the Soviet homeland.

Politico-strategic asymmetry is using nonmilitary means to gain a military advantage. For instance, recent attempts to ban forms of military technology, including information warfare, target the United States more than less-developed states. Similarly, one opponent in a conflict might be able to gain an advantage by claiming victim status. While the North Vietnamese were able to gain the moral high ground against the United States to some extent, Slobodan Milosevic and Saddam Hussein failed. In any case, politico-strategic asymmetry is likely to become increasingly significant as information and globalization make states more susceptible to external political pressure.

**Forms of asymmetry**. At least six forms of asymmetry are relevant in the realm of national security and warfare. Asymmetric methods involve using different operational concepts or tactical doctrines than the enemy. Examples include guerrilla war and other nonlinear concepts. Many of the operational concepts the US Army anticipates using in the future, such as advanced vertical envelopment with mobile, protected forces (as opposed to air assaults or airdrops using simple foot-mobile infantry), would entail operational asymmetry.

Asymmetric technologies have been common in military history, particularly in wars pitting an industrially advanced state against a backward one such as Europe's imperial wars of the 19th and 20th centuries. While the Europeans brought a wide array of military advantages to bear in their colonial wars, Hillaire Belloc captured their enduring trust in technological asymmetry when he wrote, "Whatever happens, we have got the Maxim gun and they have not." Advanced technology can be decisive in conflicts when the less-developed antagonist cannot adapt. Britain's colonial forces first used the Maxim gun in the Matabele War in 1893-94. In one engagement, 50 soldiers fought off 5,000 Matabele warriors with just four Maxim guns. However, during protracted wars, clever enemies tend to find counters to asymmetric technology. Vietnam provides the clearest example.

Asymmetries of will are important when one antagonist sees its survival or vital interest at stake and the other is protecting or promoting less-than-vital interests. This type of asymmetry played a role during conflicts in Vietnam, Somalia and Iraq. An asymmetry of will leads the antagonist with the higher stake to bear greater costs, accept greater risk and undertake actions the less-committed antagonist might eschew on moral or legal grounds. Asymmetries of will are most relevant at the level of grand strategy. At the operational and tactical levels, the equivalent of an asymmetry of will is an asymmetry of morale, which can be crucial, even decisive. Napoleon Bonaparte held, "In war the moral is to the material as three to one." Asymmetries of will are closely related to normative asymmetries between antagonists with different ethical or legal standards. The United States faces enemies willing to use terrorism, ethnic cleansing and human shields. In the long term such actions can be self-defeating if they alienate potential supporters, but they can generate desired results in the short term, particularly by highlighting an asymmetry of will.

Asymmetries of organization can provide great advantage to even a state without other advantages. Examples include the Macedonian phalanx, Swiss pike formations that dominated European battlefields during the Renaissance, the levee en masse which helped French revolutionaries stave off a number of professional European armies, the system of independent but mutually supporting corps Napoleon created and insurgent undergrounds. In the future, state militaries may face nonstate enemies organized as networks rather than hierarchies.[11]

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Finally, asymmetries of patience or time perspective can be significant. These are conceptually linked to an asymmetry of will but more often operate in cross-cultural conflicts. Specifically, an asymmetry of time perspective may occur when a committed antagonist enters a war and the opponent can only sustain the will for a short war. The United States prefers to resolve armed conflict quickly, in part, because congressional and public support for any use of force that does not involve vital national interests is limited. Furthermore, many of the advanced weapons and systems the US military uses, such as precision bombs and missiles, are in limited supply. Restocking requires restarting dormant production lines.

Because of US global security commitments, involvement in a protracted conflict might encourage enemies to undertake aggression, believing US resources are spread too thin. US advantages in strategic mobility match the desire for a quick win—the preferred operational style. Knowing this preference and knowing or suspecting the limited US stockpile of precision weapons, an adversary might seek to extend a conflict. In addition to straining the quick-win preference, if the weapons become more blunt, collateral casualties will rise, and the enemy might gain a moral advantage. Conversely, the shorter a conflict involving the US military, the greater the US advantage will be. Asymmetries of patience have a cultural component as well. Americans are instinctively impatient, seeking fast resolution of any problem. This attitude contrasted with Asian patience and willingness to prevail in a conflict that lasts for years or decades. While

A Somali gunman flees from 10th Mountain Division troops during operations in Somalia.

US Army

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sweeping cultural generalizations are fraught with danger, there is at least a kernel of truth in this one. Somewhere, the US military is likely to face an enemy attempting to take advantage of an asymmetry of patience.

## Strategic Concepts

The operational concepts that form the basis of *Joint Vision 2020*—full-spectrum dominance derived from dominant maneuver, precision engagement, focused logistics and full-dimensional protection—are designed to take advantage of positive asymmetry but are also relevant to countering negative asymmetry. To best meet asymmetric challenges, though, the US military should adopt and develop five strategic concepts that build on the joint vision operational concepts.

**Maximum conceptual and organizational adaptability**. Two characteristics of asymmetric threats are particularly important: US defense planners today cannot know precisely what asymmetric threats will emerge or prove effective; and the effectiveness of asymmetric threats sooner or later declines as the enemy adjusts. By maximizing conceptual and organizational adaptability and flexibility, the US military can assure that it will rapidly counter emerging asymmetric threats and speed the process that renders asymmetric threats insignificant or ineffective. The military that develops new concepts and organizations more quickly than its opponents has a decided advantage.

DOD must institutionalize ways to keep adaptation and transformation processes continuous and rapid. Part of the solution involves shifting attitudes. Innovation and creativity must be nurtured and valued throughout uniformed and DOD civilian ranks. While iconoclasts and nonconformists should not rule the military, they should be valued, preserved and heard. Experimentation and research should focus on strategic and operational adaptability. For instance, experiments should create new types of organizations to deal with new types of enemies. If networked nonstate enemies become a major threat to US security, how quickly could the nation organize to deal with them? In all likelihood, some future US military components must acquire network characteristics to counter networked enemies.

DOD experimentation should focus more on potential asymmetric challenges. Today, the enemy in most armed service and DOD experiments or war games remains a traditional, mechanized, state military that has invaded a neighboring state. Asymmetric war games should form a greater proportion of the total. Joint war games should be a robust test of transformation and modernization programs, not a confirmation or endorsement process. At the National Training Center, Fort Irwin, California, the Army has learned the value of ignominious defeat at the hands of a highly skilled Red team. For some reason, the same process is seldom applied to strategic war games. Both congressional and DOD leaders must recognize that a Blue war-game defeat does not invalidate a transformation or modernization program but simply provides a means of adjustment and refinement.

The process of focusing more analysis and ex-

perimentation on asymmetric challenges would be strengthened by an institutional focus. DOD should fund a center to study emerging threats that is closely linked to the joint community, the combatant commands and the armed services but independent enough to be creative and innovative. This center should be tied to the joint experimentation process at the US Joint Forces Command, the Pentagon's Office of Net Assessment, the Defense Intelligence Agency's futures programs, service experimentation programs, concept development centers and battle labs. It should also have strong interagency and multinational connections.

At a somewhat different level, the US military should prepare for asymmetric challenges by making unit and system modularity a central criterion during force development. Versatility and agility are the touchstones. The armed services and joint community should experiment with ways to build task-specific organizations rapidly. The US military's experience forming joint task forces must expand to explore how future organizations would build interagency and multinational ties. Modularity should also be a criterion for developing and procuring systems. Future multipurpose systems like the Black Hawk helicopter and the high-mobility, multipurpose, wheeled vehicle (HMMWV) could perform an even wider array of tasks and be reconfigured according to the mission. This would give the Army an added degree of flexibility and better prepare it for asymmetric challenges. While multipurpose systems are seldom as effective as single-purpose ones, multipurpose systems make the most sense in an age of strategic uncertainty and could serve as a foundation for single-purpose systems if long-term needs become clear.

**Focused intelligence**. There is growing agreement in the defense and intelligence communities that US intelligence efforts need to refocus on nontraditional threats. Intelligence collection, analysis and dissemination should become increasingly interagency for maximum effectiveness. In addition, intelligence focused on asymmetric threats should make greater use of open sources—publicly available information.[12] The 1999 *Joint Strategy Review* suggested that the United States should immediately undertake a multiagency, holistic assessment of its vulnerability to asymmetric threats.[13] The intelligence community must help improve adaptability and flexibility, particularly by strengthening the Red teams in war games and experimentation.

The *Joint Strategy Review* emphasizes the need for improved human intelligence (HUMINT) to counter asymmetric threats.[14] New technology for collecting, assessing, fusing and disseminating intelligence would also be helpful. HUMINT sources

US Navy

SH-60F carrying a "Rigid Duck" raiding craft as a streamlined external load. Black Hawks can be configured for medical evacuation, antisubmarine warfare, combat assaults, special operations and more.

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are not always available or reliable. Rather than relying solely on overhead imagery and signal intercepts, nanotechnology and robotics could form intelligence systems that surpass past technical-collection systems and HUMINT in some tasks. Defending against asymmetric challenges demands bold, new collection methods.

**Minimal vulnerability.** The *Joint Vision 2020* concept of full-dimensional protection applies to asymmetric threats. Current force-protection efforts, augmented by developments in robotics and nonlethal weapons, can help counter terrorism and other attempts to cause casualties and erode US will. Minimal vulnerability would also require resilience or nondependence on systems susceptible to attack. Single sources of anything invite asymmetric attacks, but with some systems, redundancy may be too expensive. All reasonable steps should be taken

to avoid dependence on any single operational method or system. For instance, if the US military becomes so dependent on information superiority that it cannot function without it, asymmetric attacks against information systems could be devastating or even decisive. Even as the US military increases its use of digital technology, it should sustain some skill at older, low-tech methods.

Finding ways to project power against an enemy who employs an access-denial strategy and to sustain projected forces without forward bases would be an important part of minimizing vulnerability. Since the campaigns of Generals Ulysses S. Grant and William T. Sherman, the "American way of war" has called for stocking massive amounts of materiel and supplies in theater for decisive victory. This strategy is contingent on the enemy's inability to strike rear bases effectively. But if future enemies have precision-guided munitions, weapons of mass destruction and delivery systems, in-theater sanctuaries may not exist. Even air superiority and theater missile defense would be inadequate against a nuclear-armed enemy, since they cannot assure 100-percent effectiveness. The future US military could confront a counterdeployment strategy that uses sabotage or precision-guided munitions and ballistic missiles to attack bases and staging areas in the United States and in a theater of operations, and threaten states that provide support, bases, staging areas or overflight rights to the United States.

***Innovation and creativity must be nurtured and valued throughout uniformed and DOD civilian ranks. While iconoclasts and nonconformists should not rule the military, they should be valued, preserved and heard. Experimentation and research should focus on strategic and operational adaptability. For instance, experiments should create new types of organizations to deal with new types of enemies.***

An enemy using a counterdeployment strategy could be blunted in several interrelated ways. One would be through greater intratheater mobility via lighter forces and systems such as high-speed, shallow-draft, sealift vessels. Another would be using theater reconfiguration areas located in remote areas of agreeable nations with a landing strip as the only fixed part of the base. All of the other things needed to prepare equipment and troops for combat could be mobile, concentrating just before an inbound aerial convoy arrived and dispersing as soon as it left. Inventorying supplies at a theater reconfiguration area would be kept to a minimum and replenished only when necessary. Repair and hospital facilities would also be mobile and dispersed.

Theater reconfiguration areas could be protected by conventional concealment methods, electronic masking, and a laser-based missile and air defense web combining ground-based fire platforms; long-loiter and quick-launch, unmanned aerial vehicle fire platforms; and space-based sensor and fire platforms. Autonomous sentry systems somewhere between a full-fledged robot and a mobile, smart mine could provide local security. Host nation support would be minimum to protect operational security. To complicate targeting by enemies, several decoy theater reconfiguration areas could be set up in each country that allowed them. Such a shell game could provide effective deception and thus complicate attempts to strike theater reconfiguration areas with missiles.

**Full-dimension precision**. The US military will remain vulnerable to normative and political asymmetries. The more operations limit collateral damage and reach a speedy resolution, the less likely these challenges will prove important. One way of doing that is with greater full-dimension precision. One component of this is physical precision—the ability to hit targets with great accuracy from great distances with precisely the desired physical effect. Physical precision derives from improved intelligence, guidance systems and, increasingly, from the ability to adjust weapon effects. A proposed electromagnetic gun, for instance, could be adjusted from a nonlethal setting to an extremely lethal one.[15] But there is more to precision than simply hitting the right target. Military strategists and commanders must think in terms of psychological precision as well—structuring a military operation to shape the attitudes, beliefs and perceptions among the enemy and other observers, whether local noncombatants or global audiences.

Technology can help future militaries attain greater psychological precision. It is vital to have a very wide range of military options—a "rheostatic" capability assures that an operation has the desired psychological effect. This suggests a growing need for effective nonlethal weapons, particularly when the psychological objective is to demonstrate the futility of opposition without killing so many of the enemy or noncombatants that the enemy's will is steeled rather than broken or that public opposition is mobilized. Some advocates of nonlethal weapons go so far as to see them as the central element in future armed conflict.[16] While this is probably an overstatement, such weapons will be integral to psychological precision.

Different forms of psychotechnology might allow greater psychological precision. Conceivably, technology could give militaries the ability to alter the perceptions of targets, perhaps causing intense fear or calm. But any state with the capability and inclination to develop such technology should be very careful because of the potential for violating basic human rights. In most cases, technology for psychological manipulation should be eschewed. Some state or organization without ethical and legal constraints may field an array of psychotechnology weapons. Then the United States will have to decide whether to respond in kind or seek other means of defense. The potential for a psychotechnology arms race is real.

Technology is only part of psychological precision. Much psychological analysis, particularly dealing with anxiety and fear, is not adequately integrated into military planning. When the goal is to create fear and anxiety or collapse the enemy's will, the operation should be phased and shaped for maximum psychological impact. Successful militaries must assure that operational and strategic planning staffs are psychologically astute, whether by educating the planners themselves or using information technology to provide access to psychologists, cultural psychologists and members of other cultures. They should undertake cross-cultural psychological studies aimed at building databases and models that can help guide operational planning.

**Integrated homeland security**. Modern technology and globalization have changed strategic geography. The United States can no longer assume that conflict and warfare will only take place far from the homeland. Future enemies will have the means to strike at the US homeland with missiles, information attacks or terrorism. The United States needs to develop a robust and integrated homeland security strategy and organization. Many homeland defense efforts are already under way, particularly in infrastructure protection and military roles. One important future task is sealing the seams between the agencies involved in homeland defense since gaps create vulnerabilities that an enemy might exploit.

***Single sources of anything invite asymmetric attacks, but with some systems, redundancy may be too expensive. All reasonable steps should be taken to avoid dependence on any single operational method or system. For instance, if the US military becomes so dependent on information superiority that it cannot function without it, asymmetric attacks against information systems could be devastating or even decisive.***

Ultimately, negative asymmetry can be mitigated but not eliminated. That said, the United States is not on the verge of disaster. US military organizations, technology, strategy and doctrine can either deal with most asymmetric threats or be quickly modified to do so. The more adaptable, flexible and strategically agile the US military is, the better it will be prepared to deal with asymmetry. Positive asymmetry will continue to provide the US military with advantages over most enemies. Even so, DOD should continue to refine its understanding of asymmetric challenges. A more general and complete definition of asymmetry is needed as a foundation for doctrine and for integrating maximum adaptability and flexibility, focused intelligence, minimal vulnerability, full-dimension precision and integrated homeland security into US security strategy.

## NOTES

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*Steven Metz is research professor of National Security Affairs, US Army War College, Carlisle Barracks, Pennsylvania. He received a B.A. and an M.A. from the University of South Carolina and a Ph.D. from Johns Hopkins University. He has served in various faculty positions at the US Army War College, the US Army Command and General Staff College and several universities. He has served as an adviser to political organizations and campaigns, and on national security policy panels. He has authored more than 80 publications on national security issues and has been a frequent contributor to* Military Review *since 1987.*

# Deciphering Asymmetry's Word Game

**Lieutenant Colonel Timothy L. Thomas, US Army, Retired**

THE TERMS "ASYMMETRY," "asymmetric warfare," "asymmetric approaches" and "asymmetric options" are popular sound bites found in many military journals today. Asymmetric-related terms are commonly associated with a potential opponent's operations or actions against US interests or forces. The attacks are commonly described as chemical, biological, nuclear, terrorist or information attacks, or attacks against weak points. Arguably, these attacks are not asymmetric. In fact, except for the terrorist example, these are symmetrical attacks. The United States has chemical, biological, nuclear and information means; therefore, such attacks cannot be asymmetric.

The asymmetric aspect of a chemical, nuclear, information or traditional attack actually relates to asymmetries in capabilities, reliance, vulnerabilities and values. The capabilities of certain forces—some information systems can shut down command and control systems and prevent nuclear systems from launching—constitute one variable. A nation's reliance on a particular system is another. For example, both sides can have information weapons, but one side may rely more on them than the other. The vulnerability of a system or platform's performance parameters, operating principles or situational context is another asymmetric opening, the one most often associated with weak spots. Finally, cultural values determine whether a nation will or will not use one of these methods.

The Russo-US relationship provides an example of such reasoning. Both countries have had biological and nuclear weapons for decades, yet no one has called this an asymmetric Russian threat. Neither side has used these weapons because of discussions that led to a common understanding and because of a value structure that placed national interests above other interests. However, if a country that conducts operations based on very different values obtains biological weapons, then we should worry. In some cultures, social and religious reasons may override national interests when choosing whether to use such weapons.

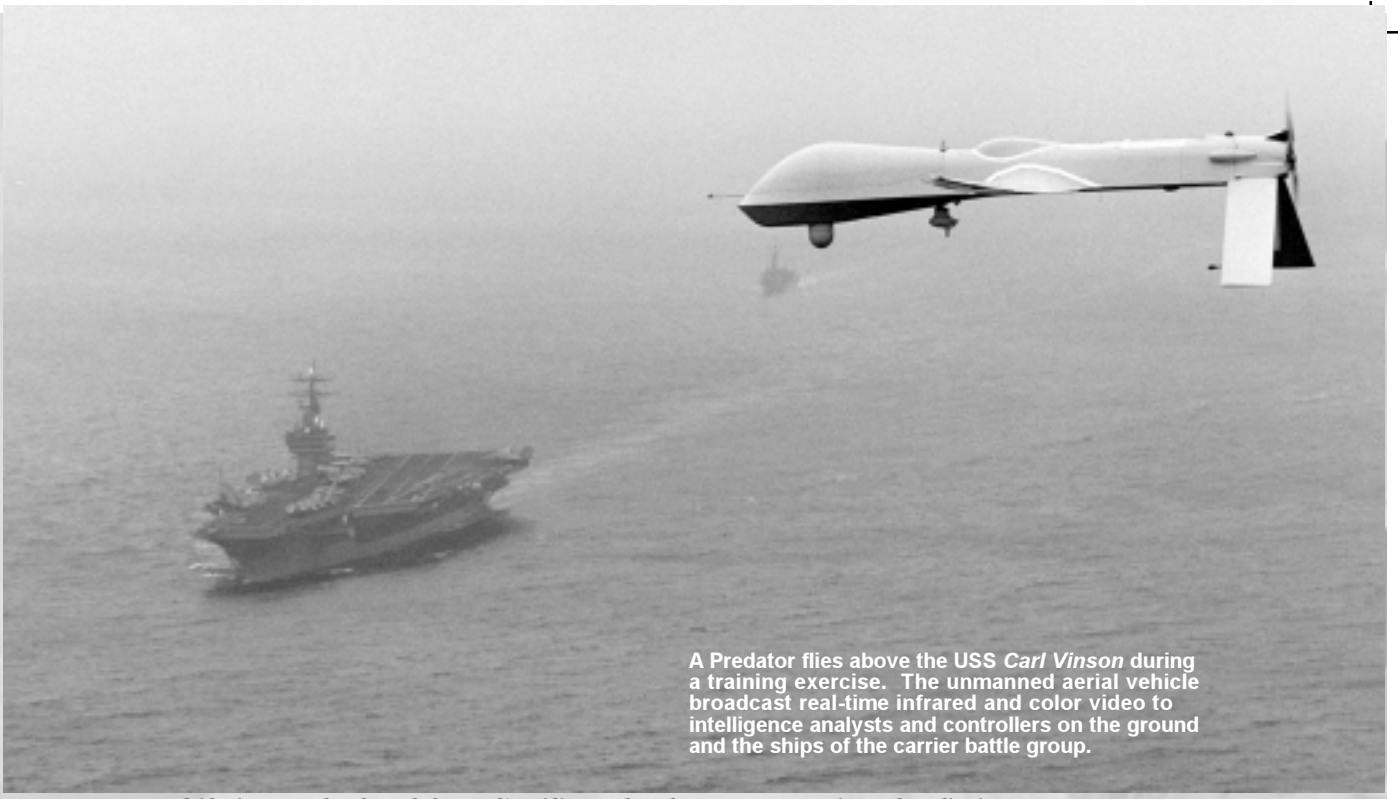
***[One] assessment listed four asymmetric responses that other nations could take to counter US superiority: acquiring weapons of mass destruction; acquiring high-technology weapons; acquiring cyberweapons; and fighting in environments that degrade US capabilities. The logic of considering these approaches asymmetric escapes reason, for the first three responses would improve symmetry.***

## What is Asymmetry?

Judging by the multiple applications of the term in military journals—"not fighting fair," "attacking a weak point," "information or cyberwar," "public relations war," "weapons of mass destruction"—very few people understand asymmetry's formal definition. This is understandable since joint doctrine does not define the term.[1] One civilian lexicon explains asymmetry using the mathematical term "incommensurability," the relationship between things which have no common measure.[2] Another civilian definition refers to defective, disproportionate correspondence between things or their parts.[3]

Other non-English-speaking cultures define the term in more distinct ways. A Russian dictionary definition of asymmetry is "the absence or destruction of symmetry."[4] This concept implies a more active role in changing symmetry's parameters than the US or British definition, even the creation of asymmetry. Compared to Western deductive thinking, the Russian dialectic thought process of thesis and antithesis encourages an analysis of a situation from a different, more confrontational perspective.

US Navy



A Predator flies above the USS *Carl Vinson* during a training exercise. The unmanned aerial vehicle broadcast real-time infrared and color video to intelligence analysts and controllers on the ground and the ships of the carrier battle group.

***While it may be hard for US military leaders to recognize, the dictionary definition suggests that the United States is the world's most asymmetric military force. While degrees of symmetry exist between other forces in developed countries, no one can symmetrically match up with US equipment and firepower. This was most evident in the after-action comments following the conflict over Kosovo.***

There is no distinct word for asymmetry in Chinese. To express this concept one would negate the word for "to be symmetrical." This word for symmetry, *duicheng*, is also comprised of two characters. The word *dui* in ancient texts means "to respond," "to face or face off," "to match"—both in the sense of complement but also in the sense of enemies matching in skill. The term *cheng* initially signified the concept of "a balance" and then evolved into a broader semantic sense of "to accord with."[5] Thus, in China, asymmetry would involve things not in accord with, out of balance, not responding and not matching or facing one another.

These definitions indicate that our understanding of asymmetry has strayed and become misused. None of the recognized definitions discusses weak points, unfair fighting or nontraditional means that many authors assert. The term apparently assumes whatever meaning military authors wish to portray and is thrown around like the grammatically incorrect term "irregardless."

While it may be hard for US military leaders to recognize, the dictionary definition suggests that the United States is the world's most asymmetric military force. While degrees of symmetry exist between other forces in developed countries, no one can symmetrically match up with US equipment and firepower. This was most evident in the after-action comments following the conflict over Kosovo. Department of Defense (DOD) officials admonished other NATO countries that their equipment was not compatible with or as capable as US equipment.

If the United States is the most asymmetric force in the world, why are potential threats to US security almost always labeled asymmetric? For example, the US National Defense University (NDU), in its 1998 strategic assessment, listed four asymmetric responses that other nations could take to counter US superiority: acquiring weapons of mass destruction; acquiring high-technology weapons; acquiring cyberweapons; and fighting in environments that degrade US capabilities. The logic of considering these approaches asymmetric escapes reason, for the first three responses would improve symmetry according to the dictionary definitions. The United States has all of these capabilities now; if someone else acquires them, then we are in a symmetric relationship. Threats are mislabeled "asymmetric" because we do not understand what asymmetry means.

Some highly respected publications stress that if an opponent does not fight the way we expect, then we automatically label his fighting technique asymmetric. The NDU study stated that "asymmetric threats or techniques are a version of 'not fighting fair,' which can include the use of surprise in all its

operational and strategic dimensions and the use of weapons in ways unplanned by the U.S." If this definition were accurate, Serbs and Iraqis could claim that NATO and the multinational coalition did not fight fair—face to face—but from afar with long-range, precision weapons. With such a broad application, any action can be considered asymmetric and further confuse the issue. The terms "atypical" or "nontraditional" better fit a situation in which an opponent uses an unexpected technique or exploits some factor better or faster than his opponent. The imprecise US terminology is faulty.

***Perhaps the most asymmetric and least-discussed element is values. Operating principles—individual, social group and national values—all play a role in the information age.***

***Foreign societies may believe it is easier to attack the Western psyche or will to fight than to meet it on the battlefield in a contest between technologies, a truly asymmetric approach from the Western viewpoint.***

An Australian officer, Major J.J. Frewen, offered a reason for this imprecision. He noted that globalization has expanded the definition of national security beyond physical security to include economic, environmental, informational and cultural security.[6] Threats to these elements are often considered asymmetric by many US academic institutes and leaders when, more precisely, these are matters for which our armed forces are not well designed. They undermine national interests without shots being fired and demonstrate that military intervention is problematic when the definition of "decisive force" is unclear. Frewen notes that problems in Somalia were caused not by a lack of armored vehicles but by failure to understand the environment. The problem was about "apples" attending an "oranges" event; any hardware-only solution suggests asymmetric vulnerability.

Some analysts have defined asymmetry with vision. Lloyd J. Matthews offers a strategic vision for his description of asymmetry. He defines it as any militarily significant disparity between contending parties that clearly fits the "lack or want" of symmetry idea expressed in *Webster's*. He notes: "The process of calculating the resultant of the various vectors of power wielded by two asymmetrically related opponents—in order to measure the dimensions of the threat that each poses to the other—can be quite problematic. But it is a process that must be undertaken if we are to give due weight to all the relevant elements of power."[7] Threats in the sense of capabilities, reliance on systems and vulnerabilities are important in this regard.

Steven Metz and Douglas Johnson of the US Army War College offer another visionary definition of asymmetry: "acting, organizing and thinking differently than opponents in order to maximize one's own advantages, exploit an opponent's weaknesses, attain the initiative or gain greater freedom of action. It can be political-strategic, military-strategic, operational or a combination of these. It can entail different methods, technologies, values, organizations, time perspectives or some combination of these." The authors add that asymmetry can be short-term or long-term, deliberate or by default, discrete or pursued in conjunction with symmetric approaches and can have both psychological and physical dimensions.[8]

Retired Brigadier General David L. Grange writes that asymmetry is best understood as a strategy, tactic or method of warfare and conflict. It is not something new, he reminds us, noting that strategists define asymmetric warfare as conflict deviating from the norm or an indirect approach to affect the balance of forces.[9]

Perhaps the most asymmetric and least-discussed element is values. Operating principles—individual, social group and national values—all play a role in the information age. There is always a lack of symmetry in values, even between two people. For example, discussions of abortion, homosexuality and religion bring out individual differences. In the international arena, some decisionmakers abide by international treaties; others do not. The values of President George H. Bush and Iraqi leader Saddam Hussein during the Gulf War clearly represented this asymmetry. Bush prevented a march on Baghdad because it was not in the UN mandate, while Hussein ignored international treaties and invaded Kuwait.

## Vulnerabilities and Asymmetries

Many authors consider asymmetry to be the ability to exploit situations by attacking weak points or using nontraditional approaches in unexpected ways. These vulnerabilities can be uncovered by using a specific methodology to examine a situation. The methodology uses one of four means:

- Performance parameters.
- Situational context.

DOD

In January 2000, Russian forces stayed outside Grozny, nullifying Chechen terrain advantages by destroying the city "asymmetrically" with artillery and tank fire.

***Joint doctrine does not define the term [but] . . . the NDU study stated that "asymmetric threats or techniques are a version of 'not fighting fair,' which can include the use of surprise in all its operational and strategic dimensions and the use of weapons in ways unplanned by the U.S." If this definition were accurate, Serbs and Iraqis could claim that NATO and the multinational coalition did not fight fair—face to face—but from afar with long-range, precision weapons. With such a broad application, any action can be considered asymmetric and further confuse the issue.***

- Operating principles and rules of engagement.
- Will.

Each mean uses nontraditional or intellectual methods to exploit a situation, degrading capabilities and inducing unpredictability and chaos into military operations. It limits advantages, capitalizes on weaknesses, and tests patience and will. The methodology is a thinking man's strategy that encourages out-of-the-box concepts that could be labeled asymmetric because they capitalize on asymmetries in capabilities and reliance.

Such moves would be innovative or bold actions that could apply equally to either high- or low-tech opponents. It might mean using low-tech options to counter high-tech equipment—the rocket-propelled grenade (RPG) launcher versus a helicopter or using fuel-air explosives on an opponent. Or it could mean attempts to strike a people's political will and patience. The United States lost the battle of wills at home but not on the Vietnam battlefield. Asymmetry can even express itself as a strategy of mass destruction or annihilation, prolonged attrition or creating large groups of refugees.

**Performance parameters.** Weapon parameters, whether signature, such as sound or image display, or performance characteristics, are susceptible to manipulation and are vulnerable. The Serbian military demonstrated its awareness of this principle during the recent conflict in Kosovo. The Serbs reportedly sent air defense crews to Iraq in February 1999 to study Iraqi procedures. The Iraqis have fought against these planes and tactics for 10 years. Who could better tell Serbian crews what a NATO or US air attack might look like? Every performance parameter was recorded on radar.

In another example, the Serbs reportedly used smoke to deflect NATO precision-guided weapons. When the pilot could no longer keep the cross hair on a smoked target, the weapons went off-course as the performance parameter was exploited. In Chechnya, the Chechens knew the elevation and depression limits of the Russian T-72 battle tank's

An Iraqi SA-3 Goa crew trains with their medium-altitude surface-to-air missile battery.

US Army

***Weapon parameters, whether signature, such as sound or image display, or performance characteristics, are susceptible to manipulation and are vulnerable. The Serbian military demonstrated its awareness of this principle during the recent conflict in Kosovo. The Serbs reportedly sent air defense crews to Iraq in February 1999 to study Iraqi procedures.***

main gun. They hid below the depression level in basements and in windows above the maximum elevation while fighting in Grozny during 1994 and 1995 and used RPGs to immobilize tanks.

When NATO's air forces engaged Serbia's armed forces, Serbian deceptions fooled NATO's high-tech equipment. The Serbian military found a flaw in NATO's electronic-reconnaissance system—targets could be seen but not clearly identified. Decoys and fake positions protected the real ones. When the Serbs wanted to block NATO's thermal-imaging systems, they used industrial heat sources to construct "thermal-cover" positions to protect tanks and artillery.

Another performance parameter is that of an actual force: tempo. Understanding an opponent's concept of operational tempo gets one inside an important performance parameter of his force and provides an asymmetric option.

**Situational context.** Situational context includes an area's dominant historical, cultural, geographic and political factors and how an opponent might manipulate them. For example, what is the regime protecting and what does it want? Other factors include a country's particular warrior culture, guerilla movements or use of time and geography. In most conflicts, both combatants have some elements that a thinking belligerent can exploit. Two unequal forces, such as a high-tech force confronting a low-tech force, fighting on similar terrain could use an asymmetric approach. If a low-tech force moves to the sanctuary a city offers, it can offset the high-tech force's superior firepower, maneuverability and intelligence capability. In the city environment, the high-tech force often finds that its force structure does not fit the terrain. The high-tech force may find itself opposed by an entire population, as the Russians were in Grozny in 1996. A high-tech force, on the other hand, could prevent the low-tech force from entering the city.

**Operating principles and rules of engagement.** Operating principles of presidents, parliaments and armed forces vary from nation to nation. International treaties bind most nations to some common principles, but this adherence varies with time and opponents. Warsaw Pact members' allegiance to the Soviet Union waned and disappeared in the 1990s. The recent NATO operation over Kosovo offers a stark example. Breaking with traditions of time, opponent and principles, NATO acted out of area and may have placed human rights above sovereignty. If democratic nations bend their operating principles, what type of behavior and adherence to operating principles might we expect from totalitarian or rogue regimes?

Below the level of presidents and parliaments, combat involves operating principles. Combatants can estimate opposing leaders' tolerance for loss and damage, and threshold for capitulation. Unlike nation-states, guerillas are not bound by international treaties, codes of conduct or operating principles. This difficulty is compounded by Western reliance on technology, a vulnerable operating principle in the age of off-the-shelf products. Sometimes underdeveloped countries can acquire high-tech equipment faster than developed countries because of research, development and acquisition time lines: "In a world in which state-of-the-art is off-the-shelf, industry, and potentially our foes, can obtain better information systems and technology cheaper and faster than DOD because our current acquisition system buys computers in the same way we buy bullets."[10] Buying off the shelf becomes an asymmetric approach to developed nations' longer-term procurement cycles.

Operating principles also refer to the rules of engagement, strategy, tactics and organizational principles that guide a side's actions and decisions. NATO politicians decided that pilots could fly only above 15,000 feet in Kosovo, a rule of engagement that affected precision.

**Will.** Colonel Charles Dunlap Jr. notes that the Western mind-set Samuel Huntington describes includes concepts (values) such as "individualism, liberalism, constitutionalism, human rights, equality, liberty, the rule of law, democracy, free markets, [and] the separation of church and state."[11] However, entirely different principles and ideologies may drive logic in other cultures. Foreign societies may

believe it is easier to attack the Western psyche or will to fight than to meet it on the battlefield in a contest between technologies, a truly asymmetric approach from the Western viewpoint. Many Russians believe that the United States did just that when it convinced Soviet Secretary General Mikhail Gorbachev to end the Cold War. His loss of will allowed the West to win the Cold War without firing a shot.

This discussion offers several conclusions. First, the word "asymmetry" highlights the problem of using terms loosely or improperly. When this happens, words are not properly understood, confusion reigns, and endless time is spent in futile explanation. The international arena further exacerbates the situation because different cultures interpret words with slight nuances. Not using one's own language correctly only heightens misunderstanding. Second, a methodology that considers a situation asymmetrically offers a way to analyze and choose courses of action. Third, perspective is equally as important as methodology. The United States might be the most asymmetric force on Earth, but Americans do not see themselves that way. They view others as an asymmetric force or threat when, in fact, they are not. US citizens should be proud to be on the right side of the asymmetric ledger.

Asymmetries exist everywhere, of course. They can be found in market economies of varying degrees versus centrally planned economies and in political systems. There are also strategic, operational and tactical asymmetries. Strategically, theorists discuss asymmetries in the force structure of intercontinental ballistic missiles or information warfare forces, while tactical-level analysts try to calculate the correlation of forces between sides. In these cases, asymmetries refer to quantities, total numbers or different philosophies. Asymmetries also refer to approaches to attack vulnerabilities.

***Unlike nation-states, guerillas are not bound by international treaties, codes of conduct or operating principles. This difficulty is compounded by Western reliance on technology, a vulnerable operating principle in the age of off-the-shelf products. Sometimes underdeveloped countries can acquire high-tech equipment faster than developed countries because of research, development and acquisition time lines.***

Asymmetry is a matter of two unlike systems interacting, each within its capabilities. Attacks can be swift (like an earthquake) or progressive (like termites or rust, silently undermining a formidable structure). Progressive attacks are usually associated with cultural strengths than can be maintained for long periods (sacrifice, resilience, deception, media sympathy). Unlike systems do not understand how to counter each other because of contradictory paradigms. Consider the term "rasingingin." When the term is understood as "singing in the rain," then deciphering other terms is easier. For example, the word insertion paradigm helps interpret the term "beilld" as "sick in bed." Understanding the threat requires thinking in threat paradigms.

Agents using asymmetric analytic methodologies—performance parameters, situational context, operating principles and will—start with an advantage. When striving to attack a vulnerability, having a template for action is the name of the game. Each methodology allows analysts to visualize better how to attack and defend enemy and friendly vulnerabilities. In the end, this is where the focus should be and not on the so-called asymmetric threats of weapons of mass destruction and chemical, biological and information attacks.

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*Lieutenant Colonel Timothy L. Thomas, US Army, Retired, is an analyst with the US Army Foreign Military Studies Office, Fort Leavenworth, Kansas, and is an adjunct professor at the US Army's Eurasian Institute, Garmisch, Germany. He received a B.S. from the US Military Academy and an M.A. from the University of Southern California and is a graduate of the US Army Command and General Staff College and the US Army Russian Institute (USARI). He has held various command and staff positions in the Continental United States and Europe, including director, Soviet Studies, USARI, Garmisch. His article "China's Electronic Strategies" appeared in the May-June 2001 issue of* Military Review.

# Asymmetry and Adaptive Command

**D. Robert Worley**

THERE IS NOTHING NEW about asymmetry. Strategists and tacticians have always sought to pit their strength against opponents' weaknesses. During the Cold War, Western allies adopted an offset strategy, relying on technological superiority to offset numerical inferiority. Both East and West found acceptable responses to the asymmetry. The nature of asymmetry has changed dramatically, and organizational processes developed and institutionalized in response to Cold War realities inhibit appropriate responses to the new.

Some aspects of government behavior are best understood as "outputs of large organizations functioning according to standard patterns of behavior."[1] These standard patterns develop over time and become routine and institutionalized. Habitual relations and practices become part of the unquestioned way of doing business. They are often honed and optimized for measures such as efficiency, effectiveness or safety. When tasked, an organization's response is generally limited to its existing patterns of behavior.

Planning, training and adapting are three complementary ways a country prepares for war. A strong, deliberate planning culture developed during the Cold War in large and important segments of the military, particularly in Europe, Korea and Washington. In addition to deliberate planning methods, equally strong processes were established to support intelligence preparation of the battlefield (IPB). A sophisticated training method was developed to complement the deliberate planning process. The deliberate planning process yielded decisions at the strategic and operational levels of war. The output of deliberate planning, the operation plan (OPLAN), was input to training events. Plan *execution*—including daily, tactical planning—was the training focus.

Higher-level decisions typically caused no observable effect during a real-time, week-long exercise. Doctrine, organization and equipment remained constant for NATO and Warsaw Pact forces during a training event, but throughout the Cold War, equipment and doctrine changed, and US forces adapted. Adaptation to change centered in combat development organizations, part of the producer chain of command far removed from the operational chain of command. Separate organizational responses for plan development, plan execution and adaptation to change are pronounced Cold War legacies.

***Perhaps the most insidious consequence of training focused on plan execution is that strategic, operational and tactical echelons all are trained in the tactical time context. Strategic and operational thinking are the domain of deliberate planning. Training in the tactical time frame does not allow senior commanders to exercise strategic and operational decisionmaking.***

## Organizational Responses to the Cold War

The Soviet Union was formidable, and we studied it continually for decades. We knew, with reasonable certainty, the enemy order of battle, his methods of operations, his equipment and the battlefield terrain. The Soviets were doctrinaire, known for centralized planning and withholding latitude from tactical commanders. Much was fixed, except whether and when war would be fought.

The US response was a complex biennial deliberate planning process. The typical output was a lengthy OPLAN, including time-phased force deployment data (TPFDD), which detailed unit movement. In theater, our knowledge of the enemy and the environment was so detailed that we produced voluminous catalogs of targets matched to preferred destruction means and doctrinal templates that aided in predicting enemy intent. The response to the wealth of available information was the sophisticated IPB process. Deliberate planning became institutionalized in US defense culture—in Washington and in the field.[2]

The deliberate planning process emphasizes plan development; a separate training methodology was developed to exercise plan execution. The classic training event is conducted in real time, begins when the first shots are fired, runs 24 hours a day for five to seven days, executes a previously constructed plan and traverses a single path in detail through a very bushy tree of possibilities.[3] Typically, two full echelons of command and staff constitute the primary training audience. If the training audience is sufficiently tactical, real forces and equipment are in the field, the air or at sea. If the training audience is at higher echelons, then some form of simulation represents echelons below the staffs.

Perhaps the most insidious consequence of training focused on plan execution is that strategic, operational and tactical echelons all are trained in the tactical time context. Strategic and operational thinking are the domain of deliberate planning. Training in the tactical time frame does not allow senior commanders to exercise strategic and operational decisionmaking. In addition to the deliberate planning and training responses, a third response solidified—adapting to change. The services implemented the combat development process separately in garrison. A long-term intelligence process focusing on Soviet evolution supported combat development. Unified commands nominally generated the requirements that drove the combat development process. But, as often as not, technological opportunity, the need to replace aging weapons and visions within various organizations in the producer chain of command, drove combat developments. Adapting to the evolving threat was the combat developers' responsibility.

Over the past several decades a complex of sophisticated processes has spread across the department's bureaucracy, each office operating with specialized skills in a different time frame. One element of the larger process is deliberate planning with voluminous output every two years. A separate training process produced units trained to doctrinal standards to accomplish the specific missions derived from OPLANs. Warfighting commands trained to execute tasks doctrinally in real time; they did not train to adapt in real time at the strategic, operational or tactical levels of war. The services also implemented the combat development process. Combat developers were continually challenged to absorb new technology and weapon systems and respond to Soviet advances with doctrine, organization and equipment.

## Changes in the Environment

Many Cold War assumptions are now invalid, including known threat, known doctrine and known order of battle. Our organizational responses are still based on those assumptions and must be reconsidered in light of asymmetry.

***One of the most dramatic post-Cold War trends is from permanent to temporary commands, for example, from the dominant role of unified commands and their component headquarters to a reliance on ad hoc JTFs. A corollary trend is from a regional CINC's area of operations to a JTF commander's JOA, the former characterized by an established and familiar infrastructure and the latter by immature and unfamiliar infrastructure.***

One of the most dramatic post-Cold War trends is from permanent to temporary commands, for example, from the dominant role of unified commands and their component headquarters to a reliance on ad hoc joint task forces (JTFs). A corollary trend is from a regional commander in chief's (CINC's) area of operations to a JTF commander's joint operations area (JOA), the former characterized by an established and familiar infrastructure and the latter by immature and unfamiliar infrastructure. A second corollary trend is from forward-deployed forces assigned to a specific unified command to deployable forces apportioned to multiple commands. The trend in planning is from deliberate planning to time-sensitive, or crisis-action, planning. The final related trend is from warfare between conventional forces to military operations other than war involving conventional, unconventional and irregular forces.[4]

Future conflict likely will bring together elements of both war and operations short of war. Asymmetric actors will engage US forces in complex terrain—including mountain, jungle, forest and urban settings—with small bands of dedicated warriors using low-technology weapons. They will attempt to defeat US forces before destroying them by attacking the command, control, communications, computers, intelligence, surveillance and reconnaissance systems that unify dispersed units. Asymmetric threats recognize that the United States cannot employ forces that it cannot deploy, and they will attack ports of embarkation and debarkation and lines of communications.

There is always uncertainty in war, but the overriding trend following the Cold War is a dramatic increase in uncertainty. So much of what was known and could be planned for is now and will remain unknown. A useful way to summarize the changed environment is the dramatic shift in balance between what is fixed (relatively certain) and what is variable

(relatively uncertain). The natural tendency is to apply familiar and institutionalized processes and procedures to the new environment. But adapting to the new threat environment is not a matter of replacing the Soviets with a different enemy that we can come to know as well as our old foe. Some future opponents may not exist today as formal organizations. Some unforeseen event may bring together disparate groups into a new, loose coalition.

***In training, repetition is key to making performance second nature. Observation and feedback are necessary to diagnose shortfalls and correct them in the next iteration. In learning, multiple trials are necessary to explore alternatives; recognizing unexpected outcomes may be more important than measuring expected ones.***

Not knowing the actors and conditions in advance requires adaptable organizations and processes to cope with emerging threats. Adaptations must continue throughout military missions. As US forces succeed at countering a recently recognized method, an asymmetric foe will adapt to find other vulnerabilities. US forces must be trained, organized and equipped to adapt quickly and proactively.

## Responding to the Changed Environment

The United States and its allies had decades to understand the Cold War problem and propose solutions in the form of war plans. All that remained was to execute. We trained execution. Against a world of asymmetric actors, we must be prepared to learn as we go. That does not mean that we should not plan for what we can, but we must build organizations that can improvise. Those that can only execute a plan according to fixed doctrine will fail in the new environment. A proper response to the changed environment is to adopt different command habits—adaptive command. It is not so much a new command model as a shift in emphasis that parallels the shift in emphasis between what is fixed and what is variable in the environment. Thomas J. Czerwinski offers a lucid and useful taxonomy: command by plan, command by direction and command by influence.[5]

The pervasive Soviet model was clearly command by plan. The air tasking order (ATO) is another example, as are many of our Cold War deliberate planning processes. Command by direction brings to mind Napoleon Bonaparte sitting atop his horse, surveying the entire battlefield and directing a cavalry charge at the decisive point. It also conjures up pejorative images of the so-called "four-star squad leader." The third model, command by influence, involves broad, mission-oriented orders and maximum initiative at the lowest echelons. Any real command employs a hybrid of the three. For example, the Navy often describes its model as command by negation. Ship captains' independent command at sea subject to occasional interventions from above constitutes a hybrid of command by influence and command by direction. When the airborne warning and control system overrides the ATO in real time, there is a command-by-plan and command-by-direction hybrid.

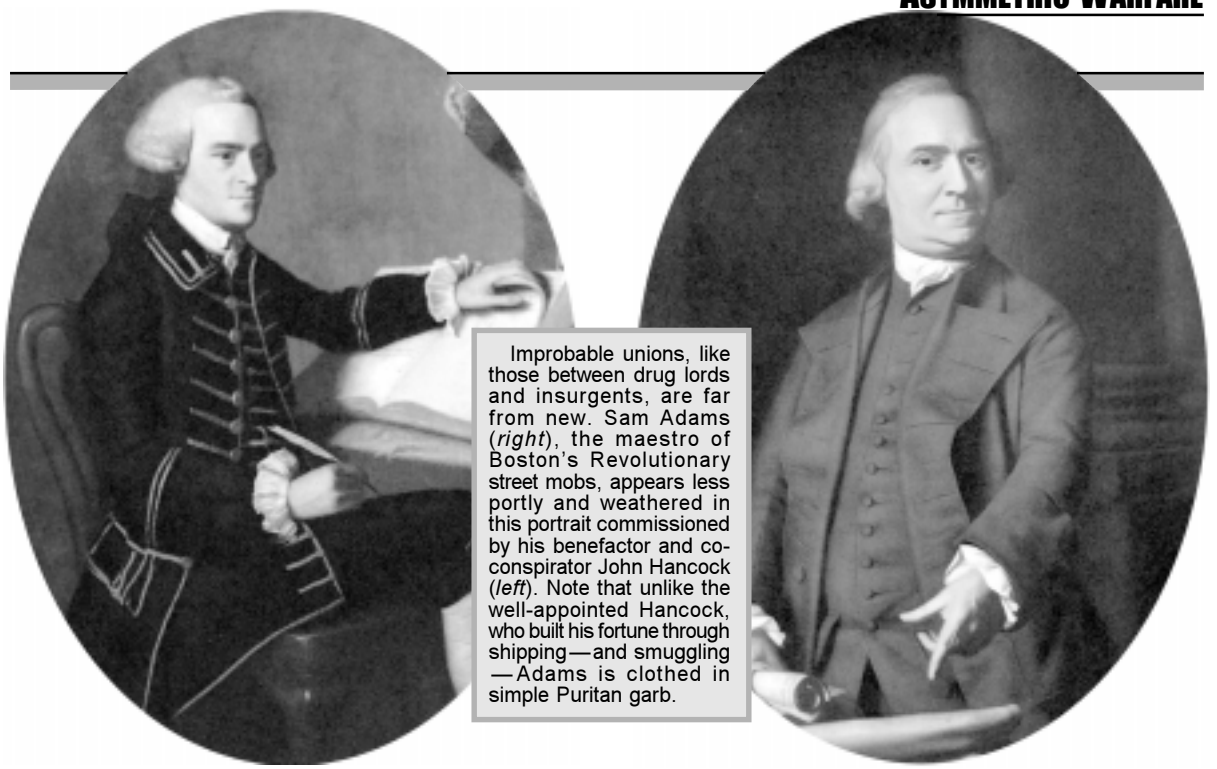
These command models are determined by who exercises command and when. Command by plan centralizes command in the higher-echelon commander, who exercises it in advance by creating and promulgating plans. Command by direction also centralizes command at the top, but it is exercised through real-time orders. Command by influence distributes command to lower echelons, where it is exercised by on-scene leaders. Adaptive command is not about who commands or how but concerns the command function; adapting doctrine, organization and the concept of operations to the situation must be a function of all command levels.

US forces must adapt their doctrine—including tactics, techniques and procedures—as asymmetric opponents develop theirs. This response will be driven more by contact with the enemy than by intelligence gathered in advance. Adaptive command will require different and tighter integration of intelligence and operations functions. Intelligence functions that monitor the enemy's physical disposition before contact and assess battle damage afterward will be inadequate. The intelligence function must include monitoring enemy behavior during engagement and recognizing its evolution. Rather than train to doctrine, US forces must learn to anticipate, recognize and adapt on the fly.

## Teaching, Training and Learning

"Teaching," "training" and "learning" have specific meanings here. Teaching imparts an assembled body of knowledge, often through traditional classroom methods, including reading and lecture. Training improves the performance of a particular skill set through practice. Learning creates new knowledge over a problem space through exploration and discovery. Teaching and training assume an existing body of knowledge; learning does not.

Both training and learning rely on multiple iterations and observation. In training, repetition is key to making performance second nature. Observation and feedback are necessary to diagnose shortfalls and correct them in the next iteration. In learning,



Paintings by John Singleton Copley, City of Boston loan to Museum of Fine Arts

Improbable unions, like those between drug lords and insurgents, are far from new. Sam Adams (*right*), the maestro of Boston's Revolutionary street mobs, appears less portly and weathered in this portrait commissioned by his benefactor and co-conspirator John Hancock (*left*). Note that unlike the well-appointed Hancock, who built his fortune through shipping—and smuggling—Adams is clothed in simple Puritan garb.

***Adapting to the new threat environment is not a matter of replacing the Soviets with a different enemy that we can come to know as well as our old foe. Some future opponents may not exist today as formal organizations. Some unforeseen event may bring together disparate groups into a new, loose coalition. Not knowing the actors and conditions in advance requires adaptable organizations and processes to cope with emerging threats.***

multiple trials are necessary to explore alternatives; recognizing unexpected outcomes may be more important than measuring expected ones.

A learning event, in contrast to a training event, would be conducted in fast or skip time and run eight hours a day for several days, engaging the commander and principal staff of only a single echelon.[6] Students would prepare sketchy plans, construct alternative doctrine and organization, execute the assemblage and repeat the process. Several alternative courses of action are explored in a learning event. Only one course of action is executed in a training event. Doctrine and organization are necessary inputs to a training event; candidate doctrinal and organizational concepts are possible outputs of a learning event. At the nexus of training and experimentation, the learning process investigates the unknown, guided by questions.[7] Learning *is* training—for adaptive command.

Appropriate preparation for a relatively certain threat environment is deliberate planning and IPB; training to doctrine; and a separate, long-term combat development process. Appropriate preparation for a relatively uncertain threat environment refines crisis-action planning, reconnaissance and adaptive command—learning to anticipate, recognize and respond to change. Learning events are anchored in a problem space and are designed to generate possible solutions through better recognition of a problem's breadth and depth.

## Learning at the Tactical Level

Leaders at the tactical level must be prepared to adapt. The asymmetric actor may apply low-technology means and methods against US conventional forces. Asymmetric actors continually adapt through trial and error, and the opposing tactical commander with limited doctrinal responses will be the victim. General Montgomery C. Meigs, Commander, US Army Europe and 7th Army, puts it this way:

"We have become adept at replicating a set-piece enemy for our units. We do a good job of giving them an opponent that fights with consistent, predictable doctrine and tactical procedures. We must now move to the next level and present an enemy that uses asymmetrical approaches and who learns from our Blue Force, adapting to avoid our strengths and to exploit our tactical weaknesses as he moves from battle to battle. . . . Units must

learn to anticipate the enemy's actions, find him, assess what he is doing, preempt him and reassess."[8]

Greater emphasis needs to be placed on forming combined arms teams in response to evolving threats. Military operations in urban environments, for example, consistently show that combined arms teams are required at the lowest tactical levels to deal with this asymmetric environment.[9] However, small teams of combat, combat support and combat service support elements are not found in garrison or in doctrine. Units that experiment with new combinations (methods of employing a mix of arms) are more likely to adapt to an evolving enemy than units that train to design standards against a doctrinal opponent. The problem then becomes learning, training and adapting combined arms warfare across branches and services at the lowest tactical echelons.

***During regional conflicts, asymmetric tactics may be applied out of area as part of a larger strategy or as the sole elements of a long-term strategic offensive. Protecting the joint deployment system continues to be a strategic imperative but cannot be separated from more general force protection. Learning at this level focuses on developing a strategic response that subordinates means to ends.***

There are a host of impediments to exploring new combinations at the tactical echelons. In garrison, homogeneous units, such as artillery battalions and fighter squadrons, achieve efficiency. On the other hand, combined arms teams achieve effectiveness. Training opportunities are optimized for a specific type of force and range of operations. Peacetime efficiency militates against combined arms learning opportunities.

The problem extends well into the hierarchy. Division tables of organization and equipment, like their battalions', are designed and optimized for a specific range of operations. Training opportunities like the Battle Command Training Program are designed accordingly. The range of possible combined arms operations in an armored division is limited. The same is true of light infantry, airborne or air assault divisions. The somewhat defunct infantry division may offer the widest range of combinations to explore. At all levels the force must be designed for competence across a broad range of missions but optimized for none.

## Learning at the Operational Level

Some interpretations of the operational level focus on picking the point in space and time for the decisive battle—the close-with-and-destroy-the-enemy school. Another school of thought focuses on geography—the seize-and-hold-terrain school. Yet another focuses on penetrating a linear defense to move deeply to the enemy's soft rear area—the maneuver-warfare school. None of those may be relevant in the asymmetric environment. The US Army needs *coping mechanisms* as a dominant characteristic of the operational level of war in asymmetric environments.

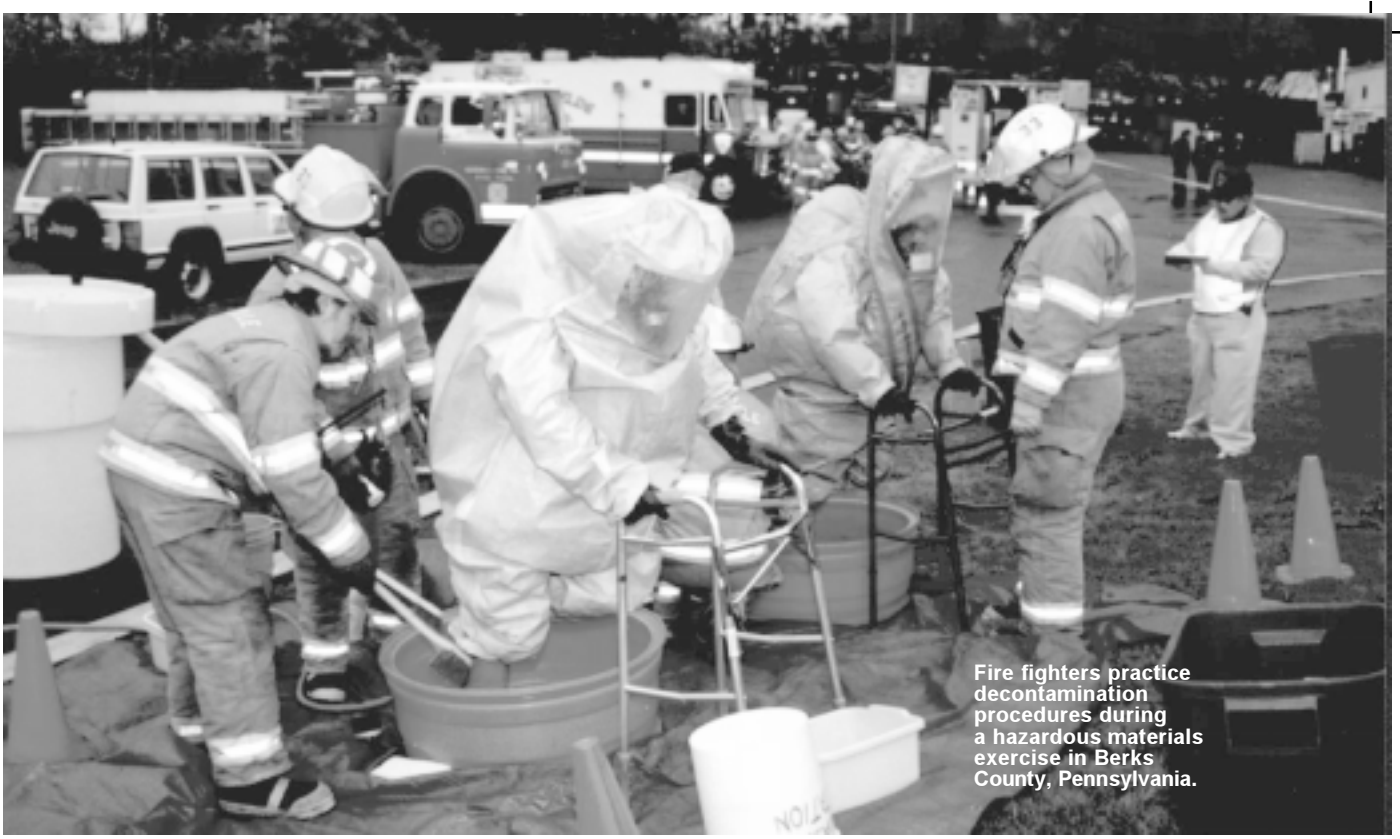
A JTF's mission may be dominated by long periods of maintaining peace while responding to sporadic flare-ups. Or, responding to asymmetric incidents may be part of larger, conventional operations. In either case, insufficient resources will be available to prevent all potential asymmetric attacks. They must be detected and dealt with as they emerge. Preparation means emplacing coping mechanisms in advance.

Urban emergency services, including police, paramedics and fire fighters, offer a useful model for the operational level of war in asymmetric environments. With insufficient resources to prevent all accidents, crimes and fires, city managers cannot plan to be in the right place at the right time in advance, but they can implement mechanisms in advance to monitor and respond with the critical resources necessary. These are the bases of coping mechanisms.

Coping mechanisms at the operational level of war are not new. One was implemented after the incident in Mogadishu on 3 and 4 October. That small, independent units in the city would come under attack could be known in advance; when and which ones could not. A monitoring network and quick-response force was established to cope with what could be anticipated but not prevented. Air mobility as employed in Vietnam could be considered as an operational-level coping mechanism. US forces could neither prevent enemy troop concentrations nor predict and plan for them. They could, however, detect them as they emerged and respond rapidly. Close air support, when tightly integrated with dynamic ground operations, can also be seen as a coping mechanism.

Law enforcement may also offer instructive insights for intelligence. Rather than conventional-force templates, mug shots, family trees, and telephone and bank records may be appropriate intelligence products. Intelligence staffs will learn to provide different products, and operators will learn to ask for them.

Learning will certainly continue to occur in the unforgiving laboratory of ongoing operations. JTFs created for real operations offer opportunities to experiment with a wide-ranging combinations of cop-



David J. Reimer Sr. Emergency Services Photography

Fire fighters practice decontamination procedures during a hazardous materials exercise in Berks County, Pennsylvania.

***Urban emergency services, including police, paramedics and fire fighters, offer a useful model for the operational level of war in asymmetric environments. With insufficient resources to prevent all accidents, crimes and fires, city managers cannot plan to be in the right place at the right time in advance, but they can implement mechanisms in advance to monitor and respond with the critical resources necessary. These are the bases of coping mechanisms.***

ing mechanisms. JTFs are not part of standard military organizations in garrison. Just the opposite is true; garrison forces are pure and rarely join a heterogeneous force. Without standing JTFs, garrison and learning operational readiness will be weak.

Adaptive command is a daunting task for a good team and perhaps impossible for a last-minute "pick-up team." Yet, we plan to form our command team at the last minute. The newly appointed commander must build a team at the same time the team is building a response to an emerging crisis. The ad hoc JTF headquarters will defy adaptive command, or any type of command, until the command team is built. The learning curve will be slow and costly. US forces and objectives will be vulnerable at the operational level of war until the joint command team forms.[10]

## Learning at the Strategic Level

The US military is accustomed to fighting abroad. This reality presents an enduring strategic vulnerability for an asymmetric actor to exploit. During regional conflicts, asymmetric tactics may be applied out of area as part of a larger strategy or as the sole elements of a long-term strategic offensive. Protecting the joint deployment system continues to be a strategic imperative but cannot be separated from more general force protection. Learning at this level focuses on developing a strategic response that subordinates means to ends.

In the event of a crisis, a JTF commander will be appointed and assigned a JOA within a unified command's area of responsibility (AOR). There will be significant opportunities for asymmetric actors to attack outside the JOA and even outside the AOR. For example, another Middle East scenario might involve bombers and strategic airlift operating out of Rota, Spain. An asymmetric actor might be willing and able to disrupt operations there or to raise Spain's cost of providing basing. The mere potential for asymmetric attack caused significant problems to planners of Operation *Eldorado Canyon* when Spain and France denied overflight rights to US FB-111s flying from Great Britain to Libya.

Asymmetric attacks can be less direct than physically destroying military facilities. They may include inciting locals to riot or strike. Throughput capacity would be seriously degraded if forklift operators, railroad engineers and stevedores did not report for work. Attacks on family housing would have great strategic effect. How can the United States learn to anticipate, prevent and cope with out-of-area attacks?

A learning event could be designed to focus attention on the joint deployment system, including ports of embarkation, lines of communication, ports

of debarkation and forward operating bases. A learning event should explore as many potential asymmetric attacks as possible and determine how to cope with the most dangerous and most likely. At one extreme, resources can be statically preallocated to protect the force against all potential threats. Such a prevention strategy is exhausting and cannot be sustained. A strategy that subordinates means to ends would dynamically allocate resources to the force element most critical to mission accomplishment. Additional resources would be allocated to monitor threat conditions and to respond accordingly.

Coping mechanisms—resources organized to monitor and respond—underwrite this second strategy. If intelligence detects a rising threat condition and operations can mount a timely response, then coping mechanisms can be effective in a prevention strategy. If this real-time, stimulus-response cycle cannot be built, then coping mechanisms should be designed to deal with the aftereffects. The real-time interaction of intelligence and operations is critical and should be a focal point for both learning and training.

Examples of coping mechanisms used to respond to out-of-area attacks in the Mediterranean region during a Middle East scenario include an amphibious ready group with a Marine expeditionary unit, a special operations task force, an air assault-based task force, a chemical-biological incident response force or a fleet antiterrorist security team supported by closely linked intelligence.

Neither the JTF commander nor the CINC will be positioned to deal with all out-of-area attacks, but the total system must anticipate and prepare for them, and the JTF commander must be prepared to cope with the effects. The risk of a potential asymmetric attack outside the JOA must be evaluated in terms of strategic priorities and the JTF commander's theater priorities.

The balance has shifted between what could be known and planned for in advance and what could not—between what was fixed and what was variable. Increasingly, being prepared is less a product of deliberate planning, training execution to doctrinal standards and long-term combat development processes and more a product of warfighting organizations that are trained in crisis-action planning and adaptive command. Adaptive command, as defined here, is becoming more common. Coping mechanisms can be found in military history but may become central doctrinal concepts in asymmetric environments.

Centering learning in the user chain of command will produce organizations that can more readily adapt and more effectively lead long-term combat development rather than be its belated recipient. Combat developers must more actively convert lessons learned in operational commands to doctrine, organization and training. Combat developers must produce a more diverse playbook of combined arms at the lowest tactical levels and coping mechanisms at higher-level commands. But, combat development is conducted principally by services and branches within them. When competing for acquisition funds, branches dominate combined arms organizations, and services dominate joint organizations. Only leadership, another precious resource, can overcome the inevitable imbalance accompanying the flow of money. More important, to overcome limitations that standard patterns of behavior often place on government action, adaptation must become a hallmark of US military behavior.

## NOTES

1. Graham T. Allison, "Conceptual Models and the Cuban Missile Crisis," *American Political Science Review*, September 1969, 689–718.
2. Deliberate planning is distinct from the crisis-action planning that naval expeditionary forces, XVIII Airborne Corps and special operations forces, among others, commonly practice.
3. This description characterizes the exercises conducted by the European Command's Army and Air Force components at the Warrior Preparation Center; by the Army's Battle Command Training Program; and more recently, by the Joint Forces Command in its *UNIFIED ENDEAVOR* series of exercises.
4. For a more thorough discussion of post-Cold War trends and the implications for higher-echelon training, see D. Robert Worley, Michael H. Vernon and Robert E. Downes, *Time and Command Operations: The Strategic Role of the Unified Commands and the Implications for Training and Simulations*, IDA-3222 (Alexandria, Va: Institute for Defense Analyses [IDA], October 1996).
5. Thomas J. Czerwinski, "Command and Control at the Crossroads," *Parameters* (Carlisle, PA: US Army War College [USAWC], Autumn 1996), 121–32.
6. An event conducted in fast time would represent more than one hour of real-world time in every hour of event time. An event conducted in skip time might represent decisionmaking in slower than real-world time to allow greater deliberations, adjourn for the evening and resume the next morning as if weeks or months had passed.
7. This pedagogical technique is commonly referred to as "heuristically guided investigation," a process driven by seeking answers to questions rather than by testing hypotheses. For a more thorough discussion of military experimentation, see D. Robert Worley, *Defining Military Experiments*, IDA D-2412 (Alexandria, VA: IDA, February 1999).
8. General Montgomery C. Meigs, "Operational Art in the New Century," *Parameters* (Carlisle, PA: USAWC, Spring 2001), 12.
9. D. Robert Worley, Alec Wahlman and Dennis J. Gleeson Jr., *Military Operations in Urban Terrain: A Survey of Journal Articles*, IDA D-2521 (Alexandria, VA: IDA, October 2000).
10. Charles E. Heller and William A. Stofft, *America's First Battles, 1776–1965* (Lawrence, KS: University of Kansas Press, 1986); D. Robert Worley, "Joint Task Forces: Options to Train, Organize and Equip," *National Security Studies Quarterly*, Winter 1999, 31–48.

*D. Robert Worley is a senior research fellow at the Potomac Institute for Policy Studies, Arlington, Virginia. He received a Ph.D. from the University of California, Los Angeles (UCLA); an M.S.E.E from the University of Southern California; an A.B. from the University of California, Berkeley; and master's degrees from Johns Hopkins University and Georgetown. He has served on the UCLA faculty and is now a fellow at the Johns Hopkins University Washington Center for the Study of American Government and an adjunct faculty member of George Washington University's Elliot School of International Affairs. He has worked for the Institute for Defense Analyses, the RAND Corporation and Hughes Aircraft Company. He served in Vietnam as an enlisted Marine.*


# US Army Decisionmaking: Past, Present and Future

**Colonel Christopher R. Paparone, US Army**

***After tracing the history of Army decisionmaking doctrine, the author proposes wide-ranging examination of our procedures, organizations and culture. In the end, the military decisionmaking process emerges as a valuable tool for coordinating intuition with analysis, task with purpose, plans with operations, and the present with the future.***

RUDIMENTARY military staff organization and procedures have developed since 2000 B.C., beginning probably with the armies of early Egypt. But, according to James D. Hittle, a historian of the military staff, the modern staff system did not emerge until late in the 19th century, even later for the US Army. Hittle postulates that modern staff systems have certain features:

- A regular education system for training staff officers.
- Delegation of authority from the commander.
- Supervised execution of orders issued by or through the staff.
- A set method of procedure by which each part performs specific duties.[1]

Hittle's proposed characteristics would certainly describe the successful formation of the Prussian *Generalstab* (general staff) under General Helmuth von Moltke in the latter 19th century. The *Generalstab* was largely responsible for orchestrating Germany's rapid defeat of France in 1870. During the industrial age, military theory began viewing armies as machines of the nation-state. Detailed algorithms of mobilization, rail schedules and troop movements became the business of army staffs as keys to decisive victory. In von Moltke's time, the Germans proved that an army that could plan detailed requirements, orchestrate capabilities rapidly and implement them precisely would win large-scale wars of national mobilization.

The *Generalstab's* power eventually usurped civilian policy because the exhaustive, inflexible military decisionmaking process (MDMP) and planning actually drove political decisions. The best example of this was at the beginning of World War I when Germany executed the Schlieffen plan. Named for Alfred von Schlieffen, head of the *Generalstab* from 1892 to 1906, the Schlieffen plan called for swift victory against France through a flanking attack across neutral Belgium. The greatest flaw in the plan was the *Generalstab's* assumption that victory would come in six weeks, thereby allowing Germany to respond to the expected sluggish Russian mobilization on a potential eastern front.[2] The Schlieffen plan case shows that excellence in planning alone will not overcome a flawed military strategy or concept of operations; operations "may fail not only by being unsuccessfully implemented,

***Commander's intent, along with initial guidance and concept of operations, introduced innovation and initiative to the traditional, analytically oriented MDMP. Thus, for the first time, this edition emphasized synthesis (integrating elements into a cohesive whole) in the MDMP as a complementary mental attribute to the traditional analysis (successively decomposing into parts).***

but also by being successfully implemented then proven inadequate."[3]

The US form of government makes forming a *Generalstab*-like military staff unlikely, even distasteful. Civil authority over the military is vested in the US Constitution, making the military purposely subservient to civilian decisionmakers and the Constitution itself. Nevertheless, modern nations have adopted ideas from the German staff model.

## History of Modern US Army Staff Officers' Doctrine

As the Schlieffen plan was being developed and the world drew closer to World War I, the US Army lacked published staff doctrine. The 1910 publication, *Regulations for Field Maneuvers*, did not include a description of staff processes; a 1914 field service regulation (FSR) mentioned the need for a commander and staff estimating process but did not describe one.[4]

Following World War I, the 1924 version of the FSR included doctrinal formatted orders with required annexes, maps and tables. Still, the FSR stated only that leaders should "first make an estimate of the situation, culminating in a decision upon a definite plan of action."[5] No procedural steps were provided to explain this process.

In 1932 the *Staff Officers' Field Manual* compiled "principles, information and data to be used as a guide for the operation of staffs of all units and territorial commands, in peace and war, rather than a set of rules and regulations to be rigidly and blindly followed."[6] The manual provided a comprehensive command and staff doctrine on which modern procedures are based. Orders formats were more detailed than in the 1924 FSR, and explanations of staff functions and the commander's estimate were more complete.

In 1940 the Army began expanding to prepare for World War II, growing to more than eight million soldiers by the end of the war. The scale and complexity of military decisionmaking and planning made staff work proportionately more intricate; thus, staff doctrine expanded with the Army. The August 1940 US Army Field Manual (FM) 101-5, *Staff Officers' Field Manual: The Staff and Combat Orders*, increased the scope and depth of staff doctrine beyond the 1932 version.

A new method of using draft staff officers' doctrine emerged after World War II. The US Army Command and General Staff College (CGSC) published draft staff officers' doctrine to update frequently changing terms and procedures. The 1949 CGSC draft, for example, emphasized the planning process rather than the orders format. Later CGSC versions were published as numbered reference books and student texts under various titles and formats.[7]

The July 1950 FM 101-5, *Staff Officers' Field Manual: Staff Organization and Procedures*, the next officially published staff doctrine, added the administrative commander's estimate, focusing on analysis for supporting an operation.[8] This manual was a logical evolution of the 1949 CGSC draft FM 101-5.

The November 1954 FM 101-5 made the commander's estimate a part of an overall estimate of the situation and added specific staff estimates for personnel, intelligence, operations, logistics, civil affairs, military government and deception. Interestingly, the deception estimate fell out as a stand-alone estimate in the next version and has not reappeared in staff doctrine. The manual adopted the basic five-step analysis associated with the commander's estimate process and added conclusions or recommendations to paragraph five to supplement the decision step. This version also added atomic weapons and chemical, biological and radiological effects as factors of analysis.[9]

In June 1968 more detailed procedures were published while preserving the basic doctrinal concepts. Wiring diagrams and process flowcharts depicted multiple players with plans, orders and estimate processes occurring simultaneously. Estimate procedures were presented as military problem-solving techniques and further shown to be Standardization Agreement (STANAG) 2118; hence, US Army doctrine for staff planning took on an allied flavor for the first time. Additionally, for the first time, procedures differentiated between the operation order (OPORD) and operation plan (OPLAN). Also noteworthy was the introduction of planning assumptions to "fill the gaps in knowledge of what conditions probably will be."[10]

While the July 1972 FM 101-5 contained few substantive changes from the 1968 version, it introduced the administrative staff study to separate the MDMP for administration from combat operations.[11] Replacing the administrative commander's estimate, the staff study outlined six steps to administrative problem solving: problem, assumptions,

German stormtroopers in France, circa 1916. The failed Schlieffen plan aimed for a swift victory against France through a flanking attack across neutral Belgium. A contemporary observer stated that when the operation broke down, shell holes became trenches and the trenches eventually became an elaborate defensive system several miles deep.

Imperial War Museum

***The Schlieffen plan case shows that excellence in planning alone will not overcome a flawed military strategy or concept of operations; operations "may fail not only by being unsuccessfully implemented, but also by being successfully implemented then proven inadequate."***

facts, discussion, conclusions and action recommended.[12] It also introduced a model showing the sequence of commander and staff actions that more clearly developed the idea of simultaneous and interactive staff and commander's MDMP actions. The model flowchart separated nine staff and commander's actions. Actions that involved making synthesized decisions were on the commander's side of the chart; actions requiring detailed analysis were primarily on the staff's.[13]

The 1984 version, retitled *Staff Organization and Operations*, implemented no fewer than eight STANAGs, indicating more purposeful NATO interoperability. For the first time, Army staff doctrine discussed the joint planning process and included a more comprehensive discussion of specialized staff roles and organization. MDMP changes included adding rehearsals as a new doctrinal step and expanding the MDMP flowchart to show feedback to the staff estimate, mission analysis and commander's estimate. The MDMP doctrine now recognized that while supervising decision execution, emergent factors influence changes in mission and commander's concept—a decision that remains a continuous and interactive process within the MDMP.

Finally, the 1984 edition added a special appendix, "Emerging Staff Techniques and Procedures," which provided a "forum for brief discussion of Armywide initiatives in staff techniques and procedures developed to enhance the effectiveness of staff operations in the face of emerging doctrine and rapidly changing technology."[14] This was an official invitation to open discussion and dialogue, especially about up-and-coming information technologies such as the maneuver control system, microprocessor systems, teleconferencing, facsimiles and decision graphics.

After many CGSC student text drafts, FM 101-5 was again updated and published in 1997. It devoted a chapter to staff officer characteristics, reflecting contemporary management influences; it explained the most intricate procedural aspects of MDMP with a complex, 38-step procedure; it contained more detailed examples for completing plans, orders and annexes; it had a separate appendix on information management; it introduced the concept of the commander's critical information requirements; and it detailed the concepts, duties and responsibilities of liaison officers based on lessons learned from coalition operations in the Gulf War. Also noteworthy was the absence of any link to STANAGs.[15]

The 1997 edition introduced commander's intent in Army staff doctrine, a concept that had been experimented with at length at CGSC and in Army operations and training. Commander's intent, along with initial guidance and concept of operations, introduced innovation and initiative to the traditional, analytically oriented MDMP. Thus, for the first time, this edition emphasized synthesis (integrating elements into a cohesive whole) in the MDMP as a complementary mental attribute to the traditional analysis (successively decomposing into parts).

***Modes generally reflect patterns of military planning and when coupled with the types of planning (detailed, functional and conceptual) give a better picture of the full scope of planning required. The old adage "plan early and plan twice" is based on failure to recognize proper modes of planning required—committing too early rather than formulating contingencies or orienting on the threat or opportunity.***

## Modern MDMP's Multiple Dimensions

Modern MDMP is a multidimensional undertaking with the decisionmaker, environment, organization (vertical and horizontal), planning, learning and procedures its major aspects. Many decisionmaking models (most are procedural) have been developed to assist decisionmakers in other than military organizations. However, researchers studying decisionmaking in civilian organizations have found that decisions appear to be somewhat arbitrary and not necessarily based on the best possible course of action. Hence, one purpose of the Army's doctrinal MDMP is to ensure that defining a problem and choosing the best course of action is not randomly matching variables but a deliberate action.

The decisionmaker is the central MDMP element. Effective military decisionmakers do not necessarily occupy formal leadership positions or have senior rank. Future military operations in a dispersed and noncontiguous battle space will likely distribute authority and decisionmaking. Soldiers operating remote sensing devices, uninhabited vehicles or precision-guided munitions, for example, may operate autonomously and make critical decisions affecting the outcome of military operations.

Good decisionmakers can employ both intuitive and analytic skills. Intuition is an unconscious appreciation of patterns of operations—a synthesis process. It reflects understanding that fosters the ability to achieve workable solutions even when information for making that decision is inadequate or unavailable. Conversely, analysis is conscious reasoning based on decomposition and manipulation of a situation. It is a methodical process that seeks knowledge in complex environments and involves a step-by-step, systematic procedure.[16] Decisionmakers display sound judgment—a blend of intuition and analysis—when they chose well among options despite uncertainty and ambiguity.[17]

Good decisionmakers tend to use heuristics or speculative general rules that aid in problem solving by directing the search or decreasing the amount of information searched.[18] While Army professionals are likely to develop similar heuristics, education, experience, intelligence and personality will affect differences among decisionmakers.[19] Military educational institutions use historical analogies and case studies to foster heuristic decisionmaking, formulate creative stratagems and develop critical thinking skills.[20]

Visualization, a related concept to heuristics, is a decisionmaker's ability to picture what lies ahead. Good decisionmakers, like good chess players, think downboard to envision second- and third-order effects of decisions and develop branches and sequels to current or planned operations. Often specialized staffs—think tanks or futures groups—assist decisionmakers in the visualization process.[21]

Army decisionmakers rely on learned values that affect decisions and planning:

- Truth (through analysis—the scientific method).
- Power (in being part of a team that creates the national element of power).
- Goodness and virtue (high ethical and moral standards).
- Aesthetics (appreciation for the art of decisionmaking, the satisfaction and beauty of formulating

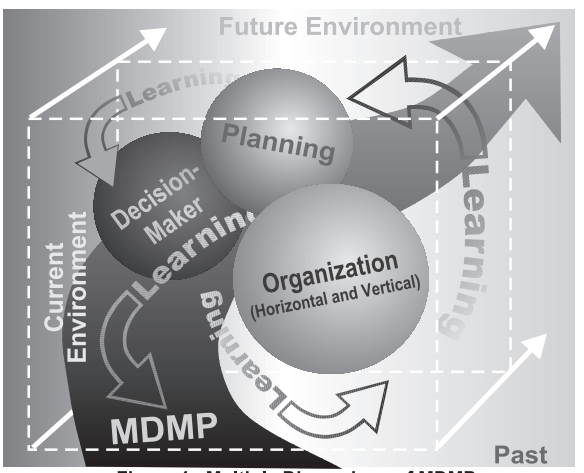


Figure 1. Multiple Dimensions of MDMP

Members of Lockheed's Advanced Development Projects Division, or "Skunk Works," prepare the first F-117 stealth aircraft for an engine test, spring 1981. This team carried the project from concept to design to prototype.

Lockheed Martin Aeronautics Company

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creative solutions to complex problems).[22]

**The environment.** MDMP addresses three environmental settings—the past, present and future. Future environments exist under varying conditions of certainty, so decisions have varying degrees of flexibility and risk. Flexibility flows from available choices—how much force should remain in reserve and where; how many concept plans for branches and sequels should be developed; what kind of maneuver (attack or defend) should be employed. Risk is the residual variance of rational choice or the decision's stability—whether underlying assumptions about the environment or the effects of the decision on the environment hold true. Risk may be accepted, for example, by some measure of available force readiness or the enemy's known readiness. Less flexibility (stronger commitment to a single choice) and less risk (more stability) are characteristics of decisions made with certainty, while the opposites may be true under conditions of greater uncertainty. The availability and quality of information about the environment—past, present and future—produce variances in knowledge and understanding of what has happened, what is happening and what will happen.


**Figure 2.** A good decisionmaker can make good judgements by oscillating along a continuum between intuition and analysis.

**Vertical aspects of MDMP.** Decisionmakers must understand how decisions concerning tactics, operations, strategies or policy nest in higher-level organizations. The same MDMP principle applies to ensuring that subordinates understand the commander's intent. A recent MDMP study demonstrated that successful commanders best impart their intent through a healthy command climate, telling subordinates what and not how (mission-type orders), explaining how they arrived at their decision (their thinking process), good feedback mechanisms (subordinate access to the superior's MDMP) and being familiar with their subordinates (a measure of trust).[23]

Status is another aspect of vertical organizational influence on MDMP. Especially under conditions of stress, those with less military rank or on a lower organizational level tend to defer to others of higher rank and organizational level. The result may be overcentralized decisionmaking.[24]

**Horizontal (group) aspects of MDMP.** Group military decisionmaking is a corollary to conflict management in various organizations. Conflict is eliminated, often incrementally, through consensus and through loosely coupled decisionmaking

systems when efforts to seek consensus fail.[25] In operations involving joint and combined military organizations or other agencies and nongovernment organizations, consensus building and a more loosely coupled MDMP have proven useful.

Loosely coupled processes try to make sense of seemingly random systems using decentralization, delegation, vague language, vague expectations, and coaching and educating through talk and action.[26] Loosely coupled operations permit greater freedom of action and variation in execution—allowing participants broader latitude without adversely affecting the operation.

***One danger in MDMP is being overanalytical, creating a tendency toward premature closure in the process of formulating stratagems. Decisionmakers may be more comfortable or competent conducting MDMP's procedural aspects. They may give inadequate attention to the less-structured, but more important, step of generating stratagems in the first place.***

**Planning aspects of MDMP.** In large Army organizations, such as corps and divisions, near-term decisions (current operations) are always nested in long-term decisions (plans). To plan is to design a desired future (ends) and orchestrate effective ways and means of bringing it about. A plan is anticipatory decisionmaking that involves a set of interdependent decisions. The process is continuous and has no conclusion or end point. What separates strategic planning from operational and tactical planning is largely the difficulty of reversing its effects during execution.[27]

Military planning shifts the decisionmaking load to earlier periods of relative inactivity.[28] This was certainly true with the XVIII Airborne Corps during Operation *Desert Shield* where planners focused MDMP on incremental defensive planning during the force buildup phase. That plan changed as more military capability deployed into the maturing theater. In addition, through implementing a viable defense, ample time was assured to plan extensively for the XVIII Airborne Corps' ground offensive against Iraq.[29]

US Marine Corps Doctrinal Publication 5 (MCDP 5), *Planning*, provides an extensive and valuable discussion of the nature of planning, including planning theory and what makes planning effective. It defines planning as "the art and science of envisioning a desired future and laying out effective ways to bring it about, influencing events before they occur."[30] Categories of Marine planning include force planning (creating and maintaining military capabilities) and operation planning (what the Army would associate with the MDMP type of planning). MCDP 5 describes a planning continuum from:

- Detailed planning (the lowest level; focuses on "how-to" instructions for control measures and movement tables, for example).
- Functional planning (the medium level; supports plans with discrete functional activities such as logistics, security and intelligence).
- Conceptual planning (the highest level; operational concepts, commander's intent, goals and objectives).[31]

The levels are interactive; concepts will drive functional and detailed planning, and details will influence functional and conceptual planning. This hierarchy may be processed at any level of organization or war. MCDP 5 describes planning modes as another dimension of planning and also along a continuum of risk and time:

- Commitment planning (resources are physically prepared under conditions of greater certainty with a shorter time horizon).
- Contingency planning (resources are programmed for several projected circumstances—but not physically committed—under conditions of moderate uncertainty with an increased time horizon).
- Orientation planning (resources are in rough concept—continually assessing and designing preliminary plans allows response to a broad variety of circumstances over longer periods).[32]

Modes generally reflect patterns of military planning and when coupled with the types of planning (detailed, functional and conceptual) give a better picture of the full scope of planning required. The old adage "plan early and plan twice" is based on failure to recognize proper modes of planning required—committing too early rather than formulating contingencies or orienting on the threat or opportunity. Another planning adage, "the truth changes," applies as well. Over time interpretations of the situation change. While each change may be small and immediate, the cumulative drift can lead to transformation large enough that few will recognize history's relationship to the current situation. Without recognizing patterns, projecting the future situation is difficult if not impossible.

**Learning aspects of MDMP.** C.S. Forester's historical novel, *The General*, portrays World War I British leaders as simple- and single-minded. In what today's US Army would call an after-action review (AAR), Forester depicts a British army corps commander and his division commanders discussing the battle of Loos, a failed allied offensive.

The September 1915 offensive was based on an allied delusion that "artillery could blast a hole through the opposing wall for infantry and thereby

assure success."[33] British killed in action totaled 60,000 and the breakthrough failed. Forester describes the World War I AAR: "In some ways it was like the debate of a group of savages as to how to extract a screw from a piece of wood. Accustomed only to nails, they had made one effort to pull out the screw by main force, and now that it had failed they were devising methods of applying more force still, of obtaining more efficient pincers, of using levers and fulcrum so that more men could bring their strength to bear. They could hardly be blamed for not guessing that by rotating the screw it would come out after the exertion of far less effort; it would be so different that they would laugh at the man who suggested it."[34]

Even in a learning organization that conducts AARs and harvests lessons and observations, approaches can be deadly wrong if they are based on faulty MDMP devoid of creative thinking. Based on such reasoning, British generals later planned an even larger fiasco—the Somme offensive in summer 1916—where again more than 60,000 British soldiers perished. Caught in "paralysis through analysis" they decided through a commander and staff estimate process that they could attain victory by merely improving on the same concept of operations from the previous offensive. This sort of behavior has been called a "competency trap," which "arises in various forms in many adaptive systems and reflects the ways in which improving capabilities with one rule, technology, strategy or practice interferes with changing that rule, technology, strategy or practice to another that is potentially superior (but with which the decisionmaker has little current competence)."[35]

British Field Marshal William Slim's leadership in Burma during World War II was the antithesis of the competency trap. Learning from his own organizational weaknesses and enemy strengths over more than two years, he turned defeat into victory: "In Burma we fought on a lower scale of transport, supplies, equipment, supporting arms and amenities than was accepted in any other British theatre. Yet, largely because of this lack of material resources, we learned to use those we had in fresh ways to achieve more than what would have been possible had we clung to conventional methods. We . . . in strange conditions evolved our own technique of war, not so much material, as human."[36]

Recent emphasis on conceptual formulation is emerging in MDMP—aspects that involve intuition as well as analysis. The challenge to changing staff organization and operations is clearly cultural. A decisionmaking system that evolves over decades as primarily analytic develops a code for information about the situation. Such a code partitions all possible estimates of the situation into a relatively small number of classes of estimates. Organizational learning relies on changing that partitioning process or at least modifying it to apply to the whole of the new situation.[37]

The Army Battle Command Training Program was designed to exercise division and corps commanders and staff in the art and science of staff organization and operations. More attention by observers/controllers will be placed on the art of decisionmaking (creative and intuitive faculties) than the science of control (analytic).[38] Additionally, a comprehensive study of tactical commanders at the National Training Center, Fort Irwin, California, revealed that the most successful leaders demonstrate not just analytic skills but the capacity to synthesize using visualization, creativity, initiative and flexibility.[39] Making decisions under varying conditions of uncertainty in the full spectrum of Army operations will require more and more intuitive skills.[40]

Stratagems are formulated not through a linear decision process but through a nonlinear MDMP. Nonlinear MDMP is continuous, accounts for processed feedback (learning) and emergent situational factors (such as mission, enemy, terrain, troops, time, civilians) and adjusts stratagems accordingly; hence, MDMP with adaptive learning results. The figure below depicts a nontraditional model of MDMP with large and small arrows indicating a nonlinear performance outcome.

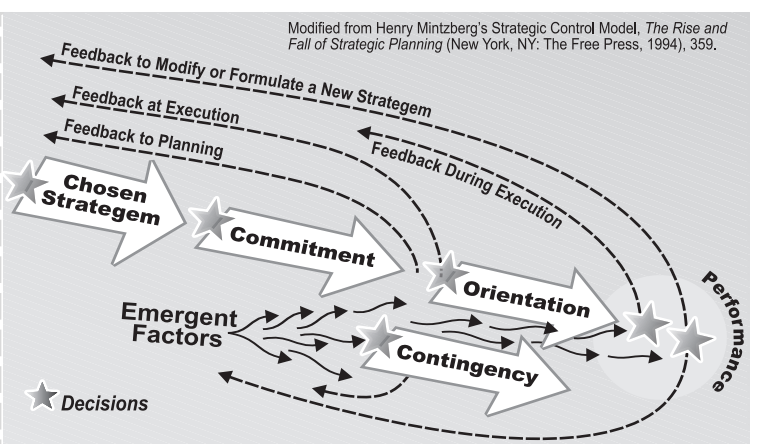


**Figure 3. MDMP and Adaptive Learning.** The nonlinear model shows emergent factors and feedback loops that, if properly monitored, will change the plan and push organizational mission performance to a higher level. Learning may be the outcome of war gaming, experimenting, training, simulating, operating or using decision-support tools.

One danger in MDMP is being overanalytical, creating a tendency toward premature closure in the process of formulating stratagems. Decisionmakers may be more comfortable or competent conducting MDMP's procedural aspects. They may give inadequate attention to the less-structured, but more important, step of generating stratagems in the first place.[41] Stratagems are generated through divergent thinking, which involves "expanding the picture of the problem."[42] Convergent thinking involves narrowing a problem down to a smaller, more manageable size and casting out alternatives. Commanders must avoid letting MDMP's procedures cause convergent thinking too early.[43] Premature closure prevents learning from other possible alternatives. It may be better to continue to orient on the problem than to commit to a solution too early.

***Army doctrinal MDMP must merge with joint decisionmaking processes. The corps commander and staff serving as a joint task force headquarters will have little or no time to change from Army MDMP and doctrinal orders to the joint operation planning and execution system that produces joint force orders. Until the procedures match, Army theater-level and corps commanders and staff must translate MDMP so it becomes seamless with joint processes.***

Another pitfall similar to premature closure is self-imposed constraint. Preventing or removing unnecessary constraints permits creativity and learning. The MDMP environment contains controllable variables, such as friendly forces, and uncontrollable variables such as weather, terrain and enemy attack. The ideal situation does not constrain how the decisionmaker controls the controllable variables and reduces or removes the effectiveness of the uncontrollable variables.[44] Mission statements, concepts of operation, commander's intent statements, tasks to subordinate units and similar directives must be carefully formulated to avoid self-imposed constraints.

Army education, mentorship and organizational experience through training and operations should synthesize what has already been learned and extract a holistic view from it so decisionmakers can better convert information and knowledge into understanding. Answers that are expected cannot be creative and therefore may inhibit innovation.[45] Traditional Army organizational culture can stifle dissent, but wise leaders question the old answers, allow freedom of action and accept professional mistakes when subordinates experiment. Accepting risk in these areas fosters learning and development among Army decisionmakers.

## What Lies Ahead

Army organizations must achieve "decision superiority"—good decisions made faster than an opponent can react or, in a noncombat situation, at a tempo that allows the joint force commander to shape the situation or react quickly to changes and accomplish the mission.[46] In future MDMP, the goal is to turn estimates of the situation into situational understanding—past, present and, insofar as possible, future. Staff organization and operations will be tailored to enable "enactment planning," modifying or creating new stratagems to control the future situation while giving the opponent little or no choice. Ultimately, friendly MDMP limits the effectiveness of the decisionmaking process.

To do so, Army doctrinal MDMP must merge with joint decisionmaking processes. The corps commander and staff serving as a joint task force headquarters will have little or no time to change from Army MDMP and doctrinal orders to the joint operation planning and execution system that produces joint force orders. Until the procedures match, Army theater-level and corps commanders and staff must translate MDMP so it becomes seamless with joint processes.

Most studies of Army commanders and staffs have focused on potential MDMP improvements to shorten decision times and conduct more detailed analyses.[47] Future study must include more emphasis on how to:

- Enhance decisionmakers' intuition through Army training, education, and current and planned operations.
- Transform Army culture from placing value on analytic (procedural) aspects of MDMP to give equal weight to its more multidimensional aspects.
- Revise MDMP to ensure it is seamless with joint decision processes.
- Blend Army Staff organization and operations with Joint Staff organization and operations; allied, coalition or combined staff organization and operations; the interagency process; and nongovernment organizations.
- Increase flexibility and speed in MDMP because Army forces will deploy when there is only an orientation plan available.
- Adapt MDMP for force planning and decisionmaking in the institutional Army.

The history of staff organization and operations is clearly evolutionary, and for almost a century, no major changes were made to the basic steps of estimating the situation or providing analysis for MDMP. The current edition of FM 101-5 introduces

more of the thinking aspects of staff organization and operations to avert conditions that lead to a competency trap.

When continuing current operations become ineffective, innovative thinking can make a difference. Effective new stratagems may not emerge clearly from established doctrine; tactics, techniques and procedures; or past successes and failures. In formulating innovative stratagems, MDMP will require commanders and staffs to suspend traditional thinking and learn by treating:

- Self as a hypothesis.
- Intuition as reality.
- Hypocrisy as transition.
- Memory as an enemy.
- Experience as a theory.[48]

Modern staff organization and procedures recognize the value of innovative thinking and that deciding and planning with a combination of intuition and analysis are important to the success of Army operations. As critical as the commander is, Slim recognized that "There comes a moment in every battle against a stubborn enemy when the result hangs in the balance. Then the general, however skillful and farsighted he may have been, must hand over to his soldiers . . . to complete what he has begun."[49]

***Traditional Army organizational culture can stifle dissent, but wise leaders question the old answers, allow freedom of action and accept professional mistakes when subordinates experiment. Accepting risk in these areas fosters learning and development among Army decisionmakers.***

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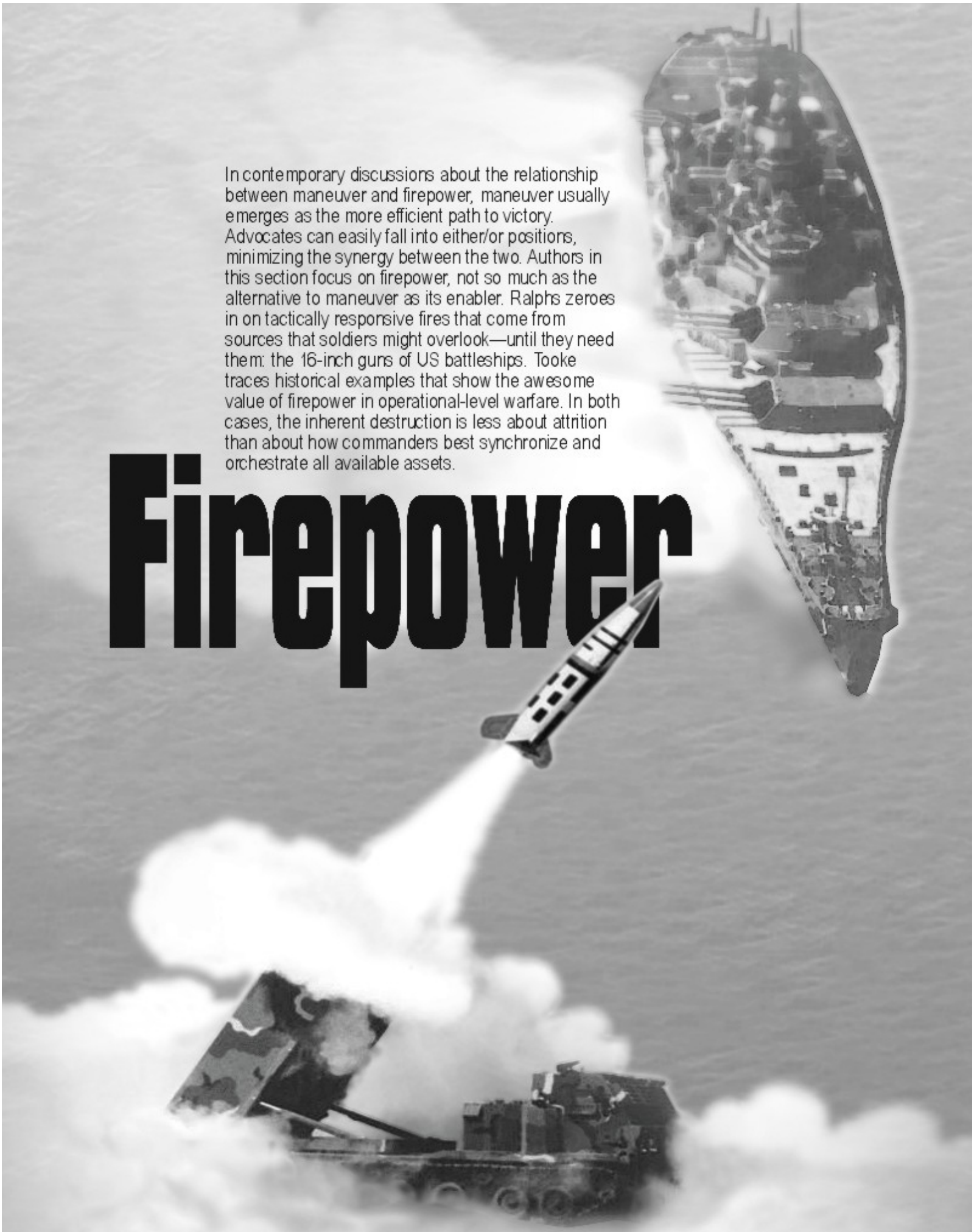
*Colonel Christopher R. Paparone, US Army, is a Ph.D. candidate in the Army War College Professorship Program at Pennsylvania State University. He received a B.A. from the University of South Florida and M.A.s from Florida Institute of Technology and the US Naval War College. He is a graduate of the US Army War College. He served in various command and staff positions in the Continental United States and Germany, including deputy G3, 21st Theater Support Command, Kaiserslautern, Germany; and battalion commander, 47th Forward Support Battalion, 1st Armored Division, Bad Kreuznach, Germany. His article "Piercing the Corporate Veil: OE and Army Transformation" appeared in the March-April 2001* Military Review.



In contemporary discussions about the relationship between maneuver and firepower, maneuver usually emerges as the more efficient path to victory. Advocates can easily fall into either/or positions, minimizing the synergy between the two. Authors in this section focus on firepower, not so much as the alternative to maneuver as its enabler. Ralphs zeroes in on tactically responsive fires that come from sources that soldiers might overlook—until they need them: the 16-inch guns of US battleships. Tooke traces historical examples that show the awesome value of firepower in operational-level warfare. In both cases, the inherent destruction is less about attrition than about how commanders best synchronize and orchestrate all available assets.

# Firepower

# Tactically Responsive Firepower

**Major Tracy Ralphs, US Army Reserve**

*It takes an Army to deter a war.*
—US Army Chief of Staff General Eric K. Shinseki

IF THE US ARMY is to deter war in the 21st century, it must embrace its largely ignored amphibious warfare responsibilities and focus doctrine and capabilities on rapidly projecting power to dominate littoral (coastal) regions. The most effective method for the Army to achieve littoral deterrence in the near term is through deploying interim brigade combat teams (IBCTs) as part of an integrated, synchronized joint task force (JTF) to secure port facilities and airfields.

Since 1990 US forces have been involved in 50 crises around the world, most supported by Marine and Navy amphibious forces deployed to littoral regions. About 70 percent of the world's population lives within 75 miles of a coastline. The rapid growth of megacities in the littorals and resultant avalanche of changing demographics, competition for resources and indigenous tensions have produced regions plagued by strife and conflict. Littoral operations are expected to be the norm for the 21st century.

However, successfully performing the littoral combat mission requires tactically responsive naval surface fire support (NSFS). Operations in Kosovo demonstrated that bad weather can wipe out air support. Global Positioning System (GPS)-guided, precision-guided munitions (PGMs) could not destroy Serbian ground forces. NATO employed more than 10,000 PGMs and destroyed only 14 tanks, 18 armored personnel carriers (APCs) and 20 artillery pieces.[1] However, they proved effective when employed against stationary targets such as bridges, power plants, railroads and the Chinese Embassy. Unfortunately, "The Navy admits that it currently has no credible surface fire capabilities to support forced-entry from the sea and inland operations by US Marine Corps (USMC) and Army forces."[2] Furthermore, the Navy cannot provide tactically responsive NSFS to troops ashore without the major-caliber guns of the *Iowa*-class battleships, which the Navy refuses to maintain in active service. For littoral conflicts, the *Iowa*-class battleships should be designated and funded as joint national assets.

***The inability to provide assaulting forces with reliable, tactically responsive, all-weather fire support prevents the United States from effectively projecting power and risks needless casualties, being defeated or both. . . . In the initial stages of any joint littoral operation, until sufficient time elapses to deploy organic artillery, both services must rely primarily on naval aviation and long-range NSFS, which require more than 10 minutes to respond.***

The Army and USMC are implementing strategic and operational maneuver concepts to meet requirements for increased mobility. The Army's near-term response is the Interim Force while the Objective Force takes shape. The USMC's near-term and long-term strategies are Marine Corps Strategy 21 and Operational Maneuver From the Sea (OMFTS). These revolutionary maneuver concepts could significantly enhance US ability to wage and win strategic and operational war. However, the inability to provide assaulting forces with reliable, tactically responsive, all-weather fire support prevents the United States from effectively projecting power and risks needless casualties, being defeated or both.

Regardless of how a force arrives, it deploys on the ground and fights tactically. Fire support to soldiers and Marines ashore require reliable, high-volume, tactically responsive, lethal, all-weather systems. Neither maneuver concept adequately considers or provides fire support that meets the

*The views expressed in this article are those of the author and do not purport to reflect the position of the Department of the Army, the Department of Defense or any other government office or agency.—Editor*

## Floating Fortress

During the 1982 Falklands-Malvinas War, Exocet antiship missiles and conventional bombs struck 16 British warships, sinking seven and severely damaging three. A containership was sunk with thousands of tons of stores and ammunition as well as half the helicopters dedicated to the land force. British carriers were forced to operate at the extreme range of the invasion area.

The vulnerability of modern, lightly armored warships to determined air attack had changed little since World War II. Yet, even as the Argentine and British forces fought in the South Atlantic, work began at the Long Beach Naval Shipyard to modernize a warship largely impervious to conventional weapons. The USS *New Jersey* was the first of four *Iowa*-class battleships returned to active service as part of President Ronald Reagan's maritime strategy.

Built during World War II, these vessels still had as much as 20 years of service life remaining. In addition, antiship weapons had been designed over the decades to counter increasingly thin-skinned warships. With a 6-inch armor deck and hull and citadel armor ranging up to 14.5 inches thick, the battleships would be able to engage in sustained, all-weather operations in even the most deadly environments. All four ships were recommissioned by 1988 with state-of-the-art communications, radar, nuclear-biological-chemical protection, chaff and electronic countermeasures systems. Additional weapons included 16 Harpoon and 32 Tomahawk cruise missiles as well as four 20mm Phalanx systems (similar to the Vulcan). Today, two ships, the *Wisconsin* and *Iowa*, are maintained, ready for activation under the terms of US Public Law 104-106.

Former US Navy Secretary John Lehman believes this level of readiness is insufficient and that the *Wisconsin* and *Iowa* "should be kept in a ready-reserve status, manned by a cadre of regulars and a majority of drilling reservists." In this status, says Lehman, "they could do occasional show-the-flag cruises and rapidly deploy in time of crisis." He dismisses arguments that the ships are too manpower-intensive to be cost-effective: "We manned them in the 1980s with 1,400 officers and men. By manning only two of the four engine rooms, they still make 24 knots and save several hundred crew. With other sensible reductions made possible by newer technology they could be manned with fewer than 800. At whatever manning, there simply is no substitute for those 16-inch guns. On the first salvo they can be in the wrong county, but with drone or aircraft spotting the subsequent rounds have 100-yard or better accuracy."

Lehman points out that "the Exocet can penetrate only 2.75 inches of armor" and that similar missiles "would have no effect against any of the armor of the BBs." He cautions, however, that no amount of protection can prevent all casualties, particularly if hits are made on the less-armored portions of the superstructure. Still, "The only real conventional threat to the BBs," says Lehman, "is the huge under-keel Russian torpedo, but even there, the BBs have triple-layered bottoms. In short, compared to the 1/4-inch steel of the billion-dollar Aegis ships, the BBs are invulnerable."

realities of close combat. In the initial stages of any joint littoral operation, until sufficient time elapses to deploy organic artillery, both services must rely primarily on naval aviation and long-range NSFS, which require more than 10 minutes to respond.

Sometimes "tactical" is so broadly defined that it is dangerously imprecise. US Army Field Manual (FM) 100-15, *Corps Operations*, defines the corps "as the largest tactical unit in the US Army," a definition unchanged in more than 60 years.[3] Everything from the front-line foxhole to the corps rear area is considered tactical. The close battle, main battle, deep battle and rear battle are all tactical operations but could be up to 90 miles apart. Fire support responsiveness for soldiers in foxholes (or Marines on the beach) is clearly different from what a corps needs for the fight.

The corps- and joint-level task force headquarters have too many communication layers between them and the shooters to be responsive to the close fight and main battle. Although we have sensor-to-shooter connectivity, it is doubtful that high-level responsiveness can be sustained hundreds of times a day across a corps' front. These applications are best suited for high-payoff targets or special operations but cannot reliably support the volume of requests needed for large-scale combat.

Although the corps operates in the field under tactical environmental conditions, due to technological advancements in command, control, communications and computers, intelligence, surveillance and reconnaissance ($C^4ISR$), today's corps and corps-sized JTFs conduct an operational level of war and influence an operational battle space. Today's corps can influence an area of operation formerly assigned to numbered US armies in World War II.

Because the range and responsiveness of organic weapon systems is limited, the division should be designated the largest tactical unit. Additionally, the tactical battle space should be redefined to mirror the zones and sectors assigned to divisions. Associated battle areas—the close fight, main fight, deep battle and rear battle—must specify responsive thresholds because time and distance are interdependent, defining criteria. Department of Defense (DOD) Directive 5100.1 sets forth the Army's amphibious mission requirements: "The primary functions of the Army are:

"6.6.1.2.3. To organize, equip and provide Army Forces, in coordination with other Military Services, for joint amphibious . . . operations and to provide for the training of such forces, in accordance with joint doctrines.

"6.6.1.2.3.1. [Develop,] in coordination with other Military Services, doctrines, tactics, techniques, and equipment of interest to the Army for amphibious

operations and not provided for elsewhere."[4]

Although this directive, as worded, is speaking of World War II, Normandy Beach-like operations, it affords the Army broad latitude to "Develop . . . doctrines, tactics, techniques, and equipment of interest to the Army for [littoral] operations which do not exist or are not addressed" yet are required for successful amphibious operations.[5]

As the USMC's long-range concept for responding to 21st-century littoral conflicts, OMFTS relies heavily on its ability to launch and support amphibious assaults from ships 70 to 115 miles inland beyond the horizon. Based on a triad of revolutionary lift assets such as the MV-22 Osprey tilt-rotor aircraft, the advanced amphibious assault vehicle (AAAV) and the recently upgraded landing craft, air-cushion (LCAC), OMFTS will project power inland. On 16 November 2000, the USMC publicly revealed its first step toward achieving its long-term vision. Identified as Marine Corps Strategy 21, the Marines' new goals are bold but achievable: two brigades—almost 40,000 Marines—deployed anywhere in the world, regardless of available infrastructure, ready to operate in one week or less.[6]

## Amphibious Warfare Today

Typically, in any littoral scenario, the amphibious ready group (ARG) will deliver the first ground forces most readily available to respond to a littoral crisis. Typically a Marine expeditionary unit/special operations-capable (MEU/SOC), a reinforced infantry battalion, can respond within hours to days, depending on the ARG's proximity to the crisis. However, the next available Marine force, the Marine expeditionary brigade (MEB), arrives 11 days after the MEU deploys. For crises requiring a force larger than an MEU and sooner than an MEB, the Army's 82d Airborne Division and IBCTs are ideal. The Army should contribute IBCTs to JTFs responsible for securing port facilities and littoral airfields.

Employing IBCTs to respond to littoral national security interests would not be interpreted as an encroachment on Marine Corps turf. USMC leaders acknowledge that the Corps alone is too small to adequately respond to large-scale crises. Commandant of the Marine Corps General James L. Jones stated: "Marines win battles, the Army wins Wars."[7] Testifying before the Senate Armed Services Committee during his confirmation hearings, then Lieutenant General Jones said, "There has never been a crowded battlefield. Our complementary relationship with the Army is an important force multiplier for the Nation."[8]

USMC doctrine clearly describes surface movement for ship-to-objective maneuver (STOM). IBCTs, on the other hand, would primarily use aircraft. Parallel capabilities would provide a synergistic force multiplier, especially for JTFs trying to surge combat power quickly.

***A ship 1,000 miles away can fire a Tomahawk cruise missile, which takes up to 1 hour, 49 minutes to reach the target, and still meet requirements for NSFS if the missile is launched 2 minutes, 30 seconds after the request. The term "tactical Tomahawk" is an oxymoron and illustrates a lack of appreciation for the need for tactically responsive fires.***

## Tactical Fires Not Considered

Unfortunately, as planning to support IBCTs and OMFTS becomes more definitive, important tactical requirements remain ill-defined, if not neglected. In the Army's case, the fire support deficiency is highlighted by an October 1999 Deputy Chief of Staff for Operations and Plans (DCSOPS) meeting of the Council of Colonels. Transformation workshops were conducted to "enable early and continuous joint, integrated and overwhelming strategic and operational fires and maneuver, throughout the depth and breadth of the battlespace and across the spectrum of operations."[9]

The USMC has understood the need to support amphibious operations with tactically responsive fires. On 3 December 1996 the commanding general, Marine Corps Combat Development Command (MCCDC), Quantico, Virginia, Lieutenant General (LtGen) Paul K. Van Riper, submitted requirements for NSFS, calling for responsiveness of 2 minutes, 30 seconds from call for fire to rounds striking the target.[10]

However, changes to the wording of the Marine requirements document raise doubts. In a letter dated 16 June 1999 to the Chief of Naval Operations (N81), new commanding general, MCCDC, then LtGen J.E. Rhodes, redefined this requirement. The requirement now calls for a "system response" of 2 minutes, 30 seconds from the time "the fire direction center receives the call for fire until ordnance is fired or launched."[11] A munition's time of flight is excluded from this requirement. The redefinition has had a dramatically negative impact on responsiveness. A ship 1,000 miles away can fire a Tomahawk cruise missile, which takes up to 1 hour, 49 minutes to reach the target, and still meet requirements for NSFS if the missile is launched 2 minutes, 30 seconds after the request. The term "tactical Tomahawk" is an oxymoron and illustrates a lack of appreciation

A Tomahawk cruise missile is launched from the USS *Missouri* during Operation *Desert Storm*, 17 January 1991.

US Navy

***For a relatively small investment, several battleship upgrades would enable tactically responsive, extended-range joint fires and quickly integrate US and coalition fires—air and indirect. Modernized battleships can integrate and synchronize the joint fires mission end to end.***

for the need for tactically responsive fires.

Even 2 minutes, 30 seconds can seem like a lifetime when you need fire support. Perhaps this is part of the problem. Not enough of today's soldiers have experienced combat, and decisionmakers too often fail to listen to those who have. Recently retired General Barry R. McCaffrey stated, "With only a handful of exceptions, our soldiers have never witnessed a protracted, high-casualty ground campaign. . . . Many of the lessons of Vietnam have been lost, forgotten, or cast aside—deemed inconvenient or irrelevant. . . . It is critical that they learn from, and not repeat, the mistakes of the past."[12]

Testimony of ground combat veterans of Korea and Vietnam; after-action reviews (AARs) from training engagements at the Army's National Training Center (NTC), Fort Irwin, California; and current Army artillery performance standards reveal that the original USMC requirement of 2 minutes, 30 seconds is dead on target. Army fire support performance standards for the Paladin, M109A6, 155mm howitzer specify a 75-second (outside the radius) responsiveness requirement for a "Hip Shoot."[13] Time of flight for 155mm projectiles out to an 18.1-kilometer (km) maximum range (nonsuper-charged, nonrocket-assisted) is 68.5 seconds, for a total execution responsiveness of 2 minutes, 23.5 seconds—a tougher standard than the USMC requirement.

If this is the current Army standard for tactical fire support responsiveness, if the USMC follows the Army's Artillery School for tactics, techniques and procedures (TTP), and if the US military is always to fight jointly, this fire support standard should also apply to the Navy and support for soldiers and Marines ashore. Additionally, the tactical battle space should be limited to the distance at which fires can range targets and still be responsive in any weather. This designation applies for all ground operations, whether in the littorals or in the Balkans. Doctrine can grow as technology improves so that fire support remains tactically responsive and "be doctrinally sound but not doctrinally bound."[14]

## Joint Fire Support is Broken

General Anthony C. Zinni, USMC, commander in chief (CINC) of US Central Command, detailed shortfalls in joint fire support capabilities for forced-entry scenarios. He asked, "How do we employ joint fires when we're building up the force? It's easy to employ joint fires in an exercise where the entire force is already in place."[15] The inability to perform joint fires is not due to a lack of doctrine. Joint Publication 3-09, *Doctrine for Joint Fire Support*, was published 12 May 1998. The inability to provide joint fires stems from a serious lack of weapon systems capable of providing joint fires. Elaborating, Zinni said, "What we need going in is a capability to quickly integrate US and coalition fires—air and indirect fires. . . . The first few days are going to be critical, until we can build up to the point where we have the combat advantage over the enemy."[16]

In a June 2000 interview, Jones stated, "One of the lessons from Kosovo for me was that weather still plays an important role in the ability of a platform to deliver rounds on target, precision or otherwise. . . . Something like 50 percent of the time we were unable to fly to do below-the-clouds close air support."[17]

## Why NSFS is not Credible

In the initial stages of a joint littoral operation, until sufficient time elapses to deploy organic artillery assets, both services must rely heavily on air power (primarily naval aviation) for fire support because the Navy cannot provide credible NSFS to support joint Marine and Army amphibious operations. Even "the Navy admits that it currently has no credible surface fire capabilities to support forced-entry from the sea and inland operations by Marine Corps and Army forces."[18] A 1999 Navy Report to Congress reaffirmed this, stating, "[the] Navy does not pos-

sess an operational capability that meets current Marine Corps naval surface fire support requirements."[19] This statement remains true today. There are two principal reasons why the Navy cannot perform the NSFS mission:

- The Navy's departure from heavy, armored, major-caliber gunships (battleships with 16-inch guns and cruisers with 12-inch and 8-inch guns) in favor of naval aviation and today's lightly armored missile ships, such as the USS *Cole*, with small, 5-inch (127mm) guns.
- Its decommissioning of *Iowa*-class battleships in the early 1990s without a comparable replacement.

Retired Colonel James E. Lasswell, former head of experimentation operations, USMC Warfighting Lab, Quantico, Virginia, wrote: "Current [naval fires] systems are too few, too short in range, and inadequate for providing the kind of fire support needed to support any sizable sea-based maneuver operation. War games and experiments have identified serious problems in conducting . . . STOM—forcible entry operations—without a robust naval-fire capability. Littoral penetration points cannot be adequately isolated, counter-battery fires are not sufficient, and responsive fires in support of maneuver are inadequate. . . . Absent the introduction of a significantly improved naval surface fire system, landing forces will continue to rely on air-delivered munitions as the primary fire support instrument during sea-based maneuver operations. This situation will persist until they can drag their own fire support [ashore]."[20]

## Navy NSFS Solutions are Inadequate

Navy solutions to the NSFS gap include two near-term programs—the 5-inch extended-range guided munition (ERGM) and land-attack standard missile (LASM)—and one long-term program—the 155mm advanced gun system (AGS) for the DD 21 land-attack destroyer. According to Lasswell, these programs, "if fully funded and implemented, could put a dent in the requirement."[21] Soldiers and Marines performing the littoral combat mission do not want fire support that only makes dents in their targets; they want their targets destroyed immediately, anytime, under all weather conditions.

ERGM is part of a $2.1-billion program to design, test and field a long-range munition for the Navy's new 5-inch, Mk 45 Mod 4, 62-caliber gun system. The EX-171 is a 12-caliber (61 inches long), 110-pound, rocket-assisted projectile that carries a 19-pound payload of 72 Army M-80 antimateriel/antipersonnel submunitions that will produce a circular destructive pattern on the ground to a planned maximum range of 63 nautical miles in 7 to 8 minutes. Relying on an on-board GPS-updated Inertial Navigation System (INS), ERGM will have an accuracy

The USS *Iowa* fires one of its six starboard 5-inch (127mm) guns during an Atlantic training exercise. While a battleship's nine 16-inch (406mm) guns work to isolate a beachhead, its 5-inch guns can level precision direct fires just as effectively as they have from World War II through *Desert Storm*.

US Navy

***During the Gulf War, on two occasions, USS* Wisconsin*'s gunfire forced Iraqis to surrender. Battleships' impact on Iraqi coastal defenses did not go unnoticed by the Soviets: "Their salvos are producing a 'strong impression' on the Iraqis: they are abandoning their coastal positions and pulling back northward tens of kilometers."***

of 10 to 20 meters. The EX-171 relies on a rocket motor that generates 18 megajoules of energy to reach an altitude of 80,000 to 85,000 feet from where it glides to its target.[22]

The program calls for fitting one gun to each of 29 new *Arleigh Burke*-class destroyers (DDG-51s) beginning in 2001. The Navy plans to retrofit two of the guns on each of 22 *Ticonderoga*-class *Aegis* cruisers (CG-47) to give the ships an ERGM capability. By Fiscal Year (FY) 2005, there will be 26 5-inch, 62-caliber guns in the fleet on 18 DDGs and four cruisers. By FY 09 the program is to be fully fielded.[23]

**Program status.** The ERGM program is deeply mired in technical difficulties, six years behind schedule and significantly over budget. Worse, the rate of fire will likely drop significantly from the promised 12 rounds per minute because of the extreme temperatures generated by firing such a "hot" round. A more realistic estimate is three to four rounds per minute with significant barrel wear.

According to an ERGM program source and confirmed by a senior official, during a six-round, rapid-fire slug test in February 2001, the barrel warped due to extreme overheating and caused the fourth

***During a six-round, rapid-fire slug test in February 2001, the barrel warped due to extreme overheating and caused the fourth round to stick in the barrel. The extreme barrel heat melted the projectile's on-board GPS/INS, but incredibly, the Navy ruled the test a success.***

round to stick in the barrel. The extreme barrel heat melted the projectile's on-board GPS/INS, but incredibly, the Navy ruled the test a success. Designing an inertial measurement unit, an essential part of the system's GPS guidance package, is also difficult because it must withstand the force of 12,000 Gs as it leaves the gun barrel. To make matters worse, according to a 1997 General Accounting Office letter, "The near-term [ERGM] phase of the [Navy's NSFS] program is not expected or designed to fully meet the fire support requirements recently established by the USMC. A key deficiency is responsiveness."[24] Moreover, Lieutenant General Michael Williams testified on 2 March 2000 that ERGM will not have the necessary lethality.

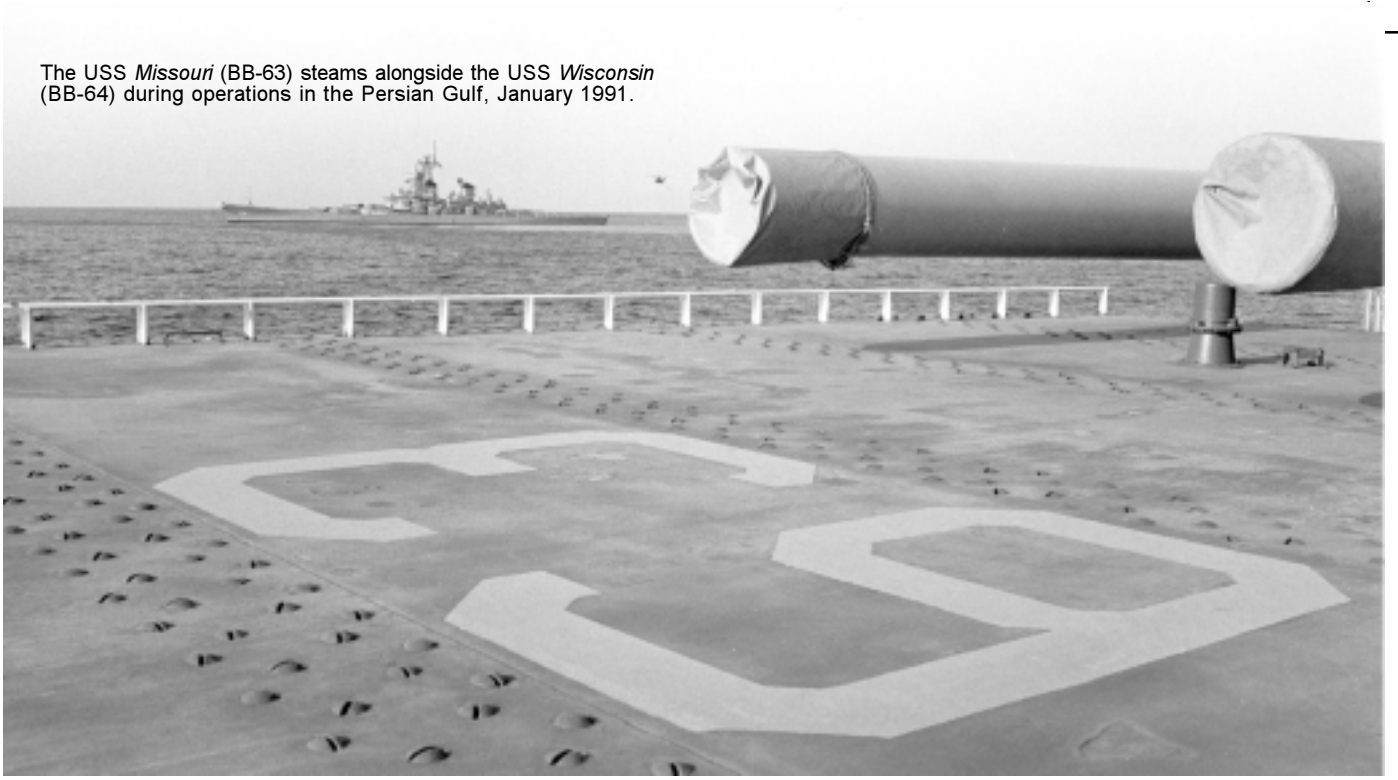
**Performance deficiencies.** Following are some serious ERGM performance deficiencies:

- Responsiveness. Van Riper said, "A consistent concern is time of flight, which could be eight to nine minutes. If the target is mobile, it could disappear even if terminal guidance were available."[25] For instance, an enemy tank traveling 25 miles per hour (mph) will have traveled 3.1 miles in the time it takes ERGM to reach the target from maximum range.
- Destruction fires. The 5-inch ERGM (only slightly bigger than a 120mm mortar) holds 72 M-80 submunitions, which are ineffective against hard targets such as tanks, APCs, bunkers, caves and fortifications that soldiers and Marines typically face in littoral regions.
- Sustained/subsequent operations ashore. The DDG's on-board storage capacity of only 230 ERGMs cannot support sustained operations ashore. At its sustained rate of 10 rounds per minute, the DDG is out of ammunition after 23 minutes.
- Volume. The DDG's single gun cannot achieve the volume required. Van Riper writes of "a need for low-cost, high-volume rounds that can be used to provide close supporting fires to maneuvering land forces. Quantity of fire, on time and on target, has a quality all its own. Precision/terminally guided munitions are needed but not to the exclusion of inexpensive, volume fire munitions. Both precise and less-precise munitions are critical in the 'window of vulnerability' during the early stages of ship-to-objective maneuver [STOM] when organic artillery is afloat."[26]
- GPS vulnerability to jamming**.** GPS-guided fire support solutions are problematic. Such projectiles are easily jammed, and their small payloads (designed to minimize collateral damage) ensure that the target will not be destroyed when jamming occurs. Relatively low-power jammers can distort navigation out to 120 miles. Iraq successfully used Russian-made jammers to lead Operation *Northern Watch* aircraft off course, and China is also developing a jamming capability. Things will not get better: "GPS jamming is a train wreck waiting to happen. And it's not a question of whether it will happen, but when."[27] Threats could easily and quickly build and deploy cheap but numerous, effective jammers to defeat GPS-guided weapons. Russian-designed, inexpensive GPS jammers are now widely available—one such device can even be purchased through the Internet.

**Land-attack standard missile (LASM).** The supersonic LASM is installed on *Aegis* warships and uses GPS and INS for precision guidance. Program funding for LASM started in FY 00, and LASM initial operating capability is planned for FY 03. The procurement objective is 800 missiles. There have been three flight demonstrations and two warhead arena tests, but missile solutions for fire support are insufficient because they "fail to provide the anticipated responsiveness and volume of fire needed by the landing force."[28] Due to their lengthy mission planning process, missiles are not tactically responsive and are best employed against stationary or fixed $C^4ISR$ targets. They also are vulnerable to GPS jamming effects. Exorbitant unit costs ($750,000 to $1.5 million each) and the number of missiles required to support any real conflict will result in a limited production which, in turn, will quickly be expended, as occurred in Kosovo.

**Advanced gun system (AGS)**. The AGS is a 155mm gun weapon system planned for installation in the DD 21 land-attack destroyer, which is still in the design stage. DD 21 will carry two 155mm guns capable of independently firing twelve 200-pound, GPS-guided, ERGM-like rounds per minute, out to 115 miles, from two 750-round automated magazines. However, one of these guns is projected for removal in favor of a vertical launch system to support theater ballistic missile defense.

The first AGS is scheduled for delivery in FY 06, with an initial operating capability of 2008. However, the first DD 21 probably will not be fielded until 2012 or produced in sufficient numbers until after 2020. Even when the systems are fully fielded, "DD 21 will not be able to match the *Iowa*-class battleships



The USS *Missouri* (BB-63) steams alongside the USS *Wisconsin* (BB-64) during operations in the Persian Gulf, January 1991.

US Navy

***The Navy has been reluctant to invest in the capabilities of a small ship class when the equipment developed could not be used elsewhere in the fleet. However, the 16-inch extended-range ammunition is a special case that can be justified economically as well as operationally. The investment pays off during operations that involve a large portion of the Navy's amphibious shipping but only a few of its surface combatants.***

in firepower and shock effect."[29] In the meantime, the absence of NSFS makes the risk to fighting forces ashore "very high right now."[30] For at least the next 20 years, no options other than modernized battleships will eliminate this very high risk.

## The Solution

Currently, only major-caliber guns have the all-weather reliability, lethality and responsiveness to support tactical operations. Such guns are now found only on the Navy's two mothballed *Iowa*-class battleships (USS *Iowa,* BB-61, and USS *Wisconsin*, BB-64). The 16-inch Mark VII gun shoots 1,900-pound, high-capacity, shore-bombardment projectiles out to 24 miles with flight times under 2 minutes. However, with extended-range projectiles, like those in development during the late 1980s and early 1990s, major-caliber guns could deliver projectiles varying in weight (525 to 1,300 pounds) out to 52 statute miles in approximately 2 minutes. This time of flight still leaves sufficient time to develop a fire solution and still put steel on target in 2 minutes, 30 seconds. Tight shooting powders such as the Army's M31 could produce unguided, ballistic circular error probable (CEP) on the order of 250 meters at 52 miles with a lethal radius of approximately 200 meters. Unlike GPS-guided fire support, 16-inch gunfire is timely, not subject to jamming or inclement weather and cannot be shot down.

**Invest in four ships.** The Navy has been reluctant to invest in the capabilities of a small ship class when the equipment developed could not be used elsewhere in the fleet. However, the 16-inch extended-range ammunition is a special case that can be justified economically as well as operationally. The investment pays off during operations that involve a large portion of the Navy's amphibious shipping but only a few of its surface combatants.

Further, implementing laser guidance could transform ballistic projectiles into PGMs that can be guided from a wide range of sources, including the eight remotely piloted vehicles organic to the battleship. This capability will give troops ashore highly reliable fire support in the close fight that is responsive, precise and lethal. Extended-range ballistic projectiles can provide all-weather, lifesaving fire support on time—anytime.

Other major-caliber, extended-range projectiles could be employed to support a proposed division deep-battle responsiveness requirement of 5 minutes. In 1991 the Defense Advanced Research Projects Agency proposed an 11-inch sabot projectile, fired from a 16-inch gun, which would have had a 115-mile projected range and a 4-minute time of flight. Since ballistic accuracy decreases beyond 50 miles, terminal guidance would be necessary to maintain acceptable accuracy. Large-caliber projectiles fired beyond 52 miles would represent transition to the

***Threats could easily and quickly build and deploy cheap but numerous, effective jammers to defeat GPS-guided weapons. Russian-designed, inexpensive GPS jammers are now widely available—one such device can even be purchased through the Internet.***

operational battle space because of responsiveness.

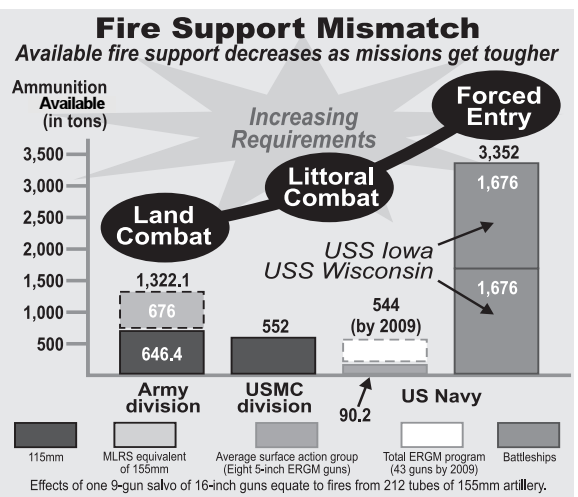
A snapshot of today's sealift and other movement capabilities shows "only incremental change from the way we had conducted amphibious operations in the 1940s."[31] For some time, amphibious operations would be similar to World War II over-the-beach operations. Unfortunately, without battleships, they will be performed with casualties like those on Omaha Beach, where there was insufficient battleship support.

## Modernized *Iowa*-Class Battleships

The battleship, with its major-caliber guns, is the only system that can be modernized to meet the many rigorous fire support requirements of 21st-century JTF commanders performing littoral combat missions. For a relatively small investment, several battleship upgrades would enable tactically responsive, extended-range joint fires and quickly integrate US and coalition fires—air and indirect. Modernized battleships can integrate and synchronize the joint fires mission end to end.

**Advanced Field Artillery Tactical Data System (AFATDS).** This Army and USMC automated artillery system plans, executes and tracks fire support missions. A battleship with AFATDS would fill the need for integrating joint fires to support Army and USMC forces engaged in close combat ashore.

**Target-acquisition battery (TAB) radar.** Included in Van Riper's memo was a requirement for a fire support ship to be configured with TAB radar. A maritime version of the AN/TPQ-37 Firefinder radar could pinpoint enemy artillery and Scud-type weapons engaging ground troops ashore for the battleship's 16-inch guns to destroy immediately.




**Vertical-Launch-System (VLS) Tomahawks.** Plans exist to install 96 VLS Tomahawk missiles. The below-deck design significantly increases their survivability and lethality. These missiles would be instrumental in destroying key enemy fixed or stationary $C^4ISR$, air defense targets essential in blinding the enemy and "rolling back" enemy defenses.

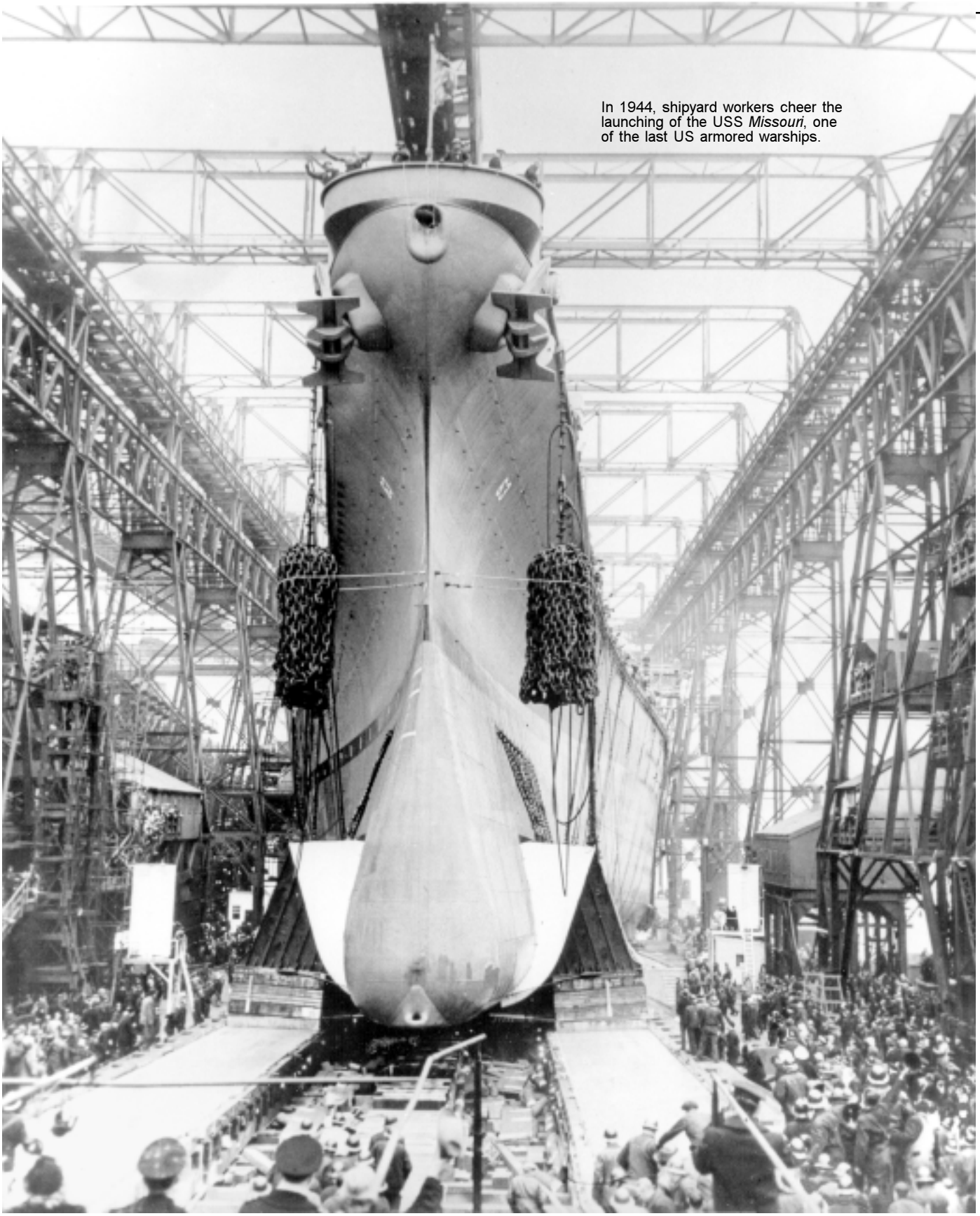
Deterring war and winning wars when deterrence fails is the US military's defining mission. No single weapon system short of nuclear weapons deters aggression like the battleship. For example, during the Iran-Iraq "tanker war" in the 1980s, every time the *Iowa* would enter the Persian Gulf, all the shooting would stop and "all southern Iran would go quiet."[32]

The battleship's effectiveness in winning war is even more impressive. From World War II to the Gulf War, battleships' major-caliber naval gunfire has proven to remove the enemy's will to fight. On 10 June 1944 German Field Marshal Erwin Rommel complained, "Our operations in Normandy are tremendously hampered, and in some places even rendered impossible by the . . . effect of the heavy naval guns . . . [which] is so immense that no operation of any kind is possible in that area."[33] Half a world away, another enemy faced the same frustration. General Tadamichi Kuribayashi, commanding general of Japanese forces in Iwo Jima, telegraphed the Chief of the General Staff that "the violence of the enemy's bombardments is beyond description. . . . The power of the U.S. warships [battleships] . . . makes every landing operation possible to whatever beachhead they like."[34] During the Vietnam War, the *New Jersey's* mere presence so terrorized the North Vietnamese that they insisted it be withdrawn in 1969 because it "impeded peace talks."

During the Gulf War, on two occasions, USS *Wisconsin*'s gunfire forced Iraqis to surrender. Battleships' impact on Iraqi coastal defenses did not go unnoticed by the Soviets: "Their salvos are producing a 'strong impression' on the Iraqis: they are abandoning their coastal positions and pulling back northward tens of kilometers."[35]

Dominating the 21st-century littoral battle space will be the US military's primary mission. Fire support from the major-caliber guns, like the *Iowa*-class battleships, has proven to be an essential enabler to successfully performing the littoral combat mission to whatever beachhead desired. Extending the arc of battleships' major-caliber guns with extended-range projectiles as far as possible makes infinitely

US Navy



In 1944, shipyard workers cheer the launching of the USS *Missouri*, one of the last US armored warships.

***Currently, only major-caliber guns have the all-weather reliability, lethality and responsiveness to support tactical operations. Such guns are now found only on the Navy's two mothballed* Iowa*-class battleships. The 16-inch Mark VII gun shoots 1,900-pound, high-capacity, shore-bombardment projectiles out to 24 miles with flight times under 2 minutes.***

***Sometimes "tactical" is so broadly defined that it is dangerously imprecise. . . . The tactical battle space should be redefined to mirror the zones and sectors assigned to divisions. Associated battle areas—the close fight, main fight, deep battle and rear battle—must specify responsive thresholds because time and distance are interdependent, defining criteria.***

good sense and gives US littoral forces performing operational and strategic maneuver the potential to achieve Sun Tzu's supreme excellence.

The Navy has determined that the blue-water strategy does not apply in the 21st century and replaced it with a brown-water strategy (littoral warfare). The Navy must ultimately realize that with this shift in strategy comes the primary responsibility to provide troops ashore with accurate, reliable, tactically responsive, high-volume NSFS—under all conditions. Without it, our troops ashore risk needless casualties, being defeated or both.

## One Solution: National Assets

The idea of making *Iowa*-class battleships joint assets as part of a JTF commander's "go-to-war toolkit" was first proposed in October 1998 as a workaround to the Navy's arguments for not maintaining them in active service.[36] First, the Navy must reactivate the battleships. If the bureaucratic resistance is too great, Congress could step in and do three things:

- Declare them national assets.
- Provide a separate, joint funding line for US Joint Forces Command, the headquarters with the mission to operate and maintain these invaluable ships.
- Modify Title III to allow the services' manpower ceilings to be exceeded by the corresponding amount of personnel assigned operating and maintaining joint weapons.

An 8 July 1995 Senate Armed Services Committee report stated that the *Iowa*-class battleships are our country's "only remaining potential source of around-the-clock accurate, high volume, heavy fire support" for Marine and Army amphibious and forced-entry operations.[37] Troops ashore are at very high risk without tactically responsive NSFS and the "situation will continue until the DD 21-class destroyers join the fleet in strength [circa 2020]."[38] Integrating the services' warfighting capabilities achieves a synergy for 21st-century littoral warfare, but synergy will not be achieved without the major-caliber guns from the Navy's *Iowa*-class battleships.

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*Major Tracy A. Ralphs is an imagery and intelligence officer, US Army Military Traffic Management Command Transportation Engineering Agency, Newport News, Virginia. He received a B.S. from the University of Alabama and is a graduate of the US Army Command and General Staff College. As a US Army Reserve officer, he is the operations and training officer, Army Element, Joint Forces Intelligence Command Reserve Unit, Norfolk, Virginia. He has also served as an observer/controller, National Training Center, Fort Irwin, California, and as an imagery analyst, National Ground Intelligence Center, Charlottesville, Virginia. He is the deputy executive director and program director, US Naval Fire Support Association.*

# Operational Firepower
## the Broader Stroke

**Colonel Lamar Tooke, US Army, Retired**

*Your first act against the enemy shouldn't be a nibble! It should demonstrate determination and have traumatic impact!*

—Sir John Woodward[1]

JOINT FIREPOWER synchronized with operational-level maneuver bites with formidable force and terrorizes the enemy. Precise, brisk, devastating operational firepower has been around only since World War II, and its place in major operations and campaigns is no less important today than at Normandy. Firepower is a fundamental tool of the operational artist, and every campaign planner needs a sense of how such devastating power can be most effective.

Following the smoothbore age, military operations changed course, and open warfare resolved into close encounters around fixed points. While maneuver was prominent during three of the four years of the American Civil War, the fourth was largely spent in siege operations. The Franco-Prussian War began with six weeks of maneuver, followed by a five-month siege on Paris. The Russo-Turkish War of 1877 was basically a single-siege operation, and the Russo-Japanese War of 1904-05 closed with 600,000 men consumed in trench warfare.

Because of this attrition form of warfare, military leaders concluded that heavier firepower was needed. In 1916 during the battle of Verdun, the Germans heaped two million rounds on French positions at the rate of 100,000 rounds an hour. While these are impressive figures and the magnitude of the barrages must have been awe-inspiring, firepower alone did not achieve an operational decision in the precursor events to World War I, nor did it during the devastating years of the war itself.[2]

Actions during World War I repeatedly demonstrated that a single battle was no longer sufficient to achieve victory—or—perhaps any of the strategic aims of the conflict and that firepower alone could not be decisive without a more integrated and compelling link to the entire campaign design. Overwhelming firepower may influence success in engagements and battles, but to achieve national security objectives, overall campaigns must be successful.[3]

***Maneuver and firepower should not be considered separate operations against a common foe but complementary. Firepower resources establish a mobility advantage over the enemy and ease operational maneuver. Generally this refers to several tasks: attacking deep force concentrations, blinding sensors, disrupting mobility and preparing the enemy for decisive closure.***

The lack of integrated firepower and maneuver at the operational level during World War I compels us to look to World War II for examples of such integration. First the Germans, then the Allies, learned to integrate firepower with operational maneuver to execute broad-scope, decisive campaigns across Africa, Europe and Russia. They quickly found that operational art is more than planning and executing tactics on a grand scale. It is designing and controlling sequential, simultaneous operations across a theater that gives direction and meaning to the tactical level. In this context operational firepower also becomes more than just fire support. It is not driven by targeting at the lowest tactical levels and compiled into target sets to support coming engagements. Operational firepower is compelled by the overall campaign design and thus the operational-level tasks and priorities that must be accomplished within each phase of the campaign.[4]

***Operational firepower, while a separate element of the concept of operations, must closely integrate and synchronize with the CINC's concept of maneuver. At the operational level, firepower is defined in terms of what it does rather than what it is.***

## Firepower

The term "operational firepower" refers to a commander in chief's (CINC's) application of fires to achieve a decisive impact on the conduct of a campaign or major operation. Operational firepower, while a separate element of the concept of operations, must closely integrate and synchronize with the CINC's concept of maneuver. At the operational level, firepower is defined in terms of what it does rather than what it is. It does not necessarily directly equate to attrition warfare and, of necessity, plays a critical role in maneuver warfare.[5]

Operational maneuver and fires may occur simultaneously within a commander's battle space, at times for different but related objectives, and at other times maneuver and fires must be synchronized. Lethal operational firepower is not simply fire support writ large. It is consciously targeting and attacking targets whose destruction will significantly affect the campaign or major operation. It includes allocating joint and combined air, land, sea and space means. Based on the operational commander's vision of how the campaign will unfold, operational fire objectives are established, and targets are designated and integrated.[6]

Operational firepower performs three general tasks within the campaign:

- Isolates the battlefield by interdiction.
- Destroys critical enemy functions and facilities, eliminating or substantially degrading enemy operational-level capabilities.
- Facilitates operational maneuver by suppressing enemy fires, disrupting maneuver and creating gaps in defenses.

Operational fires help achieve operational and perhaps strategic objectives while holding enemy critical functions at risk throughout the depth of the battle space. They are more than deep fires because they extend the battlefield in space and time. Existing capabilities permit acquisition and attack at increasing ranges and faster response times than ever before. Operational firepower can expose or allow attacks directly on the center of gravity and set conditions for maneuver. Through disruption, delay or by limiting critical functions, firepower can dictate the terms of future battle.[7]

Balancing competing "close" and "deep" demands is a critical aspect of operational command. Modern operational-level warfare involves meeting the enemy along the front while destroying forces well into enemy rear areas.[8] Since World War I, lethal firepower has been a primary option in meeting warfare's many demands. Attrition has often been a priority requirement, but it should not dominate the design of a well-orchestrated campaign.

Firepower is often associated with attrition, which depends on industrial strength, cumulative effects and destroying target arrays. Overusing this method leads to routine target acquisition and repetitive repertoires to support a preponderance of firepower. While firepower is an effective means of war, it is neither self-sufficient nor a swift instrument of victory. The Vietnam experience affirms this truth: as firepower and attrition dominate operational design, maneuver seems less important; yet, without it, a decision is improbable.[9]

## Operational Maneuver

Decisively defeating an enemy force requires dominant maneuver throughout the depth of the battle space. Dominance requires seeing activity in the battle space, moving rapidly through its depth and directing firepower to dominate the maneuver relationship. Final dominance comes through simultaneously applying firepower and controlling terrain.[10]

Relational maneuver creates a decisive impact on a campaign by securing operational advantages before battle or exploiting tactical success. By avoiding enemy strengths, relational maneuver attempts to incapacitate through systematic disruption rather than physical destruction. The potential advantages are disproportionate to the effort and resources involved. Facilitating maneuver with firepower can yield astounding results such as Operation *Neptune* to establish the Normandy lodgment or Operation *Cobra* to break out of the lodgment.[11]

How does a planner design a campaign to facilitate maneuver? Many operational-level planners are perplexed by this notion and often rely on their more familiar experiences with fire support. To better understand the maneuver-firepower connection requires a fundamental grasp of maneuver forms and historical uses of firepower.

At the operational level there are two basic forms of maneuver that support sustained land action: cen-

US Army

Alert GIs of an M-51 quad-.50 caliber battery watch as US and German planes dogfight above them.

***Because envelopments and turns are similar, the general character of operational firepower that facilitates such maneuvers would take on similar patterns. In fact, many patterns are similar to those required in central maneuvers with one notable exception—protecting a flank. The US XIX TAC supporting General George S. Patton's Third Army during mid-August 1944 demonstrated how to protect an operational flank using firepower.***

tral maneuver using penetration, frontal attack and infiltration; and flanking maneuver using envelopment or turning movement. World War II illustrates how each form has been applied and how firepower facilitated success. For example, Operation *Neptune* demonstrated a frontal attack, Operation *Cobra* a penetration and Operation *Bluecoat* an envelopment.[12] The more clearly defined use of a turning movement might be demonstrated by General Douglas MacArthur's avoidance of Rabaul. Finally, British Field Marshal William Slim's use of the Chindits in Burma illustrates an operational-level infiltration.[13]

Central maneuvers are designed to rupture enemy defenses, create assailable flanks and access rear areas. Infiltrations covertly move forces through enemy lines to reconcentrate in rear areas, whereas penetrations on a narrow front or frontal attacks on a broad front seek to overwhelm the enemy directly through the mass of combat power.[14]

Flanking maneuvers are designed to fall on an assailable flank, creating the conditions for encirclement or pursuit and forcing the enemy to abandon prepared defenses or fight in a direction and on terrain we choose. Preferably, such maneuvers would come from an unexpected direction, and while envelopments seek to fix enemy frontal defenses, a turn avoids these altogether.[15]

Maneuver and firepower should not be considered separate operations against a common foe but complementary. Firepower resources establish a mobility advantage over the enemy and ease operational maneuver. Generally this refers to several tasks: attacking deep force concentrations, blinding sensors, disrupting mobility and preparing the enemy for decisive closure. But, as in synchronizing any operational functions, there is more to consider than this simple list implies, and each form of

***While firepower is an effective means of war, it is neither self-sufficient nor a swift instrument of victory. The Vietnam experience affirms this truth: as firepower and attrition dominate operational design, maneuver seems less important; yet, without it, a decision is improbable.***

maneuver requires its own set of considerations. Past illustrations will help, but they reflect the enemy, terrain and available resources.

## Central Maneuver

Frontal assaults and penetrations require facilitating similar methods. The official US Army history of the cross-channel attack records that the "task of smashing through enemy beach defenses was to be facilitated as far as possible by naval fire and air bombardment." The Atlantic wall was expected to contain 15,000 concrete strong points, 15 coastal batteries and 300,000 defenders. A frontal assault against such defenses required heavily suppressing enemy fire, tearing gaps in the imposing defenses, isolating enemy reserves from the lodgment area, destroying German mobility and supporting the deception (Operation *Fortitude*).[16]

For three months lines of communication (LOC) in northern France were interdicted to sever transportation links to Normandy. Between 1 March and 6 June 1944 air forces cut rail traffic by 60 percent, destroying 900 locomotives, 16,000 freight cars and shooting down 1,000 *Luftwaffe* aircraft in May alone. All Seine River bridges from Rouen to Mantes-Gassicourt were rendered impassable. An area the size of Indiana was isolated in the northwest corner of France. German reserves were so successfully isolated that they had to walk the last 100 miles into combat. German reserves were isolated from the lodgment area, the supporting mobility network was neutralized, and the *Luftwaffe* had only 400 first-line aircraft operational. The stage had been masterfully set for the invasion along the Normandy coastline.[17]

As Operation *Neptune* began, the tasks of suppressing defenses and tearing selected gaps became primary concerns. The combined naval forces dedicated scores of ships to this effort. Fifty-two battleships, cruisers, destroyers and other ships supported the First US Army in the US sector. On 6 June Omaha and Utah Beaches were bombarded with naval gunfire, including 13,000 rockets, and a supporting bomber attack dropping 800 explosive tons. In the British sector, from 0300 to 0500 hours, more than 1,000 aircraft concentrated 5,000 tons of bombs on German defenses.[18]

During all of this there was a major effort to support deception as part of Operation *Fortitude*. In preliminary action to isolate reserves and debilitate German mobility, 10 percent of the bomb tonnage dropped from mid-April until D-day was directed against coastal batteries, but only one-third of that tonnage was dropped in the invasion area.[19]

Almost two months later Operation *Cobra*, designed to break out of the lodgment area, illustrated the meaning of tearing gaps in enemy defenses. The First US Army was poised to break out of the lodgment with 15 divisions in four corps. Behind it were 12 fighter-bomber groups based on the continent to support its effort. During his planning phase, General Omar Bradley said he wanted to "obliterate the German defenses along the Périers Saint-Lo highway" and use an "air attack concentrated in mass" into the open terrain beyond Saint-Lo highway.[20]

All Eighth US Air Force heavy bombers and fighters, Ninth US Air Force medium bombers and fighter-bombers, and the Royal Air Force 2d Tactical Air Force concentrated against a rectangular target south of the Périers-Saint-Lo highway. The target was 7,000 yards wide and 2,500 yards deep. For two hours and 25 minutes, 2,500 planes swarmed over the target, dropping 5,000 tons of explosives, napalm and white phosphorous. From 25 to 28 July, 2,926 aircraft flew almost 10,000 sorties supporting the First US Army operational objective. Lieutenant General Fritz Bayerlein, commander of *Panzer Lehr* division, was astonished by the destruction and characterized the onslaught as "Hell. . . . The planes kept coming . . . my front lines looked like a landscape on the moon, and at least 70 percent of my personnel were knocked out of action. . . . All my front-line tanks were knocked out. . . . We could do nothing but retreat. A new SS tank battalion was coming in with 60 tanks . . . [it] arrived [with] five." The destruction was so complete in the target area that it prompted discouraged Field Marshal Hans Guenther von Kluge to report, "As of this moment, the front has burst." Operational firepower facilitated First US Army's penetration three miles wide and one to three miles deep and precipitated the defeat of the German 7th Army.[21]

Operational-level infiltrations are somewhat unique in history; however, operations in Burma by Brigadier Orde Wingate's special force of Chindits

Bombs from Fifth Air Force B-25s straddle a Japanese patrol boat from a convoy headed for Rabaul, 16 February 1944. In the background (*see inset*) a cargo vessel receives a fatal hit while only the bow remains visible of another ship heading for the bottom. The convoy was caught off Kavieng, New Ireland.

US Air Force

***On 12 October 1943, 350 aircraft from the US Fifth Air Force and the Royal Australian Air Force began concentrating operational-level fires against [the 100,000-man garrison at] Rabaul. . . . The attempt to isolate Rabaul was continuous, and by February 1944 no Japanese warships remained at Rabaul, and no fighters opposed Allied air efforts within hundreds of miles.***

exemplify how firepower might support such an effort. Slim, having retreated from Burma during 1941, found himself in an economy-of-force theater throughout World War II. As he began to transition to a theater offensive against Japan's 15th Imperial Army in 1944, the security of his northern flank became a major concern. Slim's objective was to secure his northern flank and prevent Japan from reinforcing its 15th Imperial Army. He used the Chindits to cut the LOC of enemy forces facing US General Joseph Stilwell on the northern front.[22]

Operation *Thursday* began on 5 March 1944. Wingate's force was to cut the Japanese LOC, prevent reinforcement of the northern front, deny Japanese use of the main rivers and cause the greatest possible confusion and damage. During March, 9,000 men and 1,350 pack mules and cattle of the British 77th and 111th Brigades were airlanded 200 miles within Japanese-held territory. Another 3,000 16th Brigade troops marched 450 miles across Burma's Naga Hills in six weeks to join the initial infiltration into an operational area formed by the Mogaung-Indaw-Bhamo triangle. A determined Wingate had achieved one of the greatest infiltrations in history "to insert himself in the guts of the enemy."[23]

For months the Chindits, dispersing and reconcentrating behind enemy lines in classic infiltration style, accomplished their objectives and prevented Japanese use of interior lines against Slim's main offensive effort. Operation *Thursday* and follow-on operations were among the largest and most successful infiltrations in history. Firepower facilitated this maneuver by isolating the operational area, suppressing Japanese firepower, supporting deception to cover the infiltration and destroying Japanese command and control capabilities.

Britain's Number 1 Air Commando and 3d Tactical Air Force received the first priority of establishing and maintaining local air superiority over the operational area. This force destroyed all Japanese air forces that could influence Chindit operations.

***Between 1 March and 6 June 1944 air forces cut rail traffic by 60 percent, destroying 900 locomotives, 16,000 freight cars and shooting down 1,000 Luftwaffe aircraft in May alone. All Seine River bridges from Rouen to Mantes-Gassicourt were rendered impassable. An area the size of Indiana was isolated in the northwest corner of France.***

US Strategic Air Force strikes along the Southern Front caused the Japanese to believe Lower Burma was about to be invaded from India. Consequently, Japanese reserves were not free to oppose Chindits on the Northern Front. Approximately 750 tons of munitions were delivered to facilitate infiltration of the Japanese 15th Army. Antiaircraft firetraps were also used against Japanese air forces. Allied air forces would lure the Japanese into these networks to increase attrition and prevent interference with the infiltration operations.[24]

## Flanking Maneuver

Because envelopments and turns are similar, the general character of operational firepower that facilitates such maneuvers would take on similar patterns. In fact, many patterns are similar to those required in central maneuvers with one notable exception—protecting a flank. The US XIX Tactical Air Command (TAC) supporting General George S. Patton's Third Army during mid-August 1944 demonstrated how to protect an operational flank using firepower. According to planners, "Never in military history had a ground commander entrusted the defense of a flank to tactical aircraft." The rapid maneuver during Patton's exploitation toward the Seine River line and Paris called for special emphasis ahead of the advance and especially along the vulnerable Loire valley flank.[25]

When the original envelopment to close the Argentan pocket was not successful, Bradley authorized execution of Operation *Lucky Strike*'s plan B, a wider envelopment to encircle German forces south of the Seine River. Patton's Third Army advanced to the Seine along three avenues, which took three corps to the Dreux-Chartres-Orleans line by 18 August. The Seine River line was forced 35 miles south of Paris within a week. Third Army made rapid progress in this effort while protecting 12th Army Group's flank along the Loire River. Beyond this protection was the XIX TAC, whose mission was to protect Third Army and thereby the entire southern wing of the invasion force.[26]

Brigadier General O.P. Weyland's XIX TAC had full responsibility for protecting the extensive and vulnerable southern flank along the Loire valley "to keep the Germans . . . immobile and off balance, and prevent any massing of enemy strength to oppose the Third Army."[27] XIX TAC constantly patrolled the Loire valley, attacking every target related to protecting the southern wing. On 8 September the German commander of Biarritz, Brigadier General Botho Elster, agreed to surrender 20,000 troops at the Beaugencys bridge in Orleans under one condition: "Keep the 'Jabo' [fighter-bombers] off my men." During this period large numbers of enemy troops attempted to surrender to low-flying aircraft for the first time in history. Patton, in his direct style, wrote a compliment to General Henry (Hap) Arnold, dated 17 August, which read, "For 250 miles I have seen the calling cards of [XIX TAC] fighter-bombers, which are bullet marks in the pavement and burned tanks and trucks in the ditches."[28]

Protection of the operational area's right wing and Patton's Third Army illustrates the synergistic effects of orchestrated maneuver and firepower—and the dilemma facing any foe under such circumstances. Firepower afforded protection to Third Army's flanking maneuver, which catalyzed German countermoves into positions where lethal firepower could concentrate against them.

MacArthur's turn of Rabaul illustrates equally well operational fires protecting one's flank. After the Battle of Coral Sea in May 1942, Japanese penetration toward Australia and LOC into the Southwest Pacific region was disrupted, but Rabaul still dominated the region. From this major naval and air base, the Japanese could continue to threaten the LOC to Australia and New Zealand and dominate the right flank of any regional operations. Allied forces were held to the Bismarck barrier, where the Japanese effectively waged attrition warfare to dominate the approaches to Rabaul and contain Allied forces.

After one year of campaigning, Allied forces had advanced less than 200 miles in the Southwest Pacific. At that rate it would have taken 15 years to reach Japan. An approach through the Central Pacific looked more inviting as the Japanese began reinforcing Rabaul, eventually assembling 100,000 well-armed men.[29]

Allied gains in the Bougainville area during October and November 1943 caused the Japanese to further concentrate naval and air forces at Rabaul.

Although Rabaul had been a main objective during the early stages of the Southwest Pacific campaign, it was quickly building beyond Allied capabilities to attack and capture it. Yet, the Allies had to contain forces based there. MacArthur decided to isolate and bypass Rabaul and the Japanese Seventeenth Army in the Solomons. A new plan emerged, which called for Allied forces to advance along the New Guinea coast to the Vogelkop Peninsula in 1944 with Mindanao as the subsequent objective.[30]

On 12 October 1943, 350 aircraft from the US Fifth Air Force and the Royal Australian Air Force began concentrating operational-level fires against Rabaul. From October through December 1943 air and naval forces pummeled Rabaul. The attempt to isolate Rabaul was continuous, and by February 1944 no Japanese warships remained at Rabaul, and no fighters opposed Allied air efforts within hundreds of miles. By the end of 1943 the Japanese had lost 3,000 aircraft in the struggle for the Solomons, one of which carried Admiral Isoroku Yamamoto, the regional commander and one of the original architects of Japanese naval power and the Pearl Harbor attack. His death alone was a serious loss to the Japanese. In their attempt to reinforce Rabaul, the Japanese had fallen prey to devastating firepower. A well-trained and well-equipped army was left isolated, bypassed and contained by Australian forces in an economy-of-force effort as Allied forces went westward to Wewak and ultimately the Philippines. Their right flank had been secured by prudently using operational fires to facilitate the turning movement that avoided Rabaul's imposing defenses.[31]

Interdicting rear and deep areas of the battle space is nothing new. It is not warfare's medium (air, sea or land) that makes the difference but the opposing forces' relative mobility and the operational tempo. The greater the mobility, the less consequential the locations of the opposing forces. Facilitating maneuver's mobility and tempo using firepower takes on meaning well beyond attrition alone.

Maneuver and firepower have rarely stood alone as decisive in and of themselves; they are inseparable and complementary. While one might dominate a particular phase of a campaign, the most beneficial effects derive from integrating operational-level maneuver and firepower relative to the enemy center of gravity. When maneuver and firepower are synergistically orchestrated to disrupt the supporting structure, unbalance command decisions and impose chaotic disorganization, disproportionate success is possible. Focusing on maneuver or firepower without the other misses the point altogether.[32]

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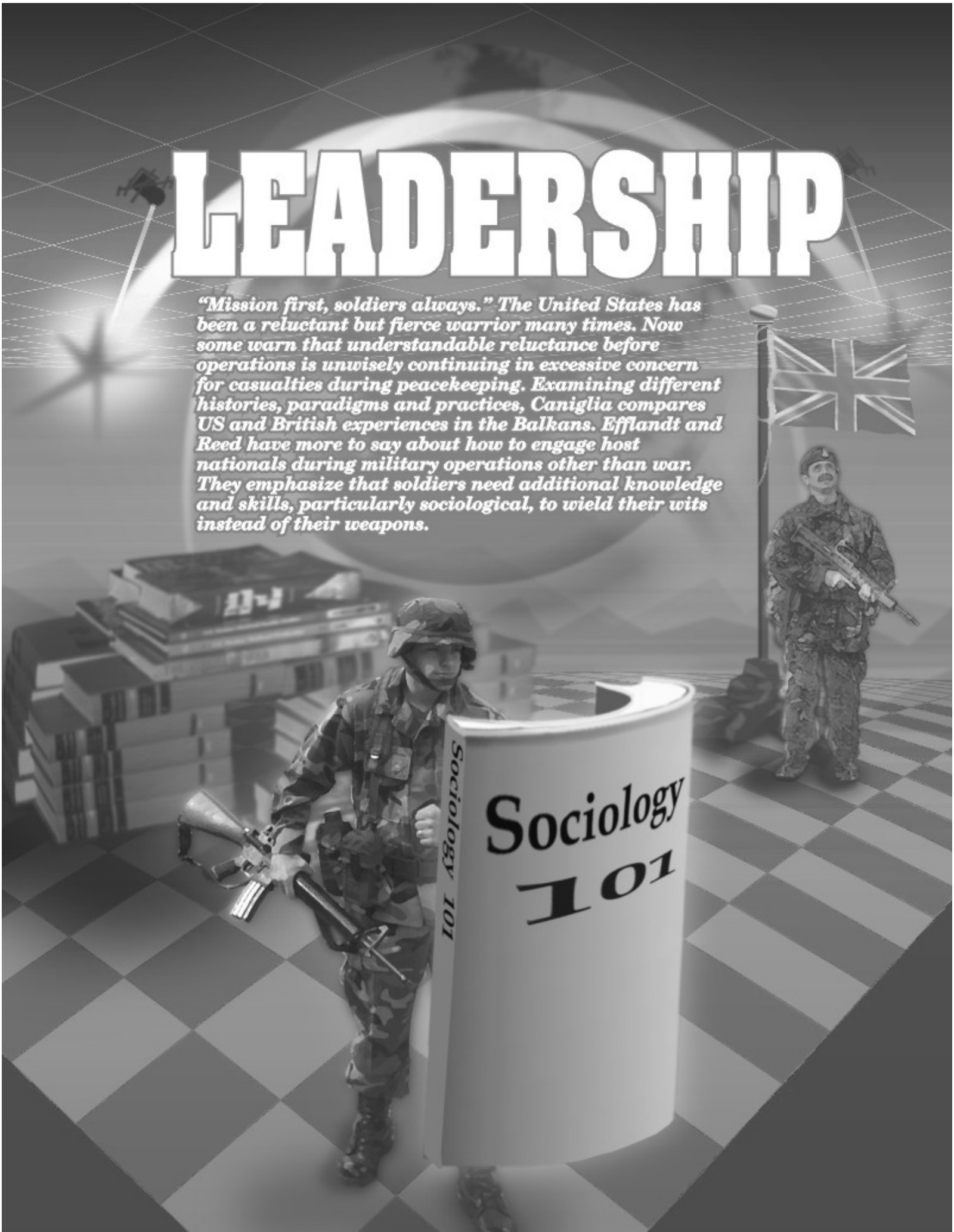
*Colonel Lamar Tooke, US Army, Retired, is lead instructor, Virginia Community Policing Institute, Richmond, Virginia. He received an M.A. from Webster University and is a graduate of the US Army Command and General Staff College. He has served in various command and staff positions in the Continental United States, Vietnam and Germany. He served as a faculty member at the US Army War College and as director of Joint and Combined Theater Warfare within the corresponding studies program, Carlisle Barracks, Pennsylvania. He has contributed several articles to* Military Review *on the subject of operational art.*

# LEADERSHIP

***"Mission first, soldiers always." The United States has been a reluctant but fierce warrior many times. Now some warn that understandable reluctance before operations is unwisely continuing in excessive concern for casualties during peacekeeping. Examining different histories, paradigms and practices, Caniglia compares US and British experiences in the Balkans. Efflandt and Reed have more to say about how to engage host nationals during military operations other than war. They emphasize that soldiers need additional knowledge and skills, particularly sociological, to wield their wits instead of their weapons.***



# US and British Approaches to Force Protection

**Lieutenant Colonel Richard R. Caniglia, US Army**

TWO ALLIED military forces operating in the Balkans in adjacent zones are similarly equipped, trained and led. The communities, factions and problems they face are the same. They speak the same language and come from a common military cultural heritage. They have been allies in war and peace and are members of NATO where they champion the same military positions; they support the same NATO doctrine for peace support operations. Their national written force-protection doctrines are nearly the same, and despite disagreements, they are staunch political allies.[1] Yet, when patrolling Balkan streets, US and British soldiers present radically different public images.

US troops wear helmets and body armor—hence their nickname, "ninja turtles." They travel in convoys with guns manned and ready. When they stop, they disperse to overwatch positions, ready to apply defensive force. At night most retire to fortified camps or outposts as Romans did on campaigns, cut off from the people they came to protect.

British troops wear berets and walk and talk with the locals. They travel in small groups, armed but with weapons slung. Some wear ammunition pouches; some do not; none wears body armor unless there is an imminent threat. Off duty they eat and relax in town; many live there. Single vehicles often travel the roads, identifiable only by their painted military patterns.

Each nation participating in the implementation force (IFOR), stabilization force (SFOR) and Kosovo peacekeeping force (KFOR) has adopted force-protection policies based on national doctrine. The British posture represents most nations' approach; the US posture is the exception.[2] Although popular attitudes and political direction influence policy makers, force-protection policy for an operation is based on rational calculations of interest, efficacy and acceptable cost.

Neither British nor US doctrine implies zero-casualty tolerance or places force protection above mission accomplishment. Both restate the traditional military responsibility to win with minimal casualties. Commanders have historically planned, adjusted, retreated, regrouped and advanced with new strategies to win at the lowest cost. Both US and British generals are concerned about casualties, and they adjust strategy to minimize them but not at the expense of the mission. Why do these generals with very similar doctrine differ in their policies?

***Numerous references in official reports support a popular military view that policy differences among coalition members will be exploited in peace operations to manipulate public sentiment against a specific force. Further, a 1996 IDA study indicates that those dealing directly with the disputants and civil population in Bosnia saw policy variations among sectors as counterproductive.***

Numerous references in official reports support a popular military view that policy differences among coalition members will be exploited in peace operations to manipulate public sentiment against a specific force.[3] Further, a 1996 Institute for Defense Analyses (IDA) study indicates that those dealing directly with the disputants and civil population in Bosnia saw policy variations among sectors as counterproductive.[4]

But, the implications go deeper. Force-protection policy can affect unity of effort, an imperative in military coalitions. Differences may also affect other aspects of a coalition, such as orders to open fire or induce confusion among the civil population, which could lead to serious incidents. In a highly charged political environment, policy differences can undermine a coalition's mission.

Senior military leaders are directly influenced by orders from above and results from below. They are indirectly influenced by other factors such as doctrine, experience, history and resources. Although they receive their orders from civilian leaders who represent society, society's mood may also influence them. Presumably, the British, with their routinely

less-protective uniform, posture and procedures, and claims of mission command, would show greater tolerance for risk. US policy, because it is dictated or influenced from above, should show the opposite.

## British Civilian Leaders and Parliament

The Prime Minister's Questions in the House of Commons and parliamentary debates over Bosnia and Kosovo do not indicate a philosophy of casualty aversion. The prime minister was an early and vocal supporter of maintaining a credible ground war option for Kosovo. There was a sober recognition of the personal and political effects of casualties but nothing indicating hesitation on these grounds. The debates seemed to concern the level of British interests, the ability to field the required force and civilian casualties in the war zone more than potential British military casualties. In fact, the subject of British military casualties occurs infrequently and then only as a derivative rather than a primary topic.[5]

The same is true of the public. Two major newspapers, *The London Times* and *The Daily Telegraph*, reported concern over legalities, national interests and military casualties. However, as in Parliament, public support or criticism hinged on issues other than the likelihood of military casualties.[6] British casualties in the Balkans, and more recently in Sierra Leone, received scant coverage. The tone was not critical, and the largest public and media reaction was to favor a pension for the pregnant girlfriend of a soldier killed in Sierra Leone. This evidence complements the thoughts of Professor Christopher Dandeker, head of the Military Studies Department at King's College, London, who stated, "British imperial history is a key dimension of our armed forces and UK civil-military relations. Small wars and operations at the interface between war and peacekeeping (as in Sierra Leone recently) are part of British military culture. The public are used to this and used to expecting casualties."[7]

***Many commentators seem to presume that political guidance to limit casualties is improper. There is also a popular suspicion that senior military leaders have allowed an inference of zero-casualty tolerance to affect mission accomplishment. This leads to two questions: What is improper pressure? What would an action based on improper pressure look like?***

The parliamentary record shows some evidence of casualty intolerance in British society, but it is oblique, rare and unconvincing.[8] British opinions differ, but clearly senior military leaders are expected to do no more than their best to accomplish the mission with the prudent care and diligence that has always been required of democratic militaries. Leaders have not been subject to orders or overt pressure to have no casualties.

## US Civilian Leaders and Congress

As with the British, there is no overt evidence that the US force-protection policy was a reaction to political or social pressure. General George A. Joulwan was supreme allied commander of NATO forces and the senior US officer in Europe when US forces crossed the Sava River into Bosnia-Herzegovina as part of IFOR.[9] He framed the force-protection policy that has served, with modification, in Kosovo ever since. During planning for the operation, he personally advised the president and secretary of defense that casualties were a risk that could not be eliminated. Joulwan stated in an interview that politicians never directed or implied that he and his chain of command avoid casualties at the expense of the mission. Nor was he given to believe that the success of the mission depended on a few or no casualties.[10] Joulwan's successors had similar experiences. One of them, speaking off the record to a military audience, stated that he felt no pressure from political leaders to pursue a zero-casualty policy.

In a 1998 speech President William J. Clinton stated, "We must, and we will, always do everything we can to protect our forces. We must and will always make their safety a top priority. . . . But we must be strong and tough and mature enough to recognize that even the best-prepared, best-equipped force will suffer losses in action."[11] The practical expression of this view that Joulwan alluded to can be seen in the comments of deputy Pentagon press spokesman Admiral Craig Quigley when he told reporters, "Commanders have authority to raise and lower threat conditions based on the local situation."[12] If civilian leaders intended an unrealistic casualty-tolerance policy, commanders would not have any latitude.

How should we interpret official statements that call for minimizing casualties? The US National Security Strategy states that humanitarian use of military forces "will entail minimal risk to American lives."[13] Former US Secretary of Defense William Cohen publicly stated that force protection was his number one priority when he sent troops overseas.[14] General Wesley Clark, commander of US forces in Europe during the Kosovo operation, said, "My highest priority for the US European Command theater is antiterrorism and force protection."[15] These expressions are consistent with long-

standing US military tradition, practice and doctrine to minimize casualties while accomplishing a mission. It is a leader's inherent responsibility and has been the goal for equipping, training and preparing professional militaries. Along with the president's public acceptance of risk and Joulwan's statements, these expressions cannot be taken as pressure for zero or unrealistically low casualties.

The Congressional Record from December 1995 through November 2000 indicates significant discussion of casualties but always in the context of national interest. Most contention concerned the president's authority to commit military forces to hazardous situations without consulting Congress—a reason many gave for not supporting the Kosovo bombing. Risk to soldiers or aircraft did not play prominently in debates outside the context of national interest. The Congressional Record signals no intolerance of casualties, only that risk should relate to unimportance and that Congress has a decisionmaking role.

Sociologists have likewise concluded that the American public will tolerate casualties but require that US interests warrant the cost.[16] A study shows that the public did not reduce support for the Somalia operation because 18 US soldiers were killed. Public support collapsed once politicians said the mission could not succeed. It went on to point out that the public supported the Bosnia mission, despite the mistaken belief that US soldiers had died there.[17] We know that casualty tolerance is a product of a rational calculation of three variables: interests, results and costs.[18] Public reaction indicated casualty intolerance without qualification.

## Distinguishing Improper Pressure From Planning Guidance

Many commentators seem to presume that political guidance to limit casualties is improper. There is also a popular suspicion that senior military leaders have allowed an inference of zero-casualty tolerance to affect mission accomplishment. This leads to two questions: What is improper pressure? What would an action based on improper pressure look like?

Appropriate pressure seeks mission accomplishment at least cost and considers whether decisions accept the estimated risks and costs. Before selecting a course of action, parameters such as acceptable risk or casualty tolerance are simply planning guidance. Since military operations in US and British doctrine support political objectives, such political guidance would be proper. Using this guidance, military leaders would prepare the most acceptable courses of action and advise how to balance political and military costs and benefits. Considering casualties, a central factor in the public's calculus of operational merit, is not in and of itself improper. Directing an operation without being willing to risk casualties, however, inverts the mission-first-at-least-cost principle and constitutes improper pressure.

Overt pressure has not been a factor in senior military policy formulation but might have been inferred. The evidence commonly cited appears to show this at first but is arguable, fragmentary, of unknown context or not directly to this point.[19] This raises the question of what improper pressure might look like. Unless there are detailed inside accounts, improper pressure, inferred or otherwise, would be manifest as a militarily unjustified decision. If it were a rational course of action, no one would presume it to be improper, implied or even overt pressure.

***Considering casualties, a central factor in the public's calculus of operational merit, is not in and of itself improper. Directing an operation without being willing to risk casualties, however, inverts the mission-first-at-least-cost principle and constitutes improper pressure.***

If a leader adjusted strategy to eliminate casualties and still accomplished the mission, he would be considered a hero. If he refused to commit forces until complementary action had eliminated the risk of casualties and were still to succeed in the mission, it would be hailed as a triumph of synchronization and politico-military campaign planning. If he enforced inconvenient security measures but got the job done without casualties, he would be called prudent and responsible. Success is success and the cheaper the better. The only indicator that inferred political pressure has improperly influenced an operation would be an inversion of the mission-first-at-least-cost formula. As long as the mission is accomplished acceptably with minimal casualties, it is impossible to conclude that political influence has been improper or that military leaders have failed to do their duty because of what they infer.

To judge negatively the conservative approach of military leaders who successfully accomplish the mission is to express personal preference, not an objective conclusion. Joulwan, speaking of his Bosnia experience, states without reservation that his plans and policy were based on military necessity, not political or social pressure.[20] Senior US and British military leaders selected force-protection approaches based on military factors, doctrine and mission accomplishment. The political mission remained paramount, and military leaders adhered to planning guidance.

*Soldier*, UK Ministry of Defence

## Origin of US Force-Protection Policy in the Balkans

Joulwan states that initial US force-protection policy was based on military necessity and that he was influenced by two factors. First, many believed that a lack of professionalism contributed significantly to the US failure in Vietnam and that lax uniform standards were part of the lost professionalism. Enforcing mission-appropriate uniform policies became an underlying tenet of professionalism. Since the mission in Bosnia was peace enforcement, not peacekeeping, the force had to be prepared for combat. Joulwan's uniform policy conformed to that need.

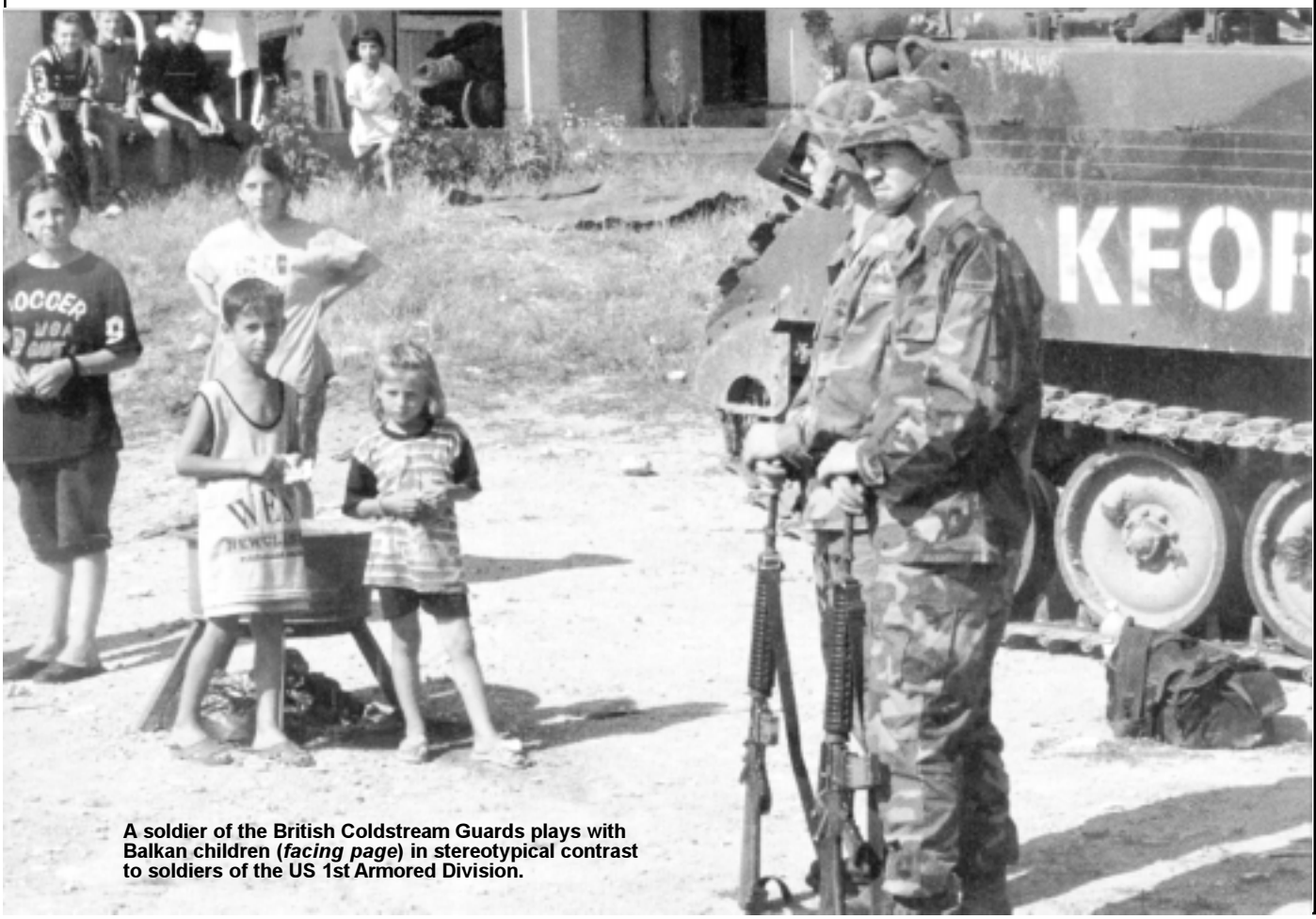
Second, senior US military leaders cited a terrorist threat to US forces, perhaps greater than that to our allies. Joulwan held the conviction that strength deters attacks and encourages cooperation. He felt that the IFOR peace-enforcement mission must not be confused with the UN Protection Force's peacekeeping mission. An image of combat readiness was, in itself, good protection.[21]

Joulwan's philosophies have been preserved in the US force-protection policy for the Balkans. Reported results support its soundness. US commanders point to casualty statistics, which include accident victims, that are lower than those for forces with other postures.[22] The mission was accomplished, and the combat uniform did not hinder creating working relationships with the local population.[23] The force did not exhibit symptoms of unprofessionalism reminiscent of Vietnam; and British General Roderick Cordy-Simpson, UN Protection Forces commander in Sarajevo, suggested before Parliament that the US approach had merit.[24] In a subsequent report, Parliament stated that "pursuit of a military doctrine based upon the use of minimum force may not be the most appropriate in coercive scenarios such as Kosovo."[25] US generals made policy based on military necessity as they knew it, and they saw results that confirmed their work. In their busy world, there would have been no reason to revisit something that was not broken—except that the law of unintended consequences always applies.

## Rumors of US Casualty Intolerance

Ambassador for International Religious Freedom Robert A. Seiple, commenting on the emphasis that US military leaders place on avoiding casualties, said, "The safest place on the modern battlefield is in uniform."[26] Although senior military leaders followed doctrine and not improper pressure, rumors persist. US and international military communities believe that US senior military leaders do fear casualties. Conventional wisdom holds that senior military officers, influenced by politicians and the public, have adopted a zero-casualty standard.[27] The US European Command's joint review of the

US Army




**A soldier of the British Coldstream Guards plays with Balkan children (*facing page*) in stereotypical contrast to soldiers of the US 1st Armored Division.**

***The zero-casualty idea must have originated as a popular interpretation of events—a grass-roots phenomenon not based on traditional reading of the policy's words. Fueled by observation and constant exposure to whispered certainty, the tactical military has embraced the belief along with the rest of the world. It now stands as an article of faith.***

Bosnia operation concluded that "It was generally understood that fatalities would not be politically acceptable in this, a peace implementation operation."[28] An IDA report on Bosnia found that "US national commanders were operating under the implied guidance to incur no casualties although no written guidance was ever issued to this effect."[29] This conclusion is ubiquitous in literature and opinion among the British, Australian, Canadian and New Zealand armies. A report from an international conference of these nations stated, "It was understood that domestic political imperatives influence US force-protection thinking, while the UK and others will look for opportunities to 'reach out' to local communities at the lowest levels and as early in an operation as possible."[30]

Commonly cited as evidence are anecdotal reports. A platoon leader recently returned from Bosnia told the United States Military Academy graduating class that had he told his platoon that there was nothing worth any of them being hurt over.[31] A newly arrived major was told that if the mission interfered with force protection, the mission came second. A battalion commander reported, "It's simple. When I received my written mission from division, absolutely minimizing casualties was the mission prioritized as first, so I in turn passed it on in my written operation order to my company commanders."[32] US Army Europe's 1997 operation order on force protection states in the first line of its concept of operation, "Force protection is the first priority of all forces."[33] These examples could be interpreted as being consistent with zero-casualty guidance. Raising force protection to the status of a mission suggests as much. Clearly those below the senior military level are convinced that the United States is casualty-averse. What is not immediately clear is the origin of the idea.

US force-protection policy is not stated in zero-casualty terms. Written policy uses traditional ways to describe commanders' responsibility for troops, ways analogous to those seen in long-standing leadership doctrine and more recent joint doctrine—neither of which has a zero-casualty message.[34] It follows that the zero-casualty idea must have originated as a popular interpretation of events—a grass-roots phenomenon not based on traditional reading of the policy's words. Fueled by observation and constant exposure to whispered certainty, the tactical

***Factor in Mogadishu, initial US political rejection of a Kosovo ground option and an air war prosecuted from more than 10,000 feet. The explanation fit the phenomena and created its own weather. The fact that the United States has suffered casualties without any report of adverse action against its tactical leaders has not had any discernible effect on the myth. Like paradigms, myths are not replaced, even if they are incorrect, until something better comes along.***

military has embraced the belief along with the rest of the world.[35] It now stands as an article of faith. It appears to be as Thucydides said two millennia ago, "Most people will not take trouble in finding out the truth, but are much more inclined to accept the first story they hear."[36]

## Grass-Roots Mythology

The belief that US force-protection policy is based on casualty intolerance is a myth that does not accurately describe the policy's origins or intent. The artifact of the force-protection policy is interpreted through this myth and misunderstood. What the authors of the policy see simply as a more formal articulation of a commander's traditional responsibility for minimizing casualties, agents of the myth see as an exhortation to zero casualties.[37]

This unintended interpretation has gained the weight of collective belief, which has colored the interpretation of orders, events and affected decisions. The myth is so widely accepted that it has become folklore and changed US military bureaucracy.[38] As an example, force protection is being institutionalized in formal structures, which underscores its importance, provides additional legitimacy to the myth and enhances its usefulness in explaining the world.[39] It becomes a self-sustaining cycle.

The myth then becomes routine. As guidance spreads downward, it becomes more elaborate and restrictive. The inevitable rise of institutional structures produces staff officers with checklists, risk-assessment methodologies and force-protection paragraphs in orders. Force protection rises to the status of a mission from its traditional role as a responsibility. Institutionalizing force protection has become a cottage industry in the US military; it now consumes resources and affects events. Even an intentional impression of zero-casualty tolerance could not have been better reinforced.

It is reinforced more directly when observations fit expectations. Interviews with junior military leaders in Bosnia in 1996 indicated widespread dissatisfaction with what was seen as out-of-touch policy. The troops did not see a high threat, despite the official mission of peace enforcement.[40] What uniform and operational procedures are most appropriate for zero-casualty tolerance? Those indicated in the policy—those used for combat. If there were no tacit zero-tolerance policy in effect, junior commanders would expect flexibility in dress and procedures, much as the British enjoy. Yet, authority to be flexible was reserved for more senior military leaders. Local generals commanding the Bosnia division or Kosovo brigade sector were not seen as having the authority to change the posture. It was thought they had to clear exceptions with generals outside the zone of operations.[41]

Force protection became prioritized above the tactical mission as confusion over the nature of the operation conflated combat procedures and noncombat policy.[42] Using the term "force protection" to describe this uneasy mix only exacerbated the confusion. Cohen reinforced the myth with statements about force-protection priority. Conservative tests for committing US forces, such as the so-called Caspar Weinberger-Colin Powell doctrine, complemented the picture by fitting the casualty-intolerance myth.[43] Mandated force-protection briefings and frequent inspections have lent additional emphasis. The Army listened to the media and saw its allies next door choose less protection, lending credence to the interpretation. Factor in Mogadishu, initial US political rejection of a Kosovo ground option and an air war prosecuted from more than 10,000 feet.[44] The explanation fit the phenomena and created its own weather. The fact that the United States has suffered casualties without any report of adverse action against its tactical leaders has not had any discernible effect on the myth.[45] Like paradigms, myths are not replaced, even if they are incorrect, until something better comes along. Both the grass-roots army and its senior leaders have looked at the same phenomenon, seen a different picture and found no reason to change their interpretations.

The zero-casualty myth is built on an assumption that outside beliefs are influential within the military.[46] The theory is supported by the Center for Strategic and International Studies that observes, "[T]oday's armed forces will also be pushed by the winds of society's pressures and pulled by the currents created by government polices and technological change. Society's pressures and the ramifications of government policies have a major impact on the current climate within military units."[47]

The US Army has redefined a commander's traditional responsibility for soldiers and skewed the relationship between it and the mission. But, this new understanding refutes the contention that US and British approaches to similar force-protection

Consequences of lax uniform standards go beyond appearance to functionality—here dirty weapons and ammunition.

US Army

***The initial US force-protection policy was based on military necessity and that he was influenced by two factors. First, many believed that a lack of professionalism contributed significantly to the US failure in Vietnam and that lax uniform standards were part of the lost professionalism. Enforcing mission-appropriate uniform policies became an underlying tenet of professionalism. Since the mission in Bosnia was peace enforcement, not peacekeeping, the force had to be prepared for combat. Joulwan's uniform policy conformed to that need.***

doctrine differ because of political pressure on US military leaders.

## The Calculus of Casualty Tolerance

Ultimately societies determine what is worth dying for and, therefore, what is tolerable risk. Assessing their militaries requires understanding the underlying social calculus. The United States and Britain use the same formula but weigh the factors differently. When side by side, the nations may respond to the same threat differently. It appears that both US and British citizens tolerate casualties when their interests are at stake. However, Britons find their interests at stake more often, and their interests are of higher relative value. Thus, their tolerance for casualties is naturally higher, and as members of that society, their military leaders are commensurately shaped. US interests are not directly involved as often as British ones and are less often seen as vital.

The United Kingdom historically views itself in terms of its military interventions.[48] It has pursued empire for the sake of survival. Because its home islands have few resources, Britain has been tied to the sea. Mercantilism became essential to its prosperity, a trend fueled by demands of the industrial revolution. The growing need for foreign raw materials, labor and markets required subduing competitors and protecting freedom of the seas. Britain's history is replete with wars to sustain itself on sea and shore far from home. Dandeker has also pointed out that the British public is accustomed to casualties.[49] Perhaps they will flinch less quickly than Americans simply because, historically, they have not had the luxury.

On the other hand, principal US experiences have been directly linked to home defense or protecting American ideals, not economic survival. The Revolution, Civil War, War of 1812, World Wars I and II, Korea and Vietnam have all been popularly characterized as defending home and the American way of life.[50] The fact that several were fought abroad is simply taken as smart strategy designed to avoid war on US soil. Small US expeditions, even those

of the early 20th century arguably pursued for economic reasons, are largely unknown to Americans, and where recorded, are characterized as either neutrally or idealistically warranted interventions.[51]

Traditionally, US wars and military expeditions have been justified as responses to threats against the United States or its citizens abroad.[52] In fact, commentators and politicians hailed the end of the Cold War as containment policy succeeding against an "evil empire."[53] The Cold War and minor forays were not about acute threats of world war or oil cutoffs. Unlike Britain, the United States has seldom been geographically or economically threatened. The term "casualty tolerance" has different meanings for each country, depending on its culture and politics.

British leaders may consider their interest in the Balkans as more vital than the United States does and not just because of geographic proximity. Moreover, senior British military leaders have been socialized to a tendency to follow British tradition and have no immediate reason to jeopardize their traditional "hearts and minds" campaign by taking a more US-like approach, even though it could immediately reduce casualty risks. The United States would not have the same option of choosing a less-protective posture, not because of casualty intolerance within US society, but because of the heightened standard set by its culture's focus on individuals and by the expectations set by US history.

## An Imperial Army

Britain has unapologetically fought wars for economic purposes. The British military serves the monarch and suffers wounds in service of queen and country. British military culture is expeditionary; troops often have deployed in relatively small strength on distant shores.[54] As a result, the British have long practiced persuasion based on an iron fist in a velvet glove, a policy or perhaps doctrine refined during their extensive experience with small-scale politico-military operations.[55] Resources left them no choice. They had to engage hearts and minds immediately, fighting only when no other choice existed because they have seldom been able to overwhelm an opponent by combat power alone.

In doing so, the British have developed a charisma some call arrogance. It is not. This demeanor enables them to dominate without constant recourse to force of arms and to develop a professional reputation that is a form of symbolic capital.[56] Predicated on symbolic capital, the British posture requires calculated, cavalier demonstration for effectiveness. Despite the benefits cited by senior US military leaders, the British have not taken up the US posture because it runs counter to the tradition and culture of British civil and military society. The culture survives because it has proven effective. The British do value soldiers but choose not to risk fixing what works. If they suffer somewhat more, the calculus of their society's tolerance will allow it.

## The People's Army

US culture has aided the US Army's willingness to accept an unintended implication of zero-casualty tolerance. The US Army has a reputation as a firepower force—to avoid casualties, the United States invented "reconnaissance by fire," the "daisy cutter" and the atomic bomb. US military doctrine has always been able to overwhelm its opponent with an overmatching force. It deploys and fights in strength with adequate resources to assure victory. The basis for this approach has been an idealistic valuation of the individual, along the lines of John Locke and Jean-Jacques Rousseau. The materiel luxury of bombs and bullets substituted for soldiers' lives reinforces the viewpoint that all men are created equal. Philosophy and wealth do not instill a zero-casualty cultural attitude but, rather, reinforce commanders' traditional responsibility to avoid casualties at all cost. However, it is a short step along the spectrum from minimal to zero casualties, one the US Army is now taking.

US general officers, like their British counterparts, respond to their own culture. The US military's symbolic capital lies in its readiness to use overwhelming force. Senior US military leaders understand this without thought and use it just as the British use their approach. Force-protection policy developers who examine the major influences on US and British militaries rule out direct and indirect political and public influences as causal. Nearly identical doctrines have allowed such different policies because leaders applying the doctrines are products of different cultures, experiences and historical pressures. Because underlying ways of thinking and operating have been effective and codified in traditions that promise further success, it would be surprising if US and British generals had arrived at the same policy.

Successful multinational operations must bridge such gaps simply by coordinating policy during coalition formation and routine military-to-military contacts. Better yet, peacetime engagement with other militaries, including participation in international forums, develops practical interoperability tools and allows people to meet people. There is room for additional research, for instance, to validate or debunk the popular notion that policy dissimilarities are counterproductive. Also, the US Army should examine the balance between mission and casualties, and its potential impact on its warfighting ethic. Armies around the world are transforming. The better they understand these issues, the more promise there is for compatibility when and where it counts.

## NOTES

1. UK Force Protection Doctrine, January 1999; Joint Chiefs of Staff, Joint Publication (JP) 3-07.3, *Joint Tactics, Techniques and Procedures for Peace Operations* (Washington, DC: US Government Printing Office [GPO], 12 February 1999); US Army Field Manual (FM) 100-23, *Peace Operations* (Washington, DC: GPO, 30 December 1994); interview with LTC Gary Harrity, Chief, Force Protection Division, Combined Arms Doctrine Directorate, US Army Command and General Staff College, Fort Leavenworth, Kansas, 6 December 2000.
2. US and British force-protection doctrine is similar. The major difference is that British doctrine explicitly includes combat while US doctrine covers noncombat operations in a combat zone.
3. American, British, Canadian, Australian (ABCA) *RAINBOW SERPENT* Post Exercise Report, (Rosslyn, VA: ABCA Program, 1998), passim, <www.abca.hqda.pentagon.mil> ABCA *FOCUS 2000* Post Exercise Report, (Rosslyn, VA: ABCA Program, 1998) F-3, para 13.
4. Buchanan, et al., *Operation Joint Endeavor—Descriptions and Lessons Learned (Planning and Deployment Phases)* (Arlington, VA: Institute for Defense Analyses [IDA], 1996).
5. Records of the Parliament Stationary Office: Commons Hansard, Written Answers and Official Reports; Lords Hansard, Written Answers, Official Reports; and Select Committee on Defence reports for December 1995 through November 2000, <www.parliament.the-stationary-office.co.uk>.
6. *London Timesarchives*, <www.thetimes.co.uk >; *Daily Telegrapharchives*, <www.telegraph.co.uk>, website archives for December 1995 through November 2000.
7. Christopher Dandeker, Head of Department of War Studies, King's College, London, e-mail to Richard R. Caniglia, 18 Sepember 2000, Subject: RE: your project.
8. British House of Commons Committee on Defence, Minutes of Evidence (Question 11), 5 July 2000, <www.parliament.the-stationary-office.co.uk>, accessed 17 November 2000. The only indication of casualty aversion found was Dr. Christopher Coker's testimony before the Select Committee on Defence in hearings on the relationship of the military to the public. In Coker's words, "We live in risk-averse societies. . . . the calculus of risk is the basis on which we elect our politicians."
9. Implementation force for the Dayton accords, followed by the stabilization force (SFOR).
10. Interview with General George A. Joulwan on 24 November 2000, Washington, DC.
11. Remarks by President William J. Clinton at the National Defense University, 29 January 1998.
12. WAMU FM Radio Station, comments by Admiral C. Quigley, Pentagon press briefing on USS *Cole*, Washington, DC, 2 November 2000.
13. US National Security Strategy for a New Century, The White House, December 1999, 20.
14. WAMU FM Radio Station, Statement of William Cohen, Pentagon press conference on the USS *Cole*, Washington, DC, 12 October 2000.
15. Statement of General Wesley K. Clark, commander in chief, US European Command (USEUCOM), before the Senate Armed Services Committee, 29 February 2000, 49.
16. Peter Feaver and Christopher Gelpi, "The Civil-Military Gap and Casualty Aversion" (Draft), a paper prepared for the Triangle Institute for Security Studies Project on the Gap Between the Military and Civilian Society, provided September 2000, 30; Eric V. Larsen, *Casualties and Consensus* (Santa Monica, CA: RAND Corporation, 1996); Michael Alvis, *Understanding the Role of Casualties in US Peace Operations: Landpower Essay Series* (Arlington, VA: Association of the US Army, 1999); Mark J. Conversino, "Sawdust Superpower: Perceptions of US Casualty Tolerance in the Post-Gulf War Era," *Strategic Review*, Winter 1997.
17. Feaver and Gelpi, 12.
18. Erik V. Larson, "Ends and Means in the Democratic Conversation: Understanding the Role of Casualties in Support of US Military Operations," Ph.D. dissertation, RAND Graduate School, 1996, 320; Feaver and Gelpi, 9 and 28.
19. British House of Commons Select Committee on Defence, Minutes of Evidence (Question 11), 5 July 2000. In the UK, General Sir Charles Guthrie, Chief of British Defence Staff, said, "We only do what the market will allow. What the market wants is zero-tolerance of casualties; it wants fewer wounded soldiers coming back; it wants, essentially, no casualties at all if you can get away with it." In context, this referred to preference, not intolerance. See also Lessons Learned Presentation—UK Experiences in Kosovo, Memorandum for Record—TEAL XXXIV Meeting, ABCA Armies' Standardization Program, Agenda Item 10, 5 May 2000, 23, <www.abca.hqda.pentagon.mil>; Wesley K. Clark, "The United States and NATO: The Way Ahead," *Parameters*, Winter 1999-2000.
20. Joulwan interview.
21. Ibid.
22. Operation *Joint Endeavor* (OJE) after-action review briefing (unclassified slide), USEUCOM, Patch Barracks, Stuttgart, Germany, 18 March 1997, accessed through IDA, Arlington, Virginia; Brigadier General S. Kindred, commanding general, US National Support Element, notes from interviews conducted by Buchanan, et al., in preparation of *Operation Joint Endeavor—Descriptions and Lessons Learned (Planning and Deployment Phases)*, Volumes I to VI. Access to these notes is restricted and must be granted by the authors.
23. Tony Cucolo, "Grunt Diplomacy: In the Beginning There Were Only Soldiers," *Parameters*, Spring 1999, 110-26.
24. Remarks before the House of Commons Select Committee on Defence, Minutes of Evidence (Questions 233 and 234), 3 February 1999.
25. House of Commons Select Committee on Defence, Fourteenth Report, Section III, The Conduct of the Campaign, 24 October 2000, para 326.
26. Feaver and Gelpi, 1.
27. Conversino.
28. OJE Joint After-Action Review, USEUCOM, Stuttgart, Germany, December 1995-December 1996, OJE Implementation Phase, Force Protection, 29, accessed via IDA.
29. Buchanan, et al., III-19.
30. *FOCUS 2000* Post-Seminar Report, F-3.
31. US Army lieutenant from the 1st Armored Division recently returned from Bosnia speaking to cadets at the United States Military Academy in January 1999; quotation provided by Dr. Shubert, US Joint Center for History, Pentagon (frank.schubert@js.pentagon.mil).
32. Don M. Snider, John A. Nagl and Tony Pfaff, *Army Professionalism, the Military Ethic, and Officership in the 21st Century* (Carlisle, PA: US Army Strategic Studies Institute, 1999), 1-2.
33. US Army Europe Operation Order 1-97, Force Protection (Office of the Deputy Chief of Staff for Operations, Headquarters, US Army Europe, March 1997), para 3a(1).
34. JP 3-07.3; FM 100-23.
35. Interview with LTC Hodgkins, 10 October 2000, Washington, DC. Hodgkins was the defense attache in Bosnia from April 1999 to July 2000. He had daily contact with policymaking commanders involved with both SFOR and KFOR. He stated that force protection was the primary effort, with the mission coming second.
36. Thucydides, *History of the Peloponnesian War* (New York: Viking Press, 1986), 1 and 20.
37. Joulwan interview.
38. Walter W. Powell and Paul J. DiMaggio, introduction in *The New Institutionalism in Organizational Analysis*, Walter W. Powell and Paul J. DiMaggio eds. (Chicago, IL: University of Chicago Press, 1991), chapter 2.
39. The US military has institutionalized force protection by creating bureaucratic organizations to service it. These include staff sections at various levels and doctrine.
40. Notes of interviews conducted by Buchanan, et al., Volumes I to VI, passim.
41. Hodgkins interview.
42. The Joulwan policy was crafted for combat, but the US Army Europe Force Protection Operation Order 1-97 applied to operations short of combat. For operations short of combat, safety is the first priority. For combat the mission is first, and force preservation is handled by combat doctrine on security, not force-protection policy.
43. Secretary of Defense William Cohen said it is "the top" priority; the Chairman of the Joint Chiefs of Staff described it as "a top" priority.
44. The loss of US soldiers in a failed operation that is credited with causing US withdrawal from Somalia.
45. Multi-National Brigade (East) Operational Overview, 1st Infantry Division, 3 May 2000, lists one US soldier dead and 22 wounded during Kosovo operations.
46. Feaver and Gelpi, 4.
47. "American Military Culture in the Twenty-First Century," Center for Strategic and International Studies, February 2000, <www.csis.org/pubs/am21exec.html>, 19 January 2000.
48. Edgar Schein as quoted by Don M. Snider in "An Uninformed Debate On Military Culture," *Orbis: A Journal of World Affairs*, Winter 1999, 11-26.
49. Dandeker; Ben Shephard interview with British Broadcasting Company (BBC) World Update, BBC World Service, rebroadcast by WETA FM, 9 November 2000. Shephard, author of *A War of Nerves*, a study of 20th-century military psychology, observed during a discussion of the casualty tolerance of societies that the British are relatively tolerant, given their experience in World War I that has set a baseline for measuring all casualty rates.
50. Vietnam, despite its rising unpopularity after 1968, was initially a popular cause based on defending freedom. The later opposition has challenged only the characterization of the threat as dire and the unproductiveness of the strategy employed, not the basic motivation.
51. A review of the Standards of Learning Test results for Virginia high schools indicates that only 39 percent of students achieved a passing score in US history (Virginia Department of Education), <www.pen.k12.va.us/VDOE/Assessment/soltests/hs_history.html>; Ellen C. Collier, Congressional Research Service—Library of Congress, 7 October 1993, <www.history.navy.mil/wars/foabroad.htm>. The United States has deployed forces on named operations abroad 234 times from 1798 to 1993. A Congressional Research Service report overwhelmingly characterizes these in altruistic phrases such as "to protect American interests" and "to protect lives and property."
52. The criteria commonly used for just war theories consider the morality of the object, the risk of collateral damage or casualties and the probability of success.
53. "But my nomination for the most important, lasting, and successful American initiative in diplomacy during the 1900's has to be the strategic concept of 'containment,' containment of the Soviet Union and world communism." Henry Mattox, editor of *American Diplomacy*, <www.unc.edu/depts/diplomat/amdipl_14/edit_14.html>, 8 Sep 2000.
54. Dandeker.
55. Morris Janowitz, *The Professional Soldier: A Social and Political Portrait* (New York: The Free Press, 1960), 322-25.
56. P. Bourdieu, *Outline of a Theory of Practice*, (Cambridge, UK: Cambridge University Press, 1977), chapter 4.

*Lieutenant Colonel Richard R. Caniglia is assigned to the Strategic and Operational Doctrine and Maneuver Desk; American, British, Canadian, Australian Armies' Standardization Program; Headquarters, Department of the Army (DA), Washington, DC. He received a B.S. from the University of Nebraska—Lincoln and is completing his M.A. at George Mason University. He is a graduate of the US Army Command and General Staff College. He has served in various command and staff positions, including Equipping and Sustainment Policy and Prioritization Desk, Office of the Deputy Chief of Staff for Operations and Plans—Force Development, Washington, DC; Requirements, Programs and Priorities Division, Headquarters, DA, Washington; director, Aviation Trades Training; Aviation Logistics School, Fort Eustis, Virginia; research and development coordinator, US Army Aviation Applied Technology Directorate, Fort Eustis; S4, 207th Military Intelligence (MI) Brigade, VII Corps, Stuttgart, Germany; and S3, 3d MI Battalion, 501st MI Brigade, Korea.*

# Developing the Warrior-Scholar

**Major Scott Efflandt, US Army; and Major Brian Reed, US Army**

THE END OF THE COLD WAR marked a new era for the US Army. Recent changes ranging from the geopolitical structure, to the nature and role of the family, to individual soldier values have significantly affected the US Army. As a result, the 21st-century Army is an organization in transition. The institutional level has responded with planned development and force modernization efforts that focus on new technology and mission roles. Likewise, at the soldier level, the Army is responding by redesigning efficiency reports and increasing the length of basic training.[1] While such changes are impressive, the Army must grapple with the issue of adequacy. In the rapidly changing post-Cold War environment, the Army cannot merely react to change and risk a large lag effect; it must continue to pursue a proactive approach to change.

One area strained by changes in the nature of war is officer education. The comparatively new, rapidly changing role of professional military officers necessitates their increased understanding and application of sociological concepts. As a discipline, sociology provides a systematic method from which to assess and organize social activity. A sociological background gives company grade combat arms officers the necessary conceptual skills to operate on the modern battlefield and prepares them to take advantage of advanced professional education later in their careers.[2] In effect, the Army can better prepare its officers for adverse and changing conditions associated with today's missions by using specific collegiate training rather than relying solely on institutional programs.

Recognizing the dilemma facing today's military leaders, the Center for Strategic and International Studies convened a committee in 1997 to assess the Professional Military Education (PME) System and provide recommendations. The committee found that "service schools and colleges must do more to help the officer corps adapt to the rapid technological advances of the information age and the changing mission of the post-Cold War era."[3] The committee noted that an Army captain patrolling in Bosnia not only has several times the information and advanced technology at his fingertips than a peer might have had even a few years ago but also confronts a far more complex operational environment. Today's missions require the captain to be equally peacekeeper, negotiator, diplomat and soldier.[4] However, while superbly identifying the dilemma surrounding today's junior officers, the committee stopped short of linking a solution to proposed changes in the PME System.

***Concurrent with the Army officer's changing role in the westward expansion, an intellectual awakening among some officers moved the Army to consider increasing officers' study of the "theoretical and practical duties of their profession." This push led to establishing a school for the application of infantry and cavalry, a school for light artillery and the US Army War College in 1901. The new PME System, established just before World War II, gave officers a broad undergraduate education that continued with specialized training once they entered the Regular Army.***

## Officer Development

In 1802 the United States Military Academy (USMA) was founded, marking one of America's earliest attempts to codify Army officer training. Since then officer development has experienced several significant changes, yet at the same time, such associated activities remain one of two distinct but mutually supporting components: ethos and intellect.

"Ethos" concerns fledgling officers' corporate identity, developed through selection, institutional instruction and informal mentoring.[5] Ideally, it instills in young officers a sense of fraternity and a commitment to selfless service strong enough to endure the institution's comprehensive demands.[6] In the end, ethos binds all Army officers, regardless of their branch, and directs their conduct and continued development throughout their careers.

"Intellect" represents the technical and mechanical skills officers require while executing their duties. Military revolutions of the 16th and 17th centuries redefined the officer corps. Early in the 18th century it became apparent to the great armies that it was too costly for all officers to be general practitioners who learned their craft solely on the battlefield. In response, specialized staff schools emerged, and the first permanent standing (staff) officer school appeared in France in 1780.[7] Unlike European military schools that developed seasoned officers, USMA focused on officer candidates. This arrangement enabled its primarily military faculty to develop both ethos and intellect simultaneously. A corporate sense of competence grew from mastering specialized military skills, a condition that eventually defined commissioned Army service as a profession.[8]

Although established as a profession, Army "officership" has not been stagnant. Continual changes in warfare have forced changes on the profession of arms, a process readily evident by tracing the changes in officers' intellectual development. USMA spent its first decades providing a terminal professional education and a source of Army doctrine on tactics and strategy.[9] As a consequence of westward expansion, the Army officer's role changed to include infrastructure development on the frontier. In response, USMA's curriculum changed, resulting in the founding of the civil engineering field.[10] This precedent marked the first Army officer training changes in response to officer activities unrelated to warfare.[11] Continued curriculum changes allowed USMA's admission and membership in the Association of American Colleges in 1927. In 1933 Congress authorized USMA and the US Naval Academy to confer Bachelor of Science degrees.[12]

Concurrent with the Army officer's changing role in the westward expansion, an intellectual awakening among some officers moved the Army to consider increasing officers' study of the "theoretical and practical duties of their profession."[13] This push led to establishing a school for the application of infantry and cavalry, a school for light artillery and the US Army War College in 1901.[14] The new PME System, established just before World War II, gave officers a broad undergraduate education that continued with specialized training once they entered the Regular Army. World War II's mobilization demands disrupted PME, but the Army returned to it after the war and continued to refine it.

***Today, given the magnitude and number of changes affecting the military, postsecondary schools can no longer adequately fulfill the intellectual component of officer development. While some colleges and universities can meet this need, the Army cannot assume that any bachelor's degree is adequate for most officers.***

## College Education: Historically

The Army's near exponential growth from 1939 to 1944 turned PME on its head, largely reversing advances made over the previous 50 years. USMA's college program was compressed and accelerated to meet immediate requirements while the size of incoming cohorts dwindled.[15] Reserve officers, who had earned commissions while attending civilian colleges, were mobilized while their former Reserve Officers' Training Corps (ROTC) commissioning sources were suspended.[16] Instead, the Army relied principally on officer candidate schools (OCS)—which did not require a college education—to meet its officer needs.[17]

Although World War II disrupted PME, it ultimately led to two principal refinements: developing professional officers to deal with other, nonconventional military affairs (such as political and economic) and the need to standardize PME across the services.[18] At war's end USMA continued to commission officers with baccalaureate degrees but could not meet the Army's greater need for career officers.[19] As a result, during the Korean War, ROTC experienced a large expansion with an accompanying increase in the number of ROTC officers receiving regular commissions.[20] Additionally, in 1952, ROTC accession programs at colleges were standardized and included a requirement for a college degree in any field for those aspiring for positions within the Active force.[21] Training in areas other than conventional military affairs was left to the service colleges at the other end of the PME System.[22]

A college education serves the Army officer in several ways. First, a college degree demonstrates an officer's capacity for learning and self-discipline. Likewise, the process of acquiring a college education develops the critical thinking and reasoning skills necessary to address unforeseen and unspecified future problems. Additionally, a college education can provide future officers with specific skills that are unattainable through the Army's institutional training.[23] Today, postsecondary education (to include USMA) generally offers degrees on a broad-based foundation of mandatory classes from which a person selects a field of study, or major. Historically, evolutionary changes in college education have been sufficient to meet the Army's needs. Until recently, college curriculum changes have kept pace with the Army's changing role and professional officers' needs. Regardless of an officer's field or branch, almost any college degree ensured adequate intellectual officer development and met the Army's needs.

***If the Army implements a force designed around brigade-sized units, then the density of specialized staff officers assisting commanders decreases further. Consequently, as modern warfare pushes critical mission decisions down on subordinate leaders, the need for greater, more specialized education and training at lower levels increases. One way to handle this need is to further focus or specialize an officer's early development beyond the technical necessities of basic branch qualification.***

## College Education: Present and Future

Today, given the magnitude and number of changes affecting the military, postsecondary schools can no longer adequately fulfill the intellectual component of officer development. While some colleges and universities can meet this need, the Army cannot assume that any bachelor's degree is adequate for most officers. The Army is undergoing significant changes because of internal and external pressures. While the two components of officer development remain valid, specific processes and products of these components—particularly college education—must change at a comparable rate.

Two significant changes affect the Army and military leaders: advances in the methods (technology) of war and variations in the nature of warfare, including peacekeeping and counterterrorism. These two forces, by their very nature, greatly affect junior officers. At higher echelons, specialized officers fill staff positions and stay current on specific changes and provide senior commanders with appropriate advice on their functions. However, staffs below division level are comprised of generalists rather than specialists. At these lower levels, staff officers still advise commanders on matters related to their functions. However, unlike staffers at upper echelons, these company grade staff officers receive nearly identical training in the PME System—their specialized training is limited. Additionally, if the Army implements a force designed around brigade-sized units, then the density of specialized staff officers assisting commanders decreases further.[24] Consequently, as modern warfare pushes critical mission decisions down on subordinate leaders, the need for greater, more specialized education and training at lower levels increases. One way to handle this need is to further focus or specialize an officer's early development beyond the technical necessities of basic branch qualification.

The Army has responded to changes in the methods of war with Force XXI and Army After Next initiatives, which represent a systematic institution-wide approach affecting everything from strategic doctrine to individual soldier training.[25] However, not all of the Army's adaptations to changes in warfare have been as methodical. While the Army aggressively and effectively wrestles with changes, other aspects relating to the changing nature of war and civil-military relations await review.[26]

Changes in the nature of war have altered the skills required for its conduct, but the ability to act decisively and employ coercion will remain essential.[27] The potential to employ controlled violence provides validity to many new military tasks captured under the heading of military operations other than war (MOOTW). Having established its credibility as a fighting force, the US Army now finds itself more frequently engaged in actions such as humanitarian assistance, nationbuilding and peace enforcement. For example, on an average day during 1998, the US Army had 143,000 soldiers deployed in 77 countries participating in 214 distinct missions.[28]

In the past, when the US Army's missions fell under more conventional parameters, junior officers received sufficient specialized education and training from institutional sources. Because of today's more diverse missions, wide range of threats and budget constraints, institutional military training can no longer fully prepare junior officers for the variance found within the full spectrum of conflict. Current and anticipated mission profiles require military leaders to affect environments defined by foreign military involvement, nongovernment organizations, varied local leaders, humanitarian issues and opposing security forces.[29] Tomorrow's

US Army

Soldiers of the 10th Mountain Division patrol the streets of Aquin, Haiti, as local women continue washing clothes.

***Although the upper military echelons may assess a society from a nation-state perspective, a company commander performing humanitarian assistance for a village must see that village as a society and act accordingly. Junior officers who apply sociological imagination to . . . three question sets can assess systematically various 21st-century situations and societies they will confront.***

officers require education coupled with training that allows them to assess varied missions and understand their human dimensions. One way to prepare leaders for this environment is to train them to apply sociology.

## Sociology and Officer Training

Advocating training and education in sociology does not mean all officers should become sociologists—quite the contrary. The increasing complexity and division of labor calls for a military composed of specialists in many areas. Likewise, because the Army requires various specialists, other academic backgrounds will continue to serve the Army through various personnel billets. However, for those leaders at the tip of the spear, an academic grounding in sociology may be the most efficient and useful collegiate specialization. Junior military officers who execute the Army's core function would benefit from an increased understanding of social sciences, sociological concepts in particular.

Forward-deployed junior officers face a widening array of relevant factors and need tools to organize conditions and information to respond effectively. In terms of academic training, sociology meets this need by providing a framework within which to integrate and synthesize other fields for application to social conditions. Sociology integrates and draws upon components of several other social sciences by considering "social life and behavior, especially in relation to social systems, how they work, how they change, the consequences they produce and their complex relations to people's lives."[30] Contemporary research on civil-military relations applies sociology to military affairs but routinely does not deliberately apply sociology during operations. Studying sociology produces more effective professional officers. Segal, Segal and Wattendorf espoused such a position while discussing the utility of a sociology program at USMA.[31] They argue that this was likely to be the goal of any sociology program in a professional school setting.

## The Need for Warrior-Scholars

Changes in the nature of warfare demand that junior combat arms officers be warrior-scholars. The professional officer produced from a military education, complemented with a study of sociological

concepts, is a warrior-scholar. This concept is a variation of Segal's soldier-statesman/soldier-diplomat.[32] Warriors must be scholars according to Segal, "the range of military activities that military professionals will be called on to perform will be broadened . . . [and] is likely to have political implications at lower levels of organizational functioning."[33] This implies that the post-Cold War leaders are scholars because their decisions and actions on future battlefields reflect deliberate thought and understanding of larger social and political relationships. The understanding helps identify the second- and third-order effects of decisions and actions.

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Warrior characteristics are equally critical in post-Cold War leaders—specifically, lower-echelon officers must remain capable of employing traditional military force. Suggesting that military commanders on the ground will be confined to technical military and political matters in a peacekeeping environment, for example, indicates a failure to recognize operational ambiguity and blended skills.[34] It is important that peacekeepers assert themselves under fire or under pressure to forcibly keep combatants from harming others, for example, to "evacuate an area or to allow a convoy safe passage."[35]

Past military missions have been successful without warrior-scholars, but the absence did not include the entire military chain of command. In fact, several scholars (most notably Morris Janowitz) have suggested educating military elite forces that already possess warrior-scholar values. Based on his research on senior Army officers, Janowitz maintains that military professionals must be given a "candid and realistic education about political matters" and follow career patterns that sensitize them to political and social consequences of military action.[36] Early in the Cold War Janowitz explained how and why an effective military establishment must depend on military elite forces by "maintaining a proper balance between military technologists, heroic leaders and military managers."[37] Characteristics of the latter two leader typologies comprise the definition of the warrior-scholar.

In defining a constabulary force, Janowitz foresaw a cadre of military elite leading subordinate officers whose duties place them in one of the three typologies.[38] As junior officers rise in rank, the heroic leader and military manager roles merge. As a result, the most senior officers represent a balanced combination of these two types, while subordinates continue to develop within one of the three distinct typologies.[39] The role of military technologists that Janowitz describes remains largely unchanged today, but the military manager and heroic leader roles have evolved. All combat arms officers must become warrior-scholars by maintaining an internal balance of heroic leader and military manager. The Army has succeeded with warrior-scholars only at the elite level. To be successful in the future, warrior-scholars must exist at every chain-of-command level.[40] However, the need to develop junior officers as warrior-scholars renders traditional methods of officer development obsolete.

## The Theoretical Application of Sociology

The development of "sociological imagination" provides direction for 21st-century leaders to apply sociology and better understand larger social relationships.[41] Modern persons often feel helpless, isolated and powerless to affect their own courses or circumstances. These people need more than information: "in this Age of Fact, information often dominates their attention and overwhelms their capacity to assimilate it. It is not only the skills of reason that they need—although their struggle to acquire these often exhausts their limited moral energy. What they need, and what they feel they need, is a quality of mind that will help them to use information and to develop reason in order to achieve lucid summaries of what is going on in the world and of what may be happening within themselves."[42]

The ability to obtain such understanding and reason is sociological imagination. A person develops sociological imagination by recognizing the unique or specific historical circumstances of a given society and their effect on actors while recognizing the actor's reciprocal effect, a process frequently explained as understanding the intersection of history and biography. The knowledge gained from applying sociological imagination reduces an actor's

sense of helplessness and social isolation.[43] People who do not see their roles in the larger social network become myopic and are easily misguided by powerful elites seeking to further their own ambitions.[44] Junior officers should apply sociological imagination to see an operation's larger social operating network and respond appropriately to their missions.

Although the upper military echelons may assess a society from a nation-state perspective, a company commander performing humanitarian assistance for a village must see that village as a society and act accordingly. Junior officers who apply sociological imagination to the following three question sets can assess systematically various 21st-century situations and societies they will confront:

- What is the structure of the society as a whole? What are its essential components and how do they relate to one another? How does it differ from other social orders? Within it, what is the meaning of any particular feature for its continuance and for its change?
- Where does this society stand in human history? How is it changing? What is its place within and its meaning for the development of humanity as a whole? How do particular features affect the historical period in which they move, and how is it, in turn, affected?
- What varieties of men and women prevail in this society and period? What varieties are coming to prevail? In what ways are they selected and formed, liberated and repressed, made sensitive and blunted?[45]

Answers to these questions provide insight into a society, specifically the interaction between relevant biographies and social histories. Sociological imagination visualizes a situation's relevant variables by including participating actors and their perceptions in the algorithm. It allows critical questioning without being aloof. In essence, sociological imagination calls for transcending individualism without sacrificing it as a core value. Warrior-scholars can address social problems while being a part of the society.

This pragmatic use of sociology draws from a distinct domain within the discipline—consensual sociology.[46] The consensual approach follows a long tradition of applying sociology to an audience outside academia.[47] The warrior-scholar would apply consensual sociology for practical solutions to specific social problems using a methodology called the enlightenment model.[48] Rather than developing specific cause-effect relationships capable of broader generalization (the engineering model), the enlightenment model works at problem solving for the sake of specific institution-building within a given social setting.[49] In application, warrior-scholars seek solutions to immediate situations of which they are a part, so officers need sociological training to understand their environment as a larger system and, in turn, educate and serve its members. The company grade officer does this by applying sociological imagination—recognizing the history behind the current mission and the potential impact current actors have on its future. A focused sociological education can provide combat arms officers with tools to effectively and efficiently reason through various conditions surrounding next-century missions.

***While institutional schools have made laudable efforts to broaden curricula to cover MOOTW missions, they remain focused primarily on their core functions. Budget constraints keep schools from developing the reasoning skills and training to deal fully with modern warfare's ambiguous environment.***

## Sociologists in the Army Today

Developing warrior-scholars to meet the changing nature of warfare presupposes an increased need for them that the current officer accession system is not already filling. Measuring the presence of these two conditions requires a longitudinal review. Three representative periods provide a basis for reference:

- 1987—the end of President Ronald Reagan's defense buildup (late Cold War).
- 1992—post-Cold War and *Desert Storm*.
- 1997—contemporary reference.

Comparing the number of soldiers deployed each fiscal year gauges varying US military involvement.[50] Since the Cold War's end, the US Army has shifted from a forward-deployed force operating under a bipolar deterrence model to a force-projection Army largely stationed in the Continental United States (CONUS). Under the new strategy, the Army deploys overseas primarily for specific missions and then returns to CONUS.[51] Given this change and the absence of US involvement in formal war during 1987, 1992 and 1997, the change in the number of deployed soldiers indicates relative US Army involvement in new, or nontraditional, forms of war. Under ideal conditions a proportional change in the number of officers with sociological training would match the Army's involvement in nontraditional forms of war.

As the Army has drawn down and shifted to force projection, the aggregate number of deployed soldiers has actually declined over the past 10 years.[52] However, the number and percentage of soldiers deployed outside US territories (for reasons other than NATO, Korea and Japan) have consistently increased—roughly doubling every five years. New diplomatic obligations explain only a small portion of this trend since few officers are assigned to embassy duty. A nearly three-fold increase in nontreaty deployments clearly demonstrates increased soldier involvement in nontraditional forms of warfare, a condition that greatly supports the call for warrior-scholars.

***One course of action has each officer becoming versed in both engineering and humanities, while an alternative has officers training deeply in a single field with a topical knowledge of the other. The balance in education may not come from training individuals but through an officer corps comprised of widely assorted specialists.***

The Army needs to assess whether it has already responded to mission-profile changes by increasing the number of sociologically trained officers. Potentially, the institution, as part of a larger social system, may have already adjusted and could be developing warrior-scholars without deliberate intervention. Comparing the number of officers holding a degree in sociology as of 30 September (1987, 1992 and 1997) helps assess whether the Army's accession program has already responded to the new battlefield.[53] Under the former PME System, having a sociology degree did not guarantee that officers served in warrior-scholar positions or that they applied sociological imagination. These limitations aside, it is still important to explore whether the accessions process has responded to the increased need for sociologists serving in even a limited capacity.

Despite the increased need for warrior-scholars, the officer accessions program has not responded with a matching induction of sociologists. The total number of officer sociologists has declined as part of the drawdown, but more important, the percentage of sociologists has remained relatively constant at less than one and a half percent. The Army's officer accessions program has not responded to warfare changes by providing more officers with sociological training from which warrior-scholars can be developed.

The PME System has responded to 21st-century challenges by updating its curriculum and resources, but these efforts typically do not develop officers until at least the senior captain level. Because peacekeeping efforts are effective only as long as the peacekeeping force remains able to operate in the full spectrum of conflict, combat arms officer basic and advance courses remain grounded in traditional functions. While institutional schools have made laudable efforts to broaden curricula to cover MOOTW missions, they remain focused primarily on their core functions. Budget constraints keep schools from developing the reasoning skills and training to deal fully with modern warfare's ambiguous environment. Because initial PME schools currently cannot address new officers' 21st-century educational needs and advanced PME schools occur too late in an officer's career, precommissioning education becomes critical.

The Army currently assesses officers through OCS, USMA and ROTC programs at colleges and universities across the country. Each candidate has a contractual obligation to obtain a baccalaureate degree, and the Army should increasingly specify the courses. The idea of increasing specificity in precommissioning education is not new. Service academy curricula heavy in science, math and engineering produce military leaders and top technicians to deal with rapid technological change.[54] Unfortunately, hard science addresses only one aspect of change on a narrow front. USMA provides approximately 25 percent of all new active duty Army officers. Additionally, a heavy academic focus on the hard sciences addresses but one of two significant changes in warfare—technology. The need for further change is apparent at USMA, for the dean's academic goals clearly indicate a need for increased understanding of culture and human behavior.[55] Overall, the social and cultural aspects of MOOTW missions and future war lacks systematic treatment under PME, especially at the precommissioning level.

College classes grounded in the humanities may raise the old debate about whether to value breadth or depth. Dick Cheney notes that "the right balance between educational paths that stress a broader, liberal arts background versus educational paths that focus on science, math and engineering promises to prove one of the greatest challenges to the PME system."[56] One course of action has each officer becoming versed in both engineering and humanities, while an alternative has officers training deeply in a single field with a topical knowledge of the other. The balance in education may not come from training individuals but through an officer

corps comprised of widely assorted specialists.

While the Center for Strategic and International Studies panel spoke of education in terms of the humanities and hard sciences, actual changes require greater specificity. Just as the conditions of warfare in 1850 made training in some disciplines more relevant than others, 21st-century warfare demands training in specific, albeit different, disciplines. Sociology is an academic field with great tactical value to modern leaders in MOOTW.

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10. Ibid.
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13. Ibid., 81.
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19. Snyder, 72; Shelburne and Groves, 54; ROTC, "ROTC History (Unofficial)," *The ROTC Heritage*, 30 January 1999, <http://www.usarote.com/History/shist01.htm> accessed 18 April 2001.
Beginning in 1909 a few ROTC graduates were granted Regular Army commissions, but these numbers, up until the Korean War, relegated ROTC to a militia service.
20. Snyder, 72; "ROTC History." ROTC is now the largest commissioning source of career officers—those intending to serve longer than the minimum commitment.
21. Shelburne and Groves. Likewise, the Army realized that increasingly technical and complex weapons required all officers to have a college education. Thus, OCS shifted from a commissioning source for skilled enlisted soldiers to another commissioning method for college graduates from within and outside the service.
22. Masland and Radway.
23. USMA's ability to produce Army officers with the requisite skills for the artillery and engineer branches illustrates this very point.
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38. Ibid., 6, "the highest ranking officer" most capable of directing and influencing others.
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40. Military technologists were a distinct population by virtue of traditional resistance to their innovative efforts to integrate new technology. Current research can determine whether such resistance still exists.
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42. Ibid., 20-21.
43. Ibid.
44. C. Wright Mills, *The Causes of World War Three* (New York, NY: Simon and Schuster, 1958).
45. Mills, "The Sociological Imagination," 22.
46. Edward Shils, "The Calling of Sociology," *The Calling of Sociology and Other Essays in the Pursuit of Learning* (Chicago, IL: University of Chicago Press, 1980), 80. Most often sociologists are thought of as working in either the technological mode—serving the government by assessing social policy—or the oppositional mode—seeking to expose deficiencies of the elite. Neither approach directly serves junior military officers.
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48. Ibid., 91-92. Consensual sociology is a substantive type of sociological investigation that cannot be wholly absorbed into the scientific and theoretical types of academic sociology.
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51. From a regional or macro perspective, the number of soldiers stationed abroad as permanent liaisons in diplomatic posts is assumed to be relatively constant or inconsequential.
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*Major Scott L. Efflandt is executive officer, 2-12 Cavalry, 2d Brigade, 1st Cavalry Division, Fort Hood, Texas. He received a B.S. from Southern Illinois University and an M.S. from Texas A&M University and is a graduate of the US Army Command and General Staff College. He has served in various command and staff positions, including instructor, Behavioral Science and Leadership Department, United States Military Academy (USMA), West Point, New York; and commander, B Troop, 1st Squadron, 3d Armored Cavalry Regiment, Fort Carson, Colorado.*

*Major Brian J. Reed is operations officer, 1-22 Infantry, 1st Brigade, 4th Infantry Division, Fort Hood, Texas. He received a B.S. from USMA and an M.A. from the University of Maryland and is a graduate of the US Army Command and General Staff College. He has served in various command and staff positions, including instructor, Behavioral Science and Leadership Department, USMA, West Point, New York; and commander, Company A, 2d Battalion, 27th Infantry, 25th Infantry Division, Schofield Barracks, Hawaii.*

# Reassessing Strategy: A Historical Examination

Lieutenant Colonel Dominic J. Caraccilo, US Army

In *The Art of War*, Sun Tzu says that "[v]ictory smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after the changes occur."[1] Antoine Henri Jomini, Carl von Clausewitz and Sun Tzu—masters of war strategy—offer timeless views of the face of battle.

Clauswitz argues that perfect prewar planning for contingencies is difficult, if not impossible, because of the fog of war. To anticipate the full array of possibilities of changes and plan a way to adapt to all of them is, at least, futile. Therefore, the strategist and his enamored tactician must be able to properly assess the situation, given wartime realities, and adapt to battlefield changes. Revising the strategic net assessment is a first step on the road to victory.

Clausewitz states, "Friction, as we choose to call it, is the force that makes the apparently easy so difficult."[2] Idealistically, a strategist wants to anticipate and plan contingencies so as to conquer all changes in the character of war. Sun Tzu indicates that good intelligence makes it possible to predict the outcome of a war in battle. However, Clausewitz says, "[T]he very nature of interaction is bound to make [war] unpredictable."[3] History is rich with examples which show that prewar plans do not directly relate to wartime realities. Strategists' ability or inability to reassess and adapt to volatile changes—the friction and fog of war—played key roles in the American Revolution, the Korean War and in the Algerian insurgency.

## The American Revolution

During the American Revolution, the British had a prewar plan of using coercive measures to force colonists to capitulate to British empirical and parliamentary rule. The prewar British plan was seemingly simple—put down a rebellion and return the colonies to the desired status quo.

Sun Tzu would have criticized the British for not considering in the prewar planning process the colonials' will to resist and ability to prevail. He would have told the British to anticipate French and Spanish forces' joining the battle. In short, he would have suggested that the British needed a better scriptwriter.

Shooting British subjects would not win colonial hearts and minds. If they had ascertained that using force would do nothing more than nourish the rebellion and recognized that force was detrimental to their cause, the British could have designed courses of action to counter colonial reaction. They could have determined whether it was more feasible to go for the decisive blow or to accept a colonial independence while maintaining a prominent economic existence. While the British did not believe they would have to resort to force to put down what they viewed as a weak rebellion, shedding blood at the onset should have led them to reconsider their strategy.[4]

Ideally, it would be great if the strategist could foresee all changes that might occur. But, even Sun Tzu would not argue against the fact that it is nearly impossible to flawlessly script an entire campaign. Because of such uncertainty, prewar plans are always marginal, at best.

## The Korean War

The character of the war in Korea could have led to US use of nuclear weapons to prevent communist Chinese intervening between the North and South Koreans.[5] Considering the inability to anticipate changes in the character of war, it is questionable whether Sun Tzu or Clausewitz would have decided to play the nuclear trump card.

Arguably, a preplanned nuclear reaction to a possible change in battle would have been detrimental to the military situation in Korea and to international diplomacy. Therefore, while it is important to have preplanned, rehearsed contingencies, it is equally important to reassess situations continually and adapt to changes as they occur.

With the US and South Korean armies forced into the Pusan Perimeter and the Chinese threatening to join the war, the possibility of using nuclear weapons was real. However, the US ability to reevaluate the situation and adapt to real-time changes prevented it. US Army General Douglas MacArthur, reevaluating his possible courses of action, chose the bold, impressive Inchon landing, which curtailed the North Korean advance.

## The Algerian Insurgency

In 1954, Algeria's ruling party, the *Front de Liberation Nationale* (FLN), attempted a Maoist-type insurgency in Algeria against French occupation forces.[6] No doubt the FLN anticipated French reaction to insurgent activities, but it failed to plan for changes caused by the friction and fog of war.

Initially, FLN actions appeared to have failed. No popular uprising followed the November 1954 revolt, and the French military remained in power. However, the FLN had wisely reevaluated the situation and adjusted its focus, converting its tactics to attacking—successfully—French political and social vulnerabilities.

Ironically, the French inability to properly reevaluate the situation helped the FLN succeed. Reassessment was critical, especially when the French continually failed to gain Muslim support. The French continued to believe that if they could defeat the FLN operationally they could end the insurgency. They were

wrong. Had they reassessed the situation, they would have realized that reforms and an offer of independence would have won the Maghrib's support.

### Common Sense

Ideally, strategists would be able to foresee all possible contingencies. However, while it is important to anticipate changes, it is also imperative to reassess and adapt strategy continually to meet each situation's demands. Author Michael Handel writes: "[E]very war is rich in unique episodes. Each is an uncharted sea."[7] Therefore, there is no theorem, no dictum and no proven solution for success in war. But, reassessment caveats the best prewar plans to match desired wartime realities. Past wars show that leaders who anticipate changes are leaders who lead their forces to victory.

**NOTES**

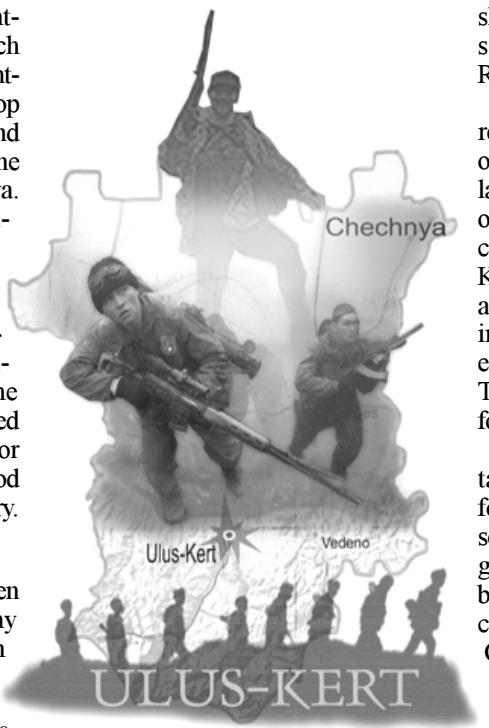
1. Sun Tzu, *The Art of War* (Boston, MA: Shambala Publications, 1988), 125.
2. Carl von Clausewitz, *On War* (Princeton, NJ: Princeton University Press, 1989), 121.
3. Ibid., 117.
4. The Center of Military History, "The American Revolution: First Phase," in *American Military History* (Washington, DC: US Government Printing Office, 1989), 58-67.
5. John Lewis Gaddis, *Strategies of Containment* (New York: Oxford University Press, 1982), chapters 2 and 3.
6. Alf Andrew Heggoy, *Insurgency and Counter-insurgency in Algeria* (Indianapolis: Indiana University Press, 1972), chapters 2 through 7, 12 and 16.
7. Michael I. Handel, *Masters of War* (London: Frank Cass, 1992), 141.

*Lieutenant Colonel Dominic J. Caraccilo is the Regimental Plans Officer, 75th Ranger Regiment, Fort Benning, Georgia. He received a B.S. from the US Military Academy, an M.S. from Cornell University, an M.A. from the Naval War College and is a graduate of the US Navy Command and Staff College and the US Army Command and General Staff College. He has held various command and staff positions in the Continental United States, Europe and Saudi Arabia.*

# ULUS-KERT: An Airborne Company's Last Stand

Sergeant Michael D. Wilmoth, US Army Reserve, and
Lieutenant Colonel Peter G. Tsouras, US Army Reserve, Retired

In four days of desperate fighting, from 29 February to 3 March 2000, a large force of Chechen fighters wiped out a Russian paratroop company in the harsh defiles and ridges of the Argun Gorge in the mountains of southern Chechnya. Although the battle was a catastrophic tactical defeat for the Russian airborne force, the company's stubborn defense to the last man and the concentration of Russian relief forces inflicted a strategic setback on the Chechens. The Russians stumbled into this catastrophe through poor unit leadership, but Russian blood and valor transformed it into victory.




### Hatred to the Bone

In Fall 1999, the Second Chechen War began. The Russian Army sought to reimpose the Russian Federation's authority in lawless, breakaway Chechnya. The Russians and Chechens' shared 200-year history had been punctuated by convulsions of blood and cruelty. The First Chechen War, from 1994 to 1996, had ended in the Russian Army's humiliation and left Russia with its highest loss of resources and professionalism since the Soviet Union's demise. The loss of basic combat skills also had been horrific. This second round was the Russian Army's opportunity to show that it had recovered something of its former ability.

Nothing expressed the depth of Russian-Chechen animosity more than the battle cries hurled back and forth across the firing lines during the siege of Groznyy. To the Chechen shouts of "Allah Akhbar!" the Russians would respond, "Christ is Risen!"

After Groznyy fell, Chechen forces regrouped in the rough, mountainous areas of southern Chechnya. By late February, a large Chechen force of from 1,600 and 2,500 fighters had concentrated in the town of Ulus-Kert, where the Abazolgul and Sharo-argun rivers join.[1] The area was one in which the Russians had not dared enter during the First Chechen War. This time, they did not hesitate to follow.

A Russian Airborne Forces (VDV) tactical group attacked Chechen forces at Ulus-Kert, forcing them southeast. One of the VDV tactical group's regimental task forces, based on the 104th Guards Parachute Regiment (GPR) of the 76th Guards Airborne Division (GAD), was to block the gorge while the VDV tactical group encircled the Chechens.

### Area of Operations

The small town of Ulus-Kert is surrounded by extremely steep, mountainous terrain. Approximately 6 kilometers south of the town and extending far to the southeast are the Dargenduk Mountains. A road leading generally south out of Ulus-Kert

and up the northeastern edge of the Dargenduks crosses over a 1,410-meter hill, referred to as Hill 1410. Approximately 1.5 kilometers directly southeast of Ulus-Kert is Hill 705.6. Just about one-half kilometer south of Hill 705.6 is a narrow opening to a small gorge. Three and one-half kilometers southeast of Ulus-Kert, on the gorge's easternmost side, is Hill 776. Hill 787 is only 1 kilometer farther south.

A road leading southeast from Ulus-Kert over Hill 705.6 turns south into the gorge. Another road intersects the first then leads to the western edge of the saddle between hills 776 and 787 where it divides into mountain paths crossing the saddle. Hill 787 is approximately 4.3 kilometers north of Hill 1410. At the time of the operation, the weather was foggy and cold, with snow on the ground.

The Chechens planned to escape advancing Russian forces by using the advantage of the mountainous terrain southeast of Ulus-Kert. After slipping through the passes, the fighters could seize the strategic population centers of Makhkety, Elistanzhi, Zaduli, Kirov-Yurt and Vedeno, which provided a west-to-east corridor in relatively low, flat terrain through which remaining Chechen forces could withdraw to Dagestan.[2] From Dagestan, they could renew the struggle on more favorable terms.

The VDV tactical group's mission was to counter the Chechen force's objectives by blocking its escape through the mountains then encircling it so artillery and combat air support could be used. Engaging infantry soldiers in direct combat was to be kept to a minimum. The plan to encircle Chechen forces—a common Russian tactic—reflects the Russians' desire to minimize casualties.

The First Chechen War had not been popular with the Russian populace because of the high death rate. Tension was also rife in the Russian command arrangement. Airborne forces felt they were being used as cannon fodder to reduce casualties among motorized infantry troops. Underlying this tension was the old rivalry between Russian airborne forces and ground forces. Historically, the VDV had been a separate service. Briefly in the late 1990s, it had been subordinated to ground forces. Newly appointed commander of Russian airborne forces Colonel General Georgiy Shpak had obtained a reversal of this decision and zealously guarded the VDV's independence.

Shpak streamlined the organization and obtained new missions for it, primarily in peacekeeping operations. By the time operations around Ulus-Kert were under way, the grouping of airborne forces had been subordinated to Colonel General Gennadiy N. Troshev, Commander of the Eastern Grouping of Federal Forces, who reported directly to General of the Army Viktor Kazantsev, who commanded the Operations Group, Joint Grouping of Federal Forces, in the North Caucasus. The arrangement was not a happy one; airborne forces felt they were not being properly supported.[3]

## The Battle Begins

The VDV tactical group was a task force based on divisional parachute regiments augmented with VDV command-level assets, such as reconnaissance subunits. The 104th GPR task force was assigned the mission of blocking Chechen escape routes east through the mountains. 104th GPR, like most Soviet/Russian parachute regiments, had three airborne battalions, an artillery battalion equipped with two S9, 120-millimeter, self-propelled guns and various support assets. Each airborne battalion had three airborne companies numbered sequentially one through nine, with the first, second and third companies composing the 1st Airborne Battalion and so on. Each 104th GPR company was augmented with reconnaissance and/or SPETSNAZ subunits from the VDV command to form company tactical groups.[4]

Hills 705.6, 776, 787 and 1410 were the main features of the net 104th GPR used to encircle the Chechen force. The VDV tactical group's main body crossed the Sharoargun and Abazolgul rivers, pushing the Chechen force out of Ulus-Kert toward the southeast. 104th GPR's 1st Company, 1st Airborne Battalion, still had not crossed either the Abazolgul or the Sharoargun. An unidentified 104th GPR company was on or near Hill 705.6. 4th Company and an unidentified 104th GPR airborne company, two VDV SPETSNAZ groups and an elite Federal Security Service (FSB)—successor to the KGB—SPETSNAZ group, known as Vympel, were on Hill 1410. Present at 2d Airborne Battalion Headquarters on Hill 776 were Commander, 2d Airborne Battalion, Lieutenant Colonel Mark Nikolayevich Yevtyukhin, and Captain Viktor Romanov, the commander of an artillery battery of the regimental artillery battalion who was heading a forward observer team. 6th Company, commanded by Major Sergey Molodov, was en route to the saddle between Hills 776 and 787. 104th GPR was engaged in positioning companies to block escape routes over the mountains.

The Chechen force, retreating to the southeast of Ulus-Kert along a road leading over Hill 705.6 away from the main advancing body of the VDV tactical group, was looking for the first unguarded or weakly held way over the mountains. The 1,600 to 2,500 fighters wore winter camouflage and were well equipped with various small arms, grenade launchers and mortars. They were supported by a logistics train of hundreds of pack animals.

## Day 1, 29 February 2000

Early on 29 February, a 104th GPR airborne company encountered a significant Chechen force on the road leading southeast out of Ulus-Kert. Russian paratroopers engaged the Chechen fighters for control of Hill 705.6. The Russian company, significantly stressed during the fight, gained control of the hill and pushed the Chechen force southeast into the small gorge below. The company was most likely heavily supported by artillery and helicopters, as was the usual Russian operation in this war.

The 104th GPR commander ordered 2d Airborne Battalion elements to block the saddle between hills 776

and 787, which was the next possible path over the mountains for the Chechens. The 2d Airborne Battalion headquarters was already in place on Hill 776. The 2d Airborne Battalion element was to be in place by 1400. In the early morning, 6th Company, including the third platoon, 4th Company, and two reconnaissance groups, probably from the regimental reconnaissance platoon, started on foot toward the saddle.[5]

6th Company, with the other elements, minus the company's third platoon, arrived by late morning, ahead of schedule. The company commander established a linear defense in the saddle between the hills, fronted by a minefield facing west toward the gorge. The defense focused on the Chechen forces' expected direction of escape. No access routes through the minefield were prepared nor were platoon positions sited to be mutually supportive.[6] After establishing company positions, troops began their afternoon meal, leaving their positions and congregating in the open.[7]

The Chechen force clearly had a better grasp of the situation. The fighters had been listening to 104th GPR communications and used this advantage and good ground reconnaissance to locate 104th GPR subunits and to set ambushes. At 1230, a 6th Company reconnaissance patrol encountered approximately 20 fighters just outside company defensive positions. That the Chechens could approach that close without detection shows that the Russians had conducted no deep reconnaissance of the approaches to the saddle.

The Chechens, armed with automatic weapons, grenade launchers and mortars, reacted quickly, seizing the initiative. The small force was probably followed by a combat element, which would have been consistent with Soviet-style reconnaissance doctrine that places great value on immediately seizing the initiative in any engagement by having a strong combat element close behind the advance reconnaissance ele-ment.[8] Chechen reconnaissance elements also worked their way around the Russian position in the saddle and attacked from the rear where there were no defenses.[9] With Chechens in the rear and no escape routes through their own minefield, 6th Company pulled back and dug in on Hill 776. Their retreat was so precipitous that they abandoned mess kits still full of food.[10]

Chechen fighters, laying down constant fire on 6th Company, received reinforcements as the main body arrived. The force encircled 6th Company and sent waves of fighters into the attack.[11] By the end of the first day, 6th Company had suffered 31 dead—a 33 percent killed in action (KIA) rate.[12] 6th Company had barely survived three basic errors: failure to establish an all-around defense; failure to aggressively conduct reconnaisance of the enemy's expected approach route, especially given the Chechen reputation for tactical skill, reconnaisance and working around the flanks; and failure to heed warnings about the Chechen force's approach.[13]

For some reason, 6th Company did not anticipate with sufficient seriousness and energy the danger it had been assigned to forestall. It seems likely that weak command at the company level was compounded by a lack of timely supervision by the adjacent battalion headquarters.

## Day 2, 1 March 2000

Early in the morning on Hill 1410, a reinforcement group of two VDV SPETSNAZ platoons, one Vympel SPETSNAZ group and two airborne companies departed on foot for the saddle. The group encountered several ambushes while traversing terrain as steep as 70 degrees. At approximately 0330, one VDV SPETSNAZ platoon broke through to Hill 787 but was forced to dig in because of stiff Chechen opposition.

The 1st Company was also sent to reinforce 6th Company. While attempting to cross the Abazolgul River northeast of Ulus-Kert, the unit encountered a Chechen ambush force of up to 60 men. Despite repeated attempts to fight through the Chechen ambush, the 1st Company was forced to dig in on the river's bank. At 0300, during a brief lull, 2d Airborne Battalion deputy commander Major Aleksandr Dostovalov, with 4th Company's third platoon, broke through to the encircled company. While relief forces were being held back by ambushes, waves of Chechen fighters continued to assault 6th Company on Hill 776.[14] When Romanov's legs were blown off by a mortar round, the battalion commander took over.

While some reports question the lack of artillery and combat air support, others indicate that both where present throughout the four-day engagement. In his report to defense minister Igor Sergeyev, Shpak states that 2d Airborne Battalion "was supported by a self-propelled artillery battalion of the 104th Parachute Regiment and by army aviation."[15] The presence of an artillery forward team with 6th Company, which included a battery commander, indicates that artillery support was at least adequate. While Shpak's statement and other reports make it certain that VDV artillery was employed throughout the engagement, it is unclear how effective it was at reducing Chechen numbers. Also unanswered is whether additional artillery assets were employed to support 6th Company.

Press reports also cite use of "Grads"—122-millimeter BM-21 multiple-rocket launchers that VDV units do not have.[16] Accounts of other engagements in the southern mountains show that the Russians employed available artillery from a number of units in coordination with army aviation helicopters. These accounts stress that artillery continued to fire when helicopters disappeared with daylight. Only one Russian helicopter in the Chechen theater had night capability. This supports Shpak's statement that 6th Company received no aviation support at night. Helicopter support was further limited by foggy conditions during the fighting.[17]

The Chechens continued heavy attacks on Hill 776 from all directions throughout the early morning. Paratrooper officers showed an unhesitating willingness to sacrifice themselves, a trait the Germans had frequently noted in the grandfathers of the men on the hill. Dostovalov,

already wounded, attacked a group of Chechens trying to carry off a wounded soldier and dispatched them with a grenade. Junior soldiers were equally valiant. After Private Aleksandr Lebedev ran out of ammunition, he threw himself and his last live grenade into a group of Chechens who had wanted him to surrender.

At approximately 0500, the Chechens breached 6th Company defenses. Cumulative casualties and odds of at least 10 to one were too much for the dwindling Russian force. As Chechens overran Hill 776, fighting became hand-to-hand, and Chechens began shooting wounded Russians. The already wounded battalion commander took over the radio from the wounded Romanov and called in artillery fire on his own position, shouting into the radio, "I call artillery on myself!"[18] The Chechens suffered grievously from the artillery, and at 0610, communications with the battalion commander were lost.

As the second day of fighting closed, 6th Company counted another 26 paratroopers killed and many wounded. Counting the 31 men who had fallen the day before, 6th Company had suffered a KIA rate of almost two-thirds—57 out of 90 men.[19] Chechen casualties also continued to mount. Repeated human-wave attacks are costly, especially when the defenders are supported by artillery and aviation.

The Chechens had been throwing themselves at Hill 776 to keep open a path for the rest of their force. This movement was interrupted by the arrival of the relief force from Hill 1410. Major Andrey Lobanov, commanding a 45th VDV Reconnaisance Regiment SPETSNAZ group, was with this force. He noted that hundreds of pack animals had already passed by. The Russians moved into the saddle and found 6th Company's abandoned positions and soon encountered a large Chechen group. The Russians retreated to Hill 787 from which they could cover the saddle.

The Russians intercepted the Chechen commander's desperate orders: "Do not engage in battle. Force your way forward."[20] With the remnants of 6th Company still holding out on Hill 776 and new Russian forces on neighboring Hill 787, the Chechen escape route was dangerously constricted. The Russians sent a reconnaissance platoon into the saddle to find a better position. Instead, it found an ambush by Arab volunteers, covering an attempt by the main Chechen convoy to escape. Having suffered five wounded, the Russians committed another company, hoping to stop the Chechen escape attempt.[21]

## Day 3, 2 March 2000

Late in the morning, the 1st Company broke through Chechen forces and reached the battle area. However, it could not relieve 6th Company, which was still under close attack. One officer and 32 men were still alive. Deputy company commander Captain Roman Sokolov had arrived in Chechnya barely 13 days before. Wounded in the hand, he organized the survivors' final defense. He placed the six most junior soldiers in the care of Sergeant Andrey Proshev and ordered them to escape. Then, as the Chechens pressed the attack, Sokolov called artillery fire down on his position as a desperate attempt to fend off the enemy. Another 16 paratroopers on Hill 776 were killed in the continuing fighting.[22]

## Day 4, 3 March 2000

The struggle for control of Hills 776 and 787 ended on the fourth day of the fighting. The last 11 paratroopers on Hill 776 were killed.[23] The relief force found Proshev's small band of survivors.[24] The surviving Chechens, who had not been able to escape over the saddle before the relief's arrival, slipped back down into the gorge pursued by paratroopers and hunted by helicopters. The Russian pursuit took them about 5 kilometers east to the village of Selmentausen where a number of escaping Chechens had concentrated.

## Mopping Up

The Chechens won a Pyrrhic victory. Tarrying to bludgeon through 6th Company allowed VDV forces to fight through difficult terrain and Chechen ambushes to close off the main body's escape. Most surviving Chechens were ultimately forced back into the gorge, where troops from 104th GPR took a number of prisoners.

While no 6th Company personnel surrendered or were taken prisoner, the four-day struggle resulted in the death of at least 84 VDV soldiers, including 13 officers. Even after losing its senior officers, 6th Company held its final positions against a much larger force.

Chechen casualties included approximately 400 dead. According to *Krasnaya Zvezda*, the official newspaper of the Russian Ministry of Defense (MOD), this figure was based on radio-intercept data, intelligence reports, eyewitnesses, local residents and captured Chechens.[25]

The Arab volunteers fighting with the Chechens appeared, in particular, to have suffered severely. Heavy Arab casualties would not be unusual among particularly fanatical units, nor would it be unusual for the Chechens to have pushed the Arabs first into harm's way. Lobanov counted 200 enemy dead on Hill 776 alone, along with 75 Russian paratroopers. Survivor Viktor Sokirko stated, "I took a notebook from the pocket of one of the gunmen with a roster of 100 people; the bullet had hit him right in his heart; it had gone through his *Koran*."[26]

The bodies of the 84 fallen VDV troops were evacuated on foot, with combat aviation providing support. It was shaping up to be a bloody month for the Russian Army; it had a total of 156 dead—a higher KIA rate than during the grimmest comparable period in the storming of Groznyy.[27]

6th Company accomplished its mission. The Chechen force was blocked from escaping the encirclement. More important, Chechen commanders realized that they could not seize strategic population centers in the low terrain and would be forced to stay in the mountains. In the next few days, a number of Chechen fighters surrendered to the Russians. The day after the battle

ended, a Chechen field commander surrendered with 73 men, including 30 wounded—the largest surrender to that date. Made up largely of Chechen teenagers, this band had actually escaped over the saddle before the relief arrived on 2 March. It surrendered on the outskirts of Selmentausen. The young men had had enough of war.[28]

## Recriminations

The loss of 6th Company provoked an interservice exchange of recriminations. At a news conference, Shpak bluntly blamed the disaster on the Eastern Grouping of Forces' commander, to whom the airborne troops had been subordinated. Shpak's subordinates added their fire: "It all began back in Dagestan, when Kazantsev sent the airborne troops to their death and protected his own infantry."[29] They claimed airborne forces had been stretched too thin and "in isolation from the main forces. . . . [T]he grouping command treats the airborne troops as cannon fodder."[30]

By the middle of March, cumulative airborne casualties gave ammunition for their charges. Shpak reported that 181 airborne soldiers had been killed and 395 wounded in Chechnya out of a force of about 5,100 men. The total Russian force in Chechnya had averaged about 100,000 and had lost 1,291 Defense Ministry troops and 617 Interior Ministry troops for a total of 1,908, suffering 3,190 and 2,107 wounded. Airborne forces had numbered five percent of the force and suffered 10 percent of the deaths.[31]

Shpak had a point. While the operational concept of blocking and trapping the Chechens was sound, the net was too weak. 104th GPR was forced to commit individual companies, which could not be easily reinforced, to oppose the breakthrough attempt of a lethal brigade-size unit. The airborne net should have been backed up with larger motorized rifle formations. Shpak's complaints carried enough weight to have the Grouping of Airborne Forces transferred from Troshev's command to the Joint Grouping of Federal Forces—the overall headquarters for operations in Chechnya.

## Reconnaissance and Security

Kazantsev, former commander of the Grouping of Airborne Troops in Chechnya, accurately described the situation: "Such heavy losses could have been avoided. Reconnaissance must be carried out more carefully."[32] After walking over the battlefield, Lobanov, who fought forward with the relief, also said pointedly, "There is a continual question in my head: Why was there no information that such a horde of gunmen was breaking through?"[33] Compounding this failure was the lackadaisical attitude toward the company's security. 6th Company had blinded itself, allowing Chechens the priceless element of surprise. Had 6th Company been properly alerted and ready in proper defenses, it might have been able to hold off the Chechens successfully until relief arrived. One elemental failure cascaded into another, which might explain why the battalion commander suddenly emerged as the defense's motivating force once the disaster unfolded.

However much the Russian official line emphasizes the heroism of 6th Company paratroopers, the results of the official inquiry ordered by President Vladmir Putin was professionally blunt. The force was accused of "slovenliness, laxity and unprofessionalism."[34] The force showed a glaring loss of basic tactical skills at the company level during the encounters. Such basic tactical considerations should have been uppermost in the company officers' minds. Whether this was a local aberration or indicates pervasive problems throughout Russian Army elite forces, the VDV's failure poses important questions about Russian capabilities. While the VDV performed credibly and often with distinction in the Second Chechen War, there have been enough blatant exceptions to conclude that even the VDV's skills are no longer of a uniform high standard, despite Shpak's reforms.

## Pride of Corps

On the positive side, 6th Company recovered and fought well against enormous odds once it moved to Hill 776 under the effective leadership of the battalion commander and his deputy. Other Russian airborne and SPETSNAZ forces in the area, responding to reinforce 6th Company, fought their way into the area and eventually stopped the Chechen breakout. All this occurred in enormously difficult terrain and weather conditions and against tenacious Chechen resistance. Because the Chechens are notoriously atrocity-prone, especially toward members of the more elite Russian military organizations, fighting to the death makes a necessity.

Media reports consistently indicate that no 6th Company soldiers were taken prisoner. They refused to give up their position, even while knowing they would be overrun and killed. The VDV is known as an elite force composed of soldiers with high morale, discipline and a sense of purpose. Their actions make it clear that this characterization held true. Despite glaring tactical mistakes in security and reconnaissance, the Russian airborne spirit successfully imbued its men with the morale and courage that come with pride of corps.

Despite the bad publicity surrounding the casualty figures in this battle, the Russian Army achieved an important victory. By holding Hill 776 long enough for additional VDV troops to fill the area, 6th Company defeated the Chechen strategy to break out of the mountains and regain the initiative. Chechen fighters, seeing they could not break through Russian lines, were forced to scale back their objectives. Instead of employing relatively large groups against vulnerable population centers, Chechen leaders realized they had to break up into smaller formations to wage war at a much lower level.

But, this was an expensive Russian victory. Russian blood and valor had to make up for the deficit in basic combat skills, an issue larger than one small-unit leadership failure. The entire Russian force has suffered too many similar catastrophies for the fate of 6th Company to be just a tragic exception. Still, there was significant improvement in battlefield performance between the First and Second Chechen Wars, although performance levels still remained low,

which reflected how bad things had become. The failure of an elite force such as the Russian airborne shows how fragile and perishable such skills are.

## The Aftermath

The battle of Ulus-Kert was quickly enshrined in heroic myth, its theme loudly echoed by Russian media, the Ministry of Defense and the airborne forces themselves. This reflects popular support for the war and the military and a renewal of Russian nationalism. It also served to distract public attention from manifest failures the catstrophe revealed. Certainly the results of the official inquiry commissioned by Putin will never be made public. Nonetheless, he issued a decree decorating all of the fallen paratroopers, with all 13 officers and nine enlisted men receiving Russia's highest medal—Hero of the Russian Federation.[35]

A memorial service was held on 14 March at the Novopasskiy Monastery in Moscow. The service was conducted by Russian Orthodox Patriarch Alekisy II of Moscow and all Russia, and was attended by Putin, Chief of the Russian General Staff General Anatoliy Kvashnin and national and military leaders. It was an enormous statement of resolve. Likewise, the funeral of most of the Russian dead at their home garrison in Pskov was a heartfelt demonstration of this sentiment. Most of the dead were buried in Pskov where the funeral service was held in the ancient Trinity Cathedral.

Speaking at the funeral, Russian Defense Minister Igor Sergeyev stated, "This battle for a nameless height was the turning point of the entire Chechen campaign. It was a do-or-die crisis for the fallen, and they chose to follow the paths of their ancestors in similar desperate straits. Just such decisions were made by Russian servicemen on Kulikovo Field, on Lake Chud, at Borodino and at Sevastopol. In the winter of 1941 Panfilov's legendary heroes defended the last line with their lives on the approaches of Moscow. Nowadays the Argun Gorge has been just such a line for the Guards' paratroopers."[36]

### NOTES

1. *Interfax* (10 March 2000), Moscow; Oleg Odnokolenko and Tatyana Shchipanova, "Such an Untimely Death: Authorities Cover Up Death of 86 Airborne Troops," *Segodnya* (10 March 2000), Moscow.
2. Sergey Prokopenko, "To the Death," Krasnaya Zvezda (11 March 2000), Moscow; Viktor Sokirko, "Airborne Troops Commander Georgiy Shpak: 'These Guys Performed a Feat,'" *Moskovskiy Komsomolets* (14 March 2000), Moscow; Sergey Dyupin and Valerriy Tsygankov, "Airborne Troops Called Fire Upon Themselves," *Komersant* (7 May 2000), Moscow.
3. Ilya Bulavinov, "Cannon Fodder Consists of People as Well: Paratrooper Shpak Attacks General Troshev," *Komernsant* (17 March 2000), Moscow.
4. Airborne company designations refer to company tactical groups.
5. *Interfax* (0940 GMT, 10 March 2000) Moscow.
6. *Moskovskiy Komsomolets* (14 March 2000), Moscow.
7. Yuliya Kalinina, "Terrible Losses," [*Unknown*] (10 March 2000).
8. The Chechens have shown a remarkable ability to maintain and employ the basic military skills they acquired while in service with the former Soviet Army. Ironically, they maintained these skills better than did the Russian Army.
9. *TV RTV* (1000 GMT, 14 March 2000), Moscow; Sokirko, "Airborne Troops."
10. Sokirko, "A Toast to Russian Soldiers," *Moskovskiy Komsomolets* (14 March 2000), Moscow.
11. Prokopenko, "To the Death."
12. Odnokolenko and Shchipanova; *Interfax* (9 March 2000), Moscow, is an interview with General Nikolai Staskov, deputy commander of the Russian Airborne Forces. Initial comments of Russian Ministry of Defense (MOD) personnel indicated that only 31 members of 6th Company had been killed in the entire battle. Although Russia media speculate that MOD was intentionally trying to cover up casualties, they likely received more accurate casualty figures sooner than did the MOD public affairs office. This figure accurately represents the first day of fighting. Also, Russian casualty accounting policies require the actual presence of casualties before they can be reported.
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*Sergeant Michael D. Wilmoth, US Army Reserve, is an intelligence analyst at the Office of Naval Intelligence. He received an A.S. from Northern Virginia Community College and is continuing his education at the American Military University. He has served in Korea and Bosnia.*

*Lieutenant Colonel Peter G. Tsouras, US Army Reserve, Retired, is Division Senior Analyst, National Ground Intelligence Center. He received a B.A. from the University of Utah and is a graduate of the US Army Command and General Staff College. He has served in the Continental United States and Germany. He is the author of several books on military history.*

# The Promise of e-Commerce to Defense: The Road to Savings

J. Michael Brower

As the Department of Defense (DOD) struggles to keep up with e-business, e-tailing, e-everything, it does so not to be in vogue but to achieve a definite national-security goal. That goal remains consistent from one major defense review to the next—reduce the costs of nonwarfighting tasks, and apply the savings to the acquisition of new weapons systems.[1]

While military missions everywhere increased during the resource-constrained 1990s, leveraging the cost savings that the information technology (IT) revolution promised became a necessity. Enter e-commerce and the concomitant reductions in the labor expenses that the private sector has enjoyed.

Traditionally, e-commerce helps suppliers sell directly to consumers and develops ongoing trade relationships at the speed of cyberspace, cutting costs to middlemen. As the online marketplace has become commonplace, military leaders have capitalized on the lessons of industry and have purposefully charted an e-conomic e-commerce course.

Electronic commerce holds many rewards.[2] Fortunately for DOD, access to the sharpest minds in e-commerce is aided by the fact that e-commerce remains largely a US-based phenomenon. However, the balance is shifting. Internet Dynamics Corporation predicts that by 2003, Western Europe and Japan will have combined to lower the US e-commerce share to 44 percent.[3]

US industry sees DOD as a test bed for developing the best e-commerce solutions because of DOD's history of technological innovation and cost-saving acquisition goods. DOD's interest in e-commerce should help counter Amazon.com CEO Jeff Bezos' prophecy: "It will turn out in the long term that the US is the worst country for e-commerce."[4] Often, DOD support for technology and government support for technological innovation made the difference in profitability.

## Cyber *Clickskrieg*@DOD

DOD's commitment to e-commerce principles began in earnest with the May 1998 *Defense Reform Initiative Directives*. The Joint Electronic Commerce Program Office (JECPO) was to navigate DOD's transition to e-commerce.[5] The DOD e-mall, a linchpin in DOD's overarching e-vision, began with expanding the Defense Logistics Agency's online catalogue and now provides one-stop shopping to all DOD electronic and commercial catalogs.

In fiscal year (FY) 2000, the e-mall contained nearly 5 million items and processed $78.8 million of transactions. JECPO's goal for FY 2001 is to have 12 million items in the e-mall to generate as much as $143 million.[6]

Industry powerhouses catering to DOD see e-commerce as a force multiplier. For military managers who must do more with less, "force multiplier" is more than just a catch phrase *du-jour;* it is a requirement to keep the US military performing amid stagnant budgets.

In countenancing future logistic operations, DOD must cut administrative costs and improve efficiency in the acquisition arena. Sadly, neither acquisition policy nor legislation can match the speed of change associated with the technology they would regulate. Consequently, acquisition reform—the DOD watch phrase during the 1990s—has not resulted in predicted savings (approximately $60 billion) to apply toward acquiring new weapons systems.[7]

## Reverse Auctioning and Smart Cards

To help make up the shortfall, e-commerce shepherded procurement purchase using reverse auctioning and smart cards. With reverse auctioning, all potential vendors can see the price for goods and services, thereby driving the price down. The reverse-auction process produces the best price when all merchants can see DOD's bottom-line costs.

Smaller companies join the process by using the Internet to conduct business and by adopting e-standards like Extensible Markup Language (XML) and Universal Description, Discovery and Integration (UDDI). Potential suppliers can register quickly, and technology they already have is leveraged to help cut their bottom lines, which allows them to compete against larger firms.

Competition helps DOD find the best deals. For instance, the Navy is busily reengineering its procurement precepts, including the cultural change of delegating to the lowest level. The Navy's Fleet Martial Supply Office, with the mission of providing IT for Naval Supply Systems Command, has partnered with Razorfish Incorporated to put buying decisions at the lowest tier.[8]

Software developed for the project allows Navy personnel to make purchase decisions with a greater awareness of inventory and available funding. Reporting transactions to the comptroller via a client-server environment has allowed the retirement of more-expensive mainframes.

The DOD Purchase Card Program has also produced savings. By

FY 2000, DOD had met its goal to have 90 percent of all DOD purchases under $2,500 made with government purchase cards. JECPO provides the infrastructure to support information exchange among credit card companies and DOD financial systems.

Before the advent of purchase cards, buying supplies and services was labor-, paper- and bureaucracy-intensive. As of September 2000, more than 10 million purchase card transactions had been made—$5.5 billion worth.

E-commerce capitalizes on buying power that DOD already has and is an excellent counterweight to effects of personnel and resource austerity that characterized much of DOD during the 1990s. E-commerce has proved its viability and pays for itself in savings.

As though by design, but generally because market mechanisms are functioning in the new economy much as they did in the old, DOD is using e-commerce to offset the pain of 1990s budget stagnation. With potential savings so immediate and immense, e-commerce will continue to grow, to the benefit of private economy and national security.

## Into the Cybersea

When are contracting personnel, public and private alike, ready to adopt an e-commerce strategy? Generally, the following factors must be determined before bottling and tossing the e-procurement message into the cybersea:

- Are costs for technology and associated hardware and software low, particularly for access to e-commerce design kits?
- Are usable applications and hardware for end-users and procurement personnel available?
- Are standards promulgated and consistent, particularly in terms of the application of cross-communication?
- Do e-commerce transactions have measurable utility, convenience and value-added?
- Will transactions be secure?
- Will e-commerce transaction have minimal legal and policy constraints?

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*J. Michael Brower is a program specialist, Department of Justice, Immigration and Naturalization Service, Eastern Regional Office, South Burlington, Vermont. He received a B.S. from Park College. He served in the US Air Force from 1987 to 1991. His Insights article "DOD Outsourcing and Privatization" appeared in the September-November 1998 issue of* Military Review.

# Short-Range Air Defense in Army Divisions: Do We Really Need It?

Colonel Charles A. Anderson, US Army

Soon after General Eric K. Shinseki became the Chief of Staff, US Army, in June 1999, he stated that his goal was "to provide strategic leadership that [would] keep the Army the preeminent land warfighting force in the world."[1] To accomplish this goal, Shinseki cited six key objectives:

- To increase strategic responsiveness.
- To develop a clear, long-term strategy to improve operational joint readiness and implement Joint Vision 2010 (JV2010) goals.
- To develop joint warfighting leaders.
- To fully integrate Active and Reserve Components.
- To fully man warfighting units.
- To provide for the well-being of soldiers, civilians and family members.[2]

Shinseki set the azimuth for a more deployable, lethal force that when properly manned and equipped could accomplish National Military Strategy tasks. Given the continuous, growing gap between funding and military requirements, Shinseki must look critically at competing programs and capabilities to make difficult decisions about the Army's traditional roles and enduring capabilities.

The Army's business is to fight and win wars. However, it is involved in many other activities. In 1997, Assistant Secretary of Defense John T. White, addressing the Quadrennial Defense Review (QDR) Board, stated, "We are at a pivotal point in history where the Cold War recedes . . . and a new century rushes toward us."[3] The QDR's challenge is to develop new strategies and capabilities in an era having fewer resources. White sees this effort as involving "hellish choices."[4]

In *Fighting for the Future: Will America Triumph?* Ralph Peters suggests there is a fundamental asymmetry between the kind of military force the United States has and the kind it needs.[5] Peters' theme is that the United States is "preparing for the war we want to fight . . , not the conflicts we cannot avoid."[6] To avoid this trap, Shinseki is striving to bring strategic relevance and balance to the Army. Changes in force structure and traditional roles are inevitable.

Since 1994 the Commission on Service Roles and Missions has continually targeted US Army Air Defense Artillery (ADA) for budget and personnel cuts. The dogmatic

objectives of reducing the size of Army divisions and enhancing strategic mobility while maintaining lethality and survivability attracts the force-structure scalpel Army senior leaders wave toward mission areas such as short-range air defense (SHORAD) forces. The question is, should SHORAD be in an Army division? Do the threat and existing joint capabilities suggest the need to keep the air defense battalion in division warfighting formations?

## The Argument

Why do we have air defense artillery in Army divisions? The last hostile aircraft shot down by US ground-based air-defense forces was in 1950 when the 507th Automatic Weapons Battalion shot down two of four hostile North Korean planes. Antiaircraft guns and US Air Force (USAF) fighters quickly neutralized the Korean air threat.[7]

Today, the US Air Force is the most technologically advanced air force in the world, second only to China in numbers of air frames.[8] US Marine and Navy air power constitutes the world's third largest air force. More important, US pilots are among the world's most proficient. US Air Force and Navy pilot training averages 220 hours a year compared to a NATO average of 170 hours and about 50 hours in potential enemy air forces.[9]

It might be presumptive to suggest that air power can protect US land forces throughout a campaign or to presume that high costs associated with training and maintaining a sophisticated air force would prevent potential enemies from acquiring a competitive air force. In 1999 Director of Central Intelligence George J. Trent presented the 20th-century threat assessment to the US Senate Arms Services Committee. He said, "Future challenges to US interests will flow from new factors such as the increasing availability of sophisticated technology and the ease and speed with which it can be applied by those hostile to the United States."[10]

The 1998 Joint Strategy Review supports this notion and maintains that other nations and nonstate actors will be able to leverage niche positions, acquiring more capability than their size, economy and capability would suggest.[11] In essence, the past and future are colliding. The United States must deal with rogue nations, declining states, terrorists and insurgents whose causes have been smoldering. Today these factions are armed with more-sophisticated weapons than their predecessors could ever have imagined.[12]

## Lessons Learned

As well as preparing for two nearly simultaneous major theater wars, the Army faces significant increases in other activities, ranging from humanitarian and relief operations to major deployments. The US military has deterred aggression in the Arabian Gulf, restored democracy in Haiti and stopped war in Bosnia. The armistice is stable on the Korean peninsula, and the Yugoslavian army has withdrawn from Kosovo.[13] The world is safer, but current and future enemies are taking notes. Perhaps the next adversary will not allow the United States to build a robust lodgment for generating combat power and logistic support. The challenge will be to sustain the political will to fight in remote places where the threat to national interests is not clear.

During Operation *Desert Storm*, 97 soldiers were killed in action. The US public has come to expect such low casualty rates, but leaders of rogue nations, failing states and terrorist gangs are not overly concerned with casualties. They watched US forces pull out of Somalia and Beirut because of unexpected casualties and realized that the most direct way to deter the US military force was to increase the probable casualty rate.

In 1992 the National Research Council identified advanced technologies that most likely would be used against the United States in the 21st century. Adversaries would:

- Use improved methods for delivering chemical and biological warfare agents.
- Use low-flying cruise missiles.
- Use advanced tactical ballistic missiles capable of surmounting US defenses.
- Attack initially deploying US forces before US heavy forces can support them.[14]

The National Research Council also suggested that the air threat would become increasingly diverse and lethal beyond 2010. It would no longer be possible to rely on the air superiority demonstrated during the Gulf War and subsequent conflicts.

The US military's ability to anticipate the threat and react accordingly with the appropriate technology is not always first rate. Since 1980, ballistic missiles have been used in six regional conflicts.[15] Strategic analyst Dennis M. Gormley maintains that if "planners respond to the threat of land-attack cruise missiles as slowly as they did to ballistic missile threats, Washington and its allies may be on a dangerous path."[16] At the time of Iraq's attack on Kuwait in August 1990, the US Army had only three experimental Patriot Advanced Capability Version 2 (PAC-2) interceptors. Fortunately, Saddam Hussein's six-month delay allowed the United States to rapidly improve and produce more PAC-2 missiles.

The Defense Science Board's 1994 study on cruise missile defense paralleled that of the National Research Council. Defense Science Board findings heightened the Department of Defense's (DOD's) awareness of the evolving cruise missile threat against US forward-deployed forces and lodgment areas. Wishing away cruise missile and unmanned aerial vehicle (UAV) threats is not prudent. The US almost made that mistake with ballistic missiles.

Authors Stefan T. Possony and J.E. Pournelle cite two common fallacies about technology—that the march of technology can be halted by agreement and that small advantages are not decisive and probably not important.[17] The first fallacy suggests that arms control measures and policies can prevent developing nations from acquiring weapons of mass destruction (WMD) and the means to transport them to military and civilian targets. History alone disproves the second fallacy; Pakistan and India have nuclear weapons, and Korea is testing a ballistic missile capable of reaching the United States.

Currently the USAF can support

only one major theater of war. During the Kosovo crisis, it scrambled to mass pilots, fuelers and precision munitions required to interdict Kosovo and Serbian targets. During Operation *Desert Storm*, it had 20 fighter wing equivalents. When the F-22 replaces the aging F-16 and F-15 fleet, the USAF will be half the size.

Action in Kosovo also demonstrated the importance of having safe havens in which to assemble and launch air operations. Safe havens could become more difficult to obtain if adversaries threaten neighbors with WMD. Furthermore, commercial satellite imagery and longer-range, more-accurate delivery capabilities could expose safe havens. A flash point anywhere in the world coupled with a Kosovo-type crisis could place decisionmakers in a resource-constrained dilemma.

If hostile states and nonstate actors learn from the past, they will never permit US forces to freely establish a lodgment in the area of operations or a safe haven in a nearby country. Their objective will likely be to strike quickly with an array of air and missile threats aimed at forward-deployed US forces. If that fails to sway US public opinion, they will consider WMD use. The best time to execute such actions would be when the United States is already entangled in Kosovo- or Bosnian-type commitments.

## Future Aerial Threats

Predicting what capability a potential enemy might employ is always controversial. Such an endeavor's difficulty is revealed by the fact that the Central Intelligence Agency and the Defense Intelligence Agency seldom present a consensus, given a global weapons market, parallel technology and decreasing costs associated with high-tech digital systems. A common fallacy is to interpret "no peer threat" as "no threat."[18] In a Strategic Studies Institute Special Report, Earl H. Tilford Jr. says, "Rather than facing a single, symmetrical threat from a known enemy, as was the case from 1946 until the end of the Cold War, the nation faces a range of multidimensional and asymmetrical threats."[19] The array of threats includes those that attack ground targets from the air.

The National Air Intelligence Center maintains that ballistic and cruise missiles are a significant threat to deployed US and allied forces. Cruise missiles have great standoff as "unmanned, armed aircraft that can be launched from another aircraft, ship, submarine, or ground-based launcher to attack ships . . . or ground-based targets."[20]

**LACM.** Land attack cruise missiles (LACM) are an attractive option for potential threats because they can effectively evade US air defense systems. LACMs are powered by jet engines or rockets and are equipped with an internal computer or remote control for guidance and navigation. Although they look like aircraft with stubby wings, they move slower than high-performance fighter aircraft and reach targets in a matter of hours rather than minutes. Over 25 countries now have ballistic missiles systems. By 2015 the land attack cruise missile market will include from 6,000 to 7,000 missiles. Most land attack cruise missiles have effective ranges from 90 to 190 miles and can hit within a few feet of their targets.

Because LACMs are difficult to detect, track and intercept, air defense systems will be stressed. Cruise missiles are smaller than aircraft and, depending on terrain, can fly below radar coverage. For example, ground-based radar can detect an aircraft flying at 10,000 feet over 150 miles away. Because of the earth's curvature, the same ground-based radar cannot detect a low-flying cruise missile outside 20 miles.[21]

**UAV.** Until recently, many armed forces regarded the UAV as a sensor platform for conducting reconnaissance and surveillance. UAVs are now weapon carriers. Armed UAVs are smaller than manned counterparts and cheaper to operate. They also function as multirole aerial platforms and can deliver weapons, provide real-time intelligence, designate targets, collect signal intelligence and perform decoy, jamming and information-warfare functions. UAVs can be used at high altitudes for long periods or at low altitudes for short periods.[22] During World War II, unmanned bombers packed with explosives, piloted remotely via a radio link, attacked hardened targets such as submarine pens. Current UAVs will be able to destroy WMD production and storage facilities buried beneath mountains.

One can easily debate how the array of theater missiles and manned fixed- and rotary-wing aircraft can be used in a given contingency. With the growing costs required to maintain aircraft and train pilots, UAVs and LACMs are attractive yet effective aerial platforms. This does not suggest that manned aircraft will be cut from a potential threat's arsenal. Manned aircraft might not increase in numbers, but they will improve in sophistication.

The credibility of US ground-to-air and air-to-air defensive capabilities will be challenged. Applying attack or strike operations against short-dwell and fixed-launch platforms, supply points and command and control ($C^2$) facilities could reduce or modify the use of theater missiles and other aerial platforms. However, since Operation *Desert Storm*, US efforts have improved attack operations only slightly.

With UAVs and cruise missiles requiring smaller operational and logistic footprints than ballistic missiles, the possibility of interdicting such targets is remote. The future threat will economically gain operational and strategic advantages by using an array of theater missiles.

## SHORAD and Full-Spectrum Dominance

In July 1996, JV2010 was issued to provide a conceptual framework within which the US Armed Forces can view and prepare for the future. It also provides a blueprint with which to leverage military forces and achieve effectiveness in joint operations. Its intent is to provide direction to achieve joint, full-spectrum dominance through four operational concepts: full-dimensional protection, dominant maneuver, focused logistics and precision engagement.[23]

Full-spectrum dominance entails overpowering any adversary and controlling a situation regardless of

the operation.[24] The *Concept for Future Joint Operations* states that future military trends will most likely include WMD.[25] WMD delivery platforms might well be ballistic and cruise missiles, which implies challenges to all JV2010 operational concepts.

To achieve dominant maneuver and precision engagement, commanders must have freedom of action. Freedom of action suggests full-dimensional protection, including protection from asymmetric threats, across all phases of an operation. A multilayered defense against a range of threats requires offensive and defensive actions such as theater-missile defense and defensive counter-air operations.

Stretching military resources over numerous missions throughout the world creates situations in which the US might not be able to maintain air superiority. Fighters must be in the area of concern to intercept low-flying cruise missiles—after receiving ample early warning and positive identification. The smaller the radar cross-sections of cruise missiles and UAVs, the more challenging acquisition and combat identification are for the pilot. This problem is further exacerbated by issues such as the availability of sufficient airframes for offensive and defensive missions, tankers for refueling operations, $C^2$ platforms and safe havens from ground and aerial threats.

The capabilities of all services' systems vary according to each aerial target's abilities. However, given a rapid-response requirement, initial-entry forces will rely on SHORAD to achieve full-dimensional protection. Also, as operations become more nonlinear, forces will be isolated and subjected to a host of aerial threats. These threats have lower radar cross-sections, are extremely maneuverable, require less logistics than manned airframes and are extremely difficult to destroy on the ground. SHORAD is easier to introduce into the theater, costs less and can be maneuvered with ground forces.

Current SHORAD force structure includes a ground-based sensor, a $C^2$ architecture and three platforms that fire surface-to-air Stingers. This system of systems engages the air battle with a 24-hour, all-weather radar that can detect low-radar cross-section aerial targets and near-real time automated $C^2$ architecture that provides situational awareness to joint and combined forces. The $C^2$ system integrates horizontal and vertical air defense weapons, thereby enhancing situational awareness and reducing fratricide. Stingers fired by individual soldiers or from wheeled or track vehicles can provide 24-hour, shoot-on-the-move, mobile protection for maneuver forces.[26]

SHORAD has limitations. The forward area air defense (FAAD) command, control, communications and intelligence (C3I) system and the ground-based sensor (GBS) represent a colossal step from the days of depending on binoculars for early warning and voice for tracking and updating the air battle. FAAD C3I and GBS provide air surveillance, target acquisition and targeting information. GBS information receives information from joint sensors then integrates the information so commanders can make timely battle-management decisions.

SHORAD relies on identification, friend or foe (IFF) or visual identification and does not include an uncooperative target-recognition capability. In 1995, the Office of the Director of Operational Test and Evaluation maintained that FAAD C3I and GBS were operationally suitable. However, without enhanced combat identification, FAAD C3I might be useful only in a self-defense role.[27] Although positive regarding many operational tasks, the evaluation did not address the ability to positively identify a manned or unmanned threat as hostile or friendly at a desirable range in difficult terrain.

In 1996, DOD created the Joint Theater Air and Missile Defense Organization (JTAMDO) to improve joint air and missile defense and to coordinate all DOD theater air and missile defense activities.[28] JTAMDO is the warfighter's focal point for developing and validating joint air and missile defense architectures and operational concepts. Its initial assessment sought to uncover shortfalls in air and missile defense since Operation *Desert Storm*. Subsequently, it exposed joint air defense capability as being segmented by service and restricted by procedures and limited interoperability.

JTAMDO also revealed a joint air and missile defense system of systems that lacked a timely air picture and a universal combat identification capability.[29] Most alarming, findings revealed joint weapons with ranges and rules of engagement that could not satisfactorily meet threats beyond 2010.

The JTAMDO master plan included a single integrated air picture (SIAP) that would allow participating units to observe the same digital air battle. Engagement coordination drastically improves when all services see only one track for every airborne object. A complete, common and accurate air picture enables a distributed fire control that can use remote data to engage a target.[30] Continuous, correctly correlated tracks improve combat identification. JTAMDO also seeks to improve early identification and destruction of aircraft and missile threats. Soon, waiting until the target is visible might be too late to engage. The SIAP will keep identification on a track with a single joint force identification.

The next major hurdle is to develop an integrated fire-control capability to allow weapons to fire using data another service sensor provides. This fire-control net would reduce the effects of terrain on ground- and sea-based sensors and allow engagements against low-flying, low-radar-cross-section targets. Cruise missile and UAV defense lacks a common air picture, a reliable combat identification (CID) system and adequate airborne platforms to be able to see low-flying threats. By 2010, SIAP benefits, CID and integrated fire control will provide early, long-range detection, continuous tracking, long-range engagements, 360-degree capability and tactical flexibility supported by less-restrictive rules of engagement.

Of all the joint air and missile defense systems, SHORAD has the most advanced $C^2$ and reliability regarding a common air picture. SHORAD will significantly benefit

from improvements in CID and SIAP because SHORAD already fuses joint sensors within the internal ground-based-sensor net. SHORAD's shortfall will remain missile range and the inability to engage short-range ballistic missiles.

Future threats will include ballistic and cruise missiles and UAVs. Equipped with WMD, these threats will need to be engaged at ranges beyond the existing Stinger capabilities. Currently, force developers are examining ways to engage beyond 20 kilometers. Additional experiments are being conducted on a suitable, reliable and survivable airborne sensor for both acquisition and fire control.

JV2010 goals and the operational concepts leading to full-spectrum dominance are at risk. The Air Force cannot be all things for the joint force commander. Its decreasing force structure will challenge its ability to perform defensive and offensive air missions. Full-dimension protection and dominant maneuver is a difficult task when the enemy can leverage cruise and ballistic missiles and UAVs against forward-deployed formations, $C^2$ facilities, safe havens and logistics bases.

Shinseki's vision to be on the ground quickly with a relevant combat force requires deploying air and missile defense protection. The Patriot force is heavy and requires an investment of strategic lift. As ground forces move to forward operating bases, air and missile protection should move forward also. SHORAD can provide this protection. Its force structure is suitable for use against cruise missiles, UAVs and fixed- and rotary-wing threats. However, as unmanned threats become more lethal, a longer-range system is necessary.

The Stinger is a reliable missile for manned aircraft, but it lacks the range and lethality to counter more sophisticated airborne threats. A mobile, ground-based system with 360-degree coverage against all aerial threats would be an appropriate follow-on system, which could be linked to an elevated sensor to gain over-the-horizon engagements. Also, the system should be able to engage short-range ballistic missiles and rocket artillery.

Continued research and development on laser technology will eventually produce a lightweight, lethal, ground-based laser capable of providing multiple inexpensive engagements against all aerial threats. When the SHORAD force brings antirocket capability to the maneuver formation, its relevance will never again be questioned.

Full-spectrum dominance requires force protection against all aerial threats. Responsive, mobile, lethal formations projected on hostile terrain will need air and missile defense to guarantee freedom of maneuver. Maintaining the air defense battalion in Army divisions must be a priority when assessing the Army's force structure for the 21st century.

## The Future War

All US intelligence projections suggest that the future threat to forward-deployed forces will not come from an armored vehicle's main gun, but from the air. For over 50 years the United States has not been truly tested from the air, and assessments of current capability point out weaknesses in the US Armed Forces' ability to perform joint air and missile defense.

The proliferation of unmanned platforms, commercial satellite imagery and precision navigation will change the nature of future wars, which are as likely to be waged in cities as on open plains and deserts. In future wars, enemy $C^2$ facilities might collocate with hospitals and schools.

Aerial platforms such as cruise missiles, ballistic missiles, rockets and unmanned aerial platforms will be projected into the sky from mobile launchers cloaked from aerial detection. UAVs, sending real-time information to enemy forces equipped with rocket artillery and short-range, precision ballistic missiles will target soldiers and equipment. Ports and air bases abroad will be untenable because of attacks or threats of attack, and the US Navy will be forced away from brown water by mines and low-tech submarines denying deployed forces the Navy's theater ballistic-missile protection and fighter support.

Patriot forces will be overtasked protecting ports and coalition population centers, and the enemy will use dummy aerial threats to deplete Patriot and theater high-altitude air defense missile inventories. Last, the threatened use of WMD on allied nations might deny US entry and use of ports, air bases and safe havens.

Cutting air defense out of the Army division and relinquishing aerial protection of forward-deployed forces to the Air Force would generate casualties in future wars that would far exceed US tolerance. The argument that air defense has not shot down an aircraft since the Korean War and that US air forces are the best in the world would not comfort the families of US casualties.

Change on the horizon requires tough decisions about force structure and traditional roles and missions. As the relevance of air defense in the division is debated, Army leaders must consider aerial threats and the protection of forward-deployed soldiers.

*Colonel Charles A. Anderson, US Army, is brigade commander, 31st Air Defense Artillery Brigade, Fort Bliss, Texas. He received a B.S. from the US Military Academy, an M.A. from Indiana University and is a graduate of the Command and General Staff College, the Armed Forces Staff College and the Army War College. He has served in various Army command and staff positions.*

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# MR Review Essay

## Six Presidents and China

Lewis Bernstein

In 1950, because they feared an invasion of Manchuria, the Chinese Communists fought in the Korean War and suffered many thousands of casualties. In 1962 the People's Republic of China fought with India to safeguard a route to Chinese nuclear test sites free from potential Russian interference. In 1979 China fought a short, violent border war with Vietnam that again resulted in thousands of Chinese casualties. This time China fought to express its displeasure over Vietnam's invasion of Cambodia. In 1996 this scenario was partially reenacted in the Taiwan Straits. No one can doubt China's willingness to go to war to defend what it considers its vital interests.

Patrick Tyler, a former Beijing bureau chief for *The New York Times*, has written a contemporary investigative history of the United States' China policy titled *A Great Wall: Six Presidents and China* (New York: Public Affairs Press, 1999, $27.50). The book is based on memoirs and archival research, declassified US government documents and extensive interviews with policy makers.

With so much known about the policy-making process, it would seem impossible to add anything new to the already existing record. Tyler's material is fuller on the US side, but he tells as much as he can about Chinese actions, detailing the complex and complicated story of recent Sino-American relations with clarity and dispatch.

Tracing the shifts of US-China policy through Democratic and Republican administrations, Tyler observes that every US president since Richard M. Nixon—whatever his ideological stripe or predilection—has ultimately engaged China simply because no other reasonable choice was available. Tyler's study defends pragmatism in foreign policy.

Nixon's achievement in opening China was more operational than conceptual because using China as a strategic counterbalance against the Soviet Union had long tantalized US President Lyndon B. Johnson. Nixon longed for an opening to China, but international political conditions were not right. The United States was embroiled in Vietnam, and China was in the throes of the Cultural Revolution. Tyler's detailed examination of the ways Nixon and National Security Adviser Henry Kissinger managed to open China leaves out none of their faults and gives them the credit they deserve.

Kissinger approached China with a unique mixture of fawning and arrogance. James Lilley, a CIA career officer and later an ambassador to China, describes Kissinger's method: "You embrace them, you make all the right statements about building strong and genuine relations and all the while you run espionage operations" against them. The soundness of Kissinger's secret understandings with the Chinese emerged in a review conducted by Michel Oksenberg, President Jimmie Carter's national security adviser for China. Oksenberg called Kissinger's actions "perfectly defensible" and recommended that Carter maintain them.

The book plunges into a narrative of bureaucratic warfare inherent in the policy process. In every administration ambitious men battled with and sought to undermine each other for control of US China policy. Of necessity, the book plunges into a narration of bureaucratic warfare. One learns that Kissinger regarded the US Department of State as a greater adversary than the Chinese. He flattered Zhou Enlai, fawned over Mao Zedong and curried favor with Nixon. During Carter's administration, National Security Adviser Zbigniew Brzezinski regarded Secretary of State Cyrus Vance as dangerous to Carter's interests and policy conceptions as the Soviets were. He devoted much time and energy trying to defeat Vance. President Ronald Reagan's administration fared no better. The duel between Alexander Haig and his adversaries was as hard fought as the negotiations with the Chinese.

If this account is to be believed, and there is no reason to doubt it, US foreign policy was determined more by timing and the ebb and flow of events than by planning. Policies succeeded or failed because of external events neither side controlled. The Carter administration succeeded in normalizing relations with China—but not because its officials were any smarter than their predecessors

were but because Carter's tenure coincided with Deng Xiaoping's rise to power. Brzezinski is presented as a fierce bureaucratic warrior and dissembler eager to negotiate an agreement that put a premium on deception and ambiguity. These diplomatic attributes allowed Chinese and US negotiators to disagree while publicly insisting they agreed.

One is left to wonder at the bureaucratic maneuvering in the several presidential administrations, but to recoil in horror or total disbelief would be a sterile, self-defeating reaction. Instead, one should remember that the power struggle in Washington was minor-league when compared to the power struggle occurring in Beijing, where the personal stakes were much higher.

If US policy makers did not display the naked self-interest they did and were not the ruthless bureaucratic warriors they were, how could they have hoped to deal with the Chinese? In the end, success went to those with the most developed, focused, aggressive self-interest. Tyler emphasizes that distinctions in US China policy are not between Republicans and Democrats or liberals and conservatives; they are between those who had the rigorous self-discipline to look at Sino-American relations the way they were evolving and those deluded by preconceptions.

Tyler presents President Bill Clinton as an unfocused president who ignored his foreign policy, national security and intelligence advisers. He created a China policy that concentrated on human rights. While trendy and fashionable, it was not sensible. Abandoned as unworkable, its epitaph was uttered in 1993 by US Ambassador to China J. Stapleton Roy: "If you look at the last 150 years since the Opium Wars, then you can't avoid the conclusion that the last 15 years have been the best 15 years in China's modern history, and of those 15 years the last 2 years are the best in terms of prosperity, individual choice, access to outside sources of information, freedom of movement within the country and stable domestic conditions." When reporters asked Roy whether China could satisfy Clinton's demands for improved human rights, he said he did not know because the administration had never defined what it meant by significant progress.

In Clinton's defense, it must be added that he eventually moved back toward a more realistic China policy. But, according to Tyler, Clinton remained inattentive toward Chinese Premier Zhu Rongji's overtures for a compromise on outstanding issues that were preventing China from entering the World Trade Organization. This inattention, plus foreign policy initiatives created solely to satisfy internal political constituencies, was the primary characteristic of the Clinton administration's China policy.

The Taiwan issue has long been an irritant. China and the United States have consistently underestimated Taiwan's strategic importance to the other. Tyler reveals that each thought the other would compromise over this "secondary issue." However, neither has fundamentally changed its position. In fact, the United States and China now find themselves in a position where Taiwan controls both countries' policies.

It would be tempting to attribute the US position solely to the Republican right and the Taiwan lobby—as the Chinese Communists do—and China's position on Taiwan to emotional nationalism—as some Americans do. The reality is more and less complicated. China believes its national security depends on possessing the island. The United States believes its position in Asia depends on brokering a peaceful resolution to the problem. Events since 1972 have aggravated and combined these strategic dilemmas. As Tyler shows, inattention combined with *realpolitik* could lead to a war born out of miscalculation.

*Lewis Bernstein is Assistant Command Historian, US Army Combined Arms Center, Fort Leavenworth. He received a B.A. from Brooklyn College of the City of New York, an M.A. from Pennsylvania State University and an M.B.A. and Ph.D. from the University of Kansas. He has been a Fulbright fellow and taught East and Southeast Asia history at The Kansas City Art Institute, Brigham Young University and Boise State University. His reviews appear frequently in* Military Review, Journal of Urban History, American Neptune, the Journal of Military History *and* Pacific Historical Review.

# Post-Cold War Priorities

Major John A. Nagl, US Army

Although the post-Cold War world has changed the nature of conflict, many argue that the US military cannot adapt quickly enough. The military is one-third smaller than it was in 1990, and its budget is about 30 percent lower. It now faces a shortfall significant enough to be described as a coming train wreck.

The Congressional Budget Office estimates that the Department of Defense (DOD) requires an additional $30 to $50 billion a year to maintain current force structure without any additional spending on National Missile Defense, which is President George W. Bush's top defense priority. Yet, there is little support for a larger defense budget. "Train wreck" might be too gentle a description of the crisis the military now faces.

The National Intelligence Council (NIC) does the Central Intelligence Agency's deep, broad thinking. It "speaks authoritatively on substantive issues for the [Intelligence]

Community as a whole."[1] In December 2000, the NIC released *Global Trends 2015: A Dialogue About the Future with Nongovernmental Experts*.[2] The report is an unclassified estimate of the most likely threats the United States will confront over the mid-term. It identifies demographics, natural resources and environmental concerns, science and technology, globalization, national and international governance, future conflicts and the US role as major drivers and trends that will shape the world of 2015. The results are of great importance to military planners.

The NIC suggests that for at least the next 15 years "the risk of war among developed countries will be low."[3] However, the developing world will see substantial conflict, ranging from "relatively frequent small-scale internal upheavals to less frequent regional interstate wars. . . . Internal conflicts stemming from religious, ethnic, economic or political disputes will remain at current levels or even increase."[4] These conflicts will not present a substantial US national security threat. Because of the overwhelming US military superiority over the developing world, most future adversaries "will try to circumvent or minimize US strengths and exploit perceived weaknesses. . . . Such asymmetric approaches—whether undertaken by states or nonstate actors—will become the dominant characteristic of most threats to the US homeland."[5]

The NIC hedges its bet that the United States will not face a more serious threat than "states of concern" like North Korea or Iraq. But, it admits, "[E]stimates of China beyond five years are fraught with unknowables."[6] The report's clear conclusion is that asymmetric conflict and US intervention in failed or failing states are far more likely than conventional armed conflicts for which US Armed Forces are primarily organized, trained and equipped.

The report's conclusions provide a starting point for the authors of *Holding the Line: U.S. Defense Alternatives for the Early 21st Century*.[7] Certain to be popular in the Washington policy community, this book will not make most military readers happy. But, that does not mean it should not be read. In fact, no one who cares about the US military's future can avoid engaging with the arguments presented.

The book's thesis is that "stuck in the Cold War pattern of force structure, organization, equipment and infrastructure, the US military has frittered away a decade of opportunity to reshape itself for the future."[8] The chapter authors propose changes they feel DOD could adapt to its vision of the post-Cold War world while avoiding the coming budget impasse.

Cindy Williams, who until recently led the National Security Division of the Congressional Budget Office, is the book's editor. She is not afraid to take on the defense establishment's sacred cows. Her January 2000 *Washington Post* opinion piece, "Our GI's Earn Enough," caused a firestorm.[9] But, this is not a book written by liberals or crackpots. The authors are highly respected security professionals who do not believe that the US Armed Forces have adapted to the sort of challenges they will likely face.

The authors are not decision-makers but advise congressmen on defense budget decisions. They argue that "it makes no sense to revert to Cold War levels of defense spending [when] threats to national security are as low as they are today," particularly when "the United States is marching into the new century with forces designed for the old one."[10] They adhere to this point tenaciously.

Lawrence Korb, Assistant Secretary of Defense under President Ronald Reagan, suggests that the FY2000 budget of $300 billion "should be more than adequate to safeguard US interests in the world."[11] He also feels that "throwing more money at the Pentagon would legitimize the failure of its leaders to come to grips with the post-Cold War world."[12] After that cheery beginning, Williams suggests ways for DOD to save money on infrastructure:

- Close commissaries and DODDS schools.
- Privatize military housing in the Continental United States.
- Consolidate basic training among all uniformed services.

According to Williams, these recommendations would result in $10 billion in annual savings—"enough to pay the Army's entire procurement bill for FY2000."[13] While Williams sees the political roadblocks in store for her proposals, she argues that if DOD "has to choose between giving up infrastructure and reducing its force structure and modernization goals, then $10 billion in infrastructure savings might be worth fighting for."[14]

After chapters analyzing the limited savings that might be gained by reducing US spending on nuclear weapons—brilliantly titled "The Hunt for Small Potatoes"—and asking European allies to improve their capabilities, comes the most interesting part of the book for military readers. The authors suggest force-structure changes that would shift the balance of power among the armed services.

The current allocation of resources among the services has remained amazingly steady for the past 35 years—25 percent for the Army, 31 percent for the Navy and 25 percent for the Air Force. This allocation might no longer be appropriate in the post-Cold War world. Owen Cote, Karl Mueller and James Quinlivan suggest strategies and force structures that place more emphasis on Navy, Air Force and Army contributions to future US security needs. Their recommendations demand attention.

In "Buying 'From the Sea . . . ,'" Cote suggests that the major theater wars of the future are likely to occur along the world's littorals and that future US access to ports and airfields is likely to diminish. This would require more emphasis on the Navy's ability to operate without fixed bases overseas. He argues that

the Navy does not need more ships to accomplish its missions but should use existing nuclear missile submarines to carry conventional guided missiles. Cote would free up defense dollars for the conversion by canceling the F-22, Comanche and Crusader and by eliminating the 82d Airborne Division, the 101st Air Assault Division, 18th Airborne Corps Headquarters, all eight Army National Guard divisions, and one National Guard and two Active Component (AC) F-16 wings. He would also convert the 10th Mountain and 25th Infantry into interim brigade combat teams (IBCTs). He says that "light Army divisions, and the airborne and air assault divisions in particular, make no sense in either the near or the longer term security environment."[15]

Mueller's "Flexible Power Projection for a Dynamic World: Exploiting the Potential of Air Power" continues the assault on Army force structure. Mueller argues that "technological changes of the late twentieth century, together with the strategic conditions of the early twenty-first, provide the opportunity to use the increased potential of land-based air power to provide some of the capabilities for which the United States has traditionally relied on land and naval forces."[16] He would eliminate two AC heavy divisions and reduce each of the National Guard's eight divisions to one independent brigade. He would eliminate two 82d Airborne brigades and one 101st Air Assault brigade. The two remaining light divisions would become IBCTs. Mueller's underlying philosophy is that "for the scenarios that are plausible in the coming decade, the total combat capability of the US Army is less important than is the amount of capability that can be deployed reasonably quickly."[17]

Quinlivan defends the Army's honor in the face of this onslaught. But, according to several authors I have talked with recently, his is the hardest argument to support. In "Flexible Ground Forces," Quinlivan would stand down one AC heavy division and six National Guard divisions. He would create seven IBCTs from four AC brigades and from three National Guard enhanced separate brigades (ESB). He would retain the Army's four light divisions but convert three heavy National Guard ESB's to armored carrier units built from mechanized infantry battalions. Doing so would provide more survivability, lethality and firepower to light forces.

Quinlivan would keep the Comanche but eliminate the Crusader—something on which all the authors agree. He feels that DOD could save more money by eliminating two aircraft carriers. Quinlivan's argument is based largely on the assumption that the United States will continue to engage in smaller-scale contingencies with "boots on the ground." These missions, which the Army accepts unenthusiastically, are the only hope the Army's advocate can find for preserving Army force structure in the 21st century.

The book concludes with a summary of each author's conclusions. Noting that the current two-major-theater-wars (MTW) strategy "is not producing the capabilities needed for the challenges that the military faces [and will continue to face] in the future," Williams argues that such a strategy no longer makes sense.[18] The US should:

- Increase readiness for smaller-scale contingencies while assigning a lower priority to preparing for the second MTW.
- Hold defense spending constant in real dollars for the next decade.
- Cut infrastructure.
- Reduce and reshape conventional force structure by cutting a number of National Guard and AC Army divisions.
- Eliminate at least one aircraft carrier and remove at least two Air Force wings.
- Severely reduce or cut entirely purchases of the Crusader, Comanche, F-22, the Joint Strike Fighter and the F/A-18E.

Christmas this most decidedly is not. But, readers who believe that President George W. Bush's administration is unlikely to heed these recommendations have not studied budget realities or the lessons of history. Traditionally, Republican presidents have been fiscal conservatives unwilling to spend large sums on defense. In fact, during the early 1950s, Army Chief of Staff Matthew Ridgway resigned in protest at President and former General Dwight D. Eisenhower's cuts in the Army's force structure under the "New Look" defense policy.[19]

The authors of *Global Trends 2015* justify the argument that a new look at defense policy is warranted. The authors of *Holding the Line* outline a new defense policy. Both sources should be read by defense leaders responsible for structuring the US military for the demands of the post-Cold War world.

## NOTES

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*Major John A. Nagl is an armor officer at Fort Riley, Kansas. He received a B.S. from the US Military Academy, an M.Phil and a D.Phil from Oxford University and an M.M.A.S. from the Command and General Staff College. He has served in various command and staff positions in the United States, Southwest Asia and Germany and has taught international relations and national security studies at the US Military Academy.*

# MR BooK Reviews

**THE AMBIVALENCE OF THE SACRED: Religion, Violence, and Reconciliation,** R. Scott Appleby, Rowman & Littlefield Publishers, Boulder, CO, 2000, 429 pages, $65.00.

Violence that ends without reconciliation will not lead to permanent peace. Religious organizations, rooted in local traditions and culture, offer the greatest hope for reconciliation between warring factions. The pivotal roles for external organizations are identifying the credible religious organizations and training them as national mediators in conflict transformation and reconciliation.

Reconciliation is the end point of a process of finding facts, identifying perpetrators, paying reparations, healing memories and offering and accepting forgiveness. Religious activists are committed to peace and reconciliation with enemies. Religious extremists are committed to reconciliation's defeat by any means.

In *The Ambivalence of the Sacred*, B. Scott Appleby expands the definitions associated with religious organizations and clarifies the roles they play in national politics, conflict and peace. Because they are already part of the community, religious organizations have great credibility and legitimacy in conflict transformation. Their roles in reconciliation include conflict resolution, conflict management and structural reformation. But, they also must translate the religious language of reconciliation into a human-rights discourse and a broad picture of hope and peace that appeal to all sides. Appleby thoroughly supports his thesis. He establishes clear definitions, argues powerfully for reconciliation and clearly delineates the legitimacy that religious activists who pursue it already enjoy.

Military professionals work with crises around the globe, including those that involve centuries of conflict. Interposing armed forces between factions will not solve the conflict. Military professionals must address root causes and move toward a vision of the future. While military professionals will never have the credibility to foster reconciliation that community-based religious organizations have, they can facilitate the process. Therefore, they should understand how vital reconciliation is, how it occurs and which actors might best bring it about.

**MAJ Andrea Crunkhorn, *USA,***
***Monument, Colorado***

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**FOR LA PATRIA: Politics and the Armed Forces in Latin America,** Brian Loveman, Scholarly Resources Inc., Wilmington, DE, 1999, 331 pages, $23.95.

In Latin America *La Patria* means more than one's country. It encompasses a community, a culture, a territory and, most of all, a spiritual principle. For Latin American militaries, service to *La Patria* is more than defending the nation against all external and internal threats. They view their roles to be above changing threats and enemies. They are the ultimate defenders—the essence of *La Patria*—willing to take whatever action is needed to protect their land.

In *For La Patria*, Brian Loveman builds a strong case for this interpretation of Latin American armed forces. His systematic use of history is far more rigorous than any anecdotal evidence. From his discussion of Iberian colonial influence, through European and North American influences in the 19th and 20th centuries, he tells the logical story of this developing mindset. Loveman's follow-on discussion applying this idea to the 21st-century world environment is noteworthy. There is no reason to think that this driving reason for being will change among Latin American armed forces. It will, however, continue to develop in new ways as new missions appear. And, in whatever actions arise, Latin American armed forces will assuredly go forward for *La Patria*.

The book is worthwhile for research value alone. It has a comprehensive bibliography of more than 500 works, yet it remains enjoyable and easy to read. It is a must for anyone having dealings with Latin American militaries.

**LCDR Al Musgrove, *USN,***
***Fort Leavenworth, Kansas***

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**STONEWALL JACKSON: A Life Portrait,** K.M. Kostyal, Taylor Publishing Company, Dallas, TX, 1999, 214 pages, $29.95.

On the night of 1 May 1863, Thomas J. "Stonewall" Jackson was mortally wounded by friendly fire. The statement, "Jackson is dead," caused a collective shudder across the Confederate States of America.

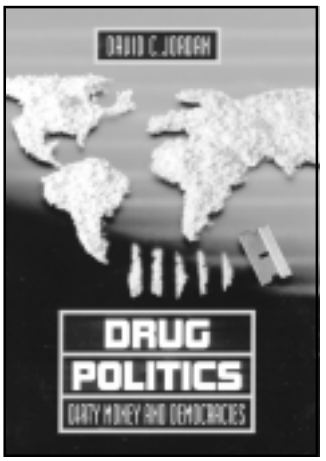
The Confederacy's top two generals—Robert E. Lee and Jackson—were trained at West Point and served in the Mexican War. During the first two years of the Civil War, Lee—the master planner—and Jackson—his able executor—became an invincible fighting team. Jackson's untimely death was a heavy blow to the Confederate cause. Months later Lee lamented, "If I [would have] had Stonewall Jackson at Gettysburg, I would have won that fight."

In *Stonewall Jackson: A Life Portrait*, K.M. Kostyal takes a fresh look at the legendary Confederate lieutenant general. Drawing from archival and period photographs and illustrations, and supporting them with an easy-to-read, understandable text, Kostyal assembles Jackson's life portrait. Jackson was careless in appearance, eccentric in habits, devout in religion and cause and heroic in battle. Jackson—the man and legend—looms large through the magnifying glass of history.

Although Civil War scholars will find little that is new, this deeply moving collection of Jackson imagery honors the memory of a great military mind. No one with an interest in Jackson or the Civil War can

afford to ignore this book. It provides valuable insight into how Jackson learned the art of war.

**LTC Glenn E. Gutting, *USAR, Fayetteville, Arkansas***




**DRUG POLITICS: Dirty Money and Democracies**, David C. Jordan, University of Oklahoma Press, Norman, 1999, 288 pages, $24.95.

David C. Jordan's *Drug Politics* comprehensively treats the troubling connections between the global narcotics industry and power centers in national and international politics. Jordan asserts that narcotraffickers' core strength is the ability to subvert legitimate organs of state power within target societies. That ability, coupled with the globalization of capital markets and organized crime, makes narcotrafficking the world's most influential and pervasive criminal enterprise.

Jordan sees current counternarcotics policy as predestined to fail. Policymakers ignore the fundamental character of the illegal narcotics industry, preferring to apply a simplistic, liberal, economic template to what is a more comprehensive sociopolitical problem. Conventional counternarcotics strategy relies narrowly on limiting the supply and demand of illicit narcotics. In doing so, policymakers ignore the roots that narcotraffickers weave into the social, political and financial structures of producer and client societies.

Jordan points out the fallacies in prevailing assumptions, which range from the centrality of supply and demand to the perceived certainty that official and unofficial forces within societies are committed antidrug activists. Competing and winning against these assumptions are four principle advantages narcotraffickers leverage to their benefit: the development of anarchy, the globalization and politicization of organized crime, the globalization of international finance, and the potential of narcotics trafficking as an instrument of state power.

While essential and relevant, this book is difficult to read. Many of the most important facts are hidden within wider political theory. But, Jordon's message is essential in the current operational environment. He underscores the critical and comprehensive security threat that narcotrafficking poses. He also outlines a way allied and US policymakers could move forward.

**MAJ Nathan P. Freier, *USA, Fort Leavenworth, Kansas***

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**CHINA'S STRATEGIC MODERNIZATION: Implications for the United States,** Mark A. Stokes, Strategic Studies Institute, US Government Printing Office, Washington, DC, 1999, 229 pages, out of print.

Credit Mark A. Stokes for providing an alternative view to the conventional portrayal of the People's Republic of China People's Liberation Army (PLA) as a backward continental force. Stokes posits that the PLA is poised to make significant progress in its long-range precision strike capabilities and aerospace defense, primarily backed by the quest for information dominance. The United States must not underestimate China's ability to make revolutionary breakthroughs in areas key to achieving its goals.

Stokes supports his thesis with substantive evidence and sound reasoning. His extensive investigation traces China's technological developments in indigenous defense industries that point toward an aggressive quest for information dominance, credible long-range precision strike capabilities and aerospace defense.

Stokes argues that China's quest for strategic modernization is driven by its emerging doctrine, which emphasizes strategic attack against the most critical enemy targets. Much of this has been influenced by China's "Gulf War Syndrome" caused by the enormous US success, at least at operational and tactical levels, which has awakened Chinese leaders to the preeminence of air power, long-range precision strike and information-based warfare.

Stokes extensively cites Chinese sources that cover PLA military space and directed-energy weapon development. He also supports claims with his experience as the assistant air attaché in Beijing from 1992 to 1995. He provides a balanced analysis and refrains from painting too rosy a picture of China's modernization effort. He points out the obstacles that could complicate China's ability to modernize the PLA, including budgetary constraints, technological overloads and the difficulties of integrating systems acquired from different sources.

Perhaps Stokes's greatest contribution is his illumination of a possible blind spot in conventional analysis of the PLA. By highlighting the PLA's strategic modernization, which is often overlooked, Stokes warns that the PLA is a significant force. Still, he cautions against overreaction.

While providing evidence of PLA's strategic modernization, Stokes falls short of qualitatively assessing how well the US military can counter such capability, particularly if both sides square off over Taiwan. Overall, Stokes's well-supported, extensively documented and balanced study contributes a significant new facet to the analysis of the PLA's capabilities.

**MAJ Terry M.M. Siow, *Singapore***

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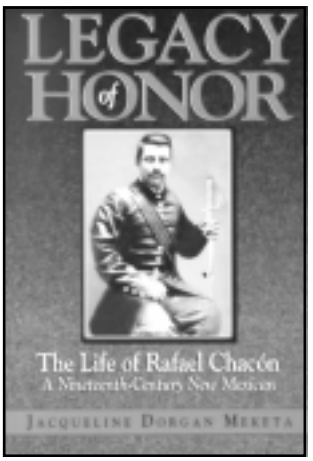
**LEGACY OF HONOR: The Life of Rafael Chacon, A Nineteenth-Century New Mexican**, Jacqueline Dorgan Meketa, Yucca Tree Press, Las Cruces, NM, 2000, 456 pages, $19.00.

Almost all memoirs written by soldiers and officers of the frontier US




Army in the 19th century are worthy for their literary merit and descriptions of Army service. *Legacy of Honor* continues that tradition, with a twist. Major Rafael Chacon wrote his memoirs in Spanish and tells the little-known story of the Spanish-speaking units and soldiers who served on the Union side during the Civil War. Jacqueline Dorgan Meketa translates Chacon's prose and adds significant commentary, notes, maps and pictures.

Chacon witnessed the downfall of Mexican sovereignty in New Mexico and the coming of the Americans. In true 19th-century fashion, he lived a varied life, working as a rancher, farmer, trader, scout, miner, clerk, lawyer and holder of many political offices both before and after the Civil War. Born in 1833, his life extended long into the 20th-century.

Of greatest interest to the military reader is Chacon's account of his time as a company commander in the 1st Infantry Regiment, New Mexico Volunteers, during the Civil War. Among other duties, he led his company in the Battle of Valverde—the biggest battle of the war fought in New Mexico Territory. The regiment escorted Arizona's first territorial governor into the region and participated in numerous engagements with hostile Indians.

Although Chacon certainly suffered prejudicial behavior from Anglo subordinates and superiors, *Legacy of Honor* demonstrates that he received much praise for his service, especially from his immediate superior, the famous explorer Colonel Christopher "Kit" Carson. Although never fully fluent in English, Chacon contributed more to his adopted country than most born with far greater advantages.

**MAJ Peter Molin, *USA,***
***Fort Leavenworth, Kansas***

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**THE EMERGING STRATEGIC ENVIRONMENT: Challenges of the Twenty-First Century,** Williamson Murray, ed., Praeger Publishers, Westport, CT, 1999, 320 pages, $59.95.

*The Emerging Strategic Environment: Challenges of the Twenty-First Century* contains relevant, timely essays about the strategic directions of Europe and the Middle East as well as how the US military is dealing with what many people believe is a revolution in military affairs. Editor Williamson Murray believes strategic thinkers should really be focusing on Europe, which in this case extends to Russia, and the Middle East—not Asia—as the strategic fulcrum for the world's strategic balance.

The essays' regional and country-specific writers showcase changes in European foreign-policy attitudes since the end of the Cold War. Although many of the essayists point to economics as key to the emerging strategic environment, their unwillingness to see economic globalization by way of China, Japan and the rest of Asia is mystifying considering the current economic power and potential of those countries. Still, by focusing on countries linked by history and land mass, the writers offer provocative, useful alternatives to some of the world's most vexing problems.

The book also gives military professionals the opportunity to peer into the soul of a true strategic thinker—Murray himself. His 23-page introduction weaves history and philosophy into a conclusion that is both interesting and important. He closes with a too-short afterword that attempts to answer the questions of why we do what we do in the military and how the 21st century might change this.

A historian of the highest order, Murray clearly believes the art of looking back is key to looking forward. He uses industrialist Henry Ford's "history is bunk" quote then smashes it with intellectual prose, which convinces me that Ford might have known cars but not history.

**MAJ John K. Tien, *USA,***
***Cypress, California***

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**THE SECRET WAR AGAINST HANOI,** Richard H. Shultz Jr., HarperCollins Publishers, NY, 1999, 394 pages, $27.50.

In *The Secret War Against Hanoi*—a superb history of US operations against North Vietnam—Richard H. Shultz Jr. provides the first comprehensive look at this extensive adjunct to the Vietnam War. The actions and activities chronicled constitute the largest, most complex US covert operation since World War II. Shultz's research is supported by recently declassified top-secret documents. He also interviewed senior government policymakers and those actually involved in the operations.

The organization was established in Saigon to plan and conduct secret operations under its cover name—the "Studies and Observations Group" (SOG). Its membership included representatives from all the services and the CIA. SOG evolved from President John F. Kennedy's dissatisfaction with the CIA's guerrilla operations against North Vietnam. He gave the responsibility to the Department of Defense, where SOG operated under the direction of the Pentagon's Special Operations Group.

SOG had four core missions: training and inserting agent teams and deception programs; conducting psychological warfare; maintaining maritime operations against the North Vietnamese coast; and disrupting activities along the Ho Chi Minh Trail. How these core missions were planned, supported and carried out constitutes the heart of the book.

The secondary story—lessons for the future—involves the politics of how SOG was directed and used; the restrictions under which it operated; its manning; and military attitudes toward these types of operations, particularly the Army's. These lessons provide valuable guidelines for how *not* to do things in the future.

This book publicly acknowledges

the sacrifice of the thousands of people involved and contributes tremendously to Vietnam War literature. All military and civilians in covert-operations roles should read this book.

**LTC John Hardaway, *USA,***
***Retired, Leavenworth, Kansas***

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**VICKSBURG: Fall of the Confederate Gibraltar**, Terrence J. Winschel, McWhiney Foundation Press, Abilene, TX, 1999, 168 pages, $12.95.

For a conflict that lasted only four years and occurred 135 years ago, the American Civil War has spawned a publication industry. Terry J. Winschel's *Vicksburg: Fall of the Confederate Gibraltar*, is another welcomed addition, although I rate his book as a good text for a beginner or novice.

Winschel does an excellent job of covering a major campaign with just enough detail to make sense, but several points will raise military readers' antennae. Winschel identifies only two of three levels of war—the tactical and strategic. The intermediate, operational level is post-Vietnam US military vocabulary taxonomy. In this book it would have been useful to differentiate it from the strategic level to provide an understanding of how Union General Ulysses S. Grant developed his plan in complementary stages.

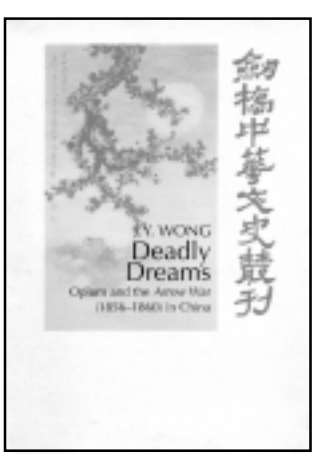
One glaring inaccuracy is Winschel's discussion of the 13th Infantry shoulder patch. The designation "First at Vicksburg" is an honor, although I consider this dubious because the unit was repulsed! It is not worn on any US Army patch. The 13th Infantry has not been a separate regimental organization for well over 50 years and even then it was not worn as a regimental shoulder patch. The slogan is located on the regimental colors, as is the custom of regimental mottoes, and it is also located on the distinctive unit insignia.

Another oddity is that Winschel cites Grant's turning movement from Port Gibson to Vicksburg as having "often" been referred to as the "blitzkrieg of the Vicksburg campaign." I am relatively well versed on the campaign and have only seen the phrase used once—in this book. I do not disagree that the term is a good descriptor, but I believe Winschel is the first to use it.

Also, the description of locating the *USS Cairo* fails to credit the major contributor to the effort—Warren Graubau. Graubau, a retired US Army Corps of Engineer civilian employee in the Vicksburg district, has been long overlooked and neglected for his substantial contributions to the discovery of the *Cairo*.

On the plus side, the book's maps are fully sufficient for a general understanding of events, and for those who are beginning a study of the Vicksburg Campaign, this is a great primer. I also highly recommend it to students who are planning to visit Vicksburg.

**LTC Edwin L. Kennedy Jr., *USA,***
***Retired, Leavenworth, Kansas***




**DEADLY DREAMS: Opium, Imperialism and the Arrow War (1856-1860) in China,** J.Y. Wong, Cambridge University Press, New York, 542 pages, $69.95.

The Arrow War is an important event in 19th century Anglo-Chinese relations, but scholars have never placed it in a satisfactory historical framework. Most view it as a part of the attempt to force China to accept Western norms in foreign relations. Marxists interpret the war according to the evil nature and innate rapacity of Western imperialism. This interpretation fits nicely into Chinese preconceptions and emphasizes the differences between a culture steeped in the rule of law and one steeped in the rule of virtue.

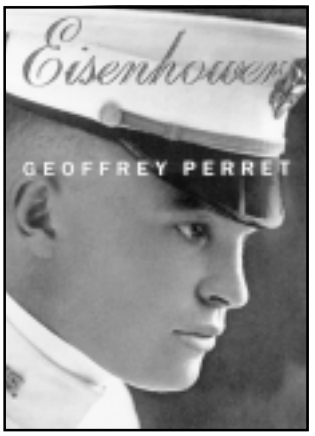
If a historian should read documents until he can hear the people speak, J.Y. Wong has been reading and listening. In this lengthy, well-written, revisionist work he explores some of the reasons nations go to war and describes imperialism in a specific context from multiple viewpoints. Long used as an epithet, few have attempted to depict imperialism as a historical phenomenon in specific contexts. Drawing on years of research, Wong places this small war in its British, Indian and Chinese context, highlighting mutual misunderstanding, arrogance and xenophobia.

Wong chronologically narrates events then analyzes issues. He places primary responsibility for the war's outbreak directly on British consul Harry Parkes and Sir John Bowring, the plenipotentiary in Hong Kong. Chinese obduracy on diplomatic representation in Beijing maddened the British government. Yet, this was only one issue connected with upholding British imperial prosperity and expansion. The war connected domestic politics to the politics of opium, cotton and tea—the pillars of British prosperity.

Wong shows how the British prepared an alliance against China before the *Arrow* incident and how the need to safeguard diplomatic, strategic and economic power led to a series of wars against the Chinese, Sikhs, Russians and army mutineers in India. He restores the war's role as an equilibrium mechanism, believing that while economic and political questions are important, Great Power political conflicts are fundamentally about power.

In the mid-19th century, British imperial power rested on Indian revenues, which depended on revenue from the opium monopoly. Part of Britain's economic problems, which many scholars trace solely to domestic causes, might have come from the post-1885 growth of Chinese opium production and its deleterious effect on Indian revenue. Everyone who wants to understand the connections between internal politics, diplomacy, strategy and economics should read this book.

**Lewis Bernstein, *Assistant***
***Command Historian, Fort***
***Leavenworth, Kansas***




**EISENHOWER,** Geoffrey Perret, Random House, New York, 1999, 685 pages, $35.00.

General Dwight D. Eisenhower has long been a favorite of biographers. He is perceived as a hero and a good president. Geoffrey Perret does Eisenhower justice without succumbing entirely to the legend.

Eisenhower certainly achieved legendary status in his own lifetime, but not without critics. Some men who are perceived as great during their lifetimes fade in reputation once they pass from the scene. Others grow in stature. Eisenhower's fame has passed through these stages. He was a respected general, beloved president and a leader in crisis. He was esteemed as a military hero but reviled by scholars. Not surprisingly, there are few objective views of Eisenhower.

Perret's Eisenhower emerges as a real man with all of a real man's foibles. Perret makes no claim that Eisenhower was a brilliant general or a brilliant president. Instead, he portrays Eisenhower as a good theater commander and a good and active president.

Eisenhower was self-effacing but possessed an enormous ego, which is not surprising to those of us who have served with senior officers. He had a sense of who he was and the import of his position, yet he tried to remain "Ike" of Abilene, Kansas. Perret ably navigates the rocks and shoals of this complex yet uncomplicated man's life.

Perret also brings new scholarship to the story. Previously closed personal diaries, opened in 1998, give insight into what Eisenhower really thought as opposed to what he revealed publicly. For example, he made claims that neither known facts nor his diaries support, such as his claim that he was a great proponent of armor and willing to take risks. In reality, at the moment risks appeared, he backed off. When confronted with difficult situations, he often compromised his beliefs to advance his career.

The chapters on Eisenhower's political career are the most useful for readers intensely interested in military history. Eisenhower led the way to Soviet containment during NSC 68. Such massive retaliation was pure Eisenhower. Massive retaliation in practice means first strike, which explains a great deal about Eisenhower's less-than-enthusiastic support of Army positions during his tenure. Eisenhower's diminution of the Army in the 1950s infuriated his old friends and subordinates. He made decisions without regard to old loyalties but also without malice or romance.

Some readers will find Perret insufficiently critical of Eisenhower. However, the book is a well-balanced account of a man who is deservedly among the pantheon of great Americans.

**COL Gregory Fontenot, *USA, Retired, Lansing, Kansas***

# *MR* Letters

## Accessing Past *MR* Issues

**Q.** I really enjoyed James B. Patrick's review essay, "A War To Be Won" in the May-June 2001 issue of *Military Review*. One footnote referred to Colonel Dan Bolger's *Military Review* article, "Zero Defects," from the May 1991 issue. Is there a way to access Bolger's article electronically?

**Colonel Jim Danley, *USA, US Central Command, MacDill Air Force Base, Tampa, FL***

**A.** To access past issues, go to the Center for Army Lessons Learned (CALL) site at <http://leav-err.army.mil/call.html>. Choose "CALL Database (Public Access)." You might have to click through two warnings before getting to the next page. Choose *"Military Review English Edition."* You can also access *MR's* Portuguese and Spanish editions at this site.

*MR*'s archives go back to 1922. Choose the year in which the article you wish to see appears. When you find the article you wish to read or download, click on the .pdf icon at the left of the underlined title. NOTE: You will need to download the Adobe Acrobat Reader to access the articles available for free download.

## Editor's Note

In "GPS Vulnerabilities" by LTC Thomas K. Adams *(Military Review,* March-April 2001), the last sentence on page 11 should read: "Since the FAA also intends to broadcast GPS correction via geostationary satellites, worldwide airlines will likely take advantage of this highly accurate system for normal en route navigation, collision avoidance and airport ground navigation." Also, the USAF does not invest $600 million annually for commercial tracking purposes; it maintains the GPS that private firms use. *MR* regrets any confusion.

**DISTORTING DEFENSE: Network and National Security,** Stephen P. Aubin, Praeger Publishers, Westport, CT, 1999, 262 pages, $62.95.

The ability of major US networks to report significant events fairly, accurately and objectively is a topic of great debate. This is especially true for reports pertaining to national defense and security. Given the role of evening newscasts as principle conveyors of information, watchdogs and interpreters of government policies, how accurately do they present defense and security issues to the public they serve? Do they present these issues in the proper context without distorting or omitting facts? Stephen D. Aubin says, "No."

Aubin's well-written book, *Distorting Defense: Network and National Security*, should be read by those who desire fully to comprehend how much the "CNN effect" affects US national defense and security. Targeting the day-to-day network coverage of national security news, Aubin finds that reporters often violate basic journalistic standards. After meticulously dissecting national-security news into 12 distinct topics, he assesses each using Society of Professional Journalists standards. He critiques major network news reports from identical time periods during selected years within four presidential administrations. He superbly supports his findings with concise, concrete examples of network coverage that clearly demonstrate shortcomings. He then offers sound recommendations to correct patterns of problematic coverage.

Aubin attributes the high percentage of shortcomings to the media's narrow focus on scandals, corruption and other sensational stories about the misuse of government funds. These shortcomings were noted throughout the presidencies of Ronald Reagan and George Bush. Networks told of the government buying expensive, sophisticated weapons that did not work; kickbacks between defense companies and part suppliers; and significant increases in costs during weapons systems development because of mismanagement and improper charges. Networks seldom addressed the defense budget in terms of procurement; operations and personnel costs; capabilities of new weapons systems and technology to support military strategy; and the acquisition and development processes that define how the government buys new weapons and how industry produces them.

Reasons why networks fall short when covering such issues include correspondents' lack of knowledge and the need for brevity. Other problems include lack of balance, overemphasis on drama or bad news, loaded labeling or advocacy and bad news judgment. Aubin recommends that networks remedy the situation by giving greater attention to specialists, such as Pentagon correspondents, and avoiding using abbreviated reports by anchorpersons.

At times, Aubin voices a strong personal opinion on investigated issues rather than allowing his well-documented results to do the convincing. However, the book clearly authenticates the problematic coverage of defense and security news.

**MAJ Vincent V. Quarles, *USA*,**
***Sutherlin, Virginia***